B4354
MANUAL

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

B435446020

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:** 08/16/2018
STAFF: Stephen Weis	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Compliance inspection of Recycling and Treatment Technologies of Detroit (RTT). The RTT facility is scheduled for inspection in FY 2018.		
RESOLVED COMPLAINTS:		

Location:
Recycling and Treatment Technologies of Detroit
(SRN B4354)
530 Rouge Street
Detroit

Date of Activity:
Thursday, August 16, 2018

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 facility (hereinafter "RTTD") was conducted on Thursday, August 16, 2018. RTTD was on my list of sources targeted for an inspection during FY 2018. 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 Site Description

The RTTD facility is a liquid waste treatment and recycling facility. The facility occupies a parcel of land roughly 5 acres in size that is located at the northwest corner of Fordson and Ormond Streets in the portion of Southwest Detroit bounded by Dix Street, Oakwood Blvd. and the Rouge River. The facility operations on the property include a few building structures (facility offices, the treatment building, a boiler house and a filtration building), several above ground liquid storage and treatment tanks, and some below grade liquid storage and treatment tanks and pits. A site description drawing is attached to this report for reference, as well as a site map from Google Earth that shows the layout of the facility.

The area immediately adjacent to the RTTD facility 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 areas to the north, west and south of RTTD contain some of the area's notable heavy industrial facilities. The area to the west of Dix Avenue features the AK Steel operations (on the opposite side of the Rouge River), 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. This neighborhood used to feature a dense concentration of residential properties, but as a result of buyout offers from Marathon when the refinery expanded, Oakwood Heights has become sparsely populated over the past several years.

Facility Operations

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

The RTTD facility is a liquid waste treatment facility. RTTD is permitted to accept 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 (PTI) No. 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. When the facility is operating, 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.

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 are to take place inside of the Processing/Warehouse building. The building contains several tanks that are to be used to process used oils and oily waste materials. According to the permit application materials, the receiving and processing tanks in the building have a processing capacity of 50,000 gallons per day. As part of the material handling and treatment process, materials received at the facility are to be loaded to these tanks via hoses with vapor-tight connections and submerged fill lines. Once in the tanks, the waste materials are to be treated so as to break the oil-water emulsion. This is typically 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 of the treated waste is itself treated in an on-site wastewater treatment process, as necessary, and either discharged to the Detroit Water and Sewerage Department (DWSD) system, or it is shipped offsite for disposal if the discharge cannot meet the limits in RTTD's DWSD Industrial Wastewater Discharge permit. The solids are collected into a roll-off box, and they are sent offsite for disposal.

The Processing/Warehouse building is required 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.

Most of the processes associated with EU-OIL have not yet operated since the issuance of the permit. There are several tanks inside of the building that were in place at the time of permit issuance, and all but a few have not been used. The scrubber system is in place, but it has not been put into use since the permit was issued.

EU-WWTMT_POLISH

This Emission Unit contains the on-site wastewater treatment process, which is to be 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 they are uncontrolled. Tanks 60 and 61 have been unused and empty for several years, going back to before PTI No. 181-13 was issued. I was told during the site visit that tanks 12 and 13 have been unused and empty for over two years.

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 they are the primary RPP treatment tanks. One of these two tanks is

to be used to separate the petroleum and water phases through gravimetric separation, while the other tank is to be used to store the recovered petroleum product. The remaining two tanks, identified as Tanks K3 and K39, are to be 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. The tanks are not heated. Materials are loaded to and from the RPP tanks via hoses with vapor-tight connections and submerged fill lines. When EU-RPP is operational, the recovered petroleum 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 it is sent for off-site disposal if it does not meet the DWSD's permitted discharge criteria. I was told during the site visit that the RTTD facility has not processed RPP, and thus not used the four vertical tanks, in over two years.

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

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

Facility operations are very limited at this time. As previously mentioned in this section, most of the process equipment that is part of EU-OIL in the facility's PTI has not operated in the time since the PTI was issued. The controls for the boilers are damaged beyond repair, and as a result, none of the boilers at the facility have operated since February of 2015. The storage tanks designated in the EU-STORAGE Emission Unit are empty and no longer in use, and all but a few of the tanks in the facility's treatment building are empty and have not been used since the facility's PTI was issued in 2014. I was told during the site visit that there are thoughts of selling the property. The current operating status of the facility will be described in more detail in the next section of this report.

Inspection Narrative

I arrived at the facility at 11:45am. I was met by the Plant Manager, Don Kaniowski. We began the visit by going to Don's office to discuss current facility operations. Don told me that the facility is not treating oil (they are only receiving and treating water materials), and he confirmed that the facility has not used the oil treatment tanks in the facility's treatment building since before PTI No. 181-13 was issued. I was told that there has been talk of selling the facility property. The owner, Central Ohio Oil, is exploring their options regarding the facility property at this time.

Don told me that the facility currently has one active contract, with Buck's Oil, to bring in a product called ZF, which is a high-pressure non-detergent floor wash. The material that is brought to the facility is run off, or spent, ZF material that has been used for cleaning in a manufacturing setting. The collected material contains trace amounts of oil from machining operations at the source that used the ZF and generated the material that was collected and brought to RTTD. The ZF material is placed in a few of the tanks inside of the facility's treatment building, and, up until a couple of months before my site visit, in Pit A, which is located along the truck entrance to the facility along Fordson Street, or. In the attached RTTD facility site description drawing, the process equipment that is currently in use is highlighted in yellow, including the tanks in the treatment building, Pit A, and the wastewater treatment building. The ZF material undergoes gravity separation in the tanks to recover any oil. Don told me that sometimes caustic is added to the material to adjust the pH to 9. The material is not heated (as there are no functioning boilers at the facility), and no acids or other chemicals are added. Don told me that the facility also occasionally receives contact water from gas station excavations; this material is classified as petroleum contact product, and it also undergoes gravity separation.

Don told me the non-petroleum portion of the material left in the tanks is discharged to the POTW. A full analytical analysis is performed on the material that is collected for discharge every 4 days, and this is shared with the Great Lakes Water Authority (GLWA), who also performs periodic sampling of their own at the facility. Don told me that he doesn't discharge to the POTW until there is 100,000 gallons ready to be discharged from the wastewater treatment tanks, which takes roughly 2-3 months to collect.

We discussed the storage tanks at the facility. The storage tanks in EU-STORAGE are no longer in operation. The two large storage tanks in the Emission Unit, Tanks 60 and 61, have been decommissioned. I was told that the other two tanks in the Emission Unit, Tanks 12 and 13, are empty and have been for over two years. Don told me that all of the other outdoor tanks are also empty; the upright tanks that are part of EU-RPP have not been used in over two years, and there are no plans to use them again, and the horizontal tanks

located in the northwest corner of the property (numbered by the facility as the 40 series tanks) have been empty even longer, and there are no plans to use them again. Don told me that he occasionally uses Tank 11 (T-11), which is located just outside on the south side of the treatment building, for outbound material. He also told me that Pit A is currently empty, and that he is not using it.

Don explained that he tracks all of the incoming and outbound loads (the outbound loads are residual material from the collection and treatment of rain/stormwater onsite that is sent to one of Central Ohio's facilities) each month, and he sends the log sheets to the facility's environmental consultant, Integrated Environmental, for tracking and recordkeeping. The log sheets record the following information:

- The date that material was either accepted by RTTD, or that material was 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 offsite.
- The transporter of the material.
- The amount of material, and a description of the type of 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 that it was offloaded to.

Don showed me some of the monthly sheets, including the sheets for July and August 2018, and he provided me with copies of sheets for four different months; these copies are attached to this report for reference. Don explained to me that in the log sheets, PCW denotes petroleum contact water, oil/water is the ZF cleaning material, and treatment sludge, with RTT as the generator and COO (Central Ohio Oil) as the transporter, represents residual material sent from the RTTD facility for offsite treatment/disposal. Any oil or petroleum that is recovered is also picked up by COO.

Don and I walked around the facility. He showed me the boiler building, and he described the damage to the boilers' controls. He told me that the controls are damaged beyond repair, and that the boilers cannot operate. We looked at the open outdoor pits that collect onsite rainwater, and at the wastewater treatment building. We then walked through the facility's treatment building, which is the largest building structure at the facility, containing the process equipment in the EU-OIL emission unit group in the facility's PTI. This building is also used to warehouse equipment and supplies for the facility. Don explained to me that aside from the boilers no longer being operational, the steam coils in the treatment tanks are no longer functional. He said that it would cost an estimated $12,000 per tank to repair the steam coils. At this point in time, there are no plans to operate the treatment processes in the treatment building utilizing heat or chemical additions going forward.

Don showed me the scrubber system that was installed new in December of 2014 and has never been used. The controls for the scrubber are kept on in order to keep the programmed settings and logic maintained, but other than that, the system is not in operation as none of the process tanks that are capable of being heated in the building are in use. Don told me that he has contacted the manufacturer of the scrubber to see if they would be interested in buying the unit back from the facility. A representative of the scrubber manufacturer is supposed to get back with Don about visiting the facility to look at the scrubber unit.

We returned to Don's office, and after a brief conversation to summarize the site visit, I left the facility at 1:10pm.

As a follow-up to the site visit, I contacted RTTD's environmental consultant, Rick Harding of Integrated Environmental, Inc., via a phone call on September 13, 2018. I told him that I had visited the RTTD facility in August, and I asked him to provide me with some information about the records the Integrated receives from RTTD. Rick told that he and his staff has not been to the facility for quite some time as there wasn't much activity going on an RTTD the last time that they visited. Rick told me that the volume of material handled keeps decreasing, and that much of the equipment is not in use and/or is no longer operable. He confirmed that Don sends logs of the amounts of inbound and outbound materials at the facility every month, and that Integrated maintains this information for RTTD.

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

As mentioned previously in this report, much of 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 I saw the new negative air draw system and the scrubber. I was told during my August 2018 site visit, as well as my last visit to the facility in 2015, that the processes covered by this Emission Unit have not operated in the time since the PTI was issued, and that no oil product has been produced.

However, RTTD has been, and still is receiving oily wastewater, directing the material to some of the tanks in the processing building, and producing an oil product via gravimetric separation. I looked at the PTI application for PTI No. 181-13, and the treatment process is described in the application as follows – "Materials are comingled with other compatible materials, and heated with low-pressure steam to facilitate separation of oil from water and to reduce the material's viscosity for ease of processing." The process goes on to reference the material being heated to 180°F. As mentioned earlier in this report, none of the tanks in the processing building are capable of being heated, and they have not been capable of being heated since the PTI was issued. The application materials present the operation of the tanks and evaluate their operation and emissions with the assumption that the tanks will be heated.

Based on my conversation with Don during the site visit, and subsequent conversations and communications with RTTD's consultant in the time since, the facility's compliance with the requirements put forth in EU-OIL can be summarized as follows:

- The amount of oily material that is received at the facility is monitored and recorded on an as received basis. The records, which are separated by month, track the date that the material was received, the generator, the amount of material, a description of the material, and the percent oil and water. Don also told me that if caustic is added, the date and amount is noted. This is in compliance with the recordkeeping requirements in SCs VI.3, 6 and 7. The facility is receiving far less material than the amount allowed per SC II.1.

- The facility has not operated the scrubber since it was installed, thus the scrubber parameter records described in SC VI.2 cannot be monitored.

- I was told (and shown via the unit's logic screen) that the scrubber is equipped with a liquid flow rate indicator, as required by SC IV.3, even though it has not operated. The requirements in SCs IV.4 and VI.5 to monitor the temperature of the contents of the heated treatment tanks is not valid at this time as none of the tanks are capable of being heated.

- Material that is received at the facility is loaded into treatment tanks/vessels using submerged fill piping, as required by SC IV.1. SC III.1 requires that used oil, oily waste and oily wastewater shall only be stored inside of an enclosed building. All of the tanks in the processing building are located inside of the building. Don told me that he was occasionally placing some ZF material in Pit A to perform gravity separation. Pit A, which is a below-grade covered pit/tank, is not part of the EU-OIL Emission Unit in the permit. However, the intention of the requirements put forth in SC III.1 seems to be to prevent the processing of oily materials outside of an enclosed building. Don and RTTD's consultant have been made aware of this and advised to not utilize Pit A, or any vessels/tanks that are located outside of the treatment building, to process material.

- The requirement of SC IV.2 to not receive and process material (aside from material stored in Tanks 12 and 13) unless the scrubber is installed, maintained and operated in a satisfactory manner is not being met. Based on some of the discussion in the permit application and permit review documents, an argument can be made that the requirement to operate the scrubber during treatment assumed that treatment would involve heating the material and adding treatment chemicals such as acids as part of the treatment process; this type of treatment has not occurred at the RTTD facility in the time since the permit was issued in 2014.

- There are specific emission limits put forth in SCs I.1 through 5, and requirements to calculate emissions for the pollutants for which there is an emission limit in SC VI.4. This information is not being maintained at this time. I spoke with RTTD's consultant about this. He mentioned that due to the low volume of material, he had estimated a low amount of VOC emissions. The emission limits were based on a material

throughput close to the material limit in SC II.1 – as the facility is accepting and treating much less than the permitted amount, the resulting emissions can be assumed to be proportionally lower, as well.

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. While the facility appears to be contemplating ceasing operations, RTTD and their consultant have been advised of the regulatory requirements that must be complied with if and when EU-OIL begins operation, and also the potential requirements due to the facility's current operating status.

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

RTTD is currently not operating the storage tanks that are addressed by this Emission Unit. Tanks 60 and 61 have been decommissioned, and Tanks 12 and 13 have been out of use and empty for over two years.

For EU-RPP

RTTD is currently not operating the processes and process equipment associated with EU-RPP. At this time, there are no plans to operate this process and its associated equipment in the future.

FGFACILITY

RTTD is in compliance with the permit special conditions contained in this section of 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 August 16, 2018 site visit and subsequent discussions, it has been determined that the RTTD facility is in compliance with most of the terms and conditions of Permit to Install No. 181-13. There are some terms and conditions that the facility does not appear to be in compliance with, specifically regarding the EU-OIL Emission Unit. However, due to the current operating status of the facility, there may not be enough activity, or the type of activity that is addressed by the permit, to demonstrate compliance with some of the permit conditions in EU-OIL. Per my recommendation, RTTD is working with their environmental consultant to ensure that all activities taking place at the facility are being done in such a way so as to demonstrate compliance with the facility's permit, ranging from the tanks/vessels that are used to receive, store and/or process material to keeping the required records for as long as the facility continues to operate.

Attachments to this report: a print out of the RTTD facility site plan; a Google Earth view of the facility and its property; sample copies of the incoming and outbound materials log sheets for four separate months.

NAME Steve Wen DATE 2/19/19 SUPERVISOR JK