**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 8**

1595 Wynkoop Street

Denver, CO 80202-1129

Phone 800-227-8917

www.epa.gov/region8

Ref: 8ARD-PM

David Stroh

North Dakota Department of Environmental Quality, Division of Air Quality

4201 Normandy Street, 2nd Fl

Bismark, ND 58503-1324

Re: EPA Comments to Dakota Carbon Center East Project LLC, Permit to Construct

Dear David Stroh:

This letter is in response to the North Dakota Department of Environmental Quality’s (NDDEQ) public notice of the draft permit to construct for the Dakota Carbon Center East Project LLC (DCC). The NDDEQ’s public comment period for this permit ends October 21st, 2023.

After reviewing the draft permit to construct, EPA submits the following comments. As explained in more detail below, these technical comments are related to source aggregation, incorporation by reference, monitoring, recordkeeping, reporting requirements, modeling found in the permit and corresponding air quality effects analysis, and Clean Air Act (CAA) Section 112(g).

**Comments Related to Aggregation**

The DCC Air Quality Effects Analysis (AQEA) discusses the potential of aggregating the DCC facility with the existing Milton R. Young (MRY) Station coal-fired power plant. DCC is located next to the existing MRY facility. DCC will capture, purify, and sequester up to 13,000 tons per day of CO2 from MRY’s boilers (MRY Unit 1, MRY Unit 2). The AQEA states:

*DCC’s Project will be considered a separate stationary source from the MRY Station for the purposes of the applicable air pollution control rules (40 CFR Part 63 and 40 CFR Part 70). Part 63 requires two criteria to be met for two (or more) sources to be considered a single major source, the sources must be “located within a contiguous area and under common control”. Part 70 contains the same first two criteria and adds a third criteria, that sources must belong to the same major industrial grouping. DCC will be responsible for operational control of the Project, including control over air emitting activities that affect permit compliance (i.e., not under common control), and the owner of MRY Station will not hold a majority ownership in DCC. DCC’s Project has standard industrial classification (SIC) code 2813 compared to MRY Station SIC code of 4911 (i.e., do not belong to the same industrial grouping). DCC will be adjacent to MRY Station, so the facilities will be located within a continuous area. Of the Part 63 and Part 70 criteria the Project only meets one of the necessary criteria; therefore, the Project is considered a separate source.*

AQEA at page 1

Region 8 has reviewed the NDDEQ’s discussion of the DCC project source determination and has concerns about the record of support for the decision that the DCC project and MRY facility should be considered separate facilities. The NDDEQ’s analysis is correct in that both 40 CFR part 70 and 40 CFR part 63 have separate definitions of what constitutes a major source for each regulation and that if the case-specific facts support that only one of the necessary criteria in either definition is met then the two sources in question should be considered separate stationary sources for the purposes of those regulations. However, as laid out in the following discussions, the EPA recommends enhancement of the permit record to support the NDDEQ’s conclusions.

The draft permit action available for EPA review and for public comment is a permit to construct. Therefore, the EPA believes the NDDEQ should first determine whether these two entities should be considered part of the same “stationary source” under the New Source Review (NSR) preconstruction permit programs under title I of the CAA. This determination will dictate whether or not the project requires a permit to construct a minor or major new source or a minor or major “modification” to an existing source. That exercise will inform whether the facilities are considered part of the same “major source” under title V and part 63 of the CAA and any required application of those programs.

Under the federal rules governing both the NSR and title V permitting programs, entities may be considered part of the same “stationary source” or “major source” if they (1) belong to the same industrial grouping: (2) are located on one or more contiguous or adjacent properties: and (3) are under the control of the same person (or persons under common control).

The NDDEQ’s AQEA indicates that the DCC and MRY facilities are located on contiguous and adjacent properties. On the question of common control, NDDEQ has described DCC and MRY as having separate controlling entities. EPA has long determined that establishing the relationship for common control is done on a case-by-case basis. The 2018 Meadowbrook source determination[[1]](#footnote-2) states:

*For the reasons discussed further in the Attachment, the agency believes clarity and consistency can be restored to source determinations if the assessment of "control" for title V and NSR permitting purposes focuses on the power or authority of one entity to dictate decisions of the other that could affect the applicability of, or compliance with, relevant air pollution regulatory requirements.*

Meadowbrook at page 2.

A review of available information on the internet indicates that MRY is directly owned by Minnkota Power Cooperative.[[2]](#footnote-3) Further, the same Minnkota Power Cooperative website contains links to “Project Tundra”.[[3]](#footnote-4) Project Tundra would “retrofit the Milton R. Young Station with CO2 capture technology” and “Final air permits are being pursued and are anticipated in 2023”. Further, the June 2, 2023 permit application refers to the proposed project as Project Tundra. This information may suggest the that the Minnkota Power Cooperative has control over both the MRY and DCC projects. The EPA recommends that the NDDEQ enhance the permit record with additional information supporting the conclusion that a common control relationship does not exist between the DCC and MRY facilities.

The third source determination criteria is whether both facilities belong within the same industrial grouping, commonly indicated by Standard Industrial Classification (SIC) code. The NDDEQ states that DCC has the SIC code of 2813 and MRY has the SIC code of 4911. The preamble to the 1980 PSD rule discussed the EPA's view on how to evaluate what SIC code applies to facilities that support the operation of a primary facility. The preamble[[4]](#footnote-5) to the rule, discusses that "each source is to be classified according to its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Thus, one source classification encompasses both primary and support facilities, even when the latter includes units with a different two-digit SIC code. Support facilities are typically those which convey, store, or otherwise assist in the production of the principal product."

The AQEA states:

*The Project will be located adjacent to the existing Milton R. Young (MRY) Station and is designed to capture, purify, and sequester up to 13,000 tons per day (~4.75 million tons per year) of CO2 from MRY Station’s coal-fired boilers (MRY Unit 1 and MRY Unit 2).*

The EPA recommends that the NDDEQ include additional information in the permit record to support the conclusion that a support facility relationship does not exist between the DCC project and MRY. Recommended details to consider or clarify in supplementing the permit record on the appropriate industrial classification for DCC includes the role of DCC and its principal product produced or distributed (if any), or services rendered, and the source of power to operate DCC.

If upon additional review, the NDDEQ determines that that the MRY and DCC facilities should be aggregated as one source under the CAA Title I permitting programs, (and by extension 40 CFR Part 63 and 40 CFR Part 70) then the EPA recommends the NDDEQ modify the permit and supporting documentation according to the North Dakota State Implementation Plan.

**Comments Related to Incorporation by Reference**

Incorporation by reference into permits is an allowable way for permitting authorities to cite requirements applicable to permitted sources. One of the earliest documents recognizing the utility of this process was the March 5, 1996, *White Paper Number 2 for Improved Implementation of The Part 70 Operating Permits Program* (*White Paper 2*).[[5]](#footnote-6) This document states:

*Citations, cross references, and incorporations by reference must be detailed enough that the manner in which any referenced material applies to a facility is clear and is not reasonably subject to misinterpretation. Where only a portion of the referenced document applies, applications and permits must specify the relevant section of the document. Any information cited, cross referenced, or incorporated by reference must be accompanied by a description or identification of the current activities, requirements, or equipment for which the information is referenced.*

*White Paper 2* at 37. Further, the EPA stated:

*Incorporation by reference in permits may be appropriate and useful under several circumstances. Appropriate use of incorporation by reference in permits includes referencing of test method procedures, inspection and maintenance plans, and calculation methods for determining compliance. One of the key objectives Congress hoped to achieve in creating title V, however, was the issuance of comprehensive permits that clarify how sources must comply with applicable requirements. Permitting authorities should therefore balance the streamlining benefits achieved through use of incorporation by reference with the need to issue comprehensive, unambiguous permits useful to all affected parties, including those engaged in field inspections.*

*White Paper 2* at 38.

The EPA has also addressed the subject of incorporation by reference more recently in Administrative Orders for title V operating permit Petitions to Object. The March 18, 2022, Exxon Baytown Order[[6]](#footnote-7) and the March 10, 2020 Waha Gas Plant Order[[7]](#footnote-8) both address the issue and cite to *White Paper 2* as the basis for establishing the appropriate methodologies in the correct us of incorporation by reference.

In the DCC permit to construct there are instances were only a portion of the referenced applicable requirement applies and the permit does not specify that portion. Condition II.C.1 of the draft permit incorporates by reference 40 CFR Part 60 Subpart IIII. While Condition II.C.1 does not state which emission unit at the proposed facility is subject to the cited Subpart, the table above Condition II.C.1 does indicate the that the emergency diesel fire pump engine is subject to the Subpart. However, neither Condition II.C.1 nor the table provide enough information for the reader to determine which emission limit and associated monitoring, recordkeeping and reporting applies to the emission unit. The level of incorporation by reference used in the draft permit is insufficient for the applicant and public to determine what standard applies to the unit and how the source is to achieve compliance with that standard.

In addition, Condition II.D.1 incorporates by reference 40 CFR Part 63 Subpart ZZZZ. Unlike the previous Condition, this Condition does not have any associated Table stating which unit the standard applies to, nor does the Condition itself state which emission unit is subject to the standard. It is up to the reader of the permit to assume it is the emergency diesel fire pump engine, and similar to Condition II.C.1, there is no information available in the permit to determine which of the Subpart ZZZZ standards, monitoring, recordkeeping or reporting apply. This level of incorporation by reference is similarly insufficient for the applicant and public to determine which standard applies and what are the associated compliance requirements.

EPA recommends that the NDDEQ revises the draft permit to construct to include which portions of the associated regulations apply to each permit condition and to clearly state the standard or associated limit and compliance requirements. The references should be unambiguous and useful to all affected parties.

**Comments Related to the Ambient Air Boundary used in Modeling**

Appendix 2 of the AQEA document supplied in the record discusses the air dispersion modeling done to demonstrate compliance with the North Dakota Ambient Air Quality Standards. As a part of this document, the applicant included site layout maps and maps expressing a visual representation of the established air dispersion modeling receptor grid.

These maps contain the ambient air boundary for the MRY facility. The EPA defines ambient air within 40 CFR 50.1(e) as “that portion of the atmosphere, external to buildings, to which the general public has access”. The EPA has long followed a policy that allows for the exclusion of certain areas, outside of a building, from ambient air. As described in a 1980 letter from then-Administrator Douglas Costle to Senator Jennings Randolf, this “exemption from ambient air is available only for the atmosphere over land owned or controlled by the source and to which the public is precluded”. The December 2019 *Revised Policies on Exclusions from “Ambient Air”*[[8]](#footnote-9) continues to support that concept of exclusions from ambient air and establishes what requirements are needed to demonstrate that the public is precluded.

Figure A-1 in Appendix 2 of the AQIA establishes what appears to be an ambient air boundary for the facility that is used to delineate where the air dispersion modeling receptor grid is located. This receptor grid is shown in Figure A-4 and excludes the area inside the defined ambient air boundary.

However, in the permit’s June 2, 2023 application, in Figure 2-1, the larger ambient air boundary contains a smaller defined area labeled as the DCC Separation and Purification Plant and locates the MRY facility’s Unit 1 and Unit 2 in relationship to the DCC facility. The larger ambient air boundary area used in the air dispersion modeling process to establish the modeling receptor grid appears to be the MRY ambient air boundary and the DCC ambient air boundary, according to Figure 2-1 appears to be a smaller area located within the MRY boundary. As it contains MRY Unit 1 and Unit 2, this would appear to be the MRY ambient air boundary.

The EPA provided guidance for the treatment of ambient air in a June 22, 2007 memorandum to the Regional Air Division Directors.[[9]](#footnote-10) With respect to a particular source, EPA's practice has been to exempt an area from ambient air when the source (1) owns or controls the land or property; and (2) precludes public access to the land or property using a fence or other effective barrier. As discussed above within the aggregation section, the permit states that DCC and MRY are separate facilities and are not under common control. However, for the purposes of modeling, areas are exempted because they are owned or controlled by the same party. Both scenarios are unlikely to be both simultaneously true. The EPA also discussed situations where a lessor/lessee situation exists and one facility is nested within the ambient air boundary established by the other in the June 22, 2007 guidance. This discussion may be useful in determining the extent and location of ambient air for the DCC project.

EPA recommends that the NDDEQ review the cited documents and confirm that the ambient air boundary and associated receptor grid used in the air dispersion modeling for the DCC project is accurate based on definitions of ambient air and the boundary that DCC establishes. If that boundary is different than the one used to define the model’s receptor grid, the EPA recommends that the NDDEQ or the applicant rerun the model to determine no NAAQS concerns exist.

**Comments Related to CAA Section 112(g)**

The EPA has concerns with the CAA section 112(g) case-by-case maximum achievable control technology (MACT) analysis for hazardous air pollutants (HAPs) in the permit application, particularly regarding the use of acetaldehyde as a surrogate pollutant for all organic HAPs. The DCC permit also has emissions testing for acetaldehyde only, and asserts it is a suitable surrogate for all HAPs. In a MACT analysis, a surrogate is allowed when the control of the surrogate indicates a similar or identical control of the other pollutants. In this case, acetaldehyde and amines (including ni­­­trosamines) exhibit different behaviors under different control scenarios. The effectiveness of controls for amine HAPs should therefore be evaluated separately from the effectiveness of controls for aldehyde HAPs (acetaldehyde and formaldehyde). The EPA recommends that the NDDEQ address this deficiency in the MACT analysis.

**Conclusion**

We are committed to working with the NDDEQ to ensure that the final Permit to Construct is consistent with all applicable EPA-approved North Dakota state implementation plan requirements.

If you have questions or wish to discuss this further, please contact me, or your staff can contact Donald Law at (303) 312-7015 or law.donald@epa.gov.

Sincerely,



Adrienne Sandoval

Director

Air and Radiation Division

1. <https://www.epa.gov/sites/default/files/2018-05/documents/meadowbrook_2018.pdf>, accessed October 16, 2023 [↑](#footnote-ref-2)
2. <https://www.minnkota.com/minnkota-website/our-power/coal>, accessed October 16, 2023. [↑](#footnote-ref-3)
3. <https://www.projecttundrand.com/about>, accessed October 16, 2023. [↑](#footnote-ref-4)
4. 45 FR at 52694 [↑](#footnote-ref-5)
5. <https://www.epa.gov/sites/default/files/2015-08/documents/wtppr-2.pdf>, accessed October 16, 2023, accessed October 16, 2023. [↑](#footnote-ref-6)
6. <https://www.epa.gov/system/files/documents/2022-02/etc-waha-order_1-28-22.pdf>, accessed October 16, 2023. [↑](#footnote-ref-7)
7. <https://www.epa.gov/system/files/documents/2022-02/etc-waha-order_1-28-22.pdf>, accessed October 16, 2023. [↑](#footnote-ref-8)
8. <https://www.epa.gov/sites/default/files/2019-12/documents/revised_policy_on_exclusions_from_ambient_air.pdf>, accessed October 16, 2023. [↑](#footnote-ref-9)
9. *Interpretation of "Ambient Air" In Situations Involving Leased Land Under the Regulations for Prevention of Significant Deterioration (PSD)*, June 22, 2007, available at <https://www.epa.gov/sites/default/files/2015-07/documents/leaseair.pdf>, accessed October 16, 2023. [↑](#footnote-ref-10)