

**STATE OF IOWA
THE IOWA UTILITIES BOARD**

IN RE:

SUMMIT CARBON SOLUTIONS, LLC

DOCKET NO. HLP-2021-0001

AFFIDAVIT OF TIMOTHY JOHNSON

STATE OF IOWA }
 }
COUNTY OF POLK }

1. My name is Timothy Johnson, and I am the Senior Research and Policy Analyst with the Iowa Farm Bureau Federation. My business address is 5400 University Avenue, West Des Moines, Iowa. I am the same Timothy Johnson that provided Direct, Direct Revised and Direct Second Revised Testimony on behalf of the Iowa Farm Bureau Federation in this docket.

2. If I am granted permission to submit supplemental testimony to the Iowa Utilities Board (“IUB”), the testimony would consist of submitting the included attachments and the below explanation of how the attachments were prepared in written testimony.

3. I am familiar with the public announcements by Summit Carbon Solutions, LLC and the filings with the IUB on March 4, 2024, in IUB dockets HLP-2024-0001 through HLP-2024-0014 related to the proposed addition of laterals and trunk pipelines to connect an additional 18 ethanol plants to the Midwest Carbon Express (MCE) pipeline proposed by Summit Carbon Solutions, LLC and its subsidiary SCS Carbon Transport, LLC.

**Motion to Reopen Attachment A
IFBF Johnson Affidavit
Page 2 of 4**

4. I am also familiar with the filings in docket HLP-2023-0004 which propose one lateral through Floyd and Mitchel Counties from an ethanol plant located near St. Ansgar to the main line.

5. The route of the proposed pipeline was taken from the KMZ file in the HLP-2021-0001 docket current as of September 7, 2023. The approximate pipeline diameter scale was taken from the most recent revision to Exhibit N to the Petition filed on July 11, 2023.

6. The identification of the subject thirty-one ethanol plants producing carbon dioxide for shipping through the proposed pipeline project were found in Iowa Utility Board dockets HLP-2021-0001, HLP-2023-0004, HLP-2024-0001 through HLP-2024-0014 and the Summit Carbon Solutions, LLC website at <https://summitcarbonsolutions.com/ethanol-plant-partners/>. The POET Bioprocessing (“POET”) facilities were obtained from the POET website (www.poet.com/about) on January 30, 2024. The Valero Renewables (“POET”) facilities were obtained from the Valero website (https://www.valero.com/about/locations?location_type_id=2) on or about March 5, 2024.

7. I accessed the location of the 31 ethanol plants who are producing the carbon dioxide that is proposed to be transported in the proposed pipeline project from the U.S. Energy Information Administration website located at <https://atlas.eia.gov/datasets/3f984029aac4647ac4025675799af90/explore> (accessed 8/18/2023).

8. I also accessed the production numbers for each ethanol plant from the Iowa Renewable Fuels website located at <https://iowarfa.org/ethanol-center/ethanol-biorefineries/> on or about March 5, 2024. The POET and Valero facilities are displayed by the size of the current

**Motion to Reopen Attachment A
IFBF Johnson Affidavit
Page 3 of 4**

capacity for a graphical representation of the different outputs of the individual plants. The initial 12 ethanol plants and the St. Ansgar ethanol plant are noted with uniform blue circle marks.

9. The data was entered to be displayed using ArcGIS, a spatial analysis tool produced by ESRI, Inc. software and the software processed the information generating the map which shows the size of the initial proposed MCE pipeline along the route, the initial ethanol plant partners, the St. Ansgar ethanol plant, the new POET ethanol plant partners, and the new Valero ethanol plant shippers. The resulting map in Attachment A shows the spatial relationships between the pipeline and its size, the current ethanol plant partners, the St. Ansgar plant, the new POET and Valero ethanol plants.

10. To better estimate the volume of the carbon dioxide represented by the announced expansion, I consulted two papers published in February 2024 by the Department of Agricultural and Consumer Economics at the University of Illinois which included a methodology for calculating the carbon dioxide produced from ethanol plants. These papers are attached and may also be found at <https://farmdocdaily.illinois.edu/category/areas/biofuels> (assessed on 3/5/2024.)
See Attachments C and D.

11. To estimate the volume of CO₂ produced in each of the 31 ethanol plants I used the following three-step process.

a. The amount of corn (in bushels) needed for a year at full capacity was determined by dividing the capacity of a plant (in gallons) by 2.95. The source for the 2.95 value was Table 1 of the University of Illinois paper found at Attachment C.
(<https://farmdocdaily.illinois.edu/2024/02/trends-in-the-operational-efficiency-of-the-u-s-ethanol-industry-2023-update.html>, Table 1).

**Motion to Reopen Attachment A
IFBF Johnson Affidavit
Page 4 of 4**


b. That quotient was then multiplied by 20.08 (in pounds) which is the annual physical conversion rate for CO₂ from a bushel of corn in 2023. The source for the 20.08 value was Table 1 of the University of Illinois paper found at Attachment D.

(<https://farmdocdaily.illinois.edu/2024/02/co2-production-by-the-us-ethanol-industry-and-the-potential-value-of-sequestration.html>, Table 1)

c. The product of that calculation was then converted into metric tons by dividing by 2200, which created the final output of metric tons of CO₂ per year.

12. Once the calculations were made for each subject ethanol plant, the information was entered into a spreadsheet and tabulated. *See* Attachment E.

The information provided in this Affidavit is true and correct to the best of my knowledge.



Timothy Johnson

Subscribed and sworn to before me,
a Notary Public in and for said County
and State, this 13th day of March 2024.

