BEFORE THE ADMINISTRATOR
UNITED STATE ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF	)	PETITION FOR OBJECTION
The Final Clean Air Act Title V Operating Permit for the Thermal Desorption Units (TDUs) for Processing Hazardous Wastes	)	To Issuance of a Title V State Operating Permit
Issued to Tradebe Treatment and Recycling, LLC 4343 Kennedy Avenue East Chicago, Indiana	)	Petition No. _____
Part 70 Operating Permit No. 089-34503-00345 Significant Permit Modification to Part 70 Renewal No. T089-29424-00345	)	
Issued By The Indiana Department of Environmental Management	)	

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO ISSUANCE OF THE PART 70 OPERATING PERMIT FOR THE TRADEBE THERMAL DESORPTION UNITS

Pursuant to Clean Air Act § 505(b)(2) and 40 CFR § 70.8(d), the Environmental Technology Council ("ETC") hereby petitions the Administrator of the U.S. Environmental Protection Agency ("EPA") to object to the Title V operating permit ("Permit") for two Thermal Desorption Units ("TDUs") operated by Tradebe Treatment and Recycling, LLC ("Tradebe"), East Chicago, Indiana. A copy of the Permit is attached hereto as Exhibit A, and is also available on the Internet at: http://www.in.gov/ai/appfiles/idem-catts/. The Permit was proposed to EPA by the Indiana Department of Environmental Management ("IDEM"), and ETC preserved its rights by submitting Comments to IDEM on the proposed permit. A copy of ETC's Comments reproduced in the Permit Addendum to the Technical Support Document ("ATSD") is separately attached as Exhibit B. The ETC Comments include the following attachments:

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- Memorandum And Order, *United States v. Rineco Chemical Industries, Inc.*, No. 4:07-cv-00189-SWW (U.S. Dist. Ct., E.D. Ark. filed March 4, 2009), regarding the thermal desorption unit operated by Rineco Chemical Industries ("Rineco") in Benton, Arkansas ("Rineco Decision");

- Consent Agreement And Final Order, *In The Matter Of TD*X Associates LP*, Docket Nos. RCRA-06-2012-0936 and RCRA-06-2012-0937, U.S. EPA Region 6, filed October 4, 2012, regarding the thermal desorption unit operated by TD*X in Robstown, Texas ("TD*X CAFO"); and

- Tradebe Brochure on its Solids Distillation System and TDUs available at http://www.tradebeusa.com/uploads/SDS_4page_ELECTRONIC.pdf.

IDEM's responses to ETC's Comments are set forth in the ATSD (Exhibit B) at pages 9-11.

This petition is filed within sixty days following the end of EPA's review period in accordance with Clean Air Act § 505(b)(2). EPA obtained an extension of 30 days on its review period (e-mail from Sam Portanova, EPA Region 5, attached hereto), and on April 13, 2015, determined to take no action. The Administrator must grant or deny this petition within sixty days after it is filed. If the Administrator determines that the Permit does not comply with the requirements of the Clean Air Act or any "applicable requirement," she must object to issuance of the permit. 42 U.S.C. § 7661b(b); 40 C.F.R. § 70.8(c)(1). "Applicable requirements" include any standard or requirement under Clean Air Act § 112, commonly referred to as National Emission Standards for Hazardous Air Pollutants ("NESHAP"). The NESHAP for hazardous waste combustors is codified in 40 CFR 63, Subpart EEE

Here, the Administrator must object because the Permit does not include any requirements based on Subpart EEE, even though the Tradebe TDUs are engaged in the combustion of hazardous wastes. IDEM's failure to include Subpart EEE requirements allows the Tradebe TDUs to emit hazardous waste constituents from combustion that may pose a substantial risk to human health and the environment.

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I. The Tradebe TDUs Are Engaged In Combustion Of Hazardous Wastes, In Addition To Limited Recovery Of Organic Compounds

IDEM rejected ETC's comments on the basis that the Tradebe units are used to reclaim organics from non-liquid hazardous wastes to make a product, and are not burned as a fuel. (ATSD p. 9). IDEM's response totally misses the point, however. In addition to some amount of organics recovery, the Tradebe TDUs also combust significant quantities of the hazardous waste feed, thus warranting Subpart EEE requirements. In this petition process, the ETC strongly urges EPA to take a hard look at whether the TDUs are operated only – or even primarily – for the purpose or organics recovery with respect to all hazardous waste feeds. EPA should consider the following factors.

On information and belief, Tradebe processes a much broader range of hazardous wastes in the TDUs besides just organic wastes with recoverable hydrocarbons. Tradebe advertises that it can process an extensive list of hazardous wastes in the TDUs, including "paint waste, solvent soaked rags, resins, polymers, plastics, production debris, and discarded commercial chemicals." (Exhibit B, ETC Comments, Attachment 2, Tradebe Brochure p.3). Many of these hazardous wastes have some organic chemical constituents, but are primarily composed of combustible materials containing minimal amounts of organic chemicals (*e.g.*, solvent rags). Other wastes simply do not contain economically recoverable amounts of organics. The primary purpose for processing these hazardous wastes in the TDUs is for treatment and disposal, with the hazardous constituents being combusted, or transferred to the char and other residual streams that are blended into hazardous waste fuels for burning, or off-gassed to the non-condensable organics stream that is combusted in a flare. At a minimum, EPA should carefully review the list of hazardous wastes that are processed in the TDUs.

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For example, as recently as February 10, 2015, Tradebe fed mercaptan wastes to the TDUs according to news media reports of an emergency response incident (attached hereto). Hazardous wastes containing mercaptan are not suitable for organics recovery, and the mercaptan was being disposed. In addition, there are no conditions in the Title V permit that limit the feed of hazardous wastes containing recoverable organics to the TDUs, and Tradebe has not obtained a RCRA permit for the units that would contain such waste feed limits.

Not only does the hazardous waste feed raise questions, but the TDU operating conditions also indicate that some combustion occurs. Tradebe claims that the TDUs are operated in an "anaerobic atmosphere," but there is no permit limit on oxygen concentrations and no public monitoring reports. EPA has indicated in technical papers that oxygen levels in thermal desorption units must be maintained at less than 2 percent oxygen to limit combustion. There is no evidence in the record for this Title V permit that the Tradebe TDUs are consistently operated in a manner that prevents combustion. The fact that some organics are thermally recovered does not mean that other hazardous constituents are not being combusted.

The ratio of the amount of hazardous wastes processed in the TDUs to the amount of recovered product also indicates that most of the hazardous waste is being combusted and transferred to the char and other residual streams used for fuel burning. The two Tradebe TDUs have a maximum throughput rate of 4 tons and 5 tons per hour respectively, which is comparable to an incinerator. But on information and belief, the amount of recovered organics can be measured in gallons. What happens to the remaining hazardous waste?

II. Appropriate Requirements Of Subpart EEE Should Be Applied To The Tradebe TDUs To Control Emissions of Hazardous Waste Constituents

In its response to ETC's comments, IDEM also declined to include Subpart EEE requirements because the TDUs do not meet the regulatory definition of "incinerator." However,

ETC's comments expressly noted that although the Tradebe TDUs are not directly fired like incinerators (*i.e.*, "controlled flame"), Subpart EEE must still be applied because combustion is occurring. Even though there is no NESHAP specifically for thermal desorption units, Subpart EEE provides the appropriate requirements for hazardous waste combustion.

As precedent, EPA Region 6 has required that the thermal desorption units operated by Rineco in Arkansas and TD*X in Texas comply with requirements based on Subpart EEE. EPA Region 6 enforced the Subpart EEE requirements based on the assertion that those TDUs – whatever is their primary purpose – were also engaged in combustion of hazardous wastes. EPA Region 6 also recognized that even though the Rineco and TD*X thermal desorbers did not meet the definition of incinerator, nevertheless Subpart EEE provided the applicable requirements to control hazardous waste combustion.

In response to ETC's comments, IDEM asserts that the Tradebe TDUs are different than the Rineco and TD*X units because the reclaimed organics are used to make a product and are not used as fuel. (Exhibit B, ATSD at 9). But in the Rineco case, it did not matter that the purpose of the TDU was scrap metal recovery because in the process of recycling metal drums the TDU was also engaged in combustion of hazardous wastes. Likewise, the TD*X thermal desorber was primarily used for oil reclamation from petroleum waste streams, but Region 6 asserted that hazardous waste in the form of non-condensable gases was vented and injected into the combustion chamber of the TDU where it was burned. (Exhibit B, ETC Comments, Attachment 2, TD*X CAFO pages 9-10).

In the enforcement case against Rineco, EPA Region 6 proved using a mass balance analysis that the amount of material fed to the TDU and the amount of material recovered following treatment (including scrap metal, char and other residuals) did not account for

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approximately 13.9 % of the hazardous waste feed. The court found that this unaccounted for 13.9% of hazardous waste was disposed by combustion. (Exhibit B, ETC Comments, Attachment 1, Rineco Decision page 20). In our comments, ETC urged IDEM to conduct a similar mass balance analysis of the Tradebe TDUs. IDEM did not even respond to this comment. Now that EPA will review the Title V permit, and the central issue is whether the Tradebe TDUs are engaged in combustion that warrants Subpart EEE standards, we strongly request that EPA conduct a mass balance analysis to determine whether a significant amount of the hazardous wastes processed in the Tradebe TDUs can only be accounted for by combustion. EPA can obtain the relevant information for the mass balance analysis from EPA files and from IDEM and Tradebe.

In addition, EPA Region 6 asserted in the Rineco enforcement case, and the court agreed, that the fact that the TDU produced a residual char for disposal "indicates that the destruction of organic materials takes place." (Exhibit B, Rineco Decision, page 20). The court noted that the TDU produced more than 4.4 million pounds of char, or at least 23.5% of the amount of hazardous wastes processed in the TDU resulted in char, which indicated that combustion was occurring. *Id.* Again, it did not matter to EPA Region 6 or the court that the primary purpose of the Rineco TDU was scrap metal recovery. The point that IDEM, in its response to ETC's comments, completely ignores is that the TDU was not only recycling metal but also engaged in combustion. On information and belief, the Tradebe TDUs produce large volumes of char which are disposed in a non-hazardous waste landfill. Based on the EPA Region 6 enforcement action and the court decision, the fact that the Tradebe TDUs produce large volumes of char from processing hazardous wastes should alone demonstrate that sufficient combustion is occurring to warrant Subpart EEE requirements in the Title V permit.

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Moreover, IDEM overlooked the fact that various outputs from the Tradebe TDUs are actually burned as fuel. On information and belief, the oil/water residual stream, inert solids, and possibly other streams are blended into hazardous waste derived fuels. Tradebe itself advertises that "[a]fter processing [in the TDUs], a portion of the residual material can be beneficially used in energy recovery." (Exhibit B, Tradebe Brochure page 2). Similarly, the Rineco TDU residuals were used in fuel blending, and on this basis both EPA Region 6 and the court held that the Subpart EEE requirements should be applied through a RCRA permit.

Likewise, EPA Region 6 required the TD*X thermal desorber to comply with "appropriate requirements" of Subpart EEE in the TD*X CAFO. In that case, a portion of the non-condensable gases from the thermal desorber was vented and burned in a combustion chamber. (Exhibit B, TD*X CAFO page 9). EPA Region 6 asserted that this combustion of off-gases warranted controls under Subpart EEE. (*Id.* at 19). Likewise, the Tradebe TDUs vent non-condensable organics to a flare for controlled flame combustion. The flare acts as an afterburner to combust the non-condensable gases.

IDEM rejected the TD*X precedent in its response to comments, but IDEM did acknowledge that Subpart EEE would apply if the Tradebe TDU's had "a fired afterburner to destroy organics." (Exhibit B, ATSD page 10). IDEM relies on several EPA guidance letters for this response. (Letter from Elizabeth Cotsworth, Acting Director, Office of Solid Waste, EPA, dated June 12, 1998, RCRA Online No. 14266; Letter from Michael Shapiro, Director, Office of Solid Waste, EPA, dated February 23, 1994, RCRA Online No. 13657). But IDEM has misread this EPA guidance too narrowly. The EPA letters state that a thermal desorber with "a fired afterburner to destroy organics" is engaged in combustion. The broader point in the EPA letters, though, is that an afterburner uses "controlled flame combustion" to destroy the organics. An

afterburner is just one example of controlled flame combustion. Another example is a flare when used for the purpose of destroying organics as part of hazardous waste treatment. On information and belief, because the Tradebe TDUs direct the non-condensable organics to a flare for the purpose of destroying the organics in a combustion device, the TDUs are engaged in combustion and Subpart EEE requirements should apply.

Significantly, the flares on the Tradebe TDUs are an integral part of their design and operation for destruction of hazardous wastes, as distinct from flares used on tanks and other equipment solely for air pollution control. On information and belief, the Tradebe TDUs are designed to intentionally drive volatile gases off the hazardous waste and then use the flares as an integral part of the process to destroy those gases which are non-condensable. That is different from other units (e.g., tanks, etc.) that use flares to control gases which are incidental and not deliberately formed as a primary element of their operation.

This aspect of the Tradebe TDUs' operation raises legitimate concerns for protection of public health and the environment. A key requirement for combustion of hazardous wastes is a destruction and removal efficiency (DRE) for principal organic contaminants of 99.99 percent. The Title V permit allows the flare to combust non-condensable organic contaminants from the Tradebe TDUs to achieve a DRE of 98 percent. In other words, the Tradebe TDUs may emit hazardous organic contaminants at an amount more than two orders of magnitude greater than permitted by Subpart EEE for hazardous waste combustors.

Failure to apply Subpart EEE requirements to the Tradebe TDUs creates a dangerous precedent for the proper regulation of hazardous waste emissions. In addition to the Rineco and TD*X thermal desorbers, we are aware that several other commercial TDUs also have permits that incorporate appropriate Subpart EEE requirements. By requiring that some TDUs comply

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with Subpart EEE requirements, but not the Tradebe TDUs, EPA would create an unlevel regulatory field and ignore significant risks to human health and the environment.

III. Conclusion

As previous Court rulings and permit precedents have held, the goal of hazardous waste recycling does not trump the need to control tons of hazardous waste burning. Thermal desorbers that combust hazardous wastes without meeting Subpart EEE standards are one of the biggest loopholes in the Clean Air Act and RCRA. They make a mockery of EPA's effort beginning with the Combustion Strategy in 1993 to ensure that all forms of hazardous waste combustion meet stringent, technologically achievable emission standards. As the Federal District Court held in denying Rineco's claim that recycling scrap metal exempted its thermal desorber from hazardous waste combustion requirements:

> "Were the Court to uphold Rineco's interpretation, any hazardous waste treatment unit that processed an incidental amount of recovered material that is not burned for energy recovery would qualify for the recycling exemption. Such an interpretation is contrary to the regulations and RCRA's purpose to ensure the proper treatment, storage and disposal of hazardous waste so as to minimize the present and future threat to human health and the environment. (p. 18)."

For the foregoing reasons, petitioners respectfully request that the Administrator timely object to the Permit for the Tradebe TDUs and remand it to IDEM for modification by including appropriate requirements from the NESHAP for hazardous waste combustion, 40 CFR Part 63, Subpart EEE.

Dated: June 12, 2015

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