

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 30123
ORDER NO. 32807

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF DCC WEST PROJECT LLC TO CONSIDER THE AMALGAMATION OF THE STORAGE RESERVOIR PORE SPACE, IN WHICH THE COMMISSION MAY REQUIRE THAT THE PORE SPACE OWNED BY NONCONSENTING OWNERS BE INCLUDED IN THE GEOLOGIC STORAGE, AS REQUIRED TO OPERATE THE DCC WEST PROJECT LLC STORAGE FACILITY LOCATED IN SECTIONS 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 29, 30, 31, AND 32, TOWNSHIP 141 NORTH, RANGE 84 WEST, SECTIONS 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27, AND 36, TOWNSHIP 141 NORTH, RANGE 85 WEST, SECTIONS 19, 20, 21, 28, 29, 30, 31, 32, 33, AND 34, TOWNSHIP 142 NORTH, RANGE 84 WEST, AND SECTIONS 24, 25, 33, 34, 35, AND 36, TOWNSHIP 142 NORTH, RANGE 85 WEST, OLIVER COUNTY, NORTH DAKOTA, IN THE BROOM CREEK FORMATION, PURSUANT TO NORTH DAKOTA CENTURY CODE SECTION 38-22-10.

ORDER OF THE COMMISSION

THE COMMISSION FINDS:

(1) This cause came on for hearing at 9:00 a.m. on the 30th day of June, 2023. The initial public notice of this application was not properly published in the Center Republican, the official Oliver County newspaper. Evidence and testimony were taken on June 30, 2023, but the record in this case was left open until August 7, 2023 to allow the required notice to be published and afford any interested parties the opportunity to appear. No further appearances were made on August 7, 2023.

(2) Case No. 30123 is a motion of the Commission to consider the amalgamation of storage reservoir pore space, pursuant to a Storage Agreement by DCC West Project LLC (DCC West) for use of pore space falling within portions of Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 29, 30, 31, and 32, Township 141 North, Range 84 West, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27, and 36, Township 141 North, Range 85 West, Sections 19, 20, 21, 28, 29, 30, 31, 32, 33, and 34, Township 142 North, Range 84 West, and Sections 24, 25, 33, 34, 35, and 36, Township 142 North, Range 85 West, Oliver County, North Dakota, in the Broom Creek Formation, and to determine it has been signed, ratified, or approved by owners of interest owning at least sixty percent of the pore space interest within said lands, pursuant to North Dakota Century Code (NDCC) Section 38-22-10.

(3) Case Nos. 30123, 30122, 30124, and 30125 were combined for the purposes of hearing.

(4) Case No. 30122, also on the June 30, 2023 docket, is an application by DCC West for an order requesting consideration for the geologic storage of carbon dioxide in the Broom Creek Formation from the Milton R. Young Station (MRYS) and other sources in the storage facility located in Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 29, 30, 31, and 32, Township 141 North, Range 84 West, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27, and 36, Township 141 North, Range 85 West, Sections 19, 20, 21, 28, 29, 30, 31, 32, 33, and 34, Township 142 North, Range 84 West, and Sections 24, 25, 33, 34, 35, and 36, Township 142 North, Range 85 West, Oliver County, North Dakota, pursuant to North Dakota Administrative Code (NDAC) Chapter 43-05-01.

(5) Case No. 30124, also on the June 30, 2023 docket, is a motion of the Commission to determine the amount of financial responsibility required of DCC West for the geologic storage of carbon dioxide from the MRYS and other sources in the storage facility located in Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 29, 30, 31, and 32, Township 141 North, Range 84 West, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27, and 36, Township 141 North, Range 85 West, Sections 19, 20, 21, 28, 29, 30, 31, 32, 33, and 34, Township 142 North, Range 84 West, and Sections 24, 25, 33, 34, 35, and 36, Township 142 North, Range 85 West, Oliver County, North Dakota, in the Broom Creek Formation, pursuant to NDAC Section 43-05-01-09.1.

(6) Case No. 30125, also on the June 30, 2023 docket, is a motion of the Commission to consider establishing the field and pool limits for lands located in Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 29, 30, 31, and 32, Township 141 North, Range 84 West, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27, and 36, Township 141 North, Range 85 West, Sections 19, 20, 21, 28, 29, 30, 31, 32, 33, and 34, Township 142 North, Range 84 West, and Sections 24, 25, 33, 34, 35, and 36, Township 142 North, Range 85 West, Oliver County, North Dakota, subject to the application of DCC West for the geologic storage of carbon dioxide in the Broom Creek Formation, and enact such special field rules as may be necessary.

(7) The record in these matters was left open to receive additional information from DCC West. Such information was received on August 18, 2023, and the record was closed.

(8) The Commission gave at least a thirty-day public notice and comment period for the draft storage facility permit and issued all notices using methods required of all entities under NDCC Section 38-22-06 and NDAC Section 43-05-01-08. First publication was made May 22, 2023, and the comment period for written comments ended at 5:00 PM CDT June 29, 2023. The hearing was open to the public to appear and provide comments. The first public notice of this application was not properly published in the Center Republican, the official Oliver County newspaper. Second publication was made June 29, 2023, in the Center Republican, and the comment period for written comments ended at 5:00 PM CDT August 6, 2023. The August 7, 2023 hearing was open to the public to appear and provide comments.

(9) Order No. 32806 entered in Case No. 30122 created the DCC West Center Broom Creek Storage Facility #1.

(10) The plan for amalgamation proposed by DCC West includes a Storage Agreement for the Broom Creek Formation for certain lands in Oliver County, North Dakota.

(11) The area proposed to be included within the amalgamation area of the storage facility is as follows:

TOWNSHIP 142 NORTH, RANGE 85 WEST

ALL OF SECTIONS 25, 34, 35, AND 36, THE S/2 OF SECTION 24, AND THE E/2 OF SECTION 33,

TOWNSHIP 142 NORTH, RANGE 84 WEST

ALL OF SECTIONS 29, 30, 31, AND 32, THE S/2 OF SECTION 19, THE S/2 OF SECTION 20, THE W/2 SW/4 OF SECTION 21, THE W/2, W/2 SE/4 AND SW/4 NE/4, OF SECTION 28, THE S/2, NW/4, W/2 NE/4, AND SE/4 NE/4, OF SECTION 33, AND THE S/2 AND S/2 N/2 OF SECTION 34,

TOWNSHIP 141 NORTH, RANGE 85 WEST

ALL OF SECTIONS 1, 2, 3, 4, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, AND 27, THE NE/4 NE/4 OF SECTION 9, THE N/2, SE/4, AND E/2 SW/4 OF SECTION 10, THE NE/4 SE/4 OF SECTION 16, AND THE N/2 OF SECTION 36,

TOWNSHIP 141 NORTH, RANGE 84 WEST

ALL OF SECTIONS 3, 4, 5, 6, 7, 8, 9, 10, 16, 17, 18, 19, 29, AND 30, THE W/2 W/2 AND W/2 E/2 NW/4 OF SECTION 2, THE W/2 OF SECTION 11, THE NW/4 OF SECTION 14, THE N/2 OF SECTION 15, THE N/2, SW/4, NE/2 SE/4, AND SW/4 SE/4 OF SECTION 20, THE N/2 NW/4 AND SW/4 NW/4 OF SECTION 21, THE N/2 AND N/2 SE/4 OF SECTION 31, AND THE NW/4 OF SECTION 32.

ALL IN OLIVER COUNTY AND COMPRISING OF 29,775.55 ACRES, MORE OR LESS.

(12) DCC West is proposing a one-phase formula for the calculation of tract participation, allocating 100% to surface acres.

“Surface acres” means the number of acres within each respective tract.

(13) Pursuant to NDCC Section 47-31-03, title to pore space in all strata underlying surface lands and waters is vested in the owner of the overlying surface estate.

No pore space has been leased out by pore space owners prior to this agreement. DCC West did not find instances of pore space being severed from the surface estate as allowed prior to April 9, 2009.

(14) A one-phase formula based on surface acres will fairly compensate owners farther away from the injection well that will eventually have pore space occupied by carbon dioxide. DCC West testified to a lack of history matched data for carbon dioxide saturation rates in the Broom Creek Formation for a pore volume allocation methodology that would fairly apportion use of pore space. DCC West intends to own the pore space where the injection wells are to be located. DCC West indicates that the majority of carbon dioxide stored will remain in close proximity to the well bores for an extended period of time, making DCC West the primary beneficiary of a pore volume formula. Computational modeling performed by DCC West and the Commission supports DCC West’s assessment.

The Commission believes capillary trapping, relative permeability hysteresis, and a lack of local area history matching data from injection of carbon dioxide into the saline Broom Creek Formation reservoir provides reasonable doubt for the utility of a pore volume formula. The Commission believes the 100% weighting on surface acreage is acceptable and that the one-phase formula is protective of correlative rights and should not be modified.

(15) DCC West delineated the tracts to be utilized through computational modeling based on site characterization as required by NDAC Section 43-05-01-05.1. The data acquired during site characterization as well as the reservoir model and all inputs were provided to the Commission. The Commission evaluated the storage reservoir utilizing data acquired during site characterization and other publicly available data before performing computational simulation. The Commission concludes that DCC West’s inclusion of pore space that will be affected by the project has been adequately delineated.

(16) The Storage Agreement contains fair, reasonable, and equitable provisions for:

- (a) The amalgamation of pore space interests for the storage of carbon dioxide within said pore spaces of the storage reservoir.
- (b) The division of interest or formula for the apportionment and allocation of carbon dioxide to be stored.
- (c) The measurement of quantity of carbon dioxide injected into the pore spaces underlying the delineated storage facility.

- (d) The enlargement or reduction of the delineation of pore space utilized for geologic storage of carbon dioxide which may be warranted by review pursuant to NDAC Section 43-05-01-05.1(4).
- (e) The time when the Storage Agreement shall become effective.
- (f) The time when, conditions under, and the method by which the Storage Agreement shall be or may be terminated and its affairs wound up.

(17) Such amalgamation of the storage reservoir's pore space and the Storage Agreement are in the public interest, and require procedures that promote, in a manner fair to all interested, cooperative management, thereby ensuring the maximum use of natural resources, and that said Storage Agreement, as contained therein, appears to conform and comply with the provisions and requirements of NDCC Section 38-22-08.

(18) NDCC Section 38-22-10 provides that the Commission may require that the pore space owned by nonconsenting owners be included in a storage facility and subject to geological storage, if a storage operator does not obtain the consent of all persons who own the storage reservoir's pore space.

(19) Pursuant to NDAC Section 43-05-01-08(2)(e), the required notice given by DCC West included a statement that amalgamation of the storage reservoir's pore space is required to operate the storage facility, that the Commission may require that the pore space owned by nonconsenting owners be included in the storage facility and subject to geologic storage, and that the amalgamation of pore space will be considered at the hearing.

(20) The approval of this application is in the public interest by promoting the policy stated in NDCC Section 38-22-01.

IT IS THEREFORE ORDERED:

(1) The amalgamation of pore space in the DCC West Center Broom Creek Storage Facility #1 in Oliver County, North Dakota, is hereby approved.

(2) The Storage Agreement for the Broom Creek Formation is hereby incorporated in this order by reference insofar as the Commission has jurisdiction and said Storage Agreement for the amalgamated pore space therein is approved; and that if said Storage Agreement does not in all respects conform to and comply with the provisions and requirements under NDCC Chapter 38-22, the statute shall prevail.

(3) The amalgamated pore space is hereby defined as the following described tracts of land in Oliver County, North Dakota:

TOWNSHIP 142 NORTH, RANGE 85 WEST

ALL OF SECTIONS 25, 34, 35, AND 36, THE S/2 OF SECTION 24, AND THE E/2 OF SECTION 33,

TOWNSHIP 142 NORTH, RANGE 84 WEST

ALL OF SECTIONS 29, 30, 31, AND 32, THE S/2 OF SECTION 19, THE S/2 OF SECTION 20, THE W/2 SW/4 OF SECTION 21, THE W/2, W/2 SE/4 AND SW/4 NE/4, OF SECTION 28, THE S/2, NW/4, W/2 NE/4, AND SE/4 NE/4, OF SECTION 33, AND THE S/2 AND S/2 N/2 OF SECTION 34,

TOWNSHIP 141 NORTH, RANGE 85 WEST

ALL OF SECTIONS 1, 2, 3, 4, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, AND 27, THE NE/4 NE/4 OF SECTION 9, THE N/2, SE/4, AND E/2 SW/4 OF SECTION 10, THE NE/4 SE/4 OF SECTION 16, AND THE N/2 OF SECTION 36,

TOWNSHIP 141 NORTH, RANGE 84 WEST

ALL OF SECTIONS 3, 4, 5, 6, 7, 8, 9, 10, 16, 17, 18, 19, 29, AND 30, THE W/2 W/2 AND W/2 E/2 NW/4 OF SECTION 2, THE W/2 OF SECTION 11, THE NW/4 OF SECTION 14, THE N/2 OF SECTION 15, THE N/2, SW/4, NE/2 SE/4, AND SW/4 SE/4 OF SECTION 20, THE N/2 NW/4 AND SW/4 NW/4 OF SECTION 21, THE N/2 AND N/2 SE/4 OF SECTION 31, AND THE NW/4 OF SECTION 32.

ALL IN OLIVER COUNTY AND COMPRISING OF 29,775.55 ACRES, MORE OR LESS.

(4) The Storage Agreement for the Broom Creek Formation identified the storage reservoir as the interval containing the amalgamated pore space defined as the stratigraphic interval from below the top of the Picard Member of the Piper Formation, found at an average depth of 4,650 feet, to above the base of the Amsden Formation, found at an average depth of 5,450 feet, as identified within the limits of the facility area, hereinbefore described in paragraph (3) above, by the well logging suite performed on the J-LOC #1 well (File No. 37380) and the Liberty #1 (File No. 37672) and from two 3D seismic surveys covering the area around the J-LOC #1 and Liberty #1 wells.

(5) The Commission defines the storage reservoir containing the amalgamated pore space as the stratigraphic interval from below the top of the Picard Member of the Piper Formation, found at a depth of 4,784 feet below the Kelly Bushing, to above the base of the Amsden Formation, found at a depth of 5,477 feet below the Kelly Bushing, as identified by the Laterolog run performed in the J-LOC #1 well (File No. 37380), located in SW/4 NE/4 of Section 27, Township 142 North, Range 82 West, Oliver County, North Dakota.

(6) The injection of carbon dioxide into the amalgamated pore space by the operator for the purpose of storage of carbon dioxide is authorized through the proposed IIW-N and IIW-S wells, to be located in the SW/4 SW/4 of Section 6, Township 141 North, Range 84 West, Oliver County, North Dakota; provided, however, that prior to the commencement of such injection the operator shall obtain permits as required under NDAC Chapter 43-05-01.

(7) The termination of the amalgamation of lands hereinbefore described in paragraph (3) above shall be as prescribed in the Storage Agreement or at project completion as provided by NDCC Section 38-22-17; and that notwithstanding any provisions to the contrary, in the event that the operator fails to commence or ceases storage operations, the Commission, upon its own motion, after notice and hearing, may consider rescinding this order, or any portion thereof, so that this order of amalgamation will terminate and cease to exist.

(8) The effective date of the amalgamation of pore space in the lands hereinbefore described in paragraph (3) above shall be at 7:00 a.m. on the 1st day of November, 2023.

(9) No well, other than those proposed in Order No. 32806, shall be hereafter drilled and completed in or inject into the amalgamated pore space, as defined herein, or otherwise penetrate the amalgamated pore space, without order of the Commission after due notice and hearing.

(10) This order shall be reviewed when a review of Order No. 32806 is conducted.

(11) This order shall cover all of the amalgamated pore space, as defined herein, and continues in full force and effect until further order of the Commission.

Dated this 4th day of October, 2023.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

/s/ Doug Burgum, Governor

/s/ Drew H. Wrigley, Attorney General

/s/ Doug Goehring, Agriculture Commissioner