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BY EMAIL ONLY
Mehul Sura
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Re: Tradebe Treatment and Recycling, LLC, East Chicago, Lake County, Indiana
Part 70 Operating Permit Renewal and Significant Source Modification
Permit Nos. T089-49673-00345 and 089-50022-00345

Dear Mr. Sura:

The Conservation Law Center, together with Green EC, Just Transition Northwest Indiana, Gary Advocates for Responsible Development, Environmental Law & Policy Center, Abrams Environmental Law Clinic, (collectively "Commenters") submit the following comments regarding the draft Part 70 Operating Permit and Significant Source Modification ("Draft Permit") for Tradebe Treatment and Recycling, LLC at 4343 Kennedy Avenue in East Chicago, Indiana, Permit Nos. T089-49673-00345 and 089-50022-00345. We appreciate the opportunity to submit these public comments and thank you for your attention in advance.

Commenters are non-profit and community-based organizations that share a commitment to improving local environmental quality. Our organizations include concerned residents of northern Lake County, along with other advocates who work alongside them. Commenters support vigorous enforcement of federal and state environmental laws to protect public health and ensure businesses do not receive a competitive advantage by polluting the environment.

Background

Tradebe is a "waste management and fuel processing" facility that stores, treats, and processes hazardous waste. Its activities emit tremendous quantities of air pollutants, particularly Volatile Organic Compounds (VOCs), which are a precursor to ozone, Hazardous Air Pollutants (HAPs), and particulate matter. Before controls, Tradebe can emit 7,271 tons per year (tpy) of VOCs; 3,007 tpy of HAPs; and over 400 tpy of PM/PM10/PM2.5. Accounting for the limits in the facility's permit, Tradebe is authorized to emit over 154 tpy of VOCs, 2,799 tpy of HAPs, and over 160 tpy of PM/PM10/PM2.5.[1]

[1] *See* Draft Permit, Technical Support Document ("TSD") App. A at 1.

Tradebe's physical context exacerbates the concerns inherently associated with a facility like this. Tradebe sits between two residential neighborhoods of East Chicago, Calumet and New Addition. Some residents can see Tradebe's flare from their homes, and many have anecdotes about strange odors around Tradebe. These neighborhoods are already overburdened by harmful air pollution, and the air they breathe is in "serious nonattainment" for the 2015 8-hour ozone standard.

Tradebe has also repeatedly violated both its Part 70 Operating permit under the Clean Air Act, and its permit to operate a Hazardous Waste Treatment, Storage, and Disposal Facility under the Resource Conservation and Recovery Act ("RCRA"). At least one of these compliance issues—Tradebe's unauthorized operation of a drum shredder for over 20 years—is on display in this permitting action.

Commenters believe that the Draft Permit fails to satisfy state and federal Clean Air Act requirements, described in greater detail below, in the following five general ways. First, the Draft Permit fails to address Tradebe's failure to properly permit equipment it has been using for years. Second, the Draft Permit relies on unexplained or faulty assumptions in calculating emissions. Third, compliance requirements are insufficient to assure operations within applicable emission limits. Fourth, certain monitoring, recordkeeping and reporting requirements do not assure compliance with the Draft Permit's emissions limits. And fifth, the Draft Permit does not clearly describe the actions that must be taken to comply with applicable National Emission Standards for Hazardous Air Pollutants (NESHAPs). Overall, these comments aim to ensure that this permitting action facilitates Tradebe's compliance with the laws and regulations that will protect the environment and the public health.

Comments

Comment 1: The Draft Permit Does Not Appropriately Address Tradebe's Use of Unpermitted or Improperly Permitted Equipment

This permitting action adds numerous emissions units to Tradebe's operating permit, all of which have operated for ten or more years:

- RCRA Empty Drum Shredder (operating since 2003)
- Four Burners for Solids Distillation System ("SDS") II (operating since 2015)
- Two Cooling Towers associated with SDS (operating since 2004)
- One Cooling Tower associated with Thin Film Evaporator (operating since 2008)

The Draft Permit and Technical Support Document incorporate these units into the permit without acknowledging their prior unpermitted usage. The comments below seek greater transparency so that the public can understand IDEM's view of these omissions, both in terms of the potential need for an enforcement response and the adjustments it has made to the permit.

a. Tradebe's Pattern of Underrepresenting Its Operations Cannot be Adequately Addressed Through This Permitting Action

The TSD says little about how the omissions occurred, except that they were inadvertent. Regardless, Tradebe has operated these units for years without a permit to do so. These circumstances call for greater transparency about IDEM's enforcement response.

Title V of the Clean Air Act provides:

"[I]t shall be unlawful for any person to... operate an affected source (as provided in Title IV), a major source, any other source (including an area source) subject to standards or regulations under section 111 or 112, or any other source required to have a permit under parts C or D of title I, or any other stationary source in a category designated (in whole or in part) by regulations promulgated by the Administrator[.]"[2]

The information in the TSD suggests that Tradebe has violated this first principle but does not indicate how IDEM will address the problem. Commenters ask that IDEM clarify the following points:

1. The TSD mentions only the RCRA Empty Drum Shredder, and not the other previously omitted emissions units, among the "Enforcement Issue[s]" involved in this permitting action.[3] Why does IDEM not consider the operation of the SDS II Burners, the two SDS Cooling Towers, or the Thin Film Evaporator Cooling Tower, despite their omission from the facility's Part 70 Operating Permit, an enforcement issue? To the extent these unpermitted units *may* present enforcement issues, they should be referred to IDEM's enforcement branch.

2. Tradebe not only operated the RCRA Empty Drum Shredder for 20 years without a permit to do so, but when it finally applied for approval to "construct" the unit, it significantly underestimated the emissions of VOCs and HAPs by 81.46 tons per year, a factor of more than 6.8.[4] In doing so, the project apparently qualified for a lower permitting level, a Minor Source Modification, rather than a Significant Source Modification. Tradebe's emissions testing results for the RCRA Empty Drum Shredder have been available since October 2024.[5] How did this massive underestimate occur, what caused the delay in rectifying it, and is IDEM treating the situation as an enforcement issue?

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[2] 42 U.S.C. § 7661a.
[3] *See* TSD at 12.
[4] *See* TSD to Minor Source Modification for Tradebe Treatment and Recycling, No. 089-46503-00345 ((Aug. 23, 2024), VFC no. 83686551, App. A at 1.
[5] *See* Bill Byczynski, Stack Test Group, Inc., Report of Volatile Organic Compound (VOC) Removal and Emissions Testing on the Carbon Bed Associated with the RCRA Empty Drum Shredder (Oct. 2024), VFC no. 83937430.

3. The Minor Source Modification Tradebe originally received for the RCRA Empty Drum Shredder states, "Pursuant to 326 IAC 2-7-10.5(m), the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions." Also, "Pursuant to 326 IAC 2-7-12, operation of the new emission unit(s) is not approved until the Significant Permit Modification has been issued."[6] Has Tradebe been operating the RCRA Empty Drum Shredder in the interim period, and if so, is IDEM treating this as an enforcement issue?

b. IDEM Must Apply the Correct Permitting Level to Newly Recognized Units

"An owner or operator of a Part 70 source proposing to... construct new emission units... shall submit a request for a modification approval[.]"[7] In determining appropriate permitting levels, modification requests are not processed individual unit by individual unit, but as a whole.[8]

The TSD identifies three emissions units that were part of earlier modifications at the facility but "inadvertently omitted" from the relevant descriptions, yet it does not integrate these units into the larger modifications: SDS I West Cooling Tower and SDS I East Cooling Tower, which "are part of Solids Distillation System (SDS I) constructed in 2004[;]" and the Area I Cooling Tower, which "is part of exiting [*sic*] Thin Film Evaporator, constructed in 2008[.]"[9]

IDEM describes all three cooling towers as "exempt" under 326 IAC 2-1.1-3 because of their relatively low emissions. However, the description in the TSD suggests these units should have been included in the 2003 modification, MSM 089-15970-00345, which added the first SDS unit, and the 2008 modification, MSM 089-26876-00345, which added the Thin Film Evaporator.

Commenters request that IDEM:

1. Adjust its method of incorporating these units into the permit or explain why it has not aggregated them with the earlier projects.

2. Adjust other permit conditions as necessary, including permits imposing synthetic limits on units that were part of the 2003 modification. This may include the carbon monoxide limitations in Condition D.1.2, which are necessary "to render the requirements of 326 IAC 2-2 (PSD) not applicable."

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[6] Dr. Madhurima Moulik, IDEM OAQ, to Tita Lagrimas, Tradebe (Aug. 23, 2024), VFC no. 83686551.
[7] 326 IAC 2-7-10.5(a).
[8] *See* 326 IAC 2-7-10.5(e).
[9] TSD at 9.

Comment 2: Unexplained Assumptions in the Emissions Calculations Call into Question Permitting Level Evaluations and the Permittee's Ability to Stay Within Emissions Limits

Several aspects of the emissions calculations rely on unexplained or faulty assumptions, which raise questions about Tradebe's ability to adhere to emissions limitations under the terms of the Draft Permit.

a. RCRA Empty Drum Shredder

The RCRA Empty Drum shredder shreds metal drums that held hazardous wastes. A drum may qualify as "RCRA Empty" but still have some hazardous material inside. Therefore, emissions arise during the shredding process from the metal and from residual hazardous waste, and after shredding, as VOCs and HAPs continue to volatilize from the shredded material.

The accuracy of the emissions calculation for this unit matters, because Tradebe seeks to avoid emissions offset for the 2003 Minor Source Modification, MSM 089-15970-00345, that added it. Tradebe has therefore committed to limiting its processing capacity so it can stay below emissions thresholds, and it verifies this with an equation that relies on these emissions calculations.[10] If the emissions calculations are an underestimate, Tradebe may exceed relevant emissions thresholds without anyone realizing there is cause for concern.

Commenters therefore ask IDEM to address the following concerns:

1. VOC/HAP emissions will vary with the drums' prior contents. How has IDEM verified that the 2024 emissions test provides a conservative estimate for the emissions control device?

2. Tradebe stores material in a hopper after shredding, and this stored material is responsible for its own emissions. Tradebe relies on a "shower cap" system for emissions control, for which IDEM assumes 60% control efficiency.[11] How did IDEM arrive at this estimate?

3. PTE before controls relies on assumptions similar to those used in the emissions calculations for the 2024 Minor Source Modification, which resulted in an underestimate of VOC/HAP emissions by a factor of 6.8. What explains the earlier underestimate, and what gives IDEM confidence that the methodology is more accurate for the shredded material?

b. VRUs (2003 & 2015)

Each of the facility's Solids Distillation Systems contains a Vapor Recovery Unit (VRU and VRU II), which receives hazardous waste vapors and recondenses some of them, sending non-

[10] *See* Condition D.1.10.
[11] *See* TSD App. A at 2.

condensable vapors to stack SDS 07 and/or flare FL1. VRU and VRU II have the potential to emit the most VOCs of any unit at the facility, at 2,328 and 4,656 tpy, respectively.[12]

As with the RCRA Empty Drum Shredder, the accuracy of the emissions calculation for this unit matters because Tradebe seeks to avoid 326 IAC 2-3 (Emission Offset) and 326 IAC 2-2 (PSD) for the 2003 and 2014 projects that added them. Tradebe has committed to limiting its processing capacity so it can stay below emissions thresholds, and it verifies this with an equation that relies on these emissions calculations. If the emissions calculations are an underestimate, Tradebe may exceed relevant emissions thresholds without anyone realizing there is cause for concern.

Commenters therefore ask IDEM to address the following concerns:

1. VOC/HAP emissions will vary with the feedstock in each SDS unit. What steps has Tradebe taken to ensure that the emissions calculations reflect typical (or, preferably, conservative) operating conditions?

2. The emissions factor (EF) is described as a ratio of pounds of pollutants to pounds of "vapor product processed." This term suggests that Tradebe can identify the pounds of vapor channeled into the VRUs, but it seems likelier that Tradebe has measured the weight of feedstock at the beginning of the Solids Distillation process. Does the EF rely on pounds of vapor, or pounds of waste feedstock? If the latter, comments recommend that IDEM adjust the emissions calculation for clarity.

3. IDEM has allowed Tradebe to estimate emissions for VRU II based on emissions testing for the first VRU from 2013. Does Tradebe utilize these units identically, such that they process the same waste profile? What information has IDEM considered to confirm that VRU estimates are appropriate for both units, and that the 2013 testing remains accurate (i.e., that there has been no degradation in equipment)?

Comment 3: The Draft Permit's Compliance Determination Requirements Would Not Assure Compliance with Emissions Limits and Standards

a. <u>2003 Modification (89-15970-00345 and RCRA Empty Drum Shredder)</u>

The 2003 Modification and RCRA Empty Drum Shredder together involved the addition of at least 11 emissions units. The highest VOC-emitting units are the VRU and RCRA Empty Drum Shredder which have the potential to emit 2,328 tpy and 9.54 tpy before controls and approximately 46.4 tpy and 8.8 tpy after controls.[13]

[12] *See* TSD App. A at 1.
[13] *See* TSD App. A at 14-15.

The Draft Permit establishes several emissions limits for the 2003 Modification that these units' pollution control devices cannot alone achieve:

- Condition D.1.3(b) limits VOC emissions from the VRU to 23.4 tpy to comply with BACT.
- Condition D.1.1(b) limits VOC emissions from the VRU and the RCRA Empty Drum Shredder to 23.4 tons per year. This condition, together with D.1.1(a), is intended "to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable to the 2003 modification and RCRA Empty Drum (RED) Shredder." An exceedance of just 4% of allowable emissions across these units would exceed the 25 tpy threshold.

Tradebe must limit the quantity of material it processes to comply with these limits, but the permit lacks sufficient compliance determination requirements to assure Tradebe satisfies the emissions limitations. Condition D.1.10 and D.1.12 provide the only compliance determination method, an imprecise calculation based on emissions factors and the weight of feedstock processed. This is particularly concerning in light of Condition D.1.1, which allows Tradebe to emit just below the limit at which the Emission Offset requirements of 326 IAC 2-3 would apply.

Commenters request that IDEM address the following concerns about the compliance determination requirements associated with the 2003 Modification:

1. The emission factors for these devices can generate only a rough estimate of emissions. The kinds of material processed by the VRU and RCRA Empty Drum Shredder varies, so VOC emissions per pound of feedstock vary. A continuous emissions monitoring system would provide a more accurate measure and should be required. Otherwise, a more protective limit and a more conservative emission factor estimate are needed to ensure Emission Offset requirements are inapplicable.

2. The feedstock to the SDS units is unlike materials used in most other industrial processes: it is irregular, varied, and may not bear labels with accurate weight descriptions. Weighing the feedstock is a necessary precondition to observing Conditions D.1.10 and D.1.12, but the permit does not indicate that Tradebe must weigh all feedstock to the SDS units or how it must calibrate or verify accuracy of any scale used.

3. Appendix A to the TSD describes the VRU's "controlled and limited" potential emissions, listing 24.8 tpy VOCs.[14] Though not a permit condition, it should be noted that this "controlled and limited" emission rate would not result in compliance with Condition D.1.1(b) or Condition D.1.3(b). This should be explained or adjusted for clarity.

[14] *See* TSD App. A at 15.

b. 2015 Modification (Solids Distillation System II)

Tradebe added its second Solids Distillation System (SDS II) in the 2015 Modification, which involved the addition of at least 11 emissions units. The highest emitting of these units in terms of VOCs is the VRU II, which has the potential to emit 4,656 tpy before controls, and approximately 93.3 tpy after controls.[15] VRU II also has the potential to emit 7.4 lbs/hr of carbon monoxide.[16]

The Draft Permit establishes several emissions limitations for the 2015 Modification that these units' pollution control devices either cannot or can barely achieve on their own:

- Condition D.1.1(c) limits VOC emissions from the SDS II units to 95.6 tpy "to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable."
- Condition D.1.3(b) limits VOC emissions from VRU II to 95.6 tpy to "comply with Best Available Control Technology (BACT) requirements."
- Condition D.1.2(e) limits carbon monoxide emissions to 7.4 lbs/hr "to render the requirements of 326 IAC 2-2 (PSD) not applicable."

The permit lacks sufficient compliance determination requirements to assure that Tradebe satisfies these emissions limitations. Commenters request that IDEM address the following concerns about the compliance determination requirements associated with the 2015 Modification.

1. Condition D.1.11, like D.1.10 and D.1.12, calls on an imprecise calculation based on an emissions factor and the weight of feedstock processed. As noted above, the emission factors applied for these devices can generate only a rough estimate of emissions. The feedstock to VRU II varies, and so VOC emissions per pound of feedstock vary. Tradebe should instead use continuous emissions monitoring to evaluate compliance on an ongoing basis. Otherwise, standards for weighing feedstock and a more conservative emissions limitation would offer greater assurance that Tradebe will comply with Conditions D.1.1(c) and D.1.3(b).

2. Condition D.1.2(e) lacks any compliance determination requirements, except for monitoring of the flare and stack testing once every five years. These conditions are insufficient to assure compliance the emission limitation, particularly an *hourly* emissions limitation that is exactly equal to VRU II's estimated PTE after controls, on a unit whose emissions will vary with its varying feedstock.

[15] *See* TSD App. A at 14.
[16] *See id.*

Comment 4: The Draft Permit's Monitoring, Recordkeeping and Reporting Requirements Would Not Assure Compliance with Emissions Limits

a. VOCs

Condition D.1.19 requires Tradebe to submit "[q]uarterly summaries of the information to document the compliance status with Conditions D.1.1(b), D.1.1(c), D.1.3(b), D.1.3(c), D.1.4(a), and D.1.5." Tradebe must use "the reporting forms located at the end of this permit, or their equivalent[.]"[17] These forms are not sufficient to demonstrate Tradebe's compliance status with the emissions limitations in D.1.1(b), D.1.1(c), D.1.3(b), and D.1.3(c).

The Draft Permit's Quarterly Report forms are insufficient because they require Tradebe to report only the tons of material loaded into the Solids Distillation System and to indicate whether a "deviation occurred in this quarter."[18] They omit several other variables relevant to the compliance determination calculations required by Conditions D.1.10, D.1.11, and D.1.12, and they do not ask Tradebe to show that it has done the math by calculating the estimated monthly emissions.

Commenters therefore request that IDEM require Tradebe to provide the following information in its Quarterly Reports, in addition to the tons of waste material processed:

1. The values Tradebe is using each month for control efficiency, which should be based on the most recent compliance test.
2. An indication of whether the system relied at all on the carbon absorption system instead of the flare, and the adjusted control efficiency assumption, if that occurred.
3. For the report to demonstrate compliance with Condition D.1.1(b), the number of drums shredded in the RCRA Empty Drum Shredder, which is a variable in the equation required by Condition D.1.10.
4. Tradebe's monthly calculations under Conditions D.1.10, D.1.11, and D.1.12, including the overall emissions estimate.

b. Backup Controls for VRUs

Condition D.1.3(a) requires Tradebe to use carbon adsorption systems (C18 and C38) for SDS VRUs whenever flare FL1 is undergoing maintenance. The proper performance of these backup systems is essential. Uncontrolled, the VRUs alone can emit approximately 530 and 1,060 pounds of VOCs per hour.[19] Yet, while D.1.9 requires stack testing of the flare, and D.1.17 requires daily inspections of other carbon adsorber/canister control systems, there is no inspection or testing requirement for the VRUs' backup equipment.

[17] *See* Condition D.1.19.
[18] *See* Draft Permit at 99-101.
[19] *See* TSD App. A at 1.

Commenters recommend that IDEM add stack testing and regular inspection requirements for the C18 and C38 carbon adsorption systems.

Comment 5: The Draft Permit Does Not Clearly Indicate What Tradebe Must do to Comply with Applicable NESHAPs

Section E of the Draft Permit incorporates applicable NESHAP requirements only by reference to specific sections of the Code of Federal Regulations. This drafting style is difficult to decipher in general, and in some cases, even a reader who cross-checks all citations would lack the information needed to parse which standards apply.

a. 40 CFR Part 60, Subpart V

Condition E.3 requires Tradebe to comply with 40 CFR Part 61, Subpart V, which establishes standards for the Equipment Leaks (Fugitive Emissions Sources). Subpart V applies to "the entire source," but this leaves room for confusion about which units are subject to which requirements under Subpart V.

Greater clarity is needed to ensure that the permit instructs Tradebe, regulators, and the public about which Subpart V standards apply to Tradebe. Commenters request that IDEM address the following points of ambiguity:

1. 40 CFR § 61.242-2 establishes monitoring requirements for pumps, but these standards vary depending on the characteristics of the equipment. Requirements may diverge for pumps:

    a. With a "dual mechanical seal system that includes a barrier fluid system,"

    b. With a "closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of 40 CFR § 61.242-11,

    c. That qualify as "unsafe-to-monitor" under 40 CFR § 61.246(f)(1), or

    d. That are designated "for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background."

    40 CFR § 242-2. The permit should indicate which monitoring standards apply to which pumps at the facility.

2. 40 CFR § 61.242-3 establishes requirements for compressor seal systems and barrier fluid systems to prevent leakage to the atmosphere, but standards vary depending on the characteristics of the equipment. Requirements may diverge if the compressor is:

    a. "[E]quipped with a closed-vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device[;]" or

b. Designated, as described in 40 CFR § 61.246(e)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background.

See 40 CFR § 61.242-3. Commenters request that IDEM clarify which monitoring standards apply to which compressors at the facility.

3. 40 CFR § 61.242 establishes standards for closed-vent systems and control devices, but inspection standards vary depending on whether the vent system:

   a. Is constructed of ductwork or hardpiping;

   b. Is operated under a vacuum;

   c. Qualifies as "unsafe-to-inspect; and

   d. Qualifies as "difficult-to-inspect."

   See 40 CFR § 61.242(f), (i), (j), (k). The permit should indicate which inspection standards apply to which closed-vent systems and control devices at the facility.

Conclusion

The above changes will help to ensure that the final permit communicates clear terms to both Tradebe and the public, provides for the monitoring needed to support emissions limitations, and includes all applicable state and federal requirements.

Thank you for your consideration of these comments. Please do not hesitate to contact us with any questions or if additional information is needed.

Sincerely,



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