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

B585338697

FACILITY: Detroit Media Partnership		SRN / ID: B5853
LOCATION: 6200 METROPOLITAN PARKWAY, STERLING HTS		DISTRICT: Southeast Michigan
CITY: STERLING HTS		COUNTY: MACOMB
CONTACT: Frank Heaney, Facilities Service Manager		ACTIVITY DATE: 02/16/2017
STAFF: Francis Lim	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On February 16 and 21, 2017, I conducted an inspection at Michigan.Com located at 6200 Metropolitan Parkway, Sterling Heights. Mr. Frank Heaney, Facilities Service Manager assisted during the air quality inspection. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; and Permit-to-Install No. 212-06.

Facility Description

This facility used to be known as Detroit Newspaper – North Plant. The Detroit Media Partnership is the result of the partnership between the Detroit Free Press and Detroit News. The Free Press and News combined their business operations (publishing, advertising, circulation) but maintained separate editorial staff. Gannett Company, who now owns the Free Press, is the managing partner. JRC, owner of the News is the limited partner. The Detroit Media Partnership was renamed Michigan.com since it now focuses on its digital platform.

This facility prints the Detroit Free Press, Detroit News, USA Today, Oakland Press, Macomb Daily, New York Times, Toledo Blade, including Sunday inserts, funny pages and news magazines. Facility do some commercial printing, but not the high quality printing since the presses they use are nonheatset. The six state of the art offset lithographic web printing presses were installed in 2005. The six presses replaced the nine old presses at this site and seven presses in downtown Detroit. The presses are divided into two lines: Line A and B, 3 presses each line.

The presses were manufactured by MAN Roland, Germany. Each press has nine towers, approximately seven stories tall, 150 feet long and 20 feet wide. The printing presses have a 50-inch web capable of producing 75,000 copies per hour.

Michigan.Com no longer operates their own newspaper delivery vehicles. Delivery is now subcontracted to Andrews Distribution.

This facility has an Opt-Out Permit No. 212-06 for an offset lithographic printing operation.

Process Description

Offset lithographic printing is a planographic printing method. The printing areas and nonprinting areas of the printing plate are on the same level or plane. Offset means that the printing is done directly from the image plate, but the inked image is transferred from the image plate to a rubber coated blanket cylinder, and then from the blanket cylinder to the substrate. The image to be printed obtains ink from the ink rollers which transfer ink to the image plate, while the non-printing area attracts a water-based film (called fountain solution), keeping the non-printing areas ink-free (water repels the oil based ink). The substrate (paper) is pressed against the blanket cylinder by the impression cylinder, transferring the ink from the blanket cylinder to the paper to produce the printed image. The fountain solution, also referred to as a dampening solution, and water is added to the process through spray bars. Water used for operations is "rehardened" by using a water rehardening agent. The image plate is thin and flexible and made of aluminum.

Rollers and blankets are automatically cleaned after each run. Solvent and water are used. Solvent is

also used to manually wash the blanket and some parts of the presses.

For black and white printing, there is only a black ink image cylinder/blanket/impression cylinder combination. For colored printing, additional image cylinder/blanket/impression cylinder combinations are needed - for red, blue, and yellow.

Air Emission Sources

The three major sources of air emissions from offset lithographic printing are from the ink, fountain solution, and blanket washing.

The facility is using nonheatset soy based inks. Volatile organic content (VOC) of nonheatset soy based inks is expected to be low. (NOTE: Soy bean oil is not exempt from the definition of VOC. But since the vapor pressure of soy bean oil is so low, when Method 24 is used to determine VOC content, only a small amount of soy bean oil evaporates) From the EPA CTG for Lithographic Printing, only 5% of the VOC is expected to be emitted. The rest of the oil and VOC (95%) are expected to be retained in the paper. Calculated emissions from the soy ink are negligible. Facility records ink usage but reports 0 VOC emissions from the ink.

Since offset lithography is a planographic printing process, a mechanism is necessary to keep the ink from spreading all over the image plate. This mechanism is to keep the nonimage area water receptive so that the ink does not flow to the nonimage area. A fountain solution is applied to the nonimage area of the image cylinder (through spray bars) to make that area water receptive. In the past, facility used isopropyl alcohol as an ingredient of the fountain solution. Facility is now using Rycoline Products Advance Edition 47/ 147 Mild News Acid as fountain solution for Line A. It contains about 6% VOC by weight (mostly from ethylene glycol, which is also a Hazardous air pollutant (HAP)). It also contains 1% glutaraldehyde, a disinfectant/biocide. Line B uses BottcherFount N-1004G-ALT fountain solution. It contains about 2.5% VOC by weight and no HAPs. The water rehardening agent, manufactured by Rycoline is a neutral inorganic salt solution containing no VOCs and no HAPs.

Solvent used for automatic washing is Bottcher 260 blanket wash. The automatic blanket wash system incorporates a closed-loop solvent reclaimer system to recycle the used solvent. The used solvent and water goes to a settling tank. The recovered solvent is filtered and goes to the recovered solvent tank. Filtered material as well as waste from the settling tank goes to the waste storage tank. Water and virgin solvent is added to the recovered solvent – the mixture is ready to be reused again. When the recovered solvent loses its potency to clean, more virgin solvent is added to the mixture. Amount of automatic blanket wash solvent used is determined by conducting an inventory of the fresh virgin solvent every month. Facility does not take credit for solvent disposed as waste. Bottcher 260 is made up mostly of petroleum distillates. It contains approximately 5-10% by weight dipropylene glycol monobutyl ether.

The manual wash solvent is dispensed from drums into small portable containers. Rags are dipped into the portable solvent containers and then used for cleaning. EPA CTG allows a 50% emissions credit for manual blanket wash if the solvent soaked rags are kept in closed containers and the VOC composite vapor pressure is less than 10 mmHg at 20 °C. The rags used for manual solvent cleaning are washed by a company called Aramark. Facility is using Bottcher 60 NWM blanket wash for manual cleaning. Bottcher 60 NWM is made up mostly of petroleum distillates. NWM means non-water miscible. Facility also uses Magnitek 25 WM Low VOC wash solvent. Magnitek contains approximately 25% by weight VOC. WM means water miscible.

Water used for operations is “rehardened” by using a water rehardening agent manufactured by Rycoline Products. The water rehardening agent is a neutral inorganic salt solution containing no VOCs and no hazardous ingredients.

The developer used for the image plate is water-based and safe to dispose to the drain.

Permit-to-Install No. 212-06

Special Condition No. 1.1.

VOC content of fountain solution does not contain more than 5% by weight of any propyl alcohol, ethanol, and/or isopropyl alcohol. Facility no longer use a fountain solution containing isopropyl alcohol. Total VOC emissions for

the automatic blanket wash and manual wash for the period ending in December 2016 are 9.88 tons per year based on a rolling 12-month period. Emissions from the blanket and manual wash are less than the limit of 60 tons per year, based on a rolling 12-month period. Emissions from the non-blanket wash/manual wash are 1.7 tons (mostly from the fountain solution), less than the limit of 10 tons per year based on a rolling 12-month period.

Special Condition No. 1.2.

Solvent wash usage is about 9509 gallons for 2016. Usage of blanket wash solvent is less than 17,647 gallons per year based on a rolling 12-month period.

Special condition No. 1.3.

All waste inks, fountain solutions, and cleanup solvents are stored in closed containers. Ray Naisman coordinates the hazardous waste processing. Waste solvent is processed by Usher Oil. Waste ink is processed by Chemical Solvent.

Special Condition no. 1.4.

Solvent cleaning rags are kept in closed containers. Partial vapor pressures of cleaning solvent are less than 10 mmHg at 20 °C. The rags used for manual solvent cleaning are washed by a company called Aramark.

Special Condition No. 1.5.

VOC content is determined through safety data sheets.

Special Condition No. 1.6.

Facility completes all required calculations.

Special Condition No. 1.7.

Facility keeps the following information on a monthly basis: type and amount of each material used; VOC content of each material; amount of blanket wash used for manual cleaning; VOC emissions calculation for the blanket wash; and VOC emissions calculations from the non blanket/manual wash. Amount of blanket wash reclaimed is not kept because facility does not take credit for reclaimed solvent to determine emissions from the automatic blanket wash.

Special Condition No. 1.8.

Facility keeps a current listing of the chemical composition of each ink, fountain solution, blanket wash, cleaning solvents, and make up solvents. This information is necessary to estimate emissions.

Special Condition No. 2.1.

Opt-out limits are: for each individual HAP, 9.0 tons per year; aggregate HAPs, 22.5 tons per year; and VOCs, 90 tons per year – all based on a 12-month rolling time period. Total VOC emissions for the period ending in December 2016 are 11.6 tons per year based on a rolling 12-month period, less than the 90 ton limit. Total HAPs emissions for the period ending December 2016 are 1.17 tons based on a rolling 12-month time period. HAPs are primarily from the fountain solution Rycoline Products Advance Edition 47/147 which contains 6% ethylene glycol.

Special Condition No. 2.3. NOTE: There is no Special Condition No. 2.2.

Facility determines HAP content from SDS.

Special Condition No. 2.4.

Facility determines VOC content from manufacturer's formulation data or SDS.

Special Condition No. 2.5.

Facility completes all required VOC and HAP emissions calculations.

Special Condition 2.6.

Facility keeps the following information on a monthly basis: amount of each HAP containing material and HAP content of each HAP containing material used.

Special Condition No. 2.7.

Facility keeps the following information on a monthly basis: amount of each VOC containing material used; VOC content (pounds per gallon) of each VOC containing material used; monthly VOC emissions; and annual VOC emissions rate based on a rolling 12-month period.

Miscellaneous Air Emissions Sources

Facility operates a paint spray booth used for maintenance and minor touch-ups. This booth is very seldom used.

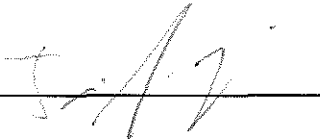
Facility also operates two small cold solvent cleaners located in the machine shop and garage. Solvent used is a ZEP DYNA, a water based cleaner. The cold cleaners are serviced in-house. Garage is seldom used since the facility no longer maintains newspaper delivery fleets.

NESHAP

Facility is not subject to the Printing and Publishing Industry National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63 Subpart KK, since the facility is not a HAP major source that uses: publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses.

Facility is not subject to the Paper and other Web Coatings NESHAP, 40 CFR 63 Subpart JJJJ, since this facility does not operate web coating lines that are major for HAPs.

NAME



DATE

04-07-17

SUPERVISOR

