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MANILA

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

B435430447

FACILITY: RECYCLING AND TREATMENT TECHNOLOGIES OF DETROIT		SRN / ID: B4354
LOCATION: 530 ROUGE ST S, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Don Kaniowski , Plant Manager		ACTIVITY DATE: 07/27/2015
STAFF: Stephen Weis	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS:
SUBJECT: Compliance inspection of Recycling and Treatment Technologies of Detroit (RTT). The RTT facility is scheduled for inspection in FY 2015.		
RESOLVED COMPLAINTS:		

**Location:**

Recycling and Treatment Technologies of Detroit, LLC (SRN B4354)  
530 Rouge Street  
Detroit

**Date of Activity:**

Monday, July 27, 2015

**Personnel Present:**

Steve Weis, DEQ-AQD Detroit Office  
Don Kaniowski, Plant Manager

**Purpose of Activity**

A self-initiated inspection of the Recycling and Treatment Technologies of Detroit, LLC facility (hereinafter "RTTD") was conducted on Monday, July 27, 2015. RTTD was on my list of sources targeted for an inspection during FY 2015. The purpose of this inspection was to determine compliance of operations at the RTTD facility with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control) and Federal standards. The facility is also subject to the terms and conditions of Permit to Install No. 181-13, which was issued on April 15, 2014.

**Facility Description**

The RTTD facility is a liquid waste treatment facility. RTTD accepts used oil, oily wastewaters, wastewater, and recycled petroleum products at the facility for treatment, recycling and disposal. As noted in the permit application for Permit to Install 181-13, oil is not limited to petroleum-based products; it can also include other materials of the fat, oil and grease category, and vegetable-based oils. Materials are brought to the RTTD facility for treatment by various liquid hauling trucks, and finished product and treatment by-product materials are similarly shipped from the site via liquid hauling trucks. The waste materials received at RTTD are treated to separate and remove recoverable and reusable petroleum product in the incoming waste stream from water and solids.

For some of the incoming waste streams, namely the recycled petroleum product (RPP), the treatment consists of simply placing the material in one of the tall vertical storage tanks and allowing the material to settle gravimetrically; this separates the petroleum fuel portion of the RPP from the water portion. Used oil materials go through a more complex treatment process, including physical phase separation using a centrifuge as well as chemical and thermal treatment, to separate the oil, liquid and solid phases of the incoming waste stream. The used oil and oily waste treatment process is to take place inside of the Processing/Warehouse building. This building is to be kept under negative pressure when materials are being treated and/or stored in the processing and storage tanks inside, and the building air will be vented to a packed bed caustic scrubber to control air emissions, as well as potential odors. It should be noted that the used oil and oily material/wastewater treatment processes contained in the Processing/Warehouse building have not yet taken place since the issuance of Permit to Install No. 181-13.

The RTTD facility is located just to the east of Dix Avenue, between Oakwood and Mellon Streets to the south and the Rouge River to the north. The area immediately adjacent to RTTD along Fordson Street is a mix of commercial and industrial properties, with a variety of automotive repair, welding and fabrication, and auto salvage type businesses. Much of the area to the west and south of RTTD contains some of the area's notable heavy industrial facilities. The west side of Dix Avenue features the AK Steel operation, an Edward C. Levy slag processing facility, a Sunoco Terminal and the Cadillac Asphalt Plant. The Marathon Petroleum refinery is located about ½ mile south of RTTD along Oakwood Blvd. The closest residential neighborhood, called Oakwood Heights, lies just over ¼ mile to the east/southeast of the RTTD facility.

RTTD is owned by Central Ohio Oil, a company based in Columbus, Ohio. Central Ohio purchased the RTTD facility in January of 2014.

### **Facility Operations**

The RTTD facility currently operates Monday through Friday, from 7:00am to 4:00pm. During this time, trucks bring material to the facility to be treated or stored, or take finished product or waste materials from the facility. At this time, the Plant Manager, Don, is the only full-time employee at RTTD.

Permit to Install No. 181-13 defines Emission Units that are specific to the various processes that occur at RTTD. These Emission Units are described below.

#### **EU-OIL**

This Emission Unit designation is assigned to the used oil, oily waste and oily wastewater treatment processes at the facility. These processes take place inside of the Processing/Warehouse building. The building contains several tanks that are to be used to process the oily waste. According to the permit application materials, the receiving and processing tanks in the building have a processing capacity of 50,000 gallons per day. Materials are loaded to these tanks via hoses with vapor-tight connections and submerged fill lines. Once in the tanks, the waste materials are treated to break the oil-water emulsion. This is to be done by gravity phase separation; heating the material using low-pressure steam; physical agitation of the material using shakers, strainers, and in some cases a centrifuge; and chemical treatment to adjust the material's pH and/or to precipitate dissolved solids out of the solution. The recovered petroleum product is sold for future use. The water portion is treated in an on-site wastewater treatment process, as necessary, and either discharged to the Detroit Water and Sewerage Department (DWSD) system, or shipped off-site for disposal if the discharge cannot meet the limits RTTD's DWSD Industrial Wastewater Discharge permit. The solids are collected into a roll-off box, and sent offsite for disposal.

The Processing/Warehouse building is to be kept under negative pressure at times when materials are being stored and/or processed. The building air will be vented through a packed bed scrubber that utilizes sodium hypochlorite and sodium hydroxide prior to being discharged to the ambient air.

As mentioned earlier in this report, the processes associated with EU-OIL have not yet operated since the issuance of the permit.

#### **EU-WWTMT\_POLISH**

This Emission Unit contains the on-site wastewater treatment process, which is used by RTTD to treat wastewater generated by the treatment processes on site in order to discharge to the Detroit Water and Sewerage Department system in compliance with RTTD's DWSD Industrial Wastewater Discharge Permit. The only permit Special Condition specific to the wastewater treatment process equipment is Special Condition VIII.1, which states that EU-WWTMT\_POLISH shall not be vented to the outside air.

#### **EU-STORAGE**

This Emission Unit includes the storage tanks on the RTTD property that are used to store finished oil product, as well as virgin oil product from other locations that is sometimes blended with RTTD's outgoing oil product. These tanks are identified as Tanks 12 and 13, which each have a storage capacity of 20,000 gallons, and Tanks 60 and 61, which both have a storage capacity of 365,000 gallons. These tanks are not heated, and are uncontrolled.

## EU-RPP

RPP is a mixture of petroleum product and water. The RPP process involves four vertical tanks. Tanks K1 and K2 have a capacity of 30,000 gallons, and are the primary RPP treatment tanks. One of the tanks is used to separate the petroleum and water phases through gravimetric separation, while the other tank is used to store the recovered petroleum product. The tanks are not heated. The recovered product is shipped from RTTD to customers who typically use the product as a fuel. The water portion is discharged to the DWSD sewer system if it meets permit limits, or sent for off-site disposal if it does not meet the DWSD's permitted discharge criteria. The remaining two tanks, identified as Tanks K3 and K39, are used for backup storage, and/or to contain vapors generated during the filling of RPP into Tanks K1 and K2. The RPP tanks are controlled by a two stage activated carbon system. Materials are loaded to and from the RPP tanks via hoses with vapor-tight connections and submerged fill lines.

The RTTD facility also has a couple of boilers that are housed in the boiler building. These boilers are rated at 6.6 MMBTU/hour, and are exempt from DEQ-AQD permitting requirements due to their small size. There is also an office building that contains an on-site laboratory.

A scan of a RTTD facility site map that was included as part of the permit application for PTI No. 181-13 is attached to this report for reference.

## Inspection Narrative

I arrived at the facility at about 2:35pm. When I arrived, the Plant Manager, Don Kaniowski, was working with a tanker truck driver to load some finished oil product into his truck. The truck belonged to Petroleum Liquid Transporters out of Columbus, Ohio. When this task was complete, Don and I began walking around the facility.

I asked Don about current facility operations. He told me that in the time since the permit was issued, the oil market has been a bit depressed. As a result, RTTD has not received any waste oil or oily wastewater materials to treat, so the operations in the Processing/Warehouse building have not taken place. RTTD's main business has been the storage of virgin petroleum product, and processing RPP. When Central Ohio Oil has too much virgin product, it is shipped to RTTD for storage, and taken from the site as it is needed. The loading operation that was occurring when I arrived at the site involved sending a shipment of virgin product offsite.

Don and I walked inside of the Processing/Warehouse building. He showed me the new ventilation system that was installed to create the draw/negative pressure inside of the building. Don told me that the scrubber was installed in December of 2014.

Don and I then looked inside the wastewater treatment building. He told me that the filter presses have not been used due to the processes associated with EU-OIL not being used. We then surveyed the RPP tanks. Don showed me the two stage carbon system that is used to control vapors generated by the RPP process, and he showed me how he checks the carbon system for breakthrough. After a walk around the open pits, which now contain a small amount of clean storm water, Don and I went into the office area to discuss compliance with the permit, and to check records.

There was nothing to check regarding EU-OIL and EU-WWTMT\_POLISH, as the equipment and processes associated with EU-OIL have not operated since the permit was issued, and the wastewater treatment building is in compliance with its only requirement – that the building not vent to the ambient air.

We began to discuss the RPP treatment process and product storage. I showed Don an inspection checklist that I prepared that showed the permit requirements for the Emission Units at the facility. Don told me that between December 2014 and May of 2015, 232,000 gallons of RPP was taken by RTTD for treatment. He mentioned that much of this material was production water from natural gas wells that is high in water content. Don showed me the log sheets that he has generated in 2015. The log sheets record the following information:

- The date and time that material was either accepted by RTT, or shipped off-site. There is a column titled "Generator" that tracks the exchange of the material, either to RTTD from a generating facility, or from RTTD to a customer.
- The transporter of the material.

- The amount of material, and a description of the type if material.
- A breakdown of the composition of the material in terms of % light ends, oil, water and solids.
- Which tank the material either came from, or was offloaded to.

This sheet covers all of the material currently being handled at the facility, from RPP to the materials stored in the storage tanks. Don pointed out that Tanks 12 and 13 are used for storage, along with Tank 45. Tanks 60 and 61, which are identified in the permit as 365,000 gallon tanks, are not being used due to their containment areas not being up to date. These tanks are clean, and their hatches are open. I have attached a copy of the log sheets for 2015 for reference. I showed Don the permit requirements for EU-STORAGE and EU-RPP that require separate monthly and 12 month records of the amount, in gallons, of RPP produced and the amount, in gallons, oil product transferred into and out of the storage tanks. While the log sheets contain much of the information that is required by the permit, it is not formatted in such a way so as to readily demonstrate compliance.

I asked Don about the permit special conditions that require emissions calculations be kept. Specifically, monthly and 12 month calculations for VOC and benzene are required to be kept for EU-STORAGE, and monthly and 12 month calculations of VOC, benzene and isopropylbenzene are to be kept for EU-RPP. Don did not have records of these calculations, and thought that the contracted environmental consultant may have knowledge of how this information is being tracked.

For the RPP tanks, there is also a permit requirement that, within 180 days after permit issuance, the benzene and isopropylbenzene concentrations of RPP produced in EU-RPP. My interpretation of this permit condition is that RTTD is required to have taken a sample of the recovered petroleum product portion of the RPP, after it has been separated and stored in a finished product tank, and have the sample analyzed for concentration of these two compounds. Don did not know about this test, and offered that the analysis could have been performed by someone and he was not informed of it. Don told me about a water leak in the RTTD office building that caused a portion of the ceiling to fall in the office where he keeps the records for the RPP's carbon unit breakthrough check. The water destroyed the hard copy of his records, and there is no computer backup. Don showed me some examples of the records that he keeps, and he told me that he has started logging the information summarizing his checks of the carbon system again.

I left the facility at 4:00pm.

As a follow-up to the site visit, I spoke with RTTD's environmental consultant, Rick Harding of Integrated Environmental, Inc., on August 5. I informed him of the deficiencies that I identified in the recordkeeping at RTTD, and advised that a Violation Notice would probably be issued.

### Permits/Orders/Regulations

As previously referenced, **Permit to Install No. 181-13** was issued to RTTD on April 15, 2014. The permit addresses the various liquid waste treatment related processes at the facility.

The following provides a description of RTTD's compliance with the Special Conditions put forth by Permit to Install No. 181-13:

#### For EU-OIL

The equipment and processes related to this Emission Unit have not operated in the time since the permit was issued. I toured the Processing/Warehouse building, and saw the new negative air draw system and the scrubber. The permit conditions in this Emission Unit cannot be evaluated at this time. Special Condition V.1 requires that RTTD confirm the concentrations of VOC, benzene, 1,1,2,2-tetrachloroethane, naphthalene and isopropylbenzene in the oil product within 180 days of the date of Permit to Install 181-13. However, given that the processes covered by this Emission Unit have not yet operated, and thus no oil product has been produced, this condition cannot be complied with at this time. RTTD and their consultant have been advised of the regulatory requirements that must be complied with if and when EU-OIL begins operation.

#### For EU-WWTMT POLISH

The only requirement associated with the processes and equipment associated with this Emission Unit is that the building not vent to the ambient air. This condition (VII.1) is being met.

### **For EU-STORAGE**

Condition I.1 and 2 (Emission Limits) – RTTD is **not in compliance** with these requirements. Calculations are not being kept to demonstrate compliance with the VOC and benzene emission limits.

Condition II.1 – This condition limits the total amount of oil product that can be transferred into and out of EU-STORAGE to 29,200,000 gallons per year. The log sheets being kept by RTTD show that the amount of oil transferred is far below these levels. RTTD is **in compliance** with this condition.

Conditions IV.1 and IV.2 – These conditions, which reference Part 7 of Michigan's Air regulations, require that tanks at RTTD be equipped with submerged fill piping, and that tanker trucks loading and offloading at RTTD by equipped with submerged fill piping. RTTD is **in compliance** with these conditions.

Condition VI.1, VI.2 and VI.3 – These special conditions require that RTTD complete calculations to demonstrate compliance with the emission limits; maintain records of the monthly and 12 month rolling time period amount of oil product transferred into and out of EU-STORAGE; and maintain monthly and 12 month rolling time period records of the VOC and benzene emissions from EU-STORAGE. RTTD is **not in compliance** with these conditions as the required records are not being properly maintained.

### **For EU-RPP**

Condition I.1, I.2 and I.3 (Emission Limits) – RTTD is **not in compliance** with these requirements. Calculations are not being kept to demonstrate compliance with the VOC, benzene and isopropylbenzene emission limits.

Condition II.1 – This condition limits the total amount of RPP that can be produced to 610,000 gallons per year. The log sheets being kept by RTTD show that the amount of oil transferred is far below these levels. RTTD is **in compliance** with this condition.

Conditions IV.1 and IV.2 – These conditions, which reference Part 7 of Michigan's Air regulations, require that tanks at RTTD be equipped with submerged fill piping, and that tanker trucks loading and offloading at RTTD by equipped with submerged fill piping. RTTD is **in compliance** with these conditions.

Condition IV.3 – This condition requires that EU-RPP not operate unless the two stage activated carbon system is installed, maintained and operated in a satisfactory manner. RTTD is **in compliance** with this condition.

Condition V.1 – This condition requires that RTTD verify the concentration of benzene and isopropylbenzene in the RPP product produced at the facility. There is no record of this being done. Therefore, RTTD is **not in compliance** with this condition.

Condition V.2 – This condition requires RTTD to test the two stage activated carbon system for breakthrough. Don demonstrated how he does this, and he described the procedure for maintaining the carbon system. RTTD is **in compliance** with this condition.

Conditions V1.1, VI.2, VI.3 and VI.4 – These special conditions require that RTTD complete calculations to demonstrate compliance with the emission limits; maintain records of all of the carbon breakthrough test results; maintain records of the monthly and 12 month rolling time period amount of RPP produced at the facility; and maintain monthly and 12 month rolling time period records of the VOC, benzene and isopropylbenzene emissions from EU-RPP. RTTD is **not in compliance** with these conditions as the required records are not being properly maintained.

Condition VI.5 – This condition requires RTD to keep records for each load of RPP received that identify the waste generator, and document the date, time and amount of material received from each generator. RTTD is **in compliance** with this condition.

Condition VI.6 – This condition requires that RTTD monitor and record the amount and type of chemicals used to treat RPP. There are no chemicals used in this process; RPP is treated through gravimetric separation. RTTD is **in compliance** with this condition.

### **FGFACILITY**

RTTD is in compliance with the permit special conditions contained in this section of the permit.

A Violation Notice, dated August 24, 2015, was issued to RTTD to address the various non-compliance issues relating to Permit to Install No. 181-13. I spoke with Rick Harding on August 21 to let him know that a Violation Notice would soon be sent. He informed that one of his colleagues at Integrated Environmental, Nikki McKenna, had visited RTTD, and was already working to set up a compliance system to ensure that the facility will be able to demonstrate compliance with the permit. He assured me that RTTD will be able to adequately respond to the Violation Notice, and demonstrate compliance with the permit.

There is a **Federal NESHAP** (National Emission Standard for Hazardous Air Pollutants) for Off-Site Waste and Recovery Operations, **40 CFR Part 63, Subpart DD**. This Subpart applies to owners and operators of a plant site that is a major source of HAP emissions; there is not a separate, so-called area source MACT for the off-site waste and recovery operation source category. The permit application materials for Permit to Install No. 181-13 include process-specific and a facility-wide estimate of potential emissions. This information demonstrated that HAP emissions are well below major source thresholds. Per the applicability provisions for Subpart DD put forth in paragraph 63.680, since RTTD is not a major source of HAP emissions, then RTTD is not subject to Subpart DD.

### Compliance Determination

Based upon the results of the July 27, 2015 site visit and subsequent records review, the RTTD facility is not in compliance with some of the terms and conditions of Permit to Install No. 181-13. A Violation Notice was issued to RTTD, and the company is working with their environmental consultant to resolve the violations, and to implement a system to ensure that the required records are being maintained at the facility.

Attachments to this report: a print out of the RTTD facility site plan; some information from Central Ohio Oil's webpage; a copy of the inspection checklist; copies of the incoming and outbound materials log sheets.

NAME Steve Wey

DATE 9/4/15

SUPERVISOR JK