

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
**ACTIVITY REPORT: On-site Inspection**

N823952695

<b>FACILITY:</b> ST. CLAIR PACKAGING, INC.		<b>SRN / ID:</b> N8239
<b>LOCATION:</b> 2121 BUSHA HWY, MARYSVILLE		<b>DISTRICT:</b> Warren
<b>CITY:</b> MARYSVILLE		<b>COUNTY:</b> SAINT CLAIR
<b>CONTACT:</b> David Miotke , President and Owner		<b>ACTIVITY DATE:</b> 02/04/2020
<b>STAFF:</b> Iranna Konanahalli	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> FY 2019 Scheduled Inspection of St. Clair Packaging, Inc. ("Packaging")		
<b>RESOLVED COMPLAINTS:</b>		

**St. Clair Packaging, Inc. (N8239)**  
**2121 Busha Hwy.**  
**Marysville, Michigan 48040-1943**

**Telephone: (810) 364-4230**

**FY 2019 Complaint – Wood burning**

1. C-19-01038, PEAS No. NA, US EPA Referral (Dec 17, 2018, 5:05 PM e-mail from Wagner.Anna.EPA.gov; Dec 14, 2018, 6:55 PM R5Hotline@EPA.gov) (Received: 12/14/2018; Incident: 12/14/2018; Complainant: NA, Marysville, MI 48040; Issue: Wood (damaged and unusable pallets) burning causing asthmatic conditions).

**VN: AQD issued a Violation Notice (VN) dated January 16, 2019, for Rule 336.1301 for exceeding 20% opacity limit. The January 04, 2019, observed readings of visible emissions were at >80% opacity.**

**New Classic CL7260 Central Boiler wood stove: As a result of January 2019 VN, Packaging installed, about September 2019 new wood stove boiler at a cost of \$34,723. Again, I emphasized continuous wood pallets feeding (about once every one-half hour vs once in 6-8 hours) in order to minimize visible emissions (VE) and consequent odor.**

On February 04, 2020, I conducted level-2 **FY 2019 Scheduled Inspection** of St. Clair Packaging, Inc. ("Packaging") located at 2121 Busha Hwy. , Marysville, Michigan 48040-1943. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 (PA 451); and Michigan Department of Environment Great Lakes & Energy , Air Quality Division (EGLE-AQD) administrative rules.

During the inspection, Mr. David Miotke (Phone: 810-364-4230; Cell: 810-434-2199; Fax: 810-364-3720; E-mail: dave@StClairPackaging.com), President and Owner, assisted me. Mr. Todd Lawson (Phone: 810-364-4230; Cell: 810-434-2805; Fax: 810-388-0230; E-mail: ToddKLawson@Yahoo.com), President, was not present.

Mr. Dan Toler (Phone: 810-824-0413; E-mail: dToler@StClairPackaging.com), Plant Manager, separated about July 2018. Mr. Mark St. Pierre (Phone: 586-979-7737), Operations Manager, separated about May 2016 due to head count reduction.

### **January 2019 opacity (VE) violation.**

Upon arrival on the site on January 04, 2019, at 11:30 AM, I parked my car near the wood pallets burning stove; and the stove seemingly was not on fire, but ashy charcoal could be burning. Soon after, I met the owner Mr. David Miotke and discussed the odor and smoke issues concerning the wood stove. Afterwards, I conducted a walk-through inspection of the packaging plant. About 12:40 PM, I came outside of the plant and detected white smoke (85-100% opacity). Few minutes earlier when wood stove was loaded fully with wood from the damaged pallets, smoke was emitted due to incomplete combustion, moisture in wood.

I performed a set of smoke reading using US EPA RM 9 (12:40 thru 12:43: >85 % opacity and 12:44:45 thru 12:52:15 average: 80% opacity).

Again, on February 06, 2019, at 1:03 PM, I detected 40% opacity; albeit I did not perform US EPA RM 9 set of readings and discussed with Mr. Miotke ongoing smoke and odor issues. We also discussed slow and continuous feeding of wood pallets into the stove's combustion chamber. For example, instead of current (Feb 2019) 6 feedings per day (8-10 pallets per feed), 2-4 feedings per hour such that the stove is not overloaded with moist, fresh wood.

### **January 16, 2019 Violation Notice (VN)**

Based upon January 04, 2019, smoke readings, AQD issued January 16, 2019, Violation Notice (VN) for Rule 336.1301(1)(a) for exceeding 20% opacity limit. When freshly loaded with wood, >80% opacity was observed at the stack of the stove.

On February 06, 2019, AQD received Violation Notice (VN) response letter dated January 31, 2019, from Mr. David Miotke. The actions mentioned in the letter are inadequate. Packaging needs improve operations; e.g. continuous feeding of small amount of wood pallets at time, installing combustion controls, replacing exiting unit with an updated unit, etc. These improvements needed were discussed during February 06, 2019, meeting.

**Central Boiler Company** makes the Pallet Burner wood stove. Newer wood stove technologies (Classic Edge 550), with sophisticated combustion controller and with secondary combustion chamber, for smoke (unburnt fuel) can practically eliminate smoke. Based upon combustion chemical reaction principals (Fuel + Heat + Oxygen) and 3Ts (Time, Temperature, Turbulence), smoke is burnt in secondary combustion chamber with additional oxygen / air and thus recovering heat that would have escaped via stack.

Fully assembled storage and material handling pallets were stored nearby the boiler; many had obvious damage.

St. Clair Packaging makes packaging boxes of corrugated cardboard and chip board. Corrugated and bakery boxes constitute main part of the business. US Military is not a customer anymore.

Packaging collects used wooden pallets from customers, suppliers, etc. and brings them to its site at Marysville. Packaging uses / reuses good pallets in its facility and bad / damaged ones are stored for burning for heat recovery. Pallets are not treated with chemicals, paints, etc.

Wood pallet boiler consists of an open (non-pressurized) water tank and fire-box, which is large enough to hold few pallets. The pallets are inserted into the fire-box and burned. There is a fan to supply combustion air. The tank's water temperature is maintained at 150-180 °F. The water tank is equipped with water level indicator. The combustion air fan is turned off when temperature rises above 180 °F; boiling water to be avoided. Turning-off fan could be a cause of opacity due oxygen starvation of fire. A thermostat together with a controller maintains set point water temperature by adjusting combustion. Newer wood stove such as Central Boiler Classic Edge 550 which is equipped with a secondary combustion chamber to burn smoke may solve white smoke problem as well as odor.

Hot water from the open tank boiler (Central Boiler) is pumped to the warehouse / plant. Three finned copper tube heat exchangers receive hot water. One fan blows air over each heat exchanger and heat is forced from hot water to the warehouse; 3 fans for 3 heat exchangers are present.

Wood pallet boiler is small; likely to be less than 2 million BTU per hour heat input capacity. Pursuant to 336.1282(2)(b)(iii), wood boilers of rated capacity 6 million BTU per hour heat input are exempt from Rule 336.1201 (Permit-to-Install).

### **New Classic CL7260 Central Boiler**

About September 2019, Packaging purchased and installed Classic CL7260 Central Boiler (Firebox: 72" \* 60" \* 40"; Heat Transfer Area: 170 square feet; Weight: 3,910 pounds; Water capacity: 764 gallons; Energy: replaces about 1,500 gallons of fuel oil at 140,000 BTU per gallon; Savings: \$3,000 per month). B & S Wood Boilers, LLC (Phone: 810-656-6502) of Lapeer, MI 48446, provided services. Although Packaging purchased the boiler for \$34,723.03 per July 30, 2019, quote, Packaging traded in old boiler for \$2,000. Rest of the equipment (piping, radiators, etc.) for space heating is same. Repeatedly, I emphasized continuous wood pallets feeding (about once every one-half hour vs once in 6-8 hours to avoid fuel overloading and consequent smoke issues).

Classic CL7260 Central Boiler can provide heating for manufacturing facility space up to 20,000 square feet.

### **Pallets: not solid waste**

Pallets are **not solid waste** according to Mr. Greg Morrow (Phone: 586-753-3852), Environmental Engineer, of MDEQ-OWMRP, Warren. Part 115 of NREPA defines "Wood" in Section 11506(12) and that definition includes "pallets". The Part 115 administrative rules, under R 299.4110(i) defines "Wood and stumps that are burned in accordance with part 55 and part 515 of the act" as "Other wastes regulated by statute", meaning that they are not regulated as a solid waste under Part 115.

Wood pallet boiler is **not** subject to NSPS CCCC / NSPS 4C (40 CFR, Part 60, Subpart CCCC Standards of Performance for Commercial and Industrial Solid Waste Incineration Units) because pallet is not solid waste.

### **Baler**

Paper and cardboard are shredded and baled for recycling at the paper mills using one Baler Machine. All particulate emissions are discharged to in-plant environment. The machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l).

### **Adhesive application**

Adhesive application and gluing machines (Signature Folder Gluers Window) are present using less than 1 gallon (including water of water-based adhesive) per day. All glues, adhesives are water based. Pursuant to 336.1287(2)(a), an adhesive coating line using less than 2 gallons per day is exempt from Rule 336.1201 (Permit-to-Install).

### **Flexographic printing machines (3: 1 of 3 is inactive)**

Three (3: 1 of 3 is inactive) flexographic printing machines using 30 pounds of water-based ink per month (total for all three machines) are present. The printing machines run, on as needed bases, once or twice per week; a couple of hours at a time. All inks are water-based. All emissions are discharged to in-plant environment. Pursuant to 336.1290, flexographic printing machines are exempt from Rule 336.1201 (Permit-to-Install).

### **Conclusion**

AQD issued January 16, 2019, VN. The old stove was NOT in compliance with Rule 301. Packaging traded in old stove (\$2,000) for new stove (\$34,723). VN is deemed to be resolved.

NAME  DATE January 4, 2021 SUPERVISOR 