



**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
OREGON TITLE V OPERATING PERMIT**

Northwest Region
700 N.E. Multnomah St., Suite 600
Portland, OR 97232
503-229-5263

~~Issued in accordance with the provisions of
ORS 468A.040 and based on the land use compatibility findings included in the permit record.~~

ISSUED TO:

Owens-Brockway Glass Container Inc.
9710 NE Glass Plant Rd
Portland, OR 97220

INFORMATION RELIED UPON:

Application Number: 025752
Received: 12/28/2010

PLANT SITE LOCATION:

9710 NE Glass Plant Road
Portland, OR 97220

LAND USE COMPATIBILITY STATEMENT:

From: City of Portland
Dated: 03/14/1995

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

Steven A. Dietrich

Steven A. Dietrich, Northwest Region Air Quality Manager

12-10-19

Date

Nature of Business

Container Glass Manufacturing

SIC

3221

NAICS

327213

RESPONSIBLE OFFICIAL:

Title: Plant Manager

FACILITY CONTACT PERSON:

Title: EHS Manager/Plant Engineer
Phone: (567) 336-3429/3430

Pages 2 - 15 redacted -- outside the scope of the SIP

PLANT SITE EMISSION LIMITS

32. ~~ANNUAL PSEL REQUIREMENT:~~ The plant site emissions must not exceed the following limits for any 12 consecutive calendar month period: [OAR 340-222-0035 through OAR 340-222-0041]:

Pollutant:	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOE	GHG (CO _{2e})	Pb
PSEL: (tons/yr)	109	100	184	382	99	39	100,521	0.5

33. **MONITOR AND RECORD:** The permittee must determine compliance with the Plant Site Emissions Limits specified in Condition 32 in accordance with the procedures, test methods, and frequencies identified in this condition. The permittee must retain records of all parameters used to determine compliance with the PSEL:

- 33.a. The permittee must monitor and maintain monthly and annual records of the following material and process parameters:

Operating Parameter (P _i)		EU ID	Min. frequency	Method
Raw materials (tons) processed, excluding cullet	P ₁	EU1	monthly	Recordkeeping
Cullet (tons) processed	P ₂	EU2	monthly	Recordkeeping
Raw materials (tons) processed	P ₃	EU3	monthly	Recordkeeping
Glass (tons) melted Natural Gas (10 ⁶ ft ³) burned	P ₄	GM1 & GM4	monthly	Production Records, Fuel usage from meter/ gauge readings, etc.
Swab materials (lbs) used (MS1-4). MBTT (tons) used (HEST1-4).	P ₅	EU5	monthly	Recordkeeping
Natural Gas (10 ⁶ ft ³) burned	P ₆	EU6	monthly	Fuel usage estimates from meter/gauge readings.
Natural Gas (10 ⁶ ft ³) burned Fuel Oil (gallons) burned	P ₇	EU7	monthly	
Estimated hours of operations.	P ₁₀	EU10	monthly	Recordkeeping

- 33.b. At the end of each month, calculate the monthly emissions from each of the emissions units identified by applying operating parameter (P_i) identified in Condition 33.a and the emission factors identified for that unit and specific pollutant specified in this Condition 33.b below:

$$E_{MO,i} = P_i EF_{ij} K$$

where: E_{MO,i} = monthly pollutant emissions from individual EU_i; lbs/month, or tons/month.

P_i = operating parameters identified in Condition 33.a.

EF_{ij} = emission factor for the pollutant and EU identified in this condition.

K = Conversion factor; 1 ton/2,000 lbs

Emissions of fine particulate matter, PM_{2.5} is

$$E_{PM2.5} = 0.92 \times E_{PM10}$$

33.b.i. Emission Factors (EF_i) for Process emissions units EU1, EU2, EU3, EU5, EU10

Emissions Unit	PM ₁₀	SO ₂	VOC	Unit
EU1	18 x 10 ⁻⁴	--	--	lbs/ton raw materials
EU2	18 x 10 ⁻²	--	--	lbs/ton cullet
EU3	18 x 10 ⁻⁴	--	--	lbs/ton raw materials
EU5	1 22	-- --	-- 90	lbs/lb swab material lbs/ton MBTT used
EU10	0.2	--	--	lbs/hr operated ^(-A-)

^(-A-) multiply EF to estimated number of hours operated in month or year. Default = 8760 hrs/yr.

33.b.ii. Emission Factors (EF_i) for EU4 Glass Melting Furnaces

EU ID	Parameter	PM ₁₀ ⁽²⁾	SO ₂ ⁽¹⁾	NO _x	CO	VOC	Pb	UNIT
EU4	Natural Gas	-b-	-b-	-b-	35	5.8	--	lbs/10 ⁶ ft ³
GM1	Glass melted	0.7	2.1	4.7	-a-	-a-	1.65x 0 ⁻³	lbs/ton glass
GM4	Glass melted	0.6	2.1	3.7	-a-	-a-	1.65x10 ⁻³	lbs/ton glass

⁽¹⁾ SO₂ EF for oil is a function of sulfur content (%S), which is obtained per monitoring specified in Condition 27.

⁽²⁾ 96% of PM/PM₁₀ is consider to be PM_{2.5}

-a- The CO & VOC emissions from the furnaces are a function of the NG combustion.

-b- The emissions are reported under emissions from glass melting.

33.b.iii. Emission Factors (EF_i) for Combustion emissions units EU6 & EU7.

EU ID	Fuel	PM ₁₀	SO ₂	NO _x	CO	VOC	UNIT
EU6	Nat. gas ⁽⁻³⁻⁾	2.5	2.6	100	21	5.8	lbs/10 ⁶ ft ³
EU7	Nat. gas ⁽⁻³⁻⁾	2.5	2.6	140	35	5.8	lbs/10 ⁶ ft ³
	Distillate Oil	2	142 (%S)	20	5	0.56	lbs/10 ³ gal

⁽³⁾ The permittee is allowed to switch from/to NG to/from Propane (LPG) at any time.

- 33.c. The compliance with the annual PSELs set forth in Condition 32 is determined 12 times per year. At the end of each month, add up the monthly emissions for each criteria pollutant for the previous 12 month period:

$$E_{\text{Annual}} = \sum_{\text{Past 12-month}} E_{\text{MO},i}$$

- 33.d. The emissions factors listed in Condition 33.b, by themselves, are not enforceable limits. The operating parameters monitored per Conditions 33.a and emission factors provided in condition 33.b shall only be used to determine compliance with PSELs.

GENERAL TESTING REQUIREMENTS [OAR 340-218-0050(1)]

34. Unless otherwise specified in this permit, the permittee must conduct all testing in accordance with the Department's Source Sampling Manual. [OAR 340-212-0120]
- 34.a. Unless otherwise specified by a state or federal regulation, the permittee must submit a source test plan to DEQ at least 30 days prior to the date of the test. The test plan must be prepared in accordance with the Source Sampling Manual and address any planned variations or alternatives to prescribed test methods. Permittee should be aware, if significant variations are requested, it may require more than 30 days for DEQ to grant approval and may require EPA approval in addition to approval by DEQ.
- 34.b. Only regular operating staff may adjust the processes or emission control device parameters during a compliance source test and within two (2) hours prior to the tests. Any operating adjustments made during a compliance source test, which are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.
- 34.c. Unless otherwise specified by permit condition or Department approved source test plan, all compliance source tests must be performed as follows:
- 34.c.i. at least 90% of the design capacity for new or modified equipment;
- 34.c.ii. at least 90% of the maximum operating rate for existing equipment; or
- 34.c.iii. at 90 to 110% of the normal maximum operating rate for existing equipment. For purposes of this permit, the normal maximum operating rate is defined as the 90th percentile of the average hourly operating rates during a 12 month period immediately preceding the source test. Data supporting the normal maximum operating rate must be included with the source test report.
- 34.d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as the arithmetic average of all valid test runs. If for reasons beyond the control of the permittee a test run is invalid, DEQ may accept two (2) test runs for demonstrating compliance with the emission limit or standard.
- 34.e. Source test reports prepared in accordance with DEQ's Source Sampling Manual must be submitted to DEQ within 45 days of completing any required source test, unless a different time period is approved in the source test plan submitted prior to the source test.
35. **EU4 EMISSION FACTOR VERIFICATION TESTING REQUIREMENTS:** Within 5 years from the date of the previous source test and every 5 years thereafter, the permittee must verify the accuracy of the PM₁₀, SO₂, NO_x, CO, and VOC emission factors used to determine compliance with the PSEL by testing in accordance with the methods specified for the pollutant and devices identified. In addition, determine the grain loading rate from each furnace.

EU4 Furnaces	Pollutant	Method(s) ⁻¹⁻
GM1 (Furnace-A) And GM4 (Furnace-D)	Grain load (gr/scf), PM ₁₀ & PM _{2.5}	EPA Method 5 & 202 (PM _{2.5} = 96% of PM ₁₀)
	SO ₂	EPA Method 6c
	NO _x	EPA Method 7E
	CO	EPA Method 10
	VOC	EPA Method 25A
	Volumetric Flow Rate	EPA Method 1-4
	Metals including Cr, Pb, As, Cd, Mn, Ni, Hg, Cu, Co, Se, Be	EPA Method 29 ⁻²⁻
	Opacity	EPA Method 9

-1- The Analytical Methods listed in this table may be substituted with another method if deemed necessary by DEQ source test coordinator.

-2- Chromium (Cr) detected using EPA Method 29 shall be considered hexavalent chromium (Cr⁺⁶) unless EPA SW-486 Method 0061 or other DEQ approved method is used to isolate Cr⁺⁶ from total Cr.

GENERAL MONITORING AND RECORDKEEPING REQUIREMENTS [OAR 340-218-0050(3)(b)]

General Monitoring Requirements:

36. The permittee must not knowingly render inaccurate any required monitoring device or method. [OAR 340-218-0050(3)(a)(E)]
37. Methods used to determine actual emissions for fee purposes must also be used for compliance determination and can be no less rigorous than the requirements of OAR 340-218-0080. [OAR 340-218-0050(3)(a)(F)]
38. Monitoring requirements must commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(a)(G)]

GENERAL RECORDKEEPING REQUIREMENTS

39. The permittee must maintain the following general records of testing and monitoring required by this permit: [OAR 340-218-0050(3)(b)(A)]
 - 39.a. the date, place as defined in the permit, and time of sampling or measurements;
 - 39.b. the date(s) analyses were performed;
 - 39.c. the company or entity that performed the analyses;
 - 39.d. the analytical techniques or methods used;
 - 39.e. the results of such analyses;
 - 39.f. the operating conditions as existing at the time of sampling or measurement; and
 - 39.g. the records of quality assurance for continuous monitoring systems (including but not limited to quality control activities, audits, calibration drift checks); and
 - 39.h. source-specific recordkeeping requirements stated elsewhere throughout the permit that include the following:
 - 39.h.i. Records of actions taken, if any, per SERP;
 - 39.h.ii. visual inspection results, and a summary of corrective actions taken, if any;
 - 39.h.iii. nuisance complaint log and investigation reports, if any;
 - 39.h.iv. visible emissions observation reports for emissions units identified;
 - 39.h.v. records of the type and daily and/or monthly records of the product and amount of fuels used, as defined in the permit; and
 - 39.h.vi. source test summary reports and results.
40. Unless otherwise specified by permit condition, the permittee must make every effort to maintain 100 percent of the records required by the permit. If information is not obtained or recorded for legitimate reasons (e.g., the monitor or data acquisition system malfunctions due to a power outage), the missing record(s) will not be considered a permit deviation provided the amount of data lost does not exceed 10% of the averaging periods in a reporting period or 10% of the total operating hours in a reporting period, if no averaging time is specified. Upon discovering a required record is missing, the permittee must document the reason for the missing record. In addition, any missing record that can be recovered from other available information will not be considered a missing record. [OAR 340-214-0110, 340-214-0114, and 340-218-0050(3)(b)]

41. Recordkeeping requirements must commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(b)(C)]
42. Unless otherwise specified, the permittee must retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings (or other original data) for continuous monitoring instrumentation, and copies of all reports required by the permit. All existing records required by the previous Air Contaminant Discharge Permit or Oregon Title V Operating Permit must also be retained for five (5) years from the date of the monitoring sample, measurement, report, or application. [OAR 340-218-0050(b)(B)]

GENERAL REPORTING REQUIREMENTS [OAR 340-218-0050(3)(c)]

43. Excess Emissions Reporting The permittee must report all excess emissions as follows: [OAR 340-214-0300 through 340-214-0360]
 - 43.a. Immediately (within 1 hour of the event) notify DEQ of an excess emission event (but not for purpose of Condition 16) by phone, email, or facsimile; and
 - 43.b. Within 15 days of the excess emissions event, submit a written report that contains the following information: [OAR 340-214-0340(1)]
 - 43.b.i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;
 - 43.b.ii. The date and time the owner or operator notified DEQ of the event;
 - 43.b.iii. The equipment involved;
 - 43.b.iv. Whether the event occurred during planned startup, planned shutdown, scheduled maintenance, or as a result of a breakdown, malfunction, or emergency;
 - 43.b.v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
 - 43.b.vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);
 - 43.b.vii. The final resolution of the cause of the excess emissions; and
 - 43.b.viii. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.
 - 43.c. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify DEQ by calling the Oregon Accident Response System (OARs). The current number is 1-800-452-0311.
 - 43.d. If startups, shutdowns, or scheduled maintenance may result in excess emissions, the permittee must submit startup, shutdown, or scheduled maintenance procedures used to minimize excess emissions to DEQ for prior authorization, as required in OAR 340-214-0310 and 340-214-0320. New or modified procedures must be received by DEQ in writing at least 72 hours prior to the first occurrence of the excess emission event. The permittee must abide by the approved procedures and have a copy available at all times.
 - 43.e. The permittee must notify DEQ of planned startup/shutdown or scheduled maintenance events.

- 43.f. The permittee must continue to maintain a log of all excess emissions in accordance with OAR 340-214-0340(3). However, the permittee is not required to submit the detailed log with the semi-annual and annual monitoring reports. The permittee is only required to submit a brief summary listing the date, time, and the affected emissions units for each excess emission that occurred during the reporting period. [OAR 340-218-0050(3)(c)]
44. Permit Deviations Reporting: The permittee must promptly report deviations from permit requirements that do not cause excess emissions, including those attributable to upset conditions, as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" means within 15 days of the deviation. Deviations that cause excess emissions, as specified in OAR 340-214-0300 through 340-214-0360 must be reported in accordance with Condition 43.
45. All required reports must be certified by a responsible official consistent with OAR 340-218-0040(5); [OAR 340-218-0050(3)(c)(D)]
46. Reporting requirements must commence on the date of permit issuance unless otherwise specified in the permit. [OAR 340-218-0050(3)(c)(E)]

Addresses of regulatory agencies are the following, unless otherwise instructed:

DEQ – Northwest Region ¹ 700 N.E. Multnomah St., #600 Portland, OR 97232 503-229-5263	DEQ – Air Quality Division ² 700 NE Multnomah St., #600 Portland, OR 97232 503-229-5359	Air Operating Permits ³ US Environmental Protection Agency Mail Stop OAQ-108 1200 Sixth Avenue Seattle, WA 98101
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¹ Submit all Notices and applications that do not include payment to the Northwest Region's Permit Coordinator.

¹ Submit all reports (annual reports, source test plans and reports, etc.) to DEQ's Northwest Region. If you know the name of the Air Quality staff member responsible for your permit, please include it.

² Submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office, which will move to the current NWR office location in 2016.

³ Submit all reports for EPA requirements to EPA Region 10 office in Seattle.

Semi-annual and Annual Reports

47. The permittee must submit three (3) copies of reports of any required monitoring at least every 6 months, completed on forms approved by DEQ. Six month periods are January 1 to June 30, and July 1 to December 31. One copy of the report must be submitted to the EPA and two copies to the DEQ regional office. All instances of deviations from permit requirements must be clearly identified in such reports: [OAR 340-218-0050(3)(c)(A) and 340-218-0080(6)(d)]
- 47.a. The first semi-annual report is be due on July 30, unless otherwise approved in writing by DEQ, and must include the semi-annual compliance certification, OAR 340-218-0080.
- 47.b. The annual report is due on February 15, unless otherwise approved in writing by DEQ, and must include the following information:
- 47.b.i. the emission fee report; [OAR 340-220-0100]
- 47.b.ii. the NO_x and VOC emission statement, if applicable; [OAR 340-214-0220];
- 47.b.iii. a summary of the excess emissions upset log; [OAR 340-214-0340]
- 47.b.iv. the second semi-annual compliance certification; and [OAR 340-218-0080]
- 47.b.v. the annual certification that the risk management plan is being properly implemented; OAR 340-244-0230. [OAR 340-218-0080(7)]
- 47.b.vi. Other annual reporting requirements:

EMISSIONS UNIT	PARAMETERS	UNIT
Plant-wide Basis	Monthly summary of emissions of each criteria pollutant	"tons/year" noted at the end of each month

EMISSIONS UNIT	PARAMETERS	UNIT
EU1	Monthly summary of raw material usage	tons/month
EU2	Monthly summary of cullet processed	tons/month
EU3	Monthly summary of material processed	tons/month
EU4	Monthly summary of amber glass produced Monthly summary of green glass produced Monthly summary of NG used Monthly summary of highest E _{HAP}	tons/month tons/month 10 ⁶ ft ³ NG/month Lbs HAP/ton glass
EU5	Monthly summary of swab material usage Monthly summary of MBTT usage, if any	lbs/month tons/month
EU6	Monthly summary of NG usage	10 ⁶ ft ³ NG/month
EU7	Monthly summary of NG usage Monthly summary of fuel oil usage	10 ⁶ ft ³ NG/month gallons/month
EU10	Estimate number of hours operated	hours/month
RMBH2 baghouse HEST-A baghouse	Monthly summary of highest, lowest, and average pressure drop recorded	Inches of water

48. The semi-annual compliance certification must include the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable): [OAR 340-218-0080(6)(c)]
- 48.a. The identification of each term or condition of the permit that is the basis of the certification;
- 48.b. The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means must include, at a minimum, the methods and means required under OAR 340-218-0050(3). *Note: Certification of compliance with the monitoring conditions in the permit is sufficient to meet this requirement, except when the permittee must certify compliance with new applicable requirements that are incorporated by reference into the permit. When certifying compliance with new applicable requirements that are not yet in the permit, the permittee must provide the information required by this condition.* If necessary, the owner or operator must identify any other material information that must be included in the certification to comply with section 113(c)(2) of the FCAA, which prohibits knowingly making a false certification or omitting material information;
- 48.c. The status of compliance with terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification must be based on the method or means designated in Condition 48.b of this rule. The certification must identify each deviation and take it into account in the compliance certification. The certification must also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance, as defined under OAR 340-200-0020, occurred; and
- 48.d. Such other facts as DEQ may require to determine the compliance status of the source.
- ~~49. Greenhouse Gas Registration and Reporting: If the calendar year emission rate of greenhouse gases (CO₂e) is greater than or equal to 2,756 tons (2,500 metric tons), the permittee must register and report its greenhouse gas emissions with DEQ in accordance with OAR 340-215. The greenhouse gas report must be certified by the responsible official consistent with OAR 340-218-0040(5).~~
- ~~50. Notwithstanding any other provision contained in any applicable requirement, the owner or operator may use monitoring as required under OAR 340-218-0050(3) and incorporated into the permit, in addition to any specified compliance methods, for the purpose of submitting compliance certifications. [OAR 340-218-0080(6)(e)]~~

Pages 23 - 29 redacted -- outside the scope of the SIP