

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection**

B176427949

<b>FACILITY:</b> DUNNAGE ENGINEERING INC		<b>SRN / ID:</b> B1764
<b>LOCATION:</b> 721 ADVANCE, BRIGHTON		<b>DISTRICT:</b> Lansing
<b>CITY:</b> BRIGHTON		<b>COUNTY:</b> LIVINGSTON
<b>CONTACT:</b> Sherry Ouelette ,		<b>ACTIVITY DATE:</b> 12/04/2014
<b>STAFF:</b> Brian Culham	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> This was a Self-Initiated Inspection for the purpose of determining compliance with air regulations. Not having been to the plant in twenty years, I scheduled a date and time to meet with Sheri Ouellette, Quality Manager, two days prior to the inspection. The last inspection was in 2010.		
<b>RESOLVED COMPLAINTS:</b>		

Sherri Ouellette, Quality Manager, [souellette@dunage-eng.com](mailto:souellette@dunage-eng.com)

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Dunnage Engineering develops dunnage, racks for holding and delivering components used in assembly processes. The racks may be made of welded steel or plastic and can contain soft holding surfaces made of plastic or metal coated in vinyl or foam.

Dunnage is located on the northwest side of Brighton in an industrial park. To their west is recreational land which includes a ski slope and some small lakes. To the south is residential development. Property to the north and to the east is primarily commercial.

In the late 1980's an enforcement action was taken against the company for installing/moving equipment without a Permit to Install (PTI). Consent Order (CO) 15-1990 was entered with the State Of Michigan to resolve the enforcement. This CO is not on the list of Active Consent Orders and is assumed to be terminated.

Prior to 2003, Dunnage Engineering had submitted 208a certifications to limit their potential emissions and avoid Title V permitting requirements. A Potential to Emit (PTE) demonstration was review and approved by AQD staff in September of 2003. Presently, Dunnage is considered a Minor Source of all Criteria and Hazardous Air Pollutants (HAPs) and therefore an Area Source of HAPs. The pollutant of greatest concern is Volatile Organic Compounds (VOC) from paint and plastic coating operations.

Because Dunnage is an Area Source of HAPS it may be subject to 40 CFR 63 subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources. The rule only applies if coatings contain a "Target HAP" which include lead, nickel, cadmium, or chromium compounds at a concentration greater than 0.1 percent by weight. The blue foam in the plastic coating line contains lead sulfate ate 0.83% by weight. Michigan has not accepted the administrative authority to enforce this Federal regulation to date.

Dunnage is not presently required to report to MAERs or pay fees.

No.	Emission Unit or Flexible Group	Description	Permit Number or Exemption	Comp. Status
1	FGBending	Bending, forming, pressing, and stamping hot and cold metals.	Rule 285(l)(i)	C
2	FGCutting	Cutting, sawing, turning, drilling; and machining of metal and plastic substrates	Rule 285(l)(iv)	C
3	FGWeld	Arc and wire welding	Rule 285(i)	C

30.  
Rule 290(a)(i)  
level for vinyl  
Records

4	FGPlastic	Plastic injection molding	Rule 286(b)	C
5	EUPaint	Abandoned paint booth	Rule 287(c)	C
6	EUSheetline	Metal plastic coating line	Rule 287(c) Rule 290 (a)(ii)(C) Rule 290(a)(i)	C C C

I arrived at the plant at 8:00 am as scheduled. There were no significant odors noticed upon arrival. I did not identify any opacity from any point on the plant property.

I introduced myself to Sheri Ouellette and presented my identification. I discussed the need to maintain a PTE every three to five year or when changes occur in process operations. I also stated that there may be more information in the future about disallowing Rule 287 as a way to limit VOC emissions based on a 200 gallon per month maximum when used in a PTE demonstrations.

### 1. FGBending

I identified exempt jigs and presses used to bend and form metal.

### 2. FGCutting

There were locations in the plant where exempt metal working and plastic finishing were taking place. I identified a chop saw, and was told that metal shears were also used. I identified at least one CNC machine.

### 3. FGWeld

I identified an exempt arc welding area and an associated smog hog. I also identified an exempt portable wire welder.

### 4. FGPlastic

I identified several plastic injection molding machines scattered about the plant floor. I would estimate the number between 5 and 10. Plastic resin is delivered in gaylords. There is no bulk storage. The units I saw were all exempt.

### 5. EUPaint

S. Oulette stated that they do not use this paint booth any longer. I was shown the booth which was stacked full with boxes and other storage items. There was no indication the paint booth had been in use in the past few months. Paint use records were available for when the booth had been in use to satisfy the condition of exemption.

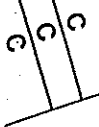
### 6. EUSheetline

This coating line includes a primer application, a liquid plastic topcoat, and a curing oven all in series. The coatings are applied on a substrate of steel sheeting. The sheets are 1/16" to 3/32" in thickness. After curing the plastic coatings the sheets are sheared and formed to the desired size and shape to be used as dunnage components. The process was not operating during the inspection.

A primer is applied in coarse droplets over the steel substrate. Although the color of the primer is white it has little effect on color change of the substrate. The primer is mixed 60:40 with methyl ethyl ketone (MEK). The primer itself is approximately 6.3 lbs/gallon VOC and MEK is approximately 6.8 lbs/gallon VOC making the mixed coating about 6.5 lbs/gallon as applied. Records indicate Dunnage uses 6.8 lbs/gallon when calculating process emissions. The primer coat is exempt from the need for a permit to install by Rule 287(c). During January of 2014, 33 gallons of mixed primer was applied. Rule 287 conditionally limits coating use to 200 gallons per month.

A liquid coat is applied over the primed sheets. One of two different plastic formulations is applied. An orange vinyl plastisol coat or a blue foam coat. I collected MSDS on both coatings. Data did not include a reportable VOC content for either coating.

The vinyl/foam process was originally installed under permit 782-89A. Vinyl Chloride was identified as a carcinogen emitted from the curing oven when certain vinyl coatings were heated. Stack testing of the oven was completed in the early 1990's to assure compliance with permit limits. In 2001 the permit was voided on advice from District Staff.



Rule 290(a)(ii)(C) exempts the vinyl/foam process from Rule 201 permitting because the initial risk screening level for vinyl chloride is  $0.11 \mu\text{g}/\text{m}^3$  greater than the  $0.04 \mu\text{g}/\text{m}^3$  conditional requirement. Dunnage keeps records demonstrating that vinyl chloride is less than 10 pounds per month. In September, vinyl chloride emissions totaled 0.09 pounds. The calculations are based on what was required in 782-89A.

Stack testing identified additional non-specified VOC exhausting from the oven. Rule 290(a)(i) exempts non-carcinogenic VOC from Rule 201 permit requirements if controlled emissions are less than 500 pounds per month, January VOC emissions were reported as 139 pounds.

I did not identify any violation of State of Michigan administered regulations during the inspection or from the resulting file and record review.

NAME [Signature]

DATE 12/9/2014

SUPERVISOR [Signature]