

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

N728928604

FACILITY: Sonoco Protective Solutions, Inc.		SRN / ID: N7289
LOCATION: 123 NORTH CHIPMAN ST., OWOSSO		DISTRICT: Lansing
CITY: OWOSSO		COUNTY: SHIAWASSEE
CONTACT: Vicky Brind-Amour, Environmental Principal		ACTIVITY DATE: 01/08/2015
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	
SUBJECT: Scheduled, unannounced PCE.		SOURCE CLASS: SM OPT OUT
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow

Personnel Present: Eric Turbin, Maintenance

Other relevant personnel: Vicky Brind'Amour, Environmental Principal (Vicky.brindamour@sonoco.com)Phillip Abney, Maintenance Supervisor (phillip.abney@tegrant.com)

Purpose: Conduct an unannounced, scheduled, partial compliance evaluation (PCE) inspection by determining compliance with Sonoco Protective Solutions' (formerly Tegrant Diversified) Opt-out Permit No. 278-02C for expansion and molding of plastic parts; the inspection included verification that Sonoco stayed within the permit's emission limits to remain an opt-out source and not enter into Title V status in addition to determining the status of equipment associated with two other permits (322-97 and 148-96) linked to Sonoco's address. This inspection was done as part of a full compliance evaluation (FCE).

Facility Background/Regulatory Overview: Sonoco is a plastic manufacturing company that makes plastic and foam parts for the automotive and packaging industries.

Sonoco is an opt-out facility. There are emission unit restrictions on VOCs and facility-wide restrictions on VOCs and the HAPs benzene, cumene, ethyl benzene, styrene and benzaldehyde.

They also have 3 boilers that are used to provide heat to the drying rooms for the parts as well as provide steam for the presses to produce the parts (See Table 2). Vicky Brind'Amour provided me with a letter dated April 24, 2012 that was sent to the AQD permits section concerning notification for the NSPS Dc-subject Cleaver Brooks boiler and the initial test burn which was conducted on the unit on April 17, 2012. I was not able to find this document in our files. I conducted an evaluation of these boilers with respect to the NESHAP JJJJJ for area source boilers and the NSPS Subpart Dc for boilers greater than 10 MMBTU/hr, but less than 100 MMBTU/hr and determined the following:

Sonoco's boilers are not subject to NESHAP JJJJJ because all 3 boilers meet the definition of "gas-fired boiler" in the list of exemptions in the regulation.

Sonoco's 3 boilers are are subject to the NSPS Subpart Dc. Based on my evaluation of the regulation with respect to the boilers, however, there are no requirements to comply with because all the boilers are fired with natural gas and have no back-up oil capability.

Inspection: At approximately 1:30 p.m. on January 8, 2015 I met with Eric Turbin, as maintenance supervisor, Phillip Abney, was not available for the inspection when I arrived. I gave E. Turbin a DEQ "Environmental Inspections: Rights and Responsibilities" brochure and my business card to pass along to P. Abney.

Table 1. Permitted Processes

EU	PTI	Control equipment	Description	Status
EUEPSPROCESS	PTI 278-02C	NA	<ul style="list-style-type: none"> • Finished goods storage • Steam pre-expander • Pre-puff storage • Molding pre-puff 	Active
EUPUPROCESS	PTI 278-02C	NA	<ul style="list-style-type: none"> • Rotating polyurethane molding unit • Stack for venting mold release emissions from spray station 	Equipment Removed April 2014
Spray paint booth w/ electric oven	PTI 322-97	Exhaust filters	Coating particle board auto parts	Equipment removed; void requested 1/21/15
Flame laminator	PTI 148-96	Thermal oxidizer	Produces 3-ply laminate by means	Equipment

			of melting foam surface, used as a bonding agent	removed; void requested 1/21/15
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Table 2. Boilers

EU	PTI	Description	MMBTU/hr	Manufacture Date	Model/Serial No.	Fuel	Federal Regulation	Status
EUBOILER1	Exempt 282(b) (i)	300 hp Johnston Boiler	12.49	1989	PFTA300-4G-150S/8635	Natural Gas	Subject to NSPS Subpart Dc, but no requirements. Not subject to NESHAP Subpart 6J because boiler is considered a "gas-fired boiler"	Active
EUBOILER2	Exempt 282(b) (i)	600 hp Johnston Boiler	24.7	1997	PFTA600-4G-150S/9640	Natural Gas	Subject to NSPS Subpart Dc, but no requirements. Not subject to NESHAP Subpart 6J because boiler is considered a "gas-fired boiler"	Active
EUBOILER3	Exempt 282(b) (i)	700 hp Cleaver Brooks Boiler	29.3	1993	CB700-700/L90662	Natural Gas	Subject to NSPS Subpart Dc, but no requirements. Not subject to NESHAP Subpart 6J because boiler is considered a "gas-fired boiler"	Active

*Based on the information provided by the company, the three boilers appear to be exempt from a permit to install.

EUEPSPROCESS

EUEPSPROCESS is used to expand and mold polystyrene (EPS and ARCEL white beads) covered under the permit. Sonoco also molds expandable polypropylene beads (EPP, black beads) that are purchased as a ready-to-be-molded product, and are not covered under the permit. The EPS and ARCEL polystyrene beads are pre-expanded in-house before entering the molding presses. V. Brind'Amour said that the black beads have no VOC/HAP issues because they are expanded by the supplier with carbon dioxide, which are then processed at Sonoco with pressurized air. She also said that the EPS and ARCEL beads are similar to each other, but the ARCEL molded parts are more flexible than EPS molded parts. E. Turbin said that Sonoco has a total of 24 presses that are used to mold the beads. The mold presses use steam, produced from the 3 boilers that are installed onsite, to melt and adhere the beads together inside the press. Four of the 24 presses are used for molding the EPS and ARCEL beads, the remaining presses are used for the EPP beads.

Sonoco also has a series of drying rooms that are used to dry off any remaining water from the finished product. It is heated via steam generated from the 3 boilers and, based on the information provided by Sonoco, would be exempt from a PTI per Rule 281(e).

Sonoco has a material limit that requires they never exceed 177,000 pounds of VOC (88.5 tons) per 12-month rolling time period. V. Brind'Amour provided the 12-month rolling for January 2014 – December 2014 (see attached). Based on this record, the total pounds VOC for the rolling calendar year is 29,475. Sonoco is in compliance with the material limits in the permit and special condition 7 for keeping 12-month rolling VOC records.

The permit requires that Sonoco monitor the daily throughput of EPS and ARCEL beads at the pre-expansion step of EUEPSPROCESS. V. Brind'Amour provided me with July – December 2014 daily throughput records for each of these months. Both ARCEL and EPS bead throughput has been recorded daily for the requested monthly reports. Sonoco is in compliance with this condition (SC VI.2).

A written record of each calendar day and month of the throughput at pre-expansion of EPS and ARCEL beads processed, including a written record of all VOC contents (per lot number) and VOC content determinations (per lot number) of EPS and ARCEL beads used (e.g. Certification of Analysis) are required to be kept. V. Brind'Amour provided all 3 of these types records for November 3-6th, November 10-11th and November 19-22nd. The C of A data sheets match all reported VOC contents associated with particular lot numbers. Each day has a record of the lot number, throughput for each lot number, and VOC content for each lot number. Sonoco is in compliance with special conditions 3-5.

Weighted averages of VOC content for EPS and ARCEL beads are required to be calculated for each month. Based on a snapshot of VOC calculations for one day in November, Sonoco calculates their weighted average VOC content for EPS and ARCEL beads (using the Appendix A formulas). Once the weighted daily averages are calculated, Sonoco calculates the average monthly VOC content. See Table 3 for compliance determination – Sonoco is in compliance with the 4.5 lbs VOC/100 lbs throughput emission limit.

Table 3. EPS VOC emissions

Month	EPS beads actual weighted average VOC emissions (lbs VOC/lb throughput)	EPS beads Emission Limit (lbs VOC/lb throughput)
July 2014	3.7	4.5
August 2014	3.7	4.5
September 2014	3.7	4.5
October 2014	3.8	4.5
November 2014	3.9	4.5
December 2014	3.8	4.5

Sonoco is limited to 10.25 lbs of VOC/100 lbs of ARCEL beads processed in a 12-month rolling averaging period. The average VOC content from January 2014 – December 2014 was 8.70 lbs/100 lbs of ARCEL beads processed. Sonoco is in compliance with special condition I.3.

EUPUPROCESS

During the inspection E. Turbin said that the equipment associated with this process (rotating multi-station polyurethane molding unit) has been removed and he showed me the equipment's stack opening that has been since capped off. The space is now used as product storage. P. Abney verbally verified that this equipment has been removed as of April 2014 and therefore there are no longer any emissions associated with this process.

FGFACILITY

Sonoco is required to keep 12-month rolling records of VOC and individual TAC emission calculations (benzene, cumene, ethyl benzene, styrene, benzaldehyde), as determined at the end of each calendar month. V. Brind'Amour provided these records, which include additional TACs not listed in the permit (a,a-dimethyl benzylalcohol, acetophenone, a-methylstyrene, d-limonene, ethylene bis-stearamide, ethyltoluene, n-propylbenzene, xylene). During the permit evaluation, acetophenone, a,a-dimethylbenzyl alcohol, d-limonene, ethylene bis stearamide, and xylene were TACs taken into account during the permit evaluation. The remaining TACs (a-methylstyrene, ethyltoluene, and n-propylbenzene and toluene) were not considered in the permit evaluation, however these compounds were not emitted for the past 12-month rolling time period (based on the record provided by Sonoco). If these TACS had been emitted, AQD would request that Sonoco either demonstrate Rule 290 exemption or the 285(b) exemption.

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The 12-month rolling emissions for each TAC are in the following table:

Pollutant	12-month rolling emissions (lb)	Limit (lb/year)
Benzene	1.5	480
Cumene	10	480
Ethyl benzene	43	14,400
Styrene	97	8,000
Benzaldehyde	45.6	1,920

Sonoco is in compliance with all conditions in FGFACILITY at this time.

Compliance statement: Sonoco is in compliance with all state and/or federal regulations at this time

NAME M. M. M. Lyons

DATE 2-23-15

SUPERVISOR B. M.