

**ENGINEERING EVALUATION**  
**Owens-Brockway Glass Container, Inc.**  
**PLANT NO. 30**  
**BANKING APPLICATION NO 27421**

**BACKGROUND**

Owens-Brockway Glass Container, Inc. (Owens-Brockway) has submitted this application to bank emission reduction credits (ERCs) from the permanent shutdown of the following equipment:

**S-11 Glass Melting Furnace D**

Owens-Brockway is shutting down their Plant 30 in Oakland California. The S-11 Glass Melting Furnace D permanently ceased operation on July 8, 2015. Owens-Brockway has applied to bank emission reduction credits of POC, NOx, SO2, CO, and PM10 from the permanent shutdown of the S-11 Glass Melting Furnace. Application 27537 will evaluate the emission reduction credits for S-10 Glass Melting Furnace which permanently ceased operating on October 7, 2015.

**EMISSIONS REDUCTION CREDIT CALCULATIONS**

Regulation 2, Rule 4 governs Emissions Banking. The emission calculation procedure in Section 2-4-601 refers to the emission calculation procedures in Section 605 of Regulation 2, Rule 2. Per Section 2-2-605.1, the baseline period consists of the 3-year period immediately preceding the submittal of a *complete* banking application. This application was determined to be complete on August 31, 2015. **Therefore, the baseline period for this application is September 1, 2012 through August 31, 2015.**

Per Section 2-2-605.2, the baseline throughput is the lesser of the actual average throughput during the baseline period or the average permitted throughput during the baseline period, if limited by permit condition. Condition #11930 limits annual glass pulled at S-11 to 125,000 tons in any consecutive twelve month period. The monthly production numbers for glass pulled at S-11 Glass Melting Furnace supplied by Owens Brockway do not exceed this limit. In addition, they are in agreement with the calendar year 2013 and 2014 annual throughput rates the District used to calculate annual emissions for the emissions inventory. Appendix A shows the daily production and baseline throughput calculations for glass pulled at S-11 Glass Melting Furnace. The annual throughput of S-11 Glass Melting Furnace is summarized in the following table. The actual average is less than the permit limit and will be used as the baseline throughput for calculating ERCs at S-11.

**Glass Pulled at S-11 Glass Melting Furnace (tons)**

	Tons of Glass
09/01/12 to 8/31/13	82,040
09/01/13 to 8/31/14	81,936
09/01/14 to 8/31/15	64,000
36 Month Total	227,976
<b>Baseline Throughput</b>	<b>75,992</b>

Per Section 2-2-605.3, the baseline emission rate is the average actual emission rate during the baseline period. However Section 2-2-605.5 requires that the baseline emission rate be adjusted downward to comply with the most stringent of RACT, BARCT, and District rules and regulations in effect or contained in the most recently adopted Clean Air Plan. S-11 was subject to Regulation 9, Rule 12 which limits the NOx emission rate to 5.5 pounds of NOx per ton of glass pulled averaged over any consecutive 3 hour period excluding start-up, shutdown and idling periods. The permit condition #21614 limits NOx emissions from S-11 to 4.0 pounds of NOx per ton of glass pulled. Neither of these emissions rates can be used to calculate emission reduction credits because the District's 2010 Clean Air Plan establishes an emission rate of 1.5 lb NOx/ton of glass pulled to be implemented through amendments to Regulation 9-12. Therefore to determine ERC credits from the shutdown of S-11 Glass

Melting Furnace, a NO<sub>x</sub> limit of 1.5 pounds of NO<sub>x</sub> per ton of glass pulled will be considered RACT and used for the baseline emission rate to calculate ERCs.

Unlike Regulation 9 Rule 12 Nitrogen Oxides from Glass Melting Furnaces, no other District regulations expressly limit SO<sub>2</sub>, PM<sub>10</sub>, POC, or CO from glass melting furnaces. Permit condition 21614 limits CO emissions to 0.7 pounds per ton pulled at S-11. The remaining pollutants (POC, SO<sub>2</sub> and PM<sub>10</sub>) are not limited by regulation or permit condition. Over the years, these pollutants have been included in the source testing of the glass melting furnace and will be used to establish baseline emission rates. The permit condition limit for CO is used to calculate the average emission rate in the four instances that CO emissions exceeded the permit condition.

#### Source Test Results for S-11 Glass Melting Furnace (lb/ton)

Date	POC	SO <sub>2</sub>	PM <sub>10</sub>	CO
02/28/2013	na	1.9	na	0.7*
04/01-03/2013	na	1.6	0.04	0.3
04/14-15/2014	na	0.86	0.02	0.12
05/28/2014	na	0.96	0.06	0.7*
10/02/2014	na	na	na	0.07
05/12/15	0.02	1.94	na	0.7*
<b>Baseline Emission Rate</b>	<b>0.02</b>	<b>1.45</b>	<b>0.04</b>	<b>0.43</b>

\*Condition Limit

Regulation 2-2-605.6 defines the ERCs as the difference between the adjusted baseline emission rate times the baseline throughput, and the emission cap or rate accepted by the applicant as a limiting condition. Since the equipment has been permanently shut down, there is no emission cap. ERCs are tabulated below.

#### Emission Reduction Credit Calculations

	Average Baseline Throughput (tons glass/yr)	Baseline Emission Rate (lb/tons glass)	Emissions (lb/yr)	Emission Reduction Credits (tons/yr)
NO <sub>x</sub>	75,992	1.50	113,988	<b>56.994</b>
POC	75,992	0.02	1,520	<b>0.760</b>
SO <sub>2</sub>	75,992	1.45	110,188	<b>55.094</b>
PM <sub>10</sub>	75,992	0.04	3,040	<b>1.520</b>
CO	75,992	0.43	32,677	<b>16.338</b>

Regulation 2-4-303.5 limits the bankable emissions reductions at facilities belonging to that companies which have received offsets from the Small Facility Bank. Once those offsets have been reimbursed, the remaining emission reductions may be banked. Owens-Brockway has not received any POC, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, or CO offsets from the Small Facility Emissions Bank. Therefore, no such emission offsets are required to be repaid to the District and Owens-Brockway may bank all Emission Reduction Credits calculated above. Appendix B is a copy of the District's databank that shows Owens-Brockway's cumulative POC, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and CO increases and any contemporaneous reductions and/or offsets provided. The data displays the Banking Certificate Numbers (if any) that were used to offset any cumulative increases. No credits from the Small Facility Emissions Bank are shown.

## STATEMENT OF COMPLIANCE

The ERC calculations were performed in accordance with the procedures outlined in Regulation 2-2-605. ERCs for S-11 Glass Melting Furnace are calculated based on the pulled glass throughput over the 3-year baseline period from September 1, 2012 through August 31, 2015. The application was determined to be complete as of August 31, 2015. The bankable ERCs for NOx are calculated using an emission rate of 1.5 lb per ton of glass pulled which was determined to be RACT. ERCs for POC, SO<sub>2</sub>, PM<sub>10</sub>, and CO are calculated using District and District approved source tests that were taken during the last five years.

*Regulation 2-2-201 Emission Reduction Credits* defines ERCs to be real, quantifiable, enforceable, and permanent. Based on the information Owens-Brockway has submitted and the ERC calculations, the requirements of this section have been met.

*Regulation 2-4-302.2 Bankable Reductions for Closures* requires that Owens-Brockway show that the shutdown of S-11 Glass Melting Furnace does not result in the transfer of production to another source owned by the applicant within the District. In a November 20, 2015 letter to the District, the applicant asserted that the Oakland facility is the only glass container manufacturer in the Bay Area Air Quality Management District. Since the facility is permanently closing, it is not possible to transfer any banked emission credits from this closed facility to another source owned by Owens-Brockway.

*Regulation 2-4-405 Publication, Public Comment and Inspection* requires the District to publish a public notification of the preliminary decision before approving the banking of any emission reduction in excess of 40 tons per year of any pollutant. The ERCs for S-11 Glass Melting Furnace exceed 40 tons/yr of NOx and SO<sub>2</sub> and the application is therefore subject to this requirement. Before approving this banking application, the District must publish a notification of the preliminary decision to approve the ERCs. Following publication, there will be a 30-day public comment period, during which the District will accept written comments.

Applications to deposit emission reductions in the emissions bank pursuant to Regulation 2, Rule 4 are exempt from CEQA as stated in Regulation 2-1-312.10. Owens-Brockway has completed and signed an Appendix H Environmental Information Form to ensure that the project has no potential for causing a significant adverse impact on the environment.

## CONDITIONS

Conditions are commonly imposed on banking applications when an emission reduction is permanent at the source but it is unclear whether the reduction will be replaced by an emissions increase elsewhere at the facility or within the District, or to ensure the permanency of the closure. This glass container facility has been permanently shut down and was the only remaining glass plant within the District's jurisdiction; it is clear that the reduction will not be replaced by an emission increase elsewhere and additional conditions are not necessary.

## RECOMMENDATION

The District has reviewed the material contained in the permit application for the requested ERCs and has made a preliminary determination that the project is expected to comply with all applicable requirements of District, state, and federal air quality-related regulations. The preliminary recommendation is to cancel the permit for S-11 and issue the ERCs listed below. However, the ERCs for NOx and SO<sub>2</sub> exceed 40 tons per year, which triggers the public notification requirements of District Regulation 2-4-405. After the comments are received and reviewed, the District will make a final determination on the permit.

I recommend that the District initiate a public notice and consider any comments received prior to taking any final action on issuance of ERCs for the following source:

**S-11 Glass Melting Furnace D**

Proposed emission reduction credits (ERCs) to Owens-Brockway:

<b>NOx</b>	<b>56.994 tons per year</b>
<b>POC</b>	<b>0.760 tons per year</b>
<b>SO<sub>2</sub></b>	<b>55.094 tons per year</b>
<b>PM<sub>10</sub></b>	<b>1.520 tons per year</b>
<b>CO</b>	<b>16.338 tons per year</b>

---

Anne C. Werth

December 8, 2015

The Public Notice was published in the Oakland Tribune on March 27, 2004. The comment period closed on April 29, 2004. Norman Marquis of the Stationary Source Division of the California ARB called to ask for Owens-Brockway's potential to emit of criteria pollutants at the Hayward facility. No other comments were received.