

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

B762834335

FACILITY: Coveris Flexibles US Inc.		SRN / ID: B7628
LOCATION: 155 Brook St., BATTLE CREEK		DISTRICT: Kalamazoo
CITY: BATTLE CREEK		COUNTY: CALHOUN
CONTACT: Joe Newton, EHS Manager		ACTIVITY DATE: 03/22/2016
STAFF: Rex Lane	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Self Initiated Inspection		
RESOLVED COMPLAINTS:		

On March 22, 2016, Air Quality Division (AQD) staff (Rex Lane, Monica Brothers and Amanda Chapel) conducted an unannounced air quality inspection of Coveris Flexibles US Inc. (hereafter "Coveris") located at 155 Brook Street, Battle Creek, MI. Coveris prints on plastic film used in a wide variety of consumer product packaging such as automatic dishwasher and granola cereal bags and breakfast bars. Coveris (fka Exopack, LLC) was last inspected by the AQD on 6/5/12 and was determined to be in compliance with state air quality regulations. Coveris is permitted as a synthetic minor source for volatile organic compounds (VOCs) and for individual and aggregate hazardous air pollutants (HAPs) under Permit to Install (PTI) No. 362-99E.

AQD staff arrived on-site at 9:50 am and made initial contact in the parking lot with Mr. Joe Newton, Coveris, Environmental, Health and Safety Manager. Mr. Newton had staff sign in and provided staff with a visitor general safety guide and then we went to a conference room for a pre-inspection discussion. Staff provided Mr. Newton with MDEQ's inspection brochure and business card. Mr. Terry Osborn, Coveris, Special Projects joined us for the pre-inspection discussion and maintenance staff were also called in at times to answer questions posed by staff. Since the last AQD inspection, the facility has permanently removed Flexographic Presses No. 116 and 118 and Rotogravure Press No. 802 which were listed in PTI No. 362-99E. Staff suggested that they may want to modify the permit to remove obsolete conditions especially if there were any other changes that they would like to make to the permit. The facility has also added another ink supplier (Siegwerk) and no longer uses any waterborne inks since the last inspection. The maintenance supervisor (Ron) noted that the emissions from the six remaining flexographic and rotogravure presses can all be handled by a single Regenerative Thermal Oxidizer (RTO), however, they normally operate both RTOs in parallel such that each Permanent Total Enclosure (PTE) vents to one dedicated RTO. One PTE captures emissions from Flexographic Press Nos. 100, 102 and 112 and the second PTE captures emissions from Rotogravure Press Nos. 806, 808 and Flexographic Press No. 110 and the parts wash room.

Mr. Newton then gave staff a tour of the facility. Coveris has about 150 staff and operate three 8-hour shifts five days per week. Required PPE includes safety shoes and glasses, hearing protection and hair nets. Staff observations and description of exempt and permitted equipment is further detailed below:

EU LAM-404 (Laminator 404) was not in operation at the time of the inspection and is located outside of the PTE. The process continues to use polyurethane MDI based adhesive to bind plastic film layers together. Based on records provided following the inspection for 2014 through February 2016, the highest VOC emissions on a 12-month rolling average occurred in May 2015 which is less than 5% of the allowable limit (0.01 tons/year) under Special Condition (SC) I.2. The facility maintains adhesive usage records in order to calculate VOC emissions and maintains ink and coating material safety data sheet information on-site in hard copy and electronic formats. Stack/vent restriction compliance has been evaluated in prior air quality inspections. Equipment has been labeled as required by SC IX.1.

FG FLEXO-ROTO-PW is a flexible group that consists of all remaining flexographic (100, 102, 110 and 112) and rotogravure presses (806 and 808) and the two parts wash lines, Renzman Side Loading (EU_SideLoad) and Renzman Top Loading (EU_TopLoad) solvent distillation units. The presses and parts wash room are all located within a PTE and emissions are controlled by parallel RTOs. Flexographic press No. 100 was not operating at the time of the inspection. All presses except for flexographic press Nos. 100 and 112 are equipped with in-line laminators. The corona treater has been installed on Flexographic press No. 112 but is not currently being used. All presses have been labeled as required by SC IX.1. The facility maintains ink and solvent material safety data sheet information on-site in hard copy and electronic formats. The facility receives monthly usage reports from their ink suppliers (examples attached) which are used to prepare monthly VOC and HAP and 12-month rolling emission records as required by SC VI.1, VI.3 and VI.5. VOC records provided after the inspection

for previous fifteen months indicate that the highest emission rate occurred in February 2015 at about 35% of the allowable limit.

The covers were observed in the parts wash room to be closed for EU-SideLoad and EU-TopLoad during the inspection in compliance with Rule 707 and SC II.1. The facility is required under Rule 624 to meet a minimum control efficiency of 60% for add-on control devices for flexographic printing and 65% for rotogravure printing. The RTOs were emission tested last in 2004 and achieved a VOC destruction efficiency of 98% in compliance with SC II.2 and V.2. Per SC III.1, the FLEXO and ROTO PTEs shall maintain a minimum differential pressure of 0.007" w.c. to adjacent areas on a continuous basis. A copy of the facility's updated air pressure differential monitoring plan (APDMP) required by SC VI.2 was provided following the inspection and is attached to this report. During the inspection, the FLEXO PTE pressure monitor read negative 0.012" and the ROTO PTE pressure monitor read 0.052". An initial review of the PLC panel for the RTO controls indicated that the FLEXO PTE pressure reading values were also not being recorded on a continuous basis as required by SC VI.2. During the post-inspection meeting, staff noted that the FLEXO PTE was not in compliance with SC III.1 or VI.2. This will be discussed in further detail in the inspection report summary section.

FG RTO-1 and 2 is a flexible group for RTO control of VOC and HAP emissions generated by the FLEXO and ROTO PTEs. Minimum VOC capture efficiency of 100% has been verified by several performance tests of the PTEs. The last VOC destruction efficiency (DE) was conducted in May 2004 and the RTOs were determined to have a minimum DE of 98% which meets the design standards required under SC IV.1. RTO # 1 (Enterprise II) and RTO # 2 (Clean Switch) were both in operation during the inspection and no visible emissions were observed from either control exhaust stack. The stacks appear to meet the diameter and minimum height restriction under SC VIII.1 through VIII.2. The RTOs are programmed to switch between beds every 180 seconds. RTO # 1 and RTO # 2 were operating at 1622 and 1590 degrees F respectively during the inspection in compliance with SC IV.1. The common duct vacuum during the inspection was 1.5" to 1.7" which is above the minimum 0.5 inches of water vacuum requirement required by SC III.1. The RTO data acquisition system (DAS) has an Allen Bradley Process Logic Controller (PLC) that monitors RTO combustion temperature and common header duct vacuum on a continuous basis and records the minimum and maximum values for temperature and vacuum every two minutes. A sample DAS report is attached to this report. The RTO PLC is interlocked with the differential pressure monitors for the Flexo and ROTO PTEs, the common duct to the RTOs and also for minimum combustion temperature set points for the RTOs. As described in the APDMP, the differential pressure transmitters for both PTEs input to a Set Point Controller (SPC) that will send out a signal to an amber warning light that will begin flashing in the event of a loss of differential pressure from the set point of -0.007 inches of water or greater between the PTE and the building's atmosphere. The light will continue to flash for fifteen minutes and if the low pressure alarm is not corrected within this time interval, a PLC will shut down the presses in that PTE. Each RTO has a variable frequency drive (VFD) draft fan that pulls in tandem from the main duct set to 1.6" water column to collect a sufficient exhaust volume from each PTE. The VFD draft fan motors have a maximum rating of 60 Hz and under normal conditions operate within a range of 30 – 35 Hz to maintain the duct set point pressure. If one of the RTOs faults out due to falling below the combustion temperature set point, the remaining RTO draft fan will increase load to maintain the water column pressure in the main duct. If a single RTO draft fan is operating at 60 Hz and is unable to maintain the main duct pressure, it will fault out which will result in the shutdown of any presses that were in operation. Staff requested and received facility records for 2015 following the inspection of any instances where the main duct water column pressure was less than 0.5" for more than 45 seconds in duration. There were 95 instances recorded in 2015 that met this criteria with 79 shutdown events related to weekend or holiday plant shutdowns, 15 shutdowns related to mechanical faults and 1 shutdown event for the annual RTO preventative maintenance schedule. The facility contracts with the RTO manufacturer (MEGTEC) to perform preventative maintenance on an annual basis. A copy of the annual preventative maintenance report for March 2015 is attached to this report.

FG-FACILITY: Facility records (attached) were submitted following the inspection for January 2015 through February 2016 for plant wide VOC and HAP emissions and also by process equipment. Based on these records, plant wide VOC emissions are about 29% of the allowable limit (< 90 tons/year). HAP records are based on monthly purchase records from their ink suppliers with the conservative assumption that all purchased materials containing HAPs are emitted during that month. The highest rolling plant wide HAP emission rate during the period of record was 4.2 pounds (August 2015) following control and is substantially below permitted levels.

Equipment not identified in PTI No. 362-99E:

The facility installed a 1.7 MMBtu/hour natural gas fire boiler in April 1999 which provides steam heat to the dryer sections of the Rotogravure presses. The boiler is exempt from air use permitting requirements under Rule 282 (b)(i).

The facility has replaced a soda blast unit that was exempt from permitting under the previous air quality inspection with an alkaline based wash water system. The new wash water system is exempt from permitting under Rule 281(e).

There are several plunger pad solvent stations around the facility that use either ethyl acetate or n propyl alcohol for general cleaning purposes. These units are exempt from permitting under Rule 285(r)(iv).

The facility has five cutters that are used to trim the plastic web width of printed products to size desired by the client. The process vents internally to Gaylord cardboard boxes and the waste plastic trimmings are landfilled. The process is exempt from permitting under Rule 285(l)(vi)(B).

The facility installed eleven above ground fixed storage tanks in the southwest corner of the facility in 1985. Facility currently uses only Tank Nos. 7, 8 and 10 which are 4,500 gallon capacity each and Tank Nos. 9 and 11 which are 3,500 gallon capacity each. Solvents that are stored in these tanks include n propyl acetate, ethyl acetate, n propyl alcohol and DUP FL5 (mixture of ethanol, n propyl acetate and isopropanol). Tank storage of the listed solvents is considered to be exempt from permitting under Rule 284(i). The storage tanks are exempt from regulation under 40 CFR Part 60, Subpart Kb because they have a storage capacity of less than 75 m³ (~ 19,813 gallons).

The ink storage rooms are located on the south end of the facility and are maintained by personnel working for the two main ink suppliers. Mixing, blending or metering operations associated with surface coating lines is exempt from permitting under Rule 287(k).

Summary:

During the post-inspection meeting, staff reiterated that it appeared that the FLEXO PTE was not in compliance with SC III.1 (i.e. minimum differential pressure requirement) or VI.2 (i.e. continuously record differential pressure readings on DAS). Staff had several follow up discussions and correspondence with the facility that was intended to address both issues. Because the PTE is designed such that the pressure should be lower inside the enclosure than the general building pressure outside, the pressure monitor should read negative. Following the inspection, the Roto PTE monitor was re-programmed to readout as a negative number rather than a positive number. Also following the inspection, the facility verified that the transmitter for the Flexo PTE differential pressure monitor was sending data to the RTO PLC, however, due to an error in calibration the data did not coordinate with its display. The facility has stated that the PLC calibration issue was resolved upon discovery such that the data is proper and saving correctly to the server.

Staff recommends that the facility submit a request to modify PTI No. 362-99E to remove obsolete conditions and change the differential pressure condition (SC III.1) in FG-FLEXO-ROTO-PW from a positive to a negative pressure value within the PTE. Based on the common duct vacuum being greater than three times higher during the inspection than required by FG-RTO-1 and 2, SC III.1; both RTOs were operating above the minimum combustion temperature (SC IV.1) which demonstrates sufficient capture from the PTEs and VOC destruction efficiency; and prompt measures initiated by the facility following the inspection, staff considers compliance with SC III.1 and VI.2 of FG-FLEXO-ROTO-PW resolved and it appears that the facility was in compliance with PTI No. 362-99E at the time of the inspection. -RIL

NAME RIL

DATE 4/27/16

SUPERVISOR MB 4/27/2016