

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

B421633791

<b>FACILITY:</b> NuPak Solutions, Inc.		<b>SRN / ID:</b> B4216
<b>LOCATION:</b> 2850 LINCOLN, MUSKEGON		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> MUSKEGON		<b>COUNTY:</b> MUSKEGON
<b>CONTACT:</b> Don TenBrock , Operations Manager		<b>ACTIVITY DATE:</b> 03/17/2016
<b>STAFF:</b> Kaitlyn DeVries	<b>COMPLIANCE STATUS:</b> Non Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> The purpose of this inspection was to determine compliance with Permit to Install No. 333-92 and all other applicable Air Quality Rules and Regulations.		
<b>RESOLVED COMPLAINTS:</b>		

On Thursday March 17, 2016 AQD Staff Kaitlyn DeVries (KD) conducted an unannounced, scheduled inspection of NuPak Solutions, Inc. located at 2850 Lincoln St. Muskegon, Michigan. The purpose of this inspection was to determine compliance with Permit to Install No. 333-92 and all other applicable Air Quality Rules and Regulations.

KD arrived in the area of the facility at approximately 12:30 pm and left the facility at 1:30 pm. No excess odors or opacity were observed prior to entering the facility. KD met with Mr. Don TenBrock, Operations Manager, to explain the purpose of the visit. KD supplied Mr. TenBrock with the Environmental Rights and Responsibilities pamphlet, which was briefly discussed. Appropriate records were also requested at that time. Please see the details below regarding the required records.

#### Facility Description

NuPak Solutions, Inc. (NuPak) manufactures molded polyethylene and polystyrene beads. They also have the ability to mold polypropylene parts, but have not yet done any products of this type. The molded products consist of insulation, packaging, and foam used for hot tubs. NuPak also does some bead expansion, but only for the polystyrene beads.

The approximately eight employee facility operates one (1) shift per day, five (5) days per week.

#### Regulatory Analysis

NuPak only has one permit, PTI No 333-92, and is not subject to any federal regulations at this time.

#### Compliance Evaluation

Mr. TenBrock, there have been no major modifications or changes to the facility since the last inspection. The only addition is a wood pallet maker. This machine is used for constructing wood pallets for a facility in the area. The pallets are then cured in a convection oven at temperatures of 250 - 300°F for less than 30 minutes. The pallets are required to be heat treated to prevent insect and other pests from being in the wood and being shipped internationally. NuPak cures 300 pallets a month (30 pallets at a time, and 10 times per month). NuPak averages 6,301 board feet per month. Using an emission factor of 4.3 lbs. VOC as carbon per MM board feet they emit 0.027 pounds of VOC per month from this process.

$$6,301 \text{ board ft./month} * 10^{-6} = 6.301 \text{ MMBoard ft./month}$$

$$6.031 \text{ MMBoard ft./month.} * 4.3 \text{ lbs VOC} = 0.027 \text{ lbs Voc/Month}$$

Based on the calculated emissions, even using Rule 290 (a)(ii)(c) for carcinogenic emissions, this would be below the allowed 10 pounds per month. NuPak maintains records for the number of pallets cured each month, but did not have any VOC calculations available at the time of the inspection. A Violation Notice will be sent for not maintaining Rule 290 records for the pallet curing operation. KD spoke with Mr. TenBrock about this, and he will submit these records along with the rest of the required records (please see below).

NuPak only expands one (1) type of bead, the polystyrene beads. NuPak utilizes pentane as the blowing agent for expansion. The Pentane content is limited to 6.5% by weight. Per the attached MSDS, and subsequent Certificate of Analysis, the pentane content is 6.0%. The pentane emission rate from the polystyrene pre-

expansion and molding process is required to be less than 22.8 pounds per hour and 49 tons per year. Per Mr. TenBrock, NuPak inadvertently mistook the MAERS reporting requirements for the recordkeeping requirements in the permit. As of 2014, NuPak is no longer required to submit to MAERS. Per an e-mail from Mr. TenBrock, NuPak thought this meant they no longer needed to keep any of the records. This, however, is incorrect. NuPak is still required to track the pentane emission rate and then pounds of polystyrene beads processed per month and 12-month rolling time period. Since this information is unavailable, a Violation Notice (VN) will be issued for PTI No. 333-92 Special Condition 19. KD will only be able to evaluate compliance with the pentane emission rate (Special Condition 15) when the pentane emission records are obtained. KD spoke with Mr. TenBrock about the records, and he stated the required records will be submitted with the VN response, or sooner. KD will evaluate the records at that time. The pre-expansion process is exhausted upwards to the ambient air. The stack dimensions were not explicitly measured, but there appeared to be no changes.

There are ten (10) steam molding machines in the facility, at the time of the inspection, only two (2) were in use. Some steam emanates from the molding of the polyethylene beads, however, per previous investigations there are no VOC emissions created in that process (please reference the file). The molding process is exempt from Rule 201 permitting under Rule 286 (b).

NuPak has one (1) 150 Horsepower natural gas boiler, which is exempt from Rule 201 permitting under Rule 282 (b)(i).

NuPak utilizes a small cooling tower within the cooling system that is used for cooling the molds. The cooling tower is exempt from Rule 201 permitting under Rule 280 (d).

Additionally, NuPak has begun recycling used Styrofoam. A Styrofoam condensing machine is used to grind and then re-condense the Styrofoam for later re-use. All emissions are released into the in-plant environment. This is exempt from Rule 201 permitting under Rule 285 (l)(vi)(B).

NuPak does not have any cold cleaners or emergency generators.

### Compliance Determination

Based on the observations made at the time of the inspection, and a review of the records, NuPak Solutions, Inc. is not in compliance with PTI No. 333-92. A Violation Notice will be sent for the failure to comply with Special Condition 19 and failure to maintain Rule 290 records for the curing of the pallets.

NAME Kaitlyn Durin

DATE 4/14/2016

SUPERVISOR PAW