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MAWILA

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

B307136252

FACILITY: Kamps Pallets		SRN / ID: B3071
LOCATION: 19001 GLENDALE, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Tim Kearly , Plant Manager		ACTIVITY DATE: 07/27/2016
STAFF: Stephen Weis	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Compliance inspection of the Kamps Pallets, Inc. facility.		
RESOLVED COMPLAINTS:		

Location:

Kamps Pallets, Inc.
(SRN B3071)
19001 Glendale
Detroit 48223

Date of Activity:

Wednesday, July 27, 2016

Personnel Present:

Steve Weis, DEQ-AQD Detroit Office
Tim Kearly, Plant Manager, Kamps Pallets

Purpose of Activity

A self-initiated inspection of the Kamps Pallets, Inc. facility (hereinafter "Kamps") in Detroit was conducted on Wednesday, July 27, 2016. The Kamps facility was on my list of sources targeted for an inspection during FY 2016. The purpose of this inspection was to determine compliance of operations at the Kamps facility with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control) and with applicable Federal standards.

Facility Site Description

The Kamps facility occupies the area at the southwest corner of Glendale and Artesian Streets. The Detroit Water and Sewerage Department's parcel viewer tool shows that the Kamp's parcel is just under 11 acres in size. The property is located in an area bounded by Schoolcraft Road to the north, Interstate 96 to the south, Evergreen Road to the west and the Southfield Freeway/Rd. to the east. Much of the area south of the stretch of Schoolcraft Road between Evergreen Road and the Southfield Freeway consists of commercial and industrial properties. There are also residential properties that extend south from Schoolcraft to Davison Street on the west side of Artesian, and just south of Davison between Artesian and the Southfield Freeway. The closest residential property is located about 200 yards to the NNE of the Kamps facility on Stahelin Street.

The property consists of a 231,000 square foot building located on the west side of Artesian in which much of the facility's work is conducted, and an outdoor lot to the west of the building that contains material storage piles (pallets, wood, wood mulch). The facility used to be owned and operated by Metaldyne Corporation. Kamps began operating at this facility in July 2012.

Facility Operations

As the name of the company would suggest, Kamps is in the business of supplying pallets to customers. According to the company website (www.kampspallets.com), Kamps builds new pallets, reconditions used pallets and remanufactures pallets for use by customers throughout Michigan, Indiana, Ohio and Kentucky. Kamps also provides certified heat-treated pallets; the wood material is heat-treated to kill insects and larvae that may be in the wood. Kamps also has a Wood Resource Division that recycles wood that cannot be reused in reconditioned/remanufactured pallets into mulch. At this time, Kamps uses untreated wood in their pallets, and untreated, clean wood in their mulch products.

The Kamps facility in Detroit is one of twelve locations that the company operates, seven of which are located in Michigan. The company website indicates that each of the facilities is a “plant” facility, at which pallets are built, a “bark & mulch products” facility, or both. The Detroit location is listed as a plant, but there are currently some wood shredding/grinding and mulching operations occurring here as well.

The primary operation at the Detroit facility is the manufacturing of pallets. At the north end of the building, there is a loading dock at which used pallets are received. The pallets are sorted based on their condition – some are sent for repair, and the rest are sent for disassembly. There is a separate room within the building for disassembly; here, wood from pallets that cannot be repaired is disassembled by hand and re-purposed for use in remanufactured pallets. Pallets are constructed in the southern portion of the building. New wood is stored in this area, and used for new pallet construction. Reconditioned pallets are repaired, and remanufactured pallets are fabricated in this part of the building, as well.

Wood that can no longer be used as part of a pallet is recycled into mulch. The wood is put through a grinder located outside, to the west of the building, and stored in outdoor storage piles in the western portion of the Kamps’ property. I was told that mulch sales occur from March through June, then, at the end of summer (August-September), Kamps uses the ground wood for their CushionWood product, which is used as a playground surface material. I was told during my site visit that within the next two months, Kamps will be moving much of the pallet tear-down work and scrap wood recycling (i.e. grinding, mulching) to their Taylor facility (20310 Pennsylvania Rd., SRN N7591), which focuses on mulching, mulch coloring and mulch sales. The Detroit facility is to focus more on pallet sales, and the production of new pallets.

Kamps provides heat treating at the Detroit facility using a natural gas-fired Kiln-Direct wood kiln. According to Tim Kearly, Kamps typically heat treats two loads per day. During a heat-treating cycle, which takes just under three hours, the kilns are heated to 140°F for 30 minutes to kill any insects and larvae that may be in the wood. The temperature inside of the kiln is monitored by six probes. A check of the kiln manufacturers website (www.kiln-direct.com) shows that the wood kiln utilized at the Kamps Detroit facility has a BTU rating of 1.45 MMBTU/hour.

The Kamps Detroit facility also utilizes equipment for supplemental heating of the building. The building is equipped with small natural gas-fired ceiling-mounted heaters (Michigan Rule 282 exempt, based on the relative small size), and HVAC equipment for the office portion. In order to save on the amount of natural-gas that would be needed to heat Kamps’ large building, they installed two units made by The Log Boiler, Inc., which are located near the west wall of the building and fire logs, and two biomass shop heating units inside of the building, which fire clean, untreated scrap wood generated by Kamps. This equipment only runs during the cold weather months.

The biomass units are manufactured by Biomass Combustion Systems, Inc. of Worchester, MA (www.biomasscombustion.com). Some information from Biomass Combustion Systems regarding their wood-fired shop heaters is attached to this report for reference. During this site visit, we did not find a BTU rating on the two heaters, but according to the company website, the heaters come in three ratings – 250,000, 500,000 and 800,000 BTU/hour.

Information regarding the two outdoor units from The Log Boiler, a Michigan-based company, can be found on the company website (www.thelogboiler.com). According to this website, the rating of one of the Log Boiler units, which is a top load burner, ranges from 1.4 to 2.5 MMBTU/hour.

The Kamps facility operates two shifts, Monday through Friday from 6:30am until midnight. There are currently around 100 employees at the facility.

Inspection Narrative

I arrived at the facility at 12:40pm. I was met by Tim Kearly. We took a tour of the facility, walking through the building and the outside work areas.

As we walked through the building, Tim pointed out the different areas of the plant and the various operations that occur – the loading dock where the pallets are received; the used pallet disassembly area; the new wood storage area; the new pallet assembly operation. We stopped and looked at the two biomass shop heating units. I tried to find a boilerplate on the units that would give me some information relating to the burner capacity, but we were unable to locate any such labels. I was able to record the manufacturer information and the model number for the units.

We then walked outside and viewed the wood recycling operation, located to the west of the building. I observed clusters of used pallets, wood and piles of mulch. The wood grinding machine was located between the wood and the mulch. The piles of mulch were not generating any dust while we were in the yard. Tim told me that Kamps plans to move the pallet tear-down/disassembly and wood recycling/mulching operations to the Taylor facility; this will lessen the footprint in terms of the amount of pallet and mulch material stored outside at the Detroit facility.

We looked at the Log Boiler units. Tim explained the improvements that were made to these units based on the opacity issues that occurred when these units began operating in 2015. Kamps contacted the manufacturer, who recommended the following changes to the units, which were implemented:

- Install a larger fan on the units for better combustion.
- Re-wire the units; it was determined that the initial wiring set-up was incorrect, so the units were operating optimally during the burn cycle.
- Use logs as fuel for the units, not scrap pallet wood.

Tim said that Kamps noticed that there was much less smoke when The Log Boiler units operated during the winter of 2015-16.

After walking around the facility, Tim and I proceeded to his office to further discuss operations at the facility, including hours of operation and the number of shifts.

I left the facility at 1:30pm.

Permits/Regulations/Orders/Complaints/Other

Permit status

The Kamps facility does not currently have any active permits. The primary operations at the facility – the fabrication and disassembly of wood pallets – are exempt from AQD permitting requirements per the provisions of Michigan Administrative Rule 285(l)(vi).

As mentioned earlier in the report, there are some thermal processes at the facility, namely the two biomass shop heaters, the natural gas-fired wood kiln, and the two Log Boiler wood-fired heating units. The wood-burning equipment is exempt from permitting requirements per the provisions put forth in Michigan Administrative Rule 282(b)(iii), which states, in part, that the requirement to obtain a permit to install does not apply to fuel-burning equipment which is used for space heating, that burns wood, wood residue or wood waste which is not painted or treated with wood preservatives, and the equipment has a rated heat input capacity of not more than 6 MMBTU/hour. According to information from the design specifications, the two heating units manufactured by The Log Boiler, Inc. have a heat input capacity ranging from 1.4 – 2.5 MMBTU/hour, and they are fired with untreated wood. The two biomass shop heating units are manufactured by Biomass Combustion Systems, Inc.; there are three models available with heat inputs of 250,000, 500,000 and 800,000 BTU/hour, which all meet the exemption criteria. There is a Federal regulation that was promulgated on March 16, 2015 – 40 CFR Part 60, Subpart QQQQ (Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces). This regulation applies to any such units that were manufactured on or after March 15, 2015. The units at Kamps were already installed and in operation at the facility prior to March 15, 2015, so this regulation does not apply.

The wood kiln, manufactured by Kiln-Direct, is natural gas-fired, and has a heat input of 1.45 MMBTU/hour. The natural gas-fired burner would appear to be exempt from permitting per the provisions of Rule 282(b)(i). However, there is no specific provision in the exemption rules (Rules 278 through 290) that exempts the operation of wood kilns from AQD permitting requirements. Accordingly, there have been several permits issued by DEQ-AQD for lumber and wood drying kilns; these permits address VOC emissions from the kilns. It should be noted that much of the wood kiln equipment that has been permitted seems to involve kilns with much larger charging capacities than the kiln used at Kamps, and drying cycles that are much longer in comparison to the drying cycle involved with Kamps' pallet kiln. For example, for a lumber kiln that was issued Permit to Install No. 184-11, the kiln can process 90,000 board feet of pine, and the drying time is 4 days. Recall that the cycle time for the pallet kiln used at the Kamps facility is less than 3 hours. Also, the permitted kiln has a temperature of 180-190°F, while the pallet kiln at Kamps heats the pallets to 140°F for 30 minutes of the cycle.

VOC emissions from the permitted kilns are estimated based on emission factors from a document titled

"Factors Affecting Lumber Kiln VOC Emissions", authored by M.R. Milota of Oregon State University; this reference has been used as the basis of estimating VOC emissions from wood kilns for all of the AQD permits that I found for this type of process equipment that have been issued over the past 10 years. This document provides that the worst case VOC emission factor is 4.3 pounds of VOC as carbon per thousand board feet (or 4.3 lbs C/MBF). Kamps operates pallet kilns at a couple of their other locations in Michigan; these kilns were not issued permits by AQD. For the Grand Rapids facility, it was determined in 2008 that the VOC emissions from the kiln at that location, based on the estimated amount of wood dried in the kiln each month and the 4.3 lbs C/MBF emission factor, were around 10 pounds for all of 2007. This estimate was conservatively applied against the exemption threshold criteria put forth in Administrative Rule 290(a)(ii)(c) - 10 pounds of carcinogenic air contaminants with an IRSL greater than or equal to 0.04 micrograms per cubic meter per month – to demonstrate that typical usage of that kiln met this exemption criteria.

The permitted kilns have permit conditions that require the permitted facility to track the amount of wood dried each month, and to calculate VOC emissions using the accepted VOC emission factors from the Milota document. I have attached Appendix 7 from PTI No. 382-07 to this report. A copy of Appendix 7 will be provided to Kamps along with the request that they keep monthly records of the amount of wood dried in the pallet kiln in order to demonstrate that they are complying with the permit exemption criteria in Rule 290.

Complaints

In March 2015, the AQD-Detroit Office received a complaint about smoke coming from the Log Boiler units. Our office received two additional complaints in 2015 – one complaint alleging material fallout from the mulch area, and one reporting wood smoke odors. I have performed regular surveillance of the Kamp's facility since we received the complaints, observing the Log Boiler units during the cold weather periods, and the mulch piles. Since Kamps made the improvements to the Log Boiler units, the opacity has been much lower in 2016, typically well below 20%. I also have not observed dust from the mulching area. According to Kamps, the mulching operations are supposed to be moved from the Detroit facility sometime in the next couple of months. There have been no complaints received by AQD in 2016.

Compliance Determination

Based upon the results of the July 27, 2016 site visit and subsequent review of information relating to some of the equipment operating at the facility, the Kamps Pallets, Inc. facility in Detroit appears to be **in compliance** with applicable state and federal regulations.

Attachments to this report: Information relating to heaters from The Log Boiler, Inc., the biomass heaters, and the pallet kiln; a copy of Appendix A from PTI No. 382-07.

NAME Steve Wess DATE 8/31/16 SUPERVISOR JK