COMMONWEALTH of VIRGINIA

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STATEMENT OF LEGAL AND FACTUAL BASIS

Owens-Brockway Glass Container Inc.
Toano, Virginia
Permit No. TRO-60923

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Owens-Brockway Glass Container Inc. has applied for a Title V Operating Permit for its Toano facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Writer:	Yen T. Bao (757) 518-2195	Date:	**June 29, 2015**
Regional Air Permits Manager:	Troy D. Breathwaite	Date:	**June 29, 2015**
Regional Director:	Maria R. Nold	Date:	**June 29, 2015**

I. FACILITY INFORMATION

Permittee
Owens-Brockway Glass Container Inc.
150 Industrial Boulevard
Toano, Virginia 23168

Facility
Owens-Brockway Glass Container Inc., Toano, VA
150 Industrial Boulevard
Toano, Virginia 23168

County-Plant Identification Number: 51-095-00022

A. SOURCE DESCRIPTION

NAICS Code: 327213 – Glass Container Manufacturing

The facility manufactures glass containers from recycled glass (post-consumer and in-house process recycle) and other raw materials. The plant includes the following specific processes: raw material and cullet receiving and storage, raw material blend/mix, glass-melting furnaces, glass forming, final bottle treatment and packaging.

Raw materials (post-consumer recycled glass, sand, salt cake, limestone, soda ash, etc) are received by truck and rail, stockpiled in several storage areas and strategically conveyed to process silos. A crusher is utilized to size the cullet (post-consumer as well as in-house recycled glass) which is then screened and the oversize particles are recycled. Crushed cullet is transported to silos.

The raw materials are fed in various amounts from the silos to make a batch for the furnaces. The facility has two furnaces (A and B) which produce the melt used in the glass forming step. Each furnace is equipped with a refiner and two forehearths that prepare the glass melt for the forming process.

Bottle forming machines shape the glass melt using processes of shearing, gobbing and the final forming. The bottle molds must be continually maintained to produce satisfactory bottles. The bottles go through an annealing process in a moving bed kiln called a LEHR, two each per furnace. Molded glass is treated in the Hot End Surface Treatment (HEST) process where a surface treatment compound such as monobutyltin trichloride is applied as a vapor. The material forms a coating of tin oxide on the outer surface of the bottles which enhances lubricity during subsequent processing. Further down the line, a Cold End Surface Treatment consists of spraying a dilute solution of polyethylene emulsion on the bottles.

The fuel is natural gas for the furnaces, refiners, forehearths and LEHRs. As a result, all but the furnaces can be listed as insignificant emission units due to their size as fuel combustion units (9 VAC 5-80-720 C) and negligible process emissions (AP-42, Table 11.15-1 and 2).

Permits in-effect for this Facility- The facility is a Title V major source for its emissions of Nitrogen Oxides and Sulfur Dioxide, and a PSD major source for those pollutants. It is located in an attainment area for all pollutants.

The first air permit for the glass melting furnaces at the facility was dated 2/24/78. A minor NSR permit was issued on 3/05/04 when the two glass melting furnaces (A and B) at the facility were retrofitted with an electrostatic precipitator (ESP) and a NOx Continuous Emission Monitoring System (CEMS). A new minor NSR permit was issued on 8/15/12, superseding the 3/05/04 NSR permit, to allow the modification of Furnace B (Unit ID# 1-B) to increase its glass pulling capacity from 12.08 tons/hour to 12.7 tons/hour, and its glass throughput from 105,850 tons/year to 111,325 tons/year. This modification triggered the applicability of NSPS Subpart CC to Furnace B. A minor amendment of the 8/15/12 permit was issued on 3/17/14 to improve the practical enforceability of the ESP monitoring requirements.

There is also a minor NSR permit dated 4/12/05 for the Hot End Surface Treatment (HEST) process which has remained unchanged up to date.

This Title V permit renewal will incorporate the conditions of both the 3/17/14 minor NSR permit and the 4/12/05 minor NSR permit.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted on 1/15/14. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

III. EMISSION UNITS AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
1-A	S-1(ESP bypass) S-6 (ESP controlled)	Glass melting furnace A with sealed-type natural gas burners, manufactured in 1978	Burners: 51.9 mmBtu/hr Glass pull rate: 12.1 tons/hr	Electrostatic precipitator, 3-field, Hamon Research-Cottrell, Inc., 2004. Capture efficiency: 100% Design control efficiency: 0.2 lbs PM emission/ton glass pulled. Actual control efficiency: 0.1 lbs PM emission/ton glass pulled.	ESP-1	PM (filterable) PM-10 (filterable)	3/17/14 NSR
1-B	S-1(ESP bypass) S-6 (ESP controlled)	Glass melting furnace B with sealed-type natural gas burners, manufactured in 1978, modified in 2012 (NSPS Subpart CC)	Burners: 51.9 mmBtu/hr Glass pull rate: 12.7 tons/hr	Electrostatic precipitator, 3-field, Hamon Research-Cottrell, Inc., 2004. Capture efficiency: 100% Design control efficiency 0.2 lbs PM emission/ton glass pulled. Actual control efficiency: 0.1 lbs PM emission/ton glass pulled.	ESP-1	PM (filterable) PM-10 (filterable)	3/17/14 NSR
20	N/A	Diesel-fired emergency generator, 2001, MACT Subpart ZZZZ	587 hp	N/A	N/A	N/A	N/A
25	N/A	Diesel-fired emergency fire pump, Deutz Model DFP6 2013 C35, EPA Tier 3 certified, NSPS Subpart IIII and MACT Subpart ZZZZ	260 hp	N/A	N/A	N/A	2/06/12 Exemption letter (9 VAC 5-80-1105 B)

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Other Equipment							
6	S-5	Hot End Surface Treatment (HEST), 2005: molded glass containers are vapor treated with Monobutyl Tin Trichloride (MBTT)	2 lbs of MBTT per hour per hood (4 hoods)	None	N/A	N/A	4/12/05 NSR

*The Size/Rated capacity and PCD efficiency are provided for informational purposes only, and is not an applicable requirement.

IV. EMISSIONS INVENTORY

A copy of the 2013 annual emission update is attached as Attachment A. Emissions are summarized in the following tables.

2013 Actual Emissions

	2013 Criteria Pollutant Emissions in Tons/Year				
	VOC	CO	SO_2	PM_{10}	NO_x
Furnace A	0.1	1.4	127.8	8.1	197.0
Furnace B	0.2	1.7	148.4	9.4	228.9
HEST Process	7.0	-	-	-	-
Plant Total	7.6	5.8	276.2	17.8	429.1

2013 Facility Hazardous Air Pollutant Actual Emissions

Pollutant	2013 Hazardous Air Pollutant Emissions in Tons/Year
Non-VOC/Non-PM HAP	1.4

V. FURNACE REQUIREMENTS – (Emission units ID# 1-A and 1-B)

A. Limitations

The following Title V permit limitation conditions are State BACT requirements on the furnaces from the amended minor NSR permit dated 3/17/14:
Condition 1: Control of particulate emissions by a 3-field Electrostatic Precipitator (ESP-1);
Condition 4: Control of fugitive dust emissions;
Conditions 6, 7, and 8: Emission limits; and
Condition 9: Visible emission limits.
The PM (filterables) emission limit of 0.20 lbs/ton of glass in Condition 8 also meets the NSPS Subpart CC standards of 0.1 g/kg of glass which is applicable to Furnace B:
0.1 g PM/kg glass x 0.454 kg glass/lb glass x 2,000 lbs glass/ton glass x 1 lb PM/454g PM = 0.2 lbs PM/ton glass.

Conditions 2 and 3 require the use of natural gas as fuel for the furnaces and limit glass production, respectively, which are the basis for the derivation of the emission limits.

Condition 5 cites the applicability of NSPS Subpart CC to Furnace B because of its modification in 2012.

Conditions 10 and 11 are the Conditions on Maintenance/Operating Procedures and Violation of Ambient Air Quality Standards, respectively, from the General Conditions section of the 3/17/14 NSR which are not represented in the General Conditions section of the Title V permit; therefore, they are included here.

B. Monitoring

Continuous monitoring devices for the ESP and the NOx-CEMS are also State BACT requirements in the 3/17/14 NSR permit. They are in the Title V permit as follows:

For the ESP, Condition 12 defines the parameters to be continuously monitored and recorded such as the spark rate, and the primary and secondary Volts, Amps and Power, while Condition 13 ensures peak efficiency for the monitoring device operation by specifying operating ranges and alarm activation scenarios.

For the NOx-CEMs, Condition 14 requires its installation, operation and maintenance in accordance with 40 CFR 60.13, Appendix B and F, or DEQ-approved procedure. NOx emissions from each of the furnaces shall be continuously measured and recorded in lbs/hr, and data are reduced to one-hour averages. Annual performance evaluations of the NOx-CEMS and implementation of a CEMS Quality Control Program are required in Conditions 16 and 17, respectively.

Additionally, Condition 15 describes the procedure for Visible Emissions Monitoring at the ESP stack. The frequency of visual evaluation of the ESP stack has been increased to weekly in the recent NSR amendments to meet the periodic monitoring requirements of 40 CFR 70.6(a)(3)(B).

There are no monitoring requirements for SO_2, CO and VOC as they are deemed not necessary. Those emissions are uncontrolled. SO_2 is produced from the sulfur-containing compounds in the glass raw material formulations (e.g. sulfates). CO and VOC emissions are from the combustion of natural gas fuel for the furnace; the amounts are relatively small. The permitted emission limits were initially based on 2001 stack test results. For SO_2, the emission factor (EF) was 3.6 lb SO_2/ton of glass. Subsequent stack test results have shown compliance at 2.6-2.9 lbs SO_2/ton. When furnace B was modified in 2012, the projected emission factor used for calculation of projected actual emissions was 3.17 lb SO_2/ton which was the facility's conservative best engineering estimate that still avoided PSD permitting requirements. The required initial performance test following the modification of furnace B was completed on 3/13/2013. It showed an SO_2 emission rate of 21.9- 28.7 lbs/hr at a near-maximum glass pull rate which worked out to be lower than 2.5 lbs SO_2/ton. Therefore, emissions are not expected to exceed the permit limits as long as the throughput limits are not exceeded.

<u>CAM applicability</u> is revisited to confirm that it is still not applicable following the modification of Furnace B. PM is the pollutant being controlled by ESP. EF from AP-42 (10/86, Table 11.15-1) is 1.4 lbs/ton of glass. Pre-controlled emissions, taking into account the permit limit of 105,850 tons/yr for furnace A and 111,325 tons/yr for furnace B, are:
Furnace A: 1.4 lbs/ton * 105,850 tons/yr x 1 ton/2000 lbs= 74.1 tons/yr, which is < 100 tons/yr
Furnace B: 1.4 lbs/ton * 111,325 tons/yr x 1 ton/2000 lbs= 77.9 tons/yr, which is < 100 tons/yr
Therefore, CAM does not apply.

C. Reporting

Quarterly reports of excess emissions as monitored by the NOx-CEMS are required in Condition 18. Other usual notification requirements such as notifications of equipment start-up or initial performance test have been completed prior to this permit renewal; hence, they are not in the permit.

D. Recordkeeping

Beside the annual glass production records, Condition 19 requires recordkeeping of all monitoring, testing, maintenance, notifications and reports. Some items derived from the modification of Furnace B such as the required initial performance tests for PM, NOx, and SO_2, and start-up notifications have been completed and are no longer in the permit; however, the records still have to be kept for at least 5 years.

E. Testing

The permit requires annual performance evaluations of the NOx-CEMS as seen in Condition 16.

There are no periodic testing requirements for PM, SO_2, CO and VOC beyond the initial performance tests which had been completed. The justification for the cases of SO_2, CO and VOC are discussed above under monitoring. For PM which is controlled by ESP, the monitoring requirements and proper maintenance should ensure performance of the control equipment and compliance with the emission limits. Moreover, the permit requires weekly visible emission monitoring of the ESP stack which should indicate that the ESP is performing as expected or corrective action must be taken. According to inspection reports since 2007, the facility's monitoring records have indicated that no opacity was observed at the ESP stack.

The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard (Conditions 20 and 21).

F. Streamlined Requirements

There are no streamlined requirements other than General Conditions in the 3/17/14 NSR permit. No other conditions in the permit can be streamlined because it is the recent amendment of the 8/15/12 permit and any possible streamlining has been done, for examples, the initial performance test and the start-up notifications as discussed above.

VI. HOT END SURFACE TREATMENT (HEST) PROCESS REQUIREMENTS – (Emission units ID# 6)

A. Limitations

Limitations from the 4/12/05 minor NSR permit are carried over in Conditions 22-25:

Condition 22 indicates that the control of VOC and Monobutyl tin trichloride (MBTT) is by work practice to optimize transfer efficiency and conversion of MBTT to tin oxide coating on glass containers.
Condition 23 establishes throughput limit for MBTT.
Condition 24 limits VOC emissions from the process. The VOC limits are the potential to emit based on the MBTT feed rate (8 lbs/hr) and the facility's engineering estimate that about two thirds of MBTT remain unreacted and exhausted as VOC:
8 lbs/hr x 2/3= 5.3 lbs/hr
5.3 lbs/hr x 8760 hrs/yr x 1 ton/2000 lbs= 23.3 tons/yr

The one-third portion of MBTT that reacted will produce hydrogen chloride (HCl) as a byproduct which is a HAP; its emission limit is in the State-Only Applicable Requirements section (Condition 91).
Condition 25: 10% opacity visible emissions limits for the HEST process exhaust.

Conditions 22, 24, and 25 are state BACT requirements (9 VAC 5-50-260) in the 4/12/05 minor NSR permit.

Condition 26- Maintenance/ Operating Procedures, and Condition 27- Violation of Ambient Air Quality Standard are carried over from the General Conditions section of the NSR permit because they are not represented in the General Conditions section of the Title V permit.

B. Monitoring

There is no monitoring requirements in the 4/12/05 minor NSR.

To meet the periodic monitoring requirements of 40 CFR 70.6(a)(3)(B), compliance with the 10% opacity limit in Condition 25 is monitored by weekly observations of visible emissions from the HEST exhaust as required in Condition 28 of the Title V permit. Corrective action is required if any opacity is observed.

C. Recordkeeping

Condition 29 requires records of annual throughput of MBTT, annual emissions of VOC and HCl, relevant Material Safety Data Sheets, scheduled and unscheduled maintenance, operator training, and visible emissions monitoring.

D. Streamlined Requirements

There are no streamlined requirements other than General Conditions in the 4/12/05 minor NSR permit.

VII. EMERGENCY GENERATOR AND EMERGENCY FIRE PUMP REQUIREMENTS (Emission Units ID# 20 and 25, respectively)

A. Limitations

The two units belong to different engine categories subject to different requirements as discussed below.

Emergency generator (ID# 20) is a 1965 compression ignition internal combustion engine (CI ICE). It is not subject to NSPS Subpart IIII because it was manufactured before 4/01/2006. However, it is subject to MACT Subpart ZZZZ as an existing reciprocating internal combustion engine (RICE) ≤ 500 HP located at an area source of HAP and constructed before June 12, 2006. Applicable requirements are entered into the Title V permit as follows:

Condition 30: To qualify as an emergency RICE, the engine operation has to meet the definition in 40 CFR 63.6675 and the operating hour limitations in 40 CFR 63.6640(f). Additionally, to be exempt from minor NSR permitting, it has to meet the definition of emergency in 9 VAC 5-80-1110 and the 500 hours operation limit per year in 9 VAC 5-80-1105 B.

Condition 31: MACT requirements on the operation and maintenance practice concerning oil and filter changes, air cleaner inspections, hose and belt inspections, manufacturer's instructions, and idling time during startup. The facility also has the option of using an oil analysis program to extend the oil change frequency.

Condition 37: Requirement by Reference to MACT Subpart ZZZZ which is also applicable to the emergency fire pump (ID# 25).

Emergency fire pump (ID# 25) is a 260 HP compression ignition internal combustion engine (CI ICE), EPA certified Tier 3. It is subject to NSPS Subpart IIII because it was manufactured as a certified National Fire Protection Association (NFPA) engine after 7/01/2006. It is also subject to MACT Subpart ZZZZ which in turn refers to the NSPS Subpart IIII without additional requirements according to 40 CFR 63.6590(c). In the NSPS, it belongs to the category of fire pump engines with a displacement of less than 30 liters/cylinder, manufactured after the model years in Table 3 of NSPS Subpart IIII (2009 and later for engines 175≤ HP≤ 750). Applicable requirements are entered into the Title V permit as follows:

Condition 32: To qualify as an emergency CI ICE, the engine operation has to meet the definition in 40 CFR 60.4219 and the operating hour limitations in 40 CFR 60.4211(f). Additionally, to be exempt from minor NSR permitting, it has to meet the definition of emergency in 9 VAC 5-80-1110 and the 500 hours operation limit per year in 9 VAC 5-80-1105 B.

Conditions 33 and 34: The allowed fuel is diesel meeting the standards in 40 CFR 80.510(b). The maximum allowed sulfur content is 0.0015% which shall be indicated in fuel certifications obtained by the permittee for each shipment.

Condition 35: The emission standards for the engine size in Table 4 of NSPS Subpart IIII apply.

Condition 36: Compliance requirements on installation, operation and maintenance.

Condition 38: Requirement by Reference to NSPS Subpart IIII. The emergency fire pump is also subject to MACT Subpart ZZZZ as indicated in Condition 37.

B. Monitoring

Conditions 39: Emergency generator (ID# 20)- MACT requires the installation of a non-resettable hour-meter if one has not been installed.
Condition 40: Emergency fire pump (ID#25)- NSPS Subpart IIII also requires the installation of a non-resettable hour meter if the engine does not meet the applicable standards for non-emergency engines in the applicable model year (40 CFR 60.4214(b)). The facility confirms that their engine is equipped with the above instrument. Note also that the engine is not equipped with a diesel particulate filter; hence, the back pressure monitoring requirement of 40 CFR 60.4214(c) does not apply.

C. Reporting

Condition 41: For the emergency generator (ID# 20), MACT requires reports in accordance to Footnote 2 of Table 2d in MACT Subpart ZZZZ whenever the facility has to delay maintenance practice due to emergency operation. Note that the annual reporting requirements in 40 CFR 63.6650(h) does not apply because the facility does not use the engine for demand response or voltage fluctuations as described in 40 CFR 63.6640(f)(2)(ii) or (iii), respectively, or for any financial agreement as described in 40 CFR 63.6640(f)(4)(ii).

D. Recordkeeping

Condition 42- Emergency generator (ID # 20) and emergency fire pump (ID# 25): Records are to be kept for hours of operation, operation and maintenance, reports, and all diesel fuel certifications.

VIII. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

a. Conditions 46-51. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

These general conditions cite the Article that follows:
Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

These general conditions cite the sections that follow:
9 VAC 5-80-80. Application
9 VAC 5-80-140. Permit Shield
9 VAC 5-80-150. Action on Permit Applications

b. Conditions 57-60. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
9 VAC 5-40-50. Notification, Records and Reporting
9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

c. Condition 64. Permit Modification

This general condition cites the sections that follow:
9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources
9 VAC 5-80-190. Changes to Permits
9 VAC 5-80-260. Enforcement
9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

d. Conditions 78-81. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Conditions 78-81 and 57-60. For further explanation see the comments on General conditions 57-60.

This general condition cites the sections that follow:
9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-110. Permit Content

e. Condition 85. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

IX. STATE-ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable:

9 VAC 5-50-130 et seq., Standards of Performance for Odorous Emissions (Condition 89)
9 VAC 5-60-300 et seq., Emission Standards for Toxic Pollutants (Condition 90)

The hydrogen chloride (HCl) emission limits in Condition 91 were the potential to emit calculated from the stoichiometry of MBTT reaction and the facility's engineering estimate that one third of input MBTT (8 lbs/hr) reacted in the HEST process:
$C_4H_9SnCl_3 + 13/2\ O_2 \rightarrow SnO_2 + 4CO_2 + 3\ HCl + 3H_2O$
MW= 282.2 3 x 36.45

(3x 36.45 lbs HCl/282.2 lbs MBTT) 8 lbs MBTT/hr x 1/3 = 1.03 lbs HCl/hr
1.03 lbs HCl/hr x 8760 hrs/yr x 1 ton/2000 lbs= 4.5 tons HCl/yr

The hourly emission rate is greater than the exemption rate for HCl; however, based on SCREEN3 modeling performed when the 4/12/05 NSR was processed, the predicted ambient air concentration (PAAC) did not exceed the significant ambient air concentration (SAAC) (9 VAC 5-60-300).

X. FUTURE APPLICABLE REQUIREMENTS

It is not anticipated that the facility is subject to any future applicable requirements.

XI. INAPPLICABLE REQUIREMENTS

The following requirements have been specifically identified as being not applicable to this permitted facility. The basis for each inapplicability is also provided.

Citation	Title of Citation	Description of Applicability
40 CFR 60 Subpart CC	Standards of Performance for Glass Manufacturing Plants	Applicable to glass melting furnaces constructed or modified after 6/15/1979. This NSPS does not apply to Furnace A (Emission Unit # 1-A) which was constructed in 1978.
40 CFR 63 Subpart SSSSSS	National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources	Applicable to facilities with one or more continuous furnaces to produce glass that contains compounds of one or more glass manufacturing metal HAP (arsenic, cadmium, chromium, lead, manganese and nickel) as raw materials in a glass manufacturing batch formulation. The facility does not use such raw materials.
40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	Applicable to boilers and process heaters at major sources of HAP. The facility is not major for HAPs.
40 CFR 63 Subpart JJJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources	Applicable to boilers at area sources. However, the refiners, forehearths, and LEHRs are process heaters, excluded from the definition of boilers (40 CFR 63.11237).
Greenhouse Gas (GHG) Permitting Requirements		The facility has not triggered any PSD permitting requirements for any pollutants. Hence, there are no applicable GHG permitting requirements based on the EPA Memorandum dated 7/24/14.

XII. INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
2-A & 2-B	Refiners A and B, one for each furnace (1-A and 1-B), natural gas-fired molten glass heaters	9 VAC 5-80-720 C		2.8 mmBtu/hour each
3-A & 3-B	Forehearths A and B, each has 2 units for each furnace (1-A and 1-B), natural gas-fired glass heaters	9 VAC 5-80-720 C		1.8 mmBtu/hour each
4	Lehrs, 4 units total, natural gas-fired, bottle annealing	9 VAC 5-80-720 C		4.2 mmBtu/hour each
5	Mold swabbing- periodic application of lubrication to bottle-forming molds	9 VAC 5-80-720 B	PM/PM-10	
7	Bottle finishing emulsion- application of polyethylene emulsion to molded glass bottles	9 VAC 5-80-720 B	PM/PM-10	
8	Bottle coding inking- Printing of identification numbers on the bottles	9 VAC 5-80-720 B	VOC	
9	Box coding printing – Printing of identification numbers on the boxes	9 VAC 5-80-720 B	VOC	
10	Ink/printer cleaning- clean-up solvent for bottle and box coding equipment	9 VAC 5-80-720 B	VOC	
11	Box assembly- glue is used to assemble the packing boxes	9 VAC 5-80-720 B	PM/PM10	
12A	Glass crusher for post-consumer and in-house cullet	9 VAC 5-80-720 B	PM/PM10	
13	Raw material unloading operation	9 VAC 5-80-720 B	PM/PM10	
14	Batch storage	9 VAC 5-80-720 B	PM/PM10	

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
15	Parts washer stations	9 VAC 5-80-720 B	VOC	
17	Contact cooling tower	9 VAC 5-80-720 B	PM/PM10	
18	Storage tanks	9 VAC 5-80-720 B	VOC/HAP	
19	Oil/water separator	9 VAC 5-80-720 B	VOC/HAP	
21	Boiler, natural gas	9 VAC 5-80-720 C		0.344 mmBtu/hour
22	Central vacuum system, used on spilled raw materials	9 VAC 5-80-720 B	PM/PM10	
23	Cullet conveyor system, used to convey cullet into the batch house	9 VAC 5-80-720 B	PM/PM10	
24	ESP dust recycling system, used to convey collected ESP dust to the batch house for re-use	9 VAC 5-80-720 B	PM/PM10	
26	Difluoroethane internal bottle treatment	9 VAC 5-80-720 B	HAP	

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

The qualification of ID# 26, a difluoroethane bottle treatment process, as an insignificant emission unit was examined because of its potential emission of hydrogen fluoride (HF), a HAP. The facility indicated that it occasionally uses difluoroethane (DFE), commonly known as HFC-152 a, to treat glass surface inside containers for certain special application. It is not a HAP or a VOC by definition, however, upon decomposition at high temperature, HF can be formed.

The exemption level for hydrogen fluoride (HF) pursuant to 9 VAC 5-60-300 is 0.0858 lbs/hr.
By stoichiometry, 1 mole of DFE (CH_3CHF_2, MW= 66) can give 2 moles of HF (MW=20).
According to the facility, the facility rarely uses DFE, and if used, the maximum usage is 5.4 oz/hr.
Therefore, the potential hourly HF emissions are:

5.4 oz/hr x 1 lb/16 oz x 1 mole DFE/66 lbs DFE x 2 mole HF/1 mole DFE x 20 lbs HF/1 mole HF
= 0.2045 lbs HF/hr

However, based on facility's information (email dated 11/01/13), 90% of the DFE react with the glass surface, only 10% are available for decomposition to HF. Other research found in literature also concurred that HF is only a minor product of DFE decomposition. Therefore, potential hourly HF emissions can be adjusted to:

0.2045 lbs HF/hr x 10%= 0.02045 lbs HF/hr which is < the exemption level of 0.0858 lbs/hr.

Potential annual HF emissions:
0.02045 lbs/hr x 8760 hrs/yr x 1 ton/2000 lbs= 0.0896 tons/yr or 179 lbs/yr which is < 1,000 lbs/yr

Therefore, the activity qualifies as insignificant pursuant to 9 VAC 5-80-720 B.

XIII. CONFIDENTIAL INFORMATION

The source has a list of confidential business information on file that was last updated on June 11, 2012. However, the permit application contains no confidential business information (CBI). The Title V permit and the Statement of Basis have been written to be self-explanatory without any confidential business information so that it is suitable for public review.

XIV. PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the **Daily Press** newspaper from **Wednesday, May 13, 2015** to **Friday, June 12, 2015**.