



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590



REPLY TO THE ATTENTION OF:

Don C. Faith III  
Wisconsin Department of Natural Resources  
101 S. Webster Street  
P.O. Box 7921  
Madison, Wisconsin 53707-7921

Dear Mr. Faith:

The U.S. Environmental Protection Agency has reviewed the draft Combined Construction Permit No. 11-DCF-056/Operation Permit No. 154144540-P01 (draft permit) prepared by Wisconsin Department of Natural Resources (WDNR) for United Ethanol, LLC, located at 1250 Chicago Street, Milton, Wisconsin. EPA has the following comments on the draft permit:

1. The draft permit and support documents do not address applicability or non-applicability of the area source boiler rules, 40 C.F.R. Part 63, Subpart JJJJJJ. According to the draft permit and support documents, the source includes two natural gas fired boilers (each rated at 92.05 million BTU /hr) that are used to produce steam "for cooking the corn/water slurry, distillation, evaporation, etc". The permit should incorporate applicable requirements from 40 C.F.R. Part 63, Subpart JJJJJJ, or failing that, provide a clear discussion in the Preliminary Determination (statement of basis) explaining why 40 C.F.R. Part 63, Subpart JJJJJJ does not apply to the source.
2. The draft permit states that Processes T01, T02 (200 proof ethanol storage tanks; 148,008 gallons each); T03 (denaturant storage tank; 85,302 gallon); and T04 and T05 (denatured ethanol storage tanks; 514,374 gallons each) are subject to 40 C.F.R Part 60, Subpart Kb. However, Condition I.J does not identify those requirements that originate from 40 C.F.R Part 60, Subpart Kb or the applicable general provisions of 40 C.F.R Part 60, Subpart A. Please identify these requirements in the draft permit. Please cite 40 C.F.R Part 60, Subpart Kb or the applicable general provisions of 40 C.F.R Part 60, Subpart A, following each requirement that originates from these rules.
3. There is limited or no compliance testing required for verifying compliance with a number of numerical limits (see specific comments attached). The permit includes a number of synthetic minor limits that are either designed to avoid triggering Prevention

of Significant Deterioration (PSD) review or to prevent exceedance of the National Ambient Air Quality Standard (NAAQS) or PSD increments. In most cases, the emission limits were established based on theoretical emissions calculations performed by the applicant, or were based on generic emission factors from AP-42. To demonstrate compliance with the numerical emission limits, the permit appears to rely on insufficient parametric monitoring while reserving the right to require stack testing as needed, although it is not clear from the permit (or support documents) what would trigger a requirement to conduct stack testing. Whenever the proposed monitoring requirements do not require regular or periodic stack testing, please explain in the permit record why the proposed monitoring is adequate for demonstrating compliance with the emission limits and for verifying emission factors. In general, we recommend that WDNR strengthen monitoring requirements to require at least a limited amount of stack testing for the purpose of verifying compliance with numerical synthetic minor emission limits.

In addition to the above comments, we have enclosed specific comments for your consideration.

We provide these comments to help ensure that the project meets all federal requirements, that the permit provides all necessary information so that it is readily accessible to the public, and that the record provides adequate support for the permit decision. We look forward to working with you to address all of our comments. If you have any questions, please feel free to contact me at (312) 353-4761 or David Ogulei, of my staff, at (312) 353-0987.

Sincerely,

  
Genevieve Damico  
Chief  
Air Permits Section

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**Additional Comments on United Ethanol's Draft Combined Construction Permit  
No. 11-DCF-056/Operation Permit No. 154144540-P01**

1. The permit record should explain how the monitoring requirements in Condition I.A.1 are sufficient to assure continuous compliance with the particulate matter (PM) numerical limits.
  - a. Please clarify whether or not this unit is subject to any periodic (such as every 2 years) stack testing requirement contained in Wisconsin's State Implementation Plan (SIP) NR 439.075(3). If periodic stack testing is required by Wisconsin's SIP, please explain why that requirement is not included in the permit.
  - b. If periodic testing is not already required by Wisconsin's SIP, we recommend at least a limited amount of performance testing to verify the capability of the baghouse. This is especially necessary since the PM lb/hr limit was established to prevent a potential National Ambient Air Quality Standard exceedance.
  - c. If the source has already conducted performance testing of the baghouse, please explain in the Preliminary Determination (PD) whether or not previous performance test data are adequate for demonstrating compliance with PM emission limits.
  - d. If the source will be using visible emissions observations to demonstrate compliance with PM emission limits, or vice versa, the permit record should clearly explain the correlation between observed visible emissions and the PM emissions.
2. We recommend that the monitoring requirements in Condition I.A.2 be strengthened to add daily visible emissions observations using EPA Reference Method 22. The visible emissions observer should note the date and time of day of the visible emissions check, the presence (or absence) of visible emissions, and any corrective actions taken. The permittee should record the general time of day when there is a visible emissions incident to help determine if there is a pattern. Based on the results of the visible emissions observations, follow-up testing using EPA Reference Method 9, as appropriate, may then be required.
3. Condition I.D.1 contains hourly PM/PM10 emission limitations for the cooling tower. To comply with the lb/hr limits, Condition I.D.1.c. requires the permittee to determine and record the concentration of Total Dissolved Solids (TDS) or Total Solids (TS) in the cooling water on at least a weekly basis or more frequently, if a higher frequency is required under any Wisconsin Pollutant Discharge Elimination System permit.

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- a. Please explain in the PD why measurement of the cooling tower recirculation water TDS on a weekly basis is sufficient to ensure that cooling tower PM/PM10 emissions will remain within the parameters of what was modeled on a lb/hr basis.
    - b. We recommend increasing the monitoring frequency for the cooling tower recirculation water TDS or TS from weekly to daily.
  4. The PD states that the 2250 KW (3196 HP / 22.6 MMBTU/hr) diesel emergency generator pre-dates the applicability date of 40 C.F.R. Part 60, Subpart III. However, it is not clear from the draft permit or the PD what the 2006 date shown in Condition I.G. represents. Please clarify in the PD when construction commenced on the engine (i.e., when it was ordered by the owner), and when the engine was manufactured. For engines that are not certified National Fire Protection Association (NFPA) fire pump engines, New Source Performance Standard (NSPS) Subpart III applicability is triggered if the owner or operator commenced construction after July 11, 2005, where the engine was manufactured after April 1, 2006. Per 40 C.F.R. § 60.4200, the date that construction commences is the date the engine is ordered by the owner or operator. Please verify that a complete NSPS applicability description for the diesel emergency generator is included in the PD.
  5. Condition I.I.1.a.(1) specifies a PM limit of 0.00745 pounds per million BTU for Boilers B01 and B02. This PM limit, which is based on an AP-42 emission factor, is designed "to avoid any exceedance of the ambient air standard or increment". However, compliance emissions testing to verify the appropriateness of the AP-42 emission factor used will only be conducted upon request.
    - a. Since the draft permit does not specify the circumstances under which emissions testing would be required, we recommend strengthening the monitoring requirements to add source testing to verify the appropriateness of the AP-42 emission factor.
    - b. If the source has already conducted stack testing, please explain in the PD whether or not any previous stack tests have verified the appropriateness of the selected AP-42 emission factor.
    - c. Please clarify whether or not this unit is subject to any periodic (such as every 2 years) stack testing requirement in Wisconsin's SIP. If it is, please explain why that requirement is not included in the permit.

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6. Condition I.I.3.a.(1) states that the nitrogen oxide (NO<sub>x</sub>) emission limit (0.06 pounds per million BTU) is a PSD-avoidance limit. Strict compliance with this limit is necessary to keep overall NO<sub>x</sub> emissions below 100 tons per year (tpy) (PD reports the source's allowable emissions as 92.14 tpy). However, compliance emissions testing to verify compliance with this emission limit will only be conducted upon request.
    - a. Since the draft permit does not specify the circumstances under which emissions testing would be required, we recommend strengthening the monitoring requirements to add source testing for the purpose of verifying compliance with the NO<sub>x</sub> emission limit.
    - b. If the source has already conducted stack testing, please explain in the PD whether or not any previous stack tests have verified compliance with the NO<sub>x</sub> emission limit.
  7. Conditions I.K.4.b.(5)(a) and I.K.5.b.(7)(a) require monthly NO<sub>x</sub> and carbon monoxide (CO) emissions from the Distiller's Dried Grains with Solubles dryer and the Regenerative Thermal Oxidizer to be calculated based on the monthly hours of operation (or hours in the month), and the associated emission limits. Please clarify why these emissions should not be calculated based on source test data obtained pursuant to Conditions I.K.1.b.(7), I.K.4.b.(3) and I.K.5.b.(5).
  8. Conditions I.I.3.b.(4)(a) and I.I.4.b.(2)(a) require monthly NO<sub>x</sub> and CO emissions from Boilers B01 and B02 to be calculated based on the monthly fuel usage, the supplier listed natural gas energy content and the emission limit.
    - a. Please clarify how the proposed emissions calculation methodology will provide actual emissions to be used for demonstrating continuous compliance with emission limits.
    - b. We recommend that the monitoring requirements be strengthened to require testing of NO<sub>x</sub> and CO emissions from the boilers for the purpose of verifying compliance with the NO<sub>x</sub> and CO emission limits.
    - c. If the source has already conducted stack testing, please explain in the PD whether or not any previous stack tests have verified compliance with the CO and NO<sub>x</sub> emission limits.

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9. Please clarify how compliance with Condition I.L.1.a.(2) will be demonstrated (i.e., 9.6 pounds of volatile organic compound (VOC) per hour (aggregate) and 2100 pounds per month (12 month average) from stack S60. Condition I.L.1.b.(3) requires the source to “summarize the amount of ethanol loaded to railcars, and determine the monthly average emissions, and 12 month average emissions on a monthly basis”, but does not specify how the emissions will be calculated. For example, what emission factor will the source use to calculate VOC emissions?
  10. Conditions I.M.1. and I.M.2 state that the source identified the emission factors used to develop the original CO and NO<sub>x</sub> emission limits as 10 and 4 mg/L of ethanol loaded. Monthly emissions will be calculated using these emission factors but emissions testing to verify the appropriateness of the emission factors will only be conducted upon request.
    - a. We recommend strengthening monitoring requirements to require at least a limited amount of source testing for the purpose of verifying compliance with the CO and NO<sub>x</sub> emission limits.
    - b. If the source has already conducted stack testing, please explain in the PD whether or not any previous stack tests have verified compliance with the CO and NO<sub>x</sub> emission limits.
  11. Condition I.M.5.b.(7) requires the flare to be “designed and operated with an exit velocity (V<sub>max</sub>) less than the specified V<sub>max</sub> as determined by the method specified under I.M.2.b.(8)”. Condition I.M.2.b.(8) is missing from the draft permit. Please verify the citation and clarify how the design exit V<sub>max</sub> for the air assisted flare will be calculated.
  12. Condition I.M.5.a.(4) limits VOC emissions to 10.7 pounds of VOC per hour (aggregate) from stack S16, and 1567 pounds VOC per month (12 month average). To demonstrate compliance with these numerical limits, Condition I.M.5.b.(6) requires the facility to determine “the monthly average emissions, and 12 month average emissions on a monthly basis”. Please clarify how emissions will be calculated. For example, what emission factor will the source use to calculate VOC emissions?
  13. A number of conditions of the draft permit reference “Part II” of the permit, but Part II was not included in the version of the draft permit reviewed by EPA, or in the internet file record for this permitting action. Please verify that this document was made available for public review.
  14. The PD indicates that the project will result in a net increase in greenhouse gas (GHG) emissions of 67,536 tpy as carbon dioxide equivalent (CO<sub>2</sub>e), which is less than the PSD

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significance threshold for GHG emissions of 75,000 tpy as CO<sub>2</sub>e. However, the emissions calculations provided in Appendix A of the PD (specifically Pages 32 and 36) are not legible, which makes it impossible to determine if future actual GHG emissions have been accurately counted. Please incorporate a legible and complete GHG applicability analysis into the PD.