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October 30, 2015

Mr. John Blevins
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Division Director 6EN
U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
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SUBJECT: Hazardous Waste Regulatory Standards for Thermal Desorption Units at Petroleum Refineries

Dear Mr. Blevins:

Thermal desorption units (TDUs) are broadly used to treat hazardous waste and hazardous secondary materials. The application of thermal desorption technology within a recycling or reclamation process has been reviewed by Region 6 in multiple enforcement cases. The resulting allegations and consent agreements have established regulatory positions that may not be consistent with broad industry practice. This letter seeks clarification of EPA's position for TDUs that are co-located at refineries.

A TDU is a thermal treatment device that heats solid material to vaporize, remove, and separate organic constituent materials from the solids. The solids are discharged with little or no residual organic contaminants, meeting RCRA LDR and at times even delisting levels of residual organic compounds. In the embodiment that is the subject of this letter, the separated organic constituents are typically condensed and recovered as a liquid oil. The TDU process characteristically generates a vent gas after the condensing system. When high organic content material is processed in the TDU it is quite common for the unit to be designed to combust the vent gas as an effective means of air pollution control. It is the regulatory applicability related to the combustion of all or a portion of the vent gas that I am seeking clarification.

TDUs at Petroleum Refineries.

An application of thermal desorption technology has been locating the TDU onsite at a petroleum refinery to process oil bearing hazardous secondary materials (OBHSM) and return the reclaimed

oil back to the refinery. There are presently at least three such TDUs operating at refineries in Region 6 processing OBHSM. These TDUs are functionally identical to the two TDUs presently operating in Region 6 at TSDFs. The OBHSM that is managed in refinery based TDUs, if shipped to a TSDF, would be listed hazardous waste and is typically listed as either K048, K049, K050, K051, K052, K169, K170, K171, K172, F037 or F038, or may be hazardous waste by characteristic (i.e. "D" coded).

It is my understanding that OBHSM that is legitimately recycled in a TDU at a refinery location to reclaim oil may be excluded from consideration as a solid waste and therefore the activity would not be RCRA regulated. This exclusion from the definition of solid waste is codified under 40 CFR § 261.4(a)(12), as long as the OBHSM is neither speculatively accumulated nor placed on the land.

For a specific application where a TDU is located at a petroleum refinery and legitimately recycling OBHSM under the 40 CFR § 261.4(a)(12) exclusion from the definition of solid waste, please confirm that the following regulatory requirements would apply to the TDU process, and in particular to the activity of combusting the TDU vent gases:

1. Because the OBHSM is excluded from RCRA, the OBHSM is neither a solid nor hazardous waste when generated, accumulated, stored, or processed in the TDU, as long as speculative accumulation is not performed and the OBHSM is not placed on the land. However the "desorber solids" discharged from the TDU remain listed hazardous waste, specifically waste code F037.
2. Because the OBHSM is excluded from RCRA, combustion of the TDU vent gas is not considered RCRA regulated thermal treatment as it would be if the TDU were performing a similar recycling operation at a TSDF.
3. For TDUs that combust all or a portion of the TDU vent gas (fuel gas), that combustion activity must comply with 40 CFR Part 60 Subpart Ja requirements including CEMS requirements.
4. Items 4 and 5 assume that the refinery is a major source of air emissions subject to Title V permitting. For TDUs that combust all or a portion of the TDU vent gas (fuel gas), that combustion activity must comply with 40 CFR Part 63 Subpart DDDDD requirements for combustion of the vent gas, particularly fuel gas composition, analysis and performance requirements.
5. The TDU as a piece of refinery equipment would need to be designed, operated, maintained and inspected in accordance with appropriate specific equipment design and performance requirements, as well as leak detection and repair statutes, that apply to other oil processing equipment located at the refinery, as per 40 CFR Part 63 Subparts CC and H, and other applicable MACT standards.
6. Because the TDU is not managing crude oil or another refinery product, but is rather recycling a byproduct (i.e. a secondary material) of the refining process, the OBHSM recycling activity would be subject to the Benzene Waste Operations NESHAP (BWON) as per 40 CFR Part 61 Subpart FF and its many design, operation, maintenance, inspection and recordkeeping requirements.

7. It is understood that specific refineries may be operating under EPA or State compliance agreements and consent orders that modify or delay compliance with items 3, 4, 5 and 6 above, and that those consent agreements may take precedence over the current codified regulations.

I am unclear whether MACT "EEE" compliance (i.e. 40 CFR Part 63 Subpart EEE) for the TDU would be triggered at a Title V petroleum refinery facility by combustion of TDU vent gas that is generated from material that would otherwise be regulated as hazardous waste. Please provide me with EPA's regulatory position on this issue.

Again, please confirm my understanding of the above enumerated regulatory standards as they apply to the processing of OBHSM in a TDU located at a petroleum refinery where all or a portion of the vent gas is combusted.

Your support in clarifying these matters is most appreciated. My client intends to construct and install one or more TDUs in Region 6 located at a petroleum refinery, and desires regulatory certainty on the issues discussed herein.

Sincerely,

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