



January 12, 2024

Ref: 8ARD-PM

Mr. Kyrik Rombough
Engineering Manager III
South Dakota Department of Agriculture and Natural Resources
Air Quality Program
Joss Foss Building, 523 E. Capitol
Pierre, South Dakota 57501

Re: EPA Public Comments on POET Biorefining – Hudson LLC.

Dear Kyrik Rombough:

This letter is to submit public comments on the POET Biorefining – Hudson LLC. title V operating permit. The permit is on public notice until January 15th, 2024.

Region 8 has reviewed the POET-Hudson proposed title V permits and has the following comments on Conditions within the permit.

Title V Compliance Assurance and Monitoring Requirements

All title V permits must contain sufficient monitoring to assure compliance with the applicable requirements in the permit. Section 504 of the Clean Air Act (Act) states that each title V permit must include “conditions as are necessary to assure compliance with applicable requirements of [the Act], including the requirements of the applicable implementation plan” and “inspection, entry, monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions”. Additionally, the regulations at 40 CFR 70.6(a)(3)(i)(B) state that “Where the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit”.

Each of the comments below highlight specific instances where there do not appear to be adequate inspection, entry, monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions. EPA recommends that for each of the Conditions below, there are appropriate requirements to assure compliance and to provide transparency and

clarity to the source, the EPA and the public. While we have specifically highlighted these instances, this may be a non-comprehensive list and encourage a thorough review of the conditions within the permit.

Condition 5.7

Condition 5.7 requires POET – Hudson to comply with ARSD 74:36:05:16.01(9) and requires the owner or operator to calculate and record the monthly emissions of particulate matter less than or equal to 10 microns in diameter (Condition 5.7.1.), particulate matter less than or equal to 2.5 microns in diameter (Condition 5.7.2.), nitrogen oxide (Condition 5.7.3.), carbon monoxide (5.7.4.), volatile organic compounds (5.7.5.) and hazardous air pollutants (5.7.6.). These separate conditions require the source to calculate and record the emissions from “permitted sources”, and for conditions 5.7.5. and 5.7.6. “fugitive operations” as well.

Each condition states that the source is to use “the most recent performance test” (Conditions 5.7.1., 5.7.2., 5.7.3., 5.7.4. and 5.7.5.), “continuous emission monitoring system” (Conditions 5.7.3. and 5.7.4.) or “the formulas, emission factors, and methods described in the statement of basis”. However, the proposed permit language does not state when the most recent performance test is available for each unit. Further, it does not state how the information in the performance test is to be used to determine monthly total emissions.

In the absence of performance tests, the permittee is to use “formulas, emission factors, and methods described in the statement of basis”. A review of the Statement of Basis indicates that not all units have a method described to calculate their monthly emissions contribution to Condition 5.7. For example, Unit #23 – Boiler #2 is a permitted source in the permit and therefore required to calculate its contribution to the VOC monthly emissions required by Condition 5.7.5. Table 7-5 in the Statement of Basis indicates that Unit #23 has never been performance tested for VOCs. Therefore, under Condition 5.7.5., Unit #23 is to use “formulas, emission factors, and methods described in the statement of basis” to calculate emissions. Review of the Statement of Basis does not show any methodology for combustion units to calculate their VOC emissions. Based on the language in the draft permit, Unit #23 has neither a performance test or any “formulas, emission factors, and methods described in the statement of basis” to calculate its emissions. Therefore, it does not appear possible for the unit to demonstrate compliance with Conditions 5.7.1. through 5.7.6.

While the Conditions require the use of the most recent performance test, it is unclear to EPA and to the public when that performance test occurred. Table 7-5 in the Statement of Basis does list performance tests dates, but it is unclear to the EPA and to the public if these are the most recent performance tests or just representative performance tests for the unit. It also appears that not all permitted units have a stated formula, emission factor or method described in the statement of basis in order to calculate their monthly emissions required by Conditions 5.7.1 through 5.7.6.

It does not appear that it is possible to demonstrate compliance with Conditions 5.7.1 through 5.7.6. While the Conditions require the use of the most recent performance test, it is impossible

to determine when that performance test occurred. Table 7-5 in the Statement of Basis does list performance tests dates, but it is not possible to determine if these are the most recent performance tests or just representative performance test for the unit. It also appears that not all permitted units have a stated formula, emission factor or method described in the statement of basis in order to calculate their monthly emissions required by Conditions 5.7.1 through 5.7.5.

Condition 6.3

Condition 6.3 requires POET – Hudson to comply with ARSD 74:36:06:02(1) and/or ARSD 74:36:06:03(1). This Condition sets forth total suspended particulate matter emission limits for Units #3 - #10, Unit #13, Units # 16 – #17, Unit #23 and Unit #25. These limits are stated in Table 6-1 of the permit. However, Condition 6.3 does not state how to demonstrate compliance with these emission limits, and it does not appear that any other permit condition contains language to state how monitoring, recordkeeping or reporting is to be conducted to demonstrate compliance with these limits.

Condition 6.4

Condition 6.4 requires POET – Hudson to comply with ARSD 74:36:06:02(2) and/or ARSD 74:36:06:03(2). This Condition sets forth total sulfur dioxide emission limits for Units #10, Unit #13, Unit #17 and Unit #23. These limits are stated in Table 6-2 of the permit. Condition 6.4 does state “Compliance with the sulfur dioxide emission limit is based on a three-hour rolling average, which is the arithmetic average of three contiguous one-hour periods.” Condition 6.4 does not give any further information on what monitoring, recordkeeping or reporting is required to establish these three contiguous one-hour periods. Condition 9.3 does require POET-Hudson to monitor the fuel sulfur content, but the permit does not state how this information could be used to demonstrate compliance with the limits in Condition 6.4.

Condition 7.1

Condition 7.1 sets plant wide emission limits for the POET-Hudson facility at 238 tons per year for Total Suspended Particulate, Particulate Matter less than 10 microns in diameter (PM₁₀), Particulate Matter less than 2.5 microns in diameter (PM_{2.5}), Oxides of Nitrogen (NO_x), Volatile Organic Compounds (VOC) and Carbon Monoxide (CO). The Condition further establishes short term limits for these pollutants for several emission units at the facility stated in Table 7.1. These units are #1 through #11, #13, #16, #17, #23 and #25. The Condition further states:

All short- term limits are based on a three-hour rolling average which is the arithmetic average of three contiguous one-hour periods. Compliance with short-term limits will be based on stack testing requirements in Chapter 7.0.

-POET-Hudson proposed title V permit, Condition 7.1. page 18

Chapter 7.0 contains no performance testing or stack testing requirements. However, Chapter 8.0 – Performance Testing states that certain units at the source are required to test during the

term of the permit. For the citation above, it is assumed that SD DANR was referring to Chapter 8.0 – Performance Testing, not Chapter 7.0. If so, we recommend making the change as appropriate.

Condition 8.7 within Chapter 8.0 states:

8.7 Performance test for Units #1, #3, #4, #5, #10, #11, #13, #16, and #23

In accordance with ARSD 74:36:11:02, the owner or operator shall conduct a performance test the following performance tests within 5 years of permit issuance:

- 1. Units #1, #3, #4, #5, #13, and #16: particulate matter;*
- 2. Units #10 and #11: volatile organic compounds; and*
- 3. Units #13 and #23: nitrogen oxides.*

-POET-Hudson proposed title V permit, Condition 8.7. page 21

This Condition establishes performance testing for some emission units at the facility but not all the emission units mentioned in Table 7.1. For example, Unit #2 – Grain Cleaning has a 0.1 pound per hour emission limit stated in Table 7.1, but no Performance Test requirement in Condition 8.7. The permit does not appear to contain any Condition that would establish how Unit #2 would demonstrate compliance with the limits established in Condition 7.1.

This same situation exists for all the Condition 7.1 particulate limits for Units #6-#9, Unit #7 and Unit #25, the VOC limits for Unit #6, Unit #17 and Unit #23 and the NOx limit for Unit #10. These units have short term emission limits that are stated to require performance testing to demonstrate compliance, but the proposed title V permit contains no requirements to conduct performance tests on these units.

Reviewing the Statement of Basis, it appears that there are permitted units with short term limits in Condition 7.1 that require performance tests to demonstrate compliance, that have never conducted a performance test. Unit #23 has a short-term VOC limit of 0.5 lbs per hour, but Table 7-5 in the Statement of Basis indicates Unit #23 has never been tested for VOCs. Other units appear to have similar issues. Unit #16 has never been performance tested to demonstrate compliance with the short-term particulate matter limits. Unit #17 has never been performance tested for any of the permitted short-term limits.

This creates a situation where many of the short-term limits in Condition 7.1 are unenforceable as a practical matter. As stated previously, title V permits must contain sufficient monitoring to demonstrate compliance with all applicable requirements. The proposed permit does not establish any monitoring to allow Units #16, #17 and #23 demonstrate compliance with the permitted short-term limits.

Condition 7.2

Condition 7.2 requires POET- Hudson to comply with ARSD 74:36:05:16.01(8). This Condition establishes a 9.5 ton per 12-month rolling period limit of single hazardous air pollutants and a

23.8 tons per 12-month rolling period of a combination of hazardous air pollutants. The condition states that these limits are applicable to permitted units and fugitive- sources.

However, like Condition 6.3 above, this Condition does not appear to have any associated method for determining compliance with the stated limit. Condition 5.7.1. requires POET – Hudson to calculate monthly HAP emission rates using “formulas, emission factors, and methods described in the statement of basis”. Review of the associated Statement of Basis shows that Chapter 6 discusses how the potential emissions from several emission units at the facility are calculated, but there is no discussion on how monthly emissions are to be calculated. Further, while Condition 7.2 requires calculation of emissions from fugitive sources, there is no discussion of fugitive sources within the title V permit or within the Statement of Basis, nor any discussion on how to calculate fugitive emissions from those sources at the facility.

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

Sincerely,

1/12/2024

X Adrienne Sandoval

Signed by: Environmental Protection Agency

Adrienne Sandoval
Director
Air and Radiation Division