



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



DEC 26 2012

Mr. Daniel Armagost  
Owens Brockway Glass Container Inc.  
14700 W Schulte Road  
Tracy, CA 95377-8628

**Re: Final – Authority to Construct/Certificate of Conformity (Minor Mod)  
Project # N-1121347**

Dear Mr. Armagost:

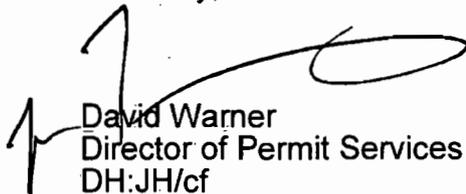
The Air Pollution Control Officer has issued Authorities to Construct (Authorities to Construct N-593-10-16, '-12-14, and '-13-12) with Certificates of Conformity to Owens Brockway Glass Container Inc.. This proposal was for the modification of three glass furnaces to add a selective catalytic reduction system to each furnace and to lower the NOx emission limit for District Rule 4354 compliance. This facility is located at 14700 W Schulte Road in Tracy, CA.

Enclosed are the Authorities to Construct and engineering evaluation with attachments. An invoice for the project processing fees will be sent in a separate correspondence. The application and proposal were sent to US EPA Region IX on October 8, 2012. All comments received have been addressed by the District. A summary of the comments and the District's response to each comment is included as an attachment to the engineering evaluation.

Prior to operating with modifications authorized by the Authority to Construct, you must submit an application to modify the Title V permit as an administrative amendment in accordance with District Rule 2520, Section 11.5.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Sincerely,



David Warner  
Director of Permit Services  
DH:JH/cf

Enclosures

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



**HEALTHY AIR LIVING™**

**DEC 26 2012**

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St  
San Francisco, CA 94105

**Re: Final – Authority to Construct/Certificate of Conformity (Minor Mod)  
Project # N-1121347**

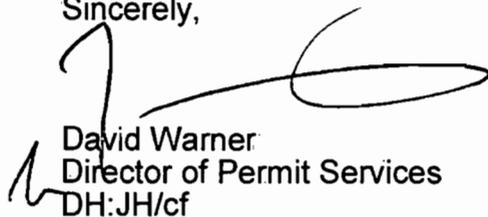
Dear Mr. Rios:

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## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-593-10-16

**ISSUANCE DATE:** 12/20/2012

**LEGAL OWNER OR OPERATOR:** OWENS-BROCKWAY GLASS CONTAINER  
**MAILING ADDRESS:** 14700 W SCHULTE RD  
TRACY, CA 95376

**LOCATION:** 14700 W SCHULTE ROAD  
TRACY, CA 95376

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 60 MMBTU/HR GLASS MELTING FURNACE #22-C WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT) TO INSTALL A SELECTIVE CATALYTIC REDUCTION SYSTEM AND ADD A 30-DAY ROLLING NOX EMISSION LIMIT FOR DISTRICT RULE 4354 COMPLIANCE. POST-PROJECT EQUIPMENT DESCRIPTION: 60 MMBTU/HR GLASS MELTING FURNACE #22-C WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, A 10 MMBTU/HR DUCT BURNER SYSTEM (OR EQUIVALENT), A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadrejin, Executive Director / P.O.

DAVID WARNER, Director of Permit Services

N-593-10-16 Dec 20 2012 11:26AM - HARADERJ - Joint Inspection NOT Required

3. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and San Joaquin County Rule 401] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
8. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
11. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
13. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
14. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
15. The emission control systems shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
16. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
19. The SO<sub>x</sub> and PM<sub>10</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
20. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
22. The glass pull rate shall not exceed 417 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. The glass pull rate shall not exceed 146,000 tons during any rolling 12-month period. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The weight percent of cullet per batch shall not be less than 17.5%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
25. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 69.50 lb-NO<sub>x</sub>/hr and 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 26.06 lb-NO<sub>x</sub>/hr and 1.5 lb-NO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
27. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 15.64 lb-SO<sub>x</sub>/hr and 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
28. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
29. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
30. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 6.59 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
31. Particulate matter emissions shall not exceed 17.5 lb/hr. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
32. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
33. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM<sub>10</sub>/year. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
36. Initial performance testing shall be conducted for PM<sub>10</sub> (lb/ton of glass pulled and lb/hr) and NO<sub>x</sub> (lb/ton of glass pulled) emissions within 90 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM<sub>10</sub> (lb/ton of glass pulled and lb/hr), SO<sub>x</sub> (lb/ton of glass pulled and lb/hr), and NO<sub>x</sub> (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
38. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
39. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
40. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM<sub>10</sub>: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>; (7) Condensable PM<sub>10</sub>: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH<sub>4</sub> Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
41. In lieu of performing a source test for PM<sub>10</sub>, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM<sub>10</sub> emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM<sub>10</sub>. [District NSR Rule] Federally Enforceable Through Title V Permit
42. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit
43. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

44. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM10 emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit
45. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
46. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NOx, SOx, CO, O2 concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
47. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
48. The facility shall install and maintain equipment, facilities, and systems compatible with the Districts CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
49. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
50. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
51. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
52. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
53. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
54. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
56. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

57. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
58. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
59. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
60. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
61. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
62. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
63. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
64. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the measured average daily total power input into the electrostatic precipitator drops below the level for which compliance with the permitted PM10 limit has been demonstrated, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
65. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
66. The 3-hour block average production-based metal HAP mass emission rate shall not exceed 0.02 lb/ton of glass produced, except during periods of startup, shutdown, or malfunction. Compliance with this requirement shall be verified by keeping product data records. [40 CFR 63.11451 and 40 CFR 63.11455(a)] Federally Enforceable Through Title V Permit
67. Permittee shall keep a copy of the Initial Notification and Notification of Compliance Status for 40 CFR 63 Subpart SSSSSS. [40 CFR 63.11457(a)(1)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

68. Permittee shall keep records of the product data. The product data shall include the amount (weight or weight percent) of each ingredient in the batch formation, including all glass manufacturing metal HAP compounds. [40 CFR 63.11457(a)(4)] Federally Enforceable Through Title V Permit
69. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
70. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
71. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
72. The throughput for each electrostatic precipitator dust silo shall not exceed 1.81 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
73. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
74. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
75. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
76. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
77. Records of all maintenance of each bin vent filter, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
78. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
79. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
80. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
81. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
82. Permittee shall keep a record of the rolling 12-month quantity of glass pulled. This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
83. Permittee shall keep a record of the combined daily NOx emissions (based on CEMs data), the combined daily PM10 emissions (based on annual source test results and daily production data), and the combined daily filterable PM10 emissions (based on annual source test results and daily production data), each in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-B). [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

84. Permittee shall keep a record of the combined rolling 12-month PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
85. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
86. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
87. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
88. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
89. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-593-12-14

**ISSUANCE DATE:** 12/20/2012

**LEGAL OWNER OR OPERATOR:** OWENS-BROCKWAY GLASS CONTAINER  
**MAILING ADDRESS:** 14700 W SCHULTE RD  
TRACY, CA 95376

**LOCATION:** 14700 W SCHULTE ROAD  
TRACY, CA 95376

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 29 MMBTU/HR OXYGEN-ENRICHED AIR-STAGING (OEAS) GLASS MELTING FURNACE #22-A WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 7 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT) TO INSTALL A SELECTIVE CATALYTIC REDUCTION SYSTEM FOR RULE 4354 COMPLIANCE AND TO CORRECT THE HEAT INPUT RATING OF THE FURNACE. POST-PROJECT EQUIPMENT DESCRIPTION: 36 MMBTU/HR GLASS MELTING FURNACE #22-A, WITH AN OPTIONAL OXYGEN-ENRICHED AIR STAGING SYSTEM (USE OF THIS SYSTEM IS OPTIONAL), A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 7 / 0.4 ELECTROSTATIC PRECIPITATOR, A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

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**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadretdin, Executive Director / APD

DAVID WARNER, Director of Permit Services

N-593-12-14 Dec 20 12 11:25AM - HARADERJ 1, Joint Inspection NOT Required

3. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and San Joaquin County Rule 401] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
8. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
11. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
13. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
14. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
15. The emission control systems shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
16. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit

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17. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
19. The SO<sub>x</sub> and PM<sub>10</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
20. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
22. The glass pull rate shall not exceed 250 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. The glass pull rate shall not exceed 87,235 tons during any rolling 12-month period. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
25. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 41.67 lb-NO<sub>x</sub>/hr and 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 15.63 lb-NO<sub>x</sub>/hr and 1.5 lb-NO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
27. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 9.38 lb-SO<sub>x</sub>/hr and 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
28. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
29. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
30. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 3.78 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
31. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
32. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM<sub>10</sub>/year. [District NSR Rule] Federally Enforceable Through Title V Permit
33. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

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34. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Initial performance testing shall be conducted for PM<sub>10</sub> (lb/ton of glass pulled and lb/hr) and NO<sub>x</sub> (lb/ton of glass pulled) emissions within 90 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM<sub>10</sub> (lb/ton of glass pulled and lb/hr), SO<sub>x</sub> (lb/ton of glass pulled and lb/hr), and NO<sub>x</sub> (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
37. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
38. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
39. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM<sub>10</sub>: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>; (7) Condensable PM<sub>10</sub>: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH<sub>4</sub> Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
40. In lieu of performing a source test for PM<sub>10</sub>, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM<sub>10</sub> emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM<sub>10</sub>. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit
42. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit
43. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit

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44. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
45. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
46. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
47. The facility shall install and maintain equipment, facilities, and systems compatible with the Districts CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
48. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
51. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
52. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
53. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within a 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit
56. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit

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57. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
58. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
59. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
60. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
61. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
62. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
63. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the measured average daily total power input into the electrostatic precipitator drops below the level for which compliance with the permitted PM10 limit has been demonstrated, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
64. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
65. The 3-hour block average production-based metal HAP mass emission rate shall not exceed 0.02 lb/ton of glass produced, except during periods of startup, shutdown, or malfunction. Compliance with this requirement shall be verified by keeping product data records. [40 CFR 63.11451 and 40 CFR 63.11455(a)] Federally Enforceable Through Title V Permit
66. Permittee shall keep a copy of the Initial Notification and Notification of Compliance Status for 40 CFR 63 Subpart SSSSSS. [40 CFR 63.11457(a)(1)] Federally Enforceable Through Title V Permit
67. Permittee shall keep records of the product data. The product data shall include the amount (weight or weight percent) of each ingredient in the batch formation, including all glass manufacturing metal HAP compounds. [40 CFR 63.11457(a)(4)] Federally Enforceable Through Title V Permit

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68. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
69. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
70. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
71. The throughput for each electrostatic precipitator dust silo shall not exceed 1.23 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
72. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
73. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
74. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
75. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
76. Records of all maintenance of the bin vent filters, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
77. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
78. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
79. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
80. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
81. Permittee shall keep a record of the rolling 12-month quantity of glass pulled. This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
82. Permittee shall keep a record of the combined daily NOx emissions (based on CEMs data), the combined daily PM10 emissions (based on annual source test results and daily production data), and the combined daily filterable PM10 emissions (based on annual source test results and daily production data), each in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-B). [District Rule 2201] Federally Enforceable Through Title V Permit
83. Permittee shall keep a record of the combined rolling 12-month PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit

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84. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
85. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
86. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
87. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
88. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-593-13-12

**ISSUANCE DATE:** 12/20/2012

**LEGAL OWNER OR OPERATOR:** OWENS-BROCKWAY GLASS CONTAINER  
**MAILING ADDRESS:** 14700 W SCHULTE RD  
TRACY, CA 95376

**LOCATION:** 14700 W SCHULTE ROAD  
TRACY, CA 95376

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 67 MMBTU/HR OXYGEN-ENRICHED AIR STAGING (OEAS) GLASS MELTING FURNACE #22-B WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT) TO INSTALL A SELECTIVE CATALYTIC REDUCTION SYSTEM FOR RULE 4354 COMPLIANCE. POST-PROJECT EQUIPMENT DESCRIPTION: 67 MMBTU/HR GLASS MELTING FURNACE #22-B WITH AN OXYGEN-ENRICHED AIR STAGING SYSTEM (USE OF THIS SYSTEM IS OPTIONAL), A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

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YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadreddin, Executive Director / APCCO

DAVID WARNER, Director of Permit Services

N-593-13-12 Dec 20 2012 12:58PM - HARADERJ Joint Inspection NOT Required

3. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and San Joaquin County Rule 401] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
8. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. The exhaust from the glass melting furnace shall be vented through an operational SO<sub>x</sub> scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
11. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
13. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
14. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
15. The emission control systems shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
16. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit

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17. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
19. The SO<sub>x</sub> and PM<sub>10</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
20. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
22. The glass pull rate shall not exceed 340 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. The glass pull rate shall not exceed 124,100 tons during any rolling 12-month period. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
25. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 56.67 lb-NO<sub>x</sub>/hr and 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 21.25 lb-NO<sub>x</sub>/hr and 1.5 lb-NO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
27. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 12.75 lb-SO<sub>x</sub>/hr and 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
28. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
29. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
30. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 5.38 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
31. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
32. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM<sub>10</sub>/year. [District NSR Rule] Federally Enforceable Through Title V Permit
33. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

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34. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Initial performance testing shall be conducted for PM<sub>10</sub> (lb/ton of glass pulled and lb/hr) and NO<sub>x</sub> (lb/ton of glass pulled) emissions within 90 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM<sub>10</sub> (lb/ton of glass pulled and lb/hr), SO<sub>x</sub> (lb/ton of glass pulled and lb/hr), and NO<sub>x</sub> (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
37. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
38. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
39. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM<sub>10</sub>: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>; (7) Condensable PM<sub>10</sub>: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH<sub>4</sub> Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
40. In lieu of performing a source test for PM<sub>10</sub>, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM<sub>10</sub> emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM<sub>10</sub>. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit
42. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit
43. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit

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44. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
45. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
46. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
47. The facility shall install and maintain equipment, facilities, and systems compatible with the Districts CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
48. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
51. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
52. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
53. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit
56. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit

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57. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
58. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
59. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
60. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
61. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
62. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
63. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the measured average daily total power input into the electrostatic precipitator drops below the level for which compliance with the permitted PM10 limit has been demonstrated, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
64. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
65. The 3-hour block average production-based metal HAP mass emission rate shall not exceed 0.02 lb/ton of glass produced, except during periods of startup, shutdown, or malfunction. Compliance with this requirement shall be verified by keeping product data records. [40 CFR 63.11451 and 40 CFR 63.11455(a)] Federally Enforceable Through Title V Permit
66. Permittee shall keep a copy of the Initial Notification and Notification of Compliance Status for 40 CFR 63 Subpart SSSSSS. [40 CFR 63.11457(a)(1)] Federally Enforceable Through Title V Permit
67. Permittee shall keep records of the product data. The product data shall include the amount (weight or weight percent) of each ingredient in the batch formation, including all glass manufacturing metal HAP compounds. [40 CFR 63.11457(a)(4)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

68. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
69. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
70. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
71. The throughput for each electrostatic precipitator dust silo shall not exceed 1.64 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
72. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
73. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
74. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
75. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
76. Records of all maintenance of each bin vent filter, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
77. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
78. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
79. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
80. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
81. Permittee shall keep a record of the rolling 12-month quantity of glass pulled. This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
82. Permittee shall keep a record of the combined daily NOx emissions (based on CEMs data), the combined daily PM10 emissions (based on annual source test results and daily production data), and the combined daily filterable PM10 emissions (based on annual source test results and daily production data), each in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-B). [District Rule 2201] Federally Enforceable Through Title V Permit
83. Permittee shall keep a record of the combined rolling 12-month PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit

84. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
85. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
86. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
87. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
88. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

#### IV. Process Description

##### Facility Description

This facility manufactures container glass for various food and beverage industries. The glass is manufactured by taking raw materials, including cullet (recycled glass), and melting them together in a furnace to form the glass. The raw materials utilized at this facility include cullet, silica sand with soda ash, solomite, salt cake, and calcium, depending on the type of glass each furnace is producing. These raw materials are received by rail car or truck and conveyed to existing storage silos. As needed, the raw materials are released from each of the storage silos and deposited into a gathering conveyor, which then transfers the raw materials to a main feed conveyor.

##### Glass Melting Furnaces Description

After the raw materials are deposited on the main feed conveyor, the materials are then deposited into one of the three direct-fired glass melting furnaces. Cullet is also introduced into each glass melting furnace by cullet hoppers. The raw materials and cullet are melted together in the glass furnaces, and then weight portions of the melted glass (called gobs) are transferred by a conveying system to the bottle forming area for final processing. After the bottles are formed, they are inspected and packaged for shipment.

Each glass furnace has its own emission control system and is currently equipped with a dry reagent (or Trona) injection scrubber for SO<sub>x</sub> emissions control and an electrostatic precipitator for particulate emissions control. The particulate matter captured by each electrostatic precipitator is collected and recycled into the glass manufacturing process.

The applicant is proposing to add a selective catalytic reduction system to each of the three glass furnaces. Additionally, an inlet duct burning system will be added to each glass furnace. The purpose of the inlet duct burner is to maintain the temperature of the glass furnace exhaust to ensure proper operation of the selective catalytic reduction system.

Please see Appendix III for a diagram of the new emission control system setup for these furnaces.

##### Glass Furnace Process Rates:

<b>Glass Melting Furnace Process Rate Information (From Project N-1101306)</b>			
	<b>N-593-10</b>	<b>N-593-12</b>	<b>N-593-13</b>
<b>Furnace ID</b>	22-C	22-A	22-B
<b>Primary Fuel</b>	Natural Gas	Natural Gas	Natural Gas
<b>Backup Fuel</b>	LPG	LPG	LPG
<b>Maximum Daily Glass Pull Rate (tons)</b>	417	250	340
<b>Maximum Annual Glass Pull Rate (tons)</b>	146,000	87,235	124,100
<b>Maximum Burner Rating (MMBtu/hr)</b>	60	36	67

Operating Schedule:

Each furnace is expected to operate 24 hours/day, 365 days/year.

**V. Equipment Listing**

**Pre-Project Equipment Descriptions:**

- N-593-10-14: 60 MMBTU/HR GLASS MELTING FURNACE #22-C WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)
- N-593-12-12: 29 MMBTU/HR OXYGEN-ENRICHED AIR-STAGING (OEAS) GLASS MELTING FURNACE #22-A WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 7 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)
- N-593-13-10: 67 MMBTU/HR OXYGEN-ENRICHED AIR STAGING (OEAS) GLASS MELTING FURNACE #22-B WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

**Post Project Equipment Description:**

- N-593-10-16: 60 MMBTU/HR GLASS MELTING FURNACE #22-C WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, A 10 MMBTU/HR DUCT BURNER SYSTEM (OR EQUIVALENT), A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

- N-593-12-14: 36 MMBTU/HR GLASS MELTING FURNACE #22-A, WITH AN OPTIONAL OXYGEN-ENRICHED AIR STAGING SYSTEM (USE OF THIS SYSTEM IS OPTIONAL), A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 7 / 0.4 ELECTROSTATIC PRECIPITATOR, A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)
- N-593-13-10: 67 MMBTU/HR GLASS MELTING FURNACE #22-B WITH AN OXYGEN-ENRICHED AIR STAGING SYSTEM (USE OF THIS SYSTEM IS OPTIONAL), A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

## **VI. Emission Control Technology Evaluation**

### **N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces**

Each furnace utilizes PUC regulated natural gas as primary fuel and LPG as backup fuel.

For NO<sub>x</sub> control, units N-593-12 and '-13 are currently equipped with an oxygen-enriched air staging (OEAS) combustion system that reduces NO<sub>x</sub> emissions by minimizing the availability of nitrogen. Following the modifications proposed by this project, the OEAS system on each of these furnaces may not be required to meet the NO<sub>x</sub> limits. Therefore, use of the OEAS will be designated as optional. Unit N-593-10-16 is not equipped with an OEAS system. The applicant is proposing to add a selective catalytic reduction system to each of the three glass furnaces. A selective catalytic reduction system reduces NO<sub>x</sub> by reacting the NO<sub>x</sub> with ammonia in the presence of a catalyst. Outlet NO<sub>x</sub> emissions will be limited to 1.5 lb/ton of glass pulled for each furnace (30-day rolling average), while the ammonia slip will be limited to 10 ppmvd @ 8% O<sub>2</sub>.

For particulate matter control, each furnace will be equipped with an electrostatic precipitator (ESP). The ESP removes particulate matter (PM) emissions from the flue gas by electrically charging the particles and collecting them onto the grounded surfaces. The particulates are then removed by rapping the collection plates.

For SO<sub>x</sub> control, each furnace will be equipped with a dry scrubber. Dry scrubbing involves injecting a dry reagent into the gas stream as gas enters a reaction chamber. The chamber serves as a location for the SO<sub>x</sub> and reagent to mix and react to form a dry particulate (salt). The reacted dry particulate flows downstream into the electrostatic precipitator, where it is collected by the electrostatic precipitator. The reaction chamber is sized to achieve a desired retention time for the reaction to take place. The chamber's inlet and outlet temperatures are relatively the same, less some minor radiant heat losses. Several dry reagents can be

injected; most of these are sodium or calcium based. The SO<sub>x</sub> removal of a dry injection system will be a function of the inlet temperature of the gas stream, SO<sub>x</sub> inlet concentration, reaction chamber retention time, proper mixing of the reagent in the gas stream, moisture content of the gas stream, reagent selection and reagent stoichiometry. Typical dry injection systems have achieved greater than 50% removal of SO<sub>x</sub> emissions.

Additionally, each glass furnace's ESP is equipped with two ESP dust silos. These dust silos are served by bin vent filters for particulate matter control. Each bin vent filter is expected to control 99% of PM<sub>10</sub> emissions.

## VII. General Calculations

### A. Assumptions

#### N-593-10-16: Furnace C

- The glass furnace operates 24 hours/day, 365 days/year.
- No proposed changes in furnace size or process weight (glass pulled).
- All particulate matter emitted at the electrostatic precipitator exhaust is PM<sub>10</sub>.
- All particulate matter emitted from the electrostatic precipitator dust storage silos is PM<sub>10</sub>.
- The maximum daily throughput for the electrostatic precipitator dust storage silos is 1.81 tons/day. (current permit)
- All other assumptions will be stated as they are made.

#### N-593-12-14: Furnace A

- The glass furnace operates 24 hours/day, 365 days/year.
- No proposed changes in furnace size or process weight (glass pulled).
- All particulate matter emitted at the electrostatic precipitator exhaust is PM<sub>10</sub>.
- All particulate matter emitted from the electrostatic precipitator dust storage silos is PM<sub>10</sub>.
- The maximum daily throughput for the electrostatic precipitator dust storage silos is 1.23 tons/day. (current permit)
- All other assumptions will be stated as they are made.

#### N-593-13-12: Furnace B

- The glass furnace operates 24 hours/day, 365 days/year.
- No proposed changes in furnace size or process weight (glass pulled).
- All particulate matter emitted at the electrostatic precipitator exhaust is PM<sub>10</sub>.
- All particulate matter emitted from the electrostatic precipitator dust storage silos is PM<sub>10</sub>.
- The maximum daily throughput for the electrostatic precipitator dust storage silos is 1.64 tons/day. (current permit)
- All other assumptions will be stated as they are made.

**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct**  
**Revised Application Review**  
**Modification of Glass Furnaces**

Facility Name: Owens Brockway Glass Container Inc.      Date: August 9, 2012  
Mailing Address: 14700 W. Schulte Road      Engineer: James Harader  
Tracy, CA 95377-8628      Lead Engineer: Nick Peirce  
Contact Person: Daniel Armagost  
Telephone: (209) 836-8296  
Application #'s: N-593-10-16, '-12-14, and '-13-12  
Project #: N-1121347  
Deemed Complete: June 11, 2012

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**I. Proposal**

Owens-Brockway has applied for Authority to Construct (ATC) permits to modify three existing glass melting furnaces (N-593-10-14, N-593-12-12, and N-593-13-10) as follows:

N-593-10-16: Furnace C

- Install a selective catalytic reduction (SCR) system and limit NOx emissions to 1.5 lb/ton of glass pulled (30-day rolling average) for District Rule 4354 compliance. The block 24-hour average NOx limit will continue to be 4.0 lb/ton.
- Install a 10 MMBtu/hr duct burner system, or equivalent, that will be intermittently used to maintain the proper temperature across the SCR catalyst.

N-593-12-14: Furnace A

- Install a selective catalytic reduction system and limit NOx emissions to 1.5 lb/ton of glass pulled (30-day rolling average) for District Rule 4354 compliance. The block 24-hour average NOx limit will continue to be 4.0 lb/ton.
- Install a 10 MMBtu/hr duct burner system, or equivalent, that will be intermittently used to maintain the proper temperature across the SCR catalyst.
- Update the permit description to indicate that the use of the oxygen-enriched air staging (OEAS) system is optional. Use of this system is not necessary to achieve the new NOx limit.
- Correct the furnace heat input rating. The rating currently listed on the permit is 29 MMBtu/hr. The actual maximum heat input for the furnace is 36 MMBtu/hr. The 29 MMBtu/hr was erroneously estimated in 1975 using a calculation that was based on the glass pull rate. In fact, the process weight of the furnace should have been used to estimate the burner rating, as the process rate can be much higher than the pull rate. The furnace has not been modified. Furthermore, emissions from the furnace are based on the glass pull rate and not the burner rating. Therefore, the correction to the heat input rating will not be considered an increase in capacity of the furnace.

### N-593-13-12: Furnace B

- Install a selective catalytic reduction (SCR) system and limit NOx emissions to 1.5 lb/ton of glass pulled (30-day rolling average) for District Rule 4354 compliance. The block 24-hour average NOx limit will continue to be 4.0 lb/ton.
- Install a 10 MMBtu/hr duct burner system, or equivalent, that will be intermittently used to maintain the proper temperature across the SCR catalyst.
- Update the permit description to indicate that the use of the oxygen-enriched air staging (OEAS) system is optional. Use of this system is not required to achieve the new NOx limit.

### Title V

Owens-Brockway currently has a Title V permit. This modification can be classified as a Title V minor modification pursuant to District Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Owens-Brockway must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project.

## **II. Applicable Rules**

Rule 1080	Stack Monitoring (12/17/92)
Rule 1081	Source Sampling (12/16/93)
Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter Emission rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4354	Glass Melting Furnaces (5/19/11)
Rule 4801	Sulfur Compounds (12/17/92)
40 CFR Part 64	Compliance Assurance Monitoring
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)	
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines	

## **III. Project Location**

This equipment is located at 14700 W. Schulte Road in Tracy, CA and the District has confirmed that this equipment is not located within 1,000 feet of a K-12 School.

**B. Emission Factors**

**1. Pre-Project Emission Factors**

N-593-10-16: Furnace C

<b>Glass Furnace #22-C Pre-Project Emission Factors (EF1)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
NO <sub>x</sub>	4.0 lb/ton of glass pulled	PTO N-593-10-14
SO <sub>x</sub>	0.9 lb/ton of glass pulled	PTO N-593-10-14
PM <sub>10</sub>	0.5 lb/ton of glass pulled (controlled)	PTO N-593-10-14
CO	300 ppmvd @ 8% O <sub>2</sub> and 1.0 lb/ton of glass pulled	PTO N-593-10-14
VOC	20 ppmvd @ 8% O <sub>2</sub> and 0.25 lb/ton of glass pulled	PTO N-593-10-14
<b>Electrostatic Precipitator Dust Handling System Pre-Project Emission Factors (EF1)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
PM10	0.00034 lb/ton of material	PTO N-593-10-14

N-593-12-14: Furnace A

<b>Glass Furnace #22-A Pre-Project Emission Factors (EF1)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
NO <sub>x</sub>	4.0 lb/ton of glass pulled	PTO N-593-12-12
SO <sub>x</sub>	0.9 lb/ton of glass pulled	PTO N-593-12-12
PM <sub>10</sub>	0.5 lb/ton of glass pulled (controlled) and 3.78 lb/hr (controlled)	PTO N-593-12-12
CO	300 ppmvd @ 8% O <sub>2</sub> and 1.0 lb/ton of glass pulled	PTO N-593-12-12
VOC	0.25 lb/ton of glass pulled and 20 ppmvd @ 8% O <sub>2</sub>	PTO N-593-12-12
<b>Electrostatic Precipitator Dust Handling System Pre-Project Emission Factors (EF1)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
PM10	0.00034 lb/ton of material	PTO N-593-12-12

N-593-13-12: Furnace B

<b>Glass Furnace #22-B Pre-Project Emission Factors (EF1)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
NO <sub>x</sub>	4.0 lb/ton of glass pulled	PTO N-593-13-12
SO <sub>x</sub>	0.9 lb/ton of glass pulled	PTO N-593-13-12
PM <sub>10</sub>	0.5 lb-PM <sub>10</sub> /ton of glass pulled (controlled) and 5.38 lb-PM <sub>10</sub> /hr (controlled)	PTO N-593-13-12
CO	300 ppmvd @ 8% O <sub>2</sub> and 1.0 lb/ton of glass pulled	PTO N-593-13-12
VOC	0.25 lb/ton of glass pulled and 20 ppmvd @ 8% O <sub>2</sub>	PTO N-593-13-12
<b>Electrostatic Precipitator Dust Handling System Pre-Project Emission Factors (EF1)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
PM <sub>10</sub>	0.00034 lb/ton of material	PTO N-593-13-12

N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces

The following combined emission limits currently apply to the three glass furnaces.

<b>Combined Emission Limits</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
NO <sub>x</sub>	3,392.2 lb/day and 606.540 tons/year	PTO's N-593-10-14, N-593-12-12, and N-593-13-10
PM <sub>10</sub>	300.0 lb/day (total PM <sub>10</sub> ) and 105.0 lb/day (filterable PM <sub>10</sub> ) and 55 tons/year	PTO's N-593-10-14, N-593-12-12, and N-593-13-10

## 2. Post-Project Emission Factors

### N-593-10-16: Furnace C and Electrostatic Precipitator Handling System

<b>Glass Furnace C Post-Project Emission Factors (EF2)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
<i>NO<sub>x</sub></i>	<i>1.5 lb/ton of glass pulled (30-day average) 4.0 lb/ton of glass pulled (block 24-hour average)</i>	<i>Proposed by Applicant</i>
SO <sub>x</sub>	0.9 lb/ton of glass pulled	PTO N-593-10-14
PM <sub>10</sub>	0.5 lb/ton of glass pulled (controlled) and 6.59 lb/hr (controlled)	PTO N-593-10-14
CO	300 ppmvd @ 8% O <sub>2</sub> and 1.0 lb/ton of glass pulled	PTO N-593-10-14
VOC	20 ppmvd @ 8% O <sub>2</sub> and 0.25 lb/ton of glass pulled	PTO N-593-10-14
<i>NH<sub>3</sub></i>	<i>10 ppmvd @ 8% O<sub>2</sub></i>	<i>Proposed by Applicant</i>
<b>Electrostatic Precipitator Dust Handling System Post-Project Emission Factors (EF2)</b>		
<b>Pollutant:</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
PM10	0.00034 lb/ton of material	PTO N-593-10-14

### N-593-12-14: Furnace A and Electrostatic Precipitator Handling System

<b>Glass Furnace A Post-Project Emission Factors (EF2)</b>		
<b>Pollutant:</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
<i>NO<sub>x</sub></i>	<i>1.5 lb/ton of glass pulled (30-day average) 4.0 lb/ton of glass pulled (block 24-hour average)</i>	<i>Proposed by Applicant</i>
SO <sub>x</sub>	0.9 lb/ton of glass pulled	PTO N-593-12-12
PM <sub>10</sub>	0.5 lb/ton of glass pulled (controlled) and 3.78 lb/hr (controlled)	PTO N-593-12-12
CO	300 ppmvd @ 8% O <sub>2</sub> and 1.0 lb/ton of glass pulled	PTO N-593-12-12
VOC	0.25 lb/ton of glass pulled and 20 ppmvd @ 8% O <sub>2</sub>	PTO N-593-12-12
<i>NH<sub>3</sub></i>	<i>10 ppmvd @ 8% O<sub>2</sub></i>	<i>Proposed by Applicant</i>
<b>Electrostatic Precipitator Dust Handling System Post-Project Emission Factors (EF2)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
PM10	0.00034 lb/ton of material	PTO N-593-12-12

N-593-13-12: Furnace B and Electrostatic Precipitator Handling System

<b>Glass Furnace B Post-Project Emission Factors (EF2)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
<i>NO<sub>x</sub></i>	<i>1.5 lb/ton of glass pulled (30-day average)</i> <i>4.0 lb/ton of glass pulled (block 24-hour average)</i>	<i>Proposed by Applicant</i>
SO <sub>x</sub>	0.9 lb/ton of glass pulled	PTO N-593-13-12
PM <sub>10</sub>	0.5 lb-PM <sub>10</sub> /ton of glass pulled (controlled) and 5.38 lb-PM <sub>10</sub> /hr (controlled)	PTO N-593-13-12
CO	300 ppmvd @ 8% O <sub>2</sub> and 1.0 lb/ton of glass pulled	PTO N-593-13-12
VOC	0.25 lb/ton of glass pulled and 20 ppmvd @ 8% O <sub>2</sub>	PTO N-593-13-12
<i>NH<sub>3</sub></i>	<i>10 ppmvd @ 8% O<sub>2</sub></i>	<i>Proposed by Applicant</i>
<b>Electrostatic Precipitator Dust Handling System Post-Project Emission Factors (EF2)</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
PM <sub>10</sub>	0.00034 lb/ton of material	PTO N-593-13-12

N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces

The following combined emission limit will apply to the three glass furnaces following the modifications proposed in this project. The combined post-project annual potential to emit for the three furnaces will be less than the existing combined NO<sub>x</sub> emission limit. Thus, the existing combined annual NO<sub>x</sub> limit will no longer be applicable and will be removed from the permit. The combined daily NO<sub>x</sub> limit will continue to apply.

<b>Combined Emission Limits</b>		
<b>Pollutant</b>	<b>Emission Factors/Rates</b>	<b>Source</b>
NO <sub>x</sub>	3,392.2 lb/day	PTO's N-593-10-14, N-593-12-12, and N-593-13-10
PM <sub>10</sub>	300.0 lb/day (total PM <sub>10</sub> ) and 105.0 lb/day (filterable PM <sub>10</sub> ) and 55 tons/year	PTO's N-593-10-14, N-593-12-12, and N-593-13-10

### C. Calculations

#### 1. Pre-Project Potential to Emit (PE1)

##### N-593-10-16: Furnace C and Electrostatic Precipitator Handling System

The following is a summary of the pre-project emissions for furnace C, obtained from the application review for District Project N-1101306. Note, the PM10 emission rate shown below includes the emissions from the electrostatic precipitator dust handling system.

<b>Pollutant</b>	<b>Daily Emissions (lb/day)</b>	<b>Annual Emissions (lb/year)</b>
NOx	1,668.0	584,000
SOx	375.3	131,400
PM <sub>10</sub>	158.1	57,706
CO	442.9	161,680
VOC	16.8	6,160

##### N-593-12-14: Furnace A and Electrostatic Precipitator Handling System

The following is a summary of the pre-project emissions for furnace A, obtained from the application review for District Project N-1101306. Note, the PM10 emission rate shown below includes the emissions from the electrostatic precipitator dust handling system.

<b>Pollutant</b>	<b>Daily Emissions (lb/day)</b>	<b>Annual Emissions (lb/year)</b>
NOx	1,000.0	348,940
SOx	225.0	78,512
PM <sub>10</sub>	90.8	33,140
CO	214.1	78,140
VOC	8.1	2,980

##### N-593-13-10: Furnace B and Electrostatic Precipitator Handling System

The following is a summary of the pre-project emissions for furnace B, obtained from the application review for District Project N-1101306. Note, the PM10 emission rate shown below includes the emissions from the electrostatic precipitator dust handling system.

<b>Pollutant</b>	<b>Daily Emissions (lb/day)</b>	<b>Annual Emissions (lb/year)</b>
NOx	1,360.0	496,400
SOx	306.0	111,690
PM <sub>10</sub>	129.2	47,160
CO	340.0	124,100
VOC	18.8	6,860

Combined Pre-Project Emissions from Units N-593-10, -12, and -13

*Daily Pre-Project Emissions:*

Unit	NOx (lb/day)	PM <sub>10</sub> (lb/day)
N-593-10	1,668.0	158.1
N-593-12	1,000.0	90.8
N-593-13	1,360.0	129.2
Total	4,028.0	378.1
Aggregate Limit	<b>3,392.2</b>	<b>300.0</b>

*Annual Pre-Project Emissions:*

Unit	NOx (lb/year)	PM <sub>10</sub> (lb/year)
N-593-10	584,000	57,706
N-593-12	348,940	33,140
N-593-13	496,400	47,160
Total	1,429,340	138,006
Aggregate Limit	<b>1,213,080</b>	<b>110,000</b>

**2. Post Project Potential to Emit (PE2)**

N-593-10-16: Furnace C and Electrostatic Precipitator Handling System

The applicant is not proposing a change in the daily or annual SO<sub>x</sub>, PM<sub>10</sub>, CO, or VOC emissions for the furnace. This project will result in a decrease in NO<sub>x</sub> emissions from the furnace and will result in an increase in NH<sub>3</sub> emissions from the furnace. Post-project emissions from this furnace are summarized in the table below. The post-project NO<sub>x</sub> and NH<sub>3</sub> emission calculations follow the table.

Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
<b>NOx</b>	1,668.0	<b>219,000</b>
SO <sub>x</sub>	375.3	131,400
PM <sub>10</sub>	158.1	57,706
CO	442.9	161,680
VOC	16.8	6,160
<b>NH<sub>3</sub></b>	<b>8.6</b>	<b>3,139</b>

The post-project daily NOx emissions will be based on the 24-hour block average NOx limit, which has not changed. Thus, post-project daily NOx emissions are equal to the pre-project daily NOx emissions.

The annual emissions rate will be calculated using the 1.5 lb-NOx/ton (30-day rolling average) post-project emission factor and an annual glass pulled rate of 146,000 tons/year.

$$\text{Annual NOx} = 146,000 \text{ tons of glass/year} \times 1.5 \text{ lb/ton of glass} = 219,000 \text{ lb-NOx/year}$$

Ammonia Emissions are based on the heat input rating of 60 MMBtu/hr and the ammonia slip concentration of 10 ppmvd @ 8% O<sub>2</sub>.

$$\text{EF NH}_3 = \frac{(10 \text{ ppmvd}) \left( 8,578 \frac{\text{dscf}}{\text{MMBtu}} \right) \left( 17 \frac{\text{lb-NH}_3}{\text{lb-mol}} \right)}{\left( 379.5 \frac{\text{dscf}}{\text{lb-mol}} \right) \left( 10^6 \left( \frac{20.95-8}{20.95} \right) \right)} = 0.006 \frac{\text{lb-NH}_3}{\text{MMBtu}}$$

$$\text{PE2 NH}_3 = 60 \text{ MMBtu/hr} \times 24 \text{ hr/day} \times 0.006 \text{ lb-NH}_3/\text{MMBtu} = 8.6 \text{ lb-NH}_3/\text{day}$$

$$\text{PE2 NH}_3 = 8.6 \text{ lb-NH}_3/\text{day} \times 365 \text{ days/year} = 3,139 \text{ lb-NH}_3/\text{year}$$

Duct burner emissions will be included in the total furnace emissions that are measured by the CEMS at the exit of the selective catalytic reduction system. Therefore, the duct burner emissions are included in the total emissions from this furnace and are already accounted for by the 1.5 lb/ton of glass pulled emission factor.

N-593-12-14: Furnace A Electrostatic Precipitator Handling System

The applicant is not proposing a change in the daily or annual SOx, PM<sub>10</sub>, CO, or VOC emissions for the furnace. This project will result in a decrease in NOx emissions from the furnace and will result in an increase in NH<sub>3</sub> emissions from the furnace. Post-project emissions from this furnace are summarized in the table below. The post-project NOx and NH<sub>3</sub> emission calculations follow the table.

Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
<b>NOx</b>	1,000.0	<b>130,853</b>
SOx	225.0	78,512
PM <sub>10</sub>	90.8	33,140
CO	214.1	78,140
VOC	8.1	2,980
<b>NH<sub>3</sub></b>	<b>5.2</b>	<b>1,898</b>

The post-project daily NOx emissions will be based on the 24-hour block average NOx limit, which has not changed. Thus, post-project daily NOx emissions are equal to the pre-project daily NOx emissions.

The annual emissions rate will be calculated using the 1.5 lb-NOx/ton (30-day rolling average) post-project emission factor and an annual glass pulled rate of 87,235 tons/year.

$$\text{Annual NOx} = 87,235 \text{ tons of glass/year} \times 1.5 \text{ lb/ton of glass} = 130,853 \text{ lb-NOx/year}$$

Ammonia Emissions are based on the heat input rating of 36 MMBtu/hr and the ammonia slip concentration of 10 ppmvd @ 8% O<sub>2</sub>.

$$\text{EF NH}_3 = \frac{(10 \text{ ppmvd}) \left( 8,578 \frac{\text{dscf}}{\text{MMBtu}} \right) \left( 17 \frac{\text{lb-NH}_3}{\text{lb-mol}} \right)}{\left( 379.5 \frac{\text{dscf}}{\text{lb-mol}} \right) \left( 10^6 \left( \frac{20.95-8}{20.95} \right) \right)} = 0.006 \frac{\text{lb-NH}_3}{\text{MMBtu}}$$

$$\text{PE2 NH}_3 = 36 \text{ MMBtu/hr} \times 24 \text{ hr/day} \times 0.006 \text{ lb-NH}_3/\text{MMBtu} = 5.2 \text{ lb-NH}_3/\text{day}$$

$$\text{PE2 NH}_3 = 5.2 \text{ lb-NH}_3/\text{day} \times 365 \text{ days/year} = 1,898 \text{ lb-NH}_3/\text{year}$$

Duct burner emissions will be included in the total furnace emissions that are measured by the CEMS at the exit of the selective catalytic reduction system. Therefore, the duct burner emissions are included in the total emissions from this furnace and are already accounted for by the 1.5 lb/ton of glass pulled emission factor.

#### N-593-13-10: Furnace A and Electrostatic Precipitator Handling System

The applicant is not proposing a change in the daily or annual SO<sub>x</sub>, PM<sub>10</sub>, CO, or VOC emissions for the furnace. This project will result in a decrease in NO<sub>x</sub> emissions from the furnace and will result in an increase in NH<sub>3</sub> emissions from the furnace. Post-project emissions from this furnace are summarized in the table below. The post-project NO<sub>x</sub> and NH<sub>3</sub> emission calculations follow the table.

Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
<b>NO<sub>x</sub></b>	1,360.0	<b>186,150</b>
SO <sub>x</sub>	306.0	111,690
PM <sub>10</sub>	129.2	47,160
CO	340.0	124,100
VOC	18.8	6,860
<b>NH<sub>3</sub></b>	<b>9.6</b>	<b>3,504</b>

The post-project daily NOx emissions will be based on the 24-hour block average NOx limit, which has not changed. Thus, post-project daily NOx emissions are equal to the pre-project daily NOx emissions.

The annual emissions rate will be calculated using the 1.5 lb-NOx/ton (30-day rolling average) post-project emission factor and an annual glass pulled rate of 124,100 tons/year.

Annual NOx = 124,100 tons of glass/year x 1.5 lb/ton of glass = 186,150 lb-NOx/year

Ammonia Emissions are based on the heat input rating of 67 MMBtu/hr and the ammonia slip concentration of 10 ppmvd @ 8% O<sub>2</sub>.

$$EF_{NH_3} = \frac{(10 \text{ ppmvd}) \left( 8,578 \frac{\text{dscf}}{\text{MMBtu}} \right) \left( 17 \frac{\text{lb-NH}_3}{\text{lb-mol}} \right)}{\left( 379.5 \frac{\text{dscf}}{\text{lb-mol}} \right) (10^6) \left( \frac{20.95-8}{20.95} \right)} = 0.006 \frac{\text{lb-NH}_3}{\text{MMBtu}}$$

PE2 NH<sub>3</sub> = 67 MMBtu/hr x 24 hr/day x 0.006 lb-NH<sub>3</sub>/MMBtu = 9.6 lb-NH<sub>3</sub>/day

PE2 NH<sub>3</sub> = 9.6 lb-NH<sub>3</sub>/day x 365 days/year = 3,504 lb-NH<sub>3</sub>/year

Duct burner emissions will be included in the total furnace emissions that are measured by the CEMS at the exit of the selective catalytic reduction system. Therefore, the duct burner emissions are included in the total emissions from this furnace and are already accounted for by the 1.5 lb/ton of glass pulled emission factor.

Combined Post-Project Emissions from Units N-593-10, -12, and -13

*Daily Post-Project Emissions:*

Unit	NOx (lb/day)	PM <sub>10</sub> (lb/day)
N-593-10	1,668.0	158.1
N-593-12	1,000.0	90.8
N-593-13	1,360.0	129.2
Total	4,028.0	378.1
Aggregate Limit	<b>3,392.2</b>	<b>300.0</b>

*Annual Post-Project Emissions:*

<b>Unit</b>	<b>NOx (lb/year)</b>	<b>PM<sub>10</sub> (lb/year)</b>
N-593-10	219,000	57,706
N-593-12	130,853	33,140
N-593-13	186,150	47,160
Total	<b>563,003</b>	138,006
Aggregate Limit	1,213,080	<b>110,000</b>

As shown above, total post-project NOx emissions from the three furnaces are less than the current aggregate NOx limit. Therefore, the aggregate NOx limit for annual emissions will be removed from the permit.

**3. Pre-Project Stationary Source Potential to Emit (SSPE1)**

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

The data, in the table on the following page, was obtained from the application review for District Project N-1101340.

<b>Pre-Project Stationary Source Potential to Emit (lb/year)</b>					
<b>Permit Unit</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>
N-593-2-5	0	0	876	0	3,906
N-593-11-5					
N-593-37-0					
N-593-38-0					
N-593-39-0					
N-593-40-0					
N-593-41-0					
N-593-5-2	0	0	14,293	0	0
N-593-3-2	0	0	715	0	0
N-593-4-2	0	0	7	0	0
N-593-6-2	0	0	292	0	0
N-593-7-2	0	0	175	0	0
N-593-8-2	0	0	248	0	0
N-593-9-2	0	0	1	0	0
N-593-10-14	1,213,080 <sup>1</sup>	131,400	110,000 <sup>2</sup>	161,680	6,160
N-593-12-12		78,512		78,140	2,980
N-593-13-10		111,690		124,100	6,860
N-593-16-2	0	0	1	0	0
N-593-17-2	0	0	1	0	0
N-593-20-2	0	0	238	0	0
N-593-21-2	0	0	238	0	0
N-593-22-2	0	0	238	0	0
N-593-27-3	101	2	5	54	8
N-593-28-3	155	3	3	16	3
N-593-29-3	171	4	19	108	6
N-593-30-2	0	0	0	0	0
N-593-31-3	422	5	30	91	34
N-593-32-2	265	7	23	121	10
N-593-35-1	0	0	4,000	0	0
N-593-36-1	0	0	0	0	0
N-593-42-2	0	0	15	0	0
N-593-43-0	0	0	0	0	0
<b>SSPE1</b>	<b>1,214,194</b>	<b>321,623</b>	<b>131,418</b>	<b>364,310</b>	<b>19,967</b>

<sup>1</sup> Combined NO<sub>x</sub> emissions from the glass furnaces are limited to 1,214,194 lb-NO<sub>x</sub>/year.

<sup>2</sup> Combined PM<sub>10</sub> emissions from the glass furnaces are limited to 110,000 lb-NO<sub>x</sub>/year

#### 4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

<b>Post-Project Stationary Source Potential to Emit (lb/year)</b>						
<b>Permit Unit</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>	<b>NH<sub>3</sub></b>
N-593-2-5						0
N-593-11-5						0
N-593-37-0						0
N-593-38-0	0	0	876	0	3,906	0
N-593-39-0						0
N-593-40-0						0
N-593-41-0						0
N-593-5-2	0	0	14,293	0	0	0
N-593-3-2	0	0	715	0	0	0
N-593-4-2	0	0	7	0	0	0
N-593-6-2	0	0	292	0	0	0
N-593-7-2	0	0	175	0	0	0
N-593-8-2	0	0	248	0	0	0
N-593-9-2	0	0	1	0	0	0
<b>N-593-10-16</b>	<b>219,000</b>	<b>131,400</b>		<b>161,680</b>	<b>6,160</b>	<b>3,139</b>
<b>N-593-12-14</b>	<b>130,853</b>	<b>78,512</b>	<b>110,000<sup>3</sup></b>	<b>78,140</b>	<b>2,980</b>	<b>1,898</b>
<b>N-593-13-12</b>	<b>186,150</b>	<b>111,690</b>		<b>124,100</b>	<b>6,860</b>	<b>3,504</b>
N-593-16-2	0	0	1	0	0	0
N-593-17-2	0	0	1	0	0	0
N-593-20-2	0	0	238	0	0	0
N-593-21-2	0	0	238	0	0	0
N-593-22-2	0	0	238	0	0	0
N-593-27-3	101	2	5	54	8	0
N-593-28-3	155	3	3	16	3	0
N-593-29-3	171	4	19	108	6	0
N-593-30-2	0	0	0	0	0	0
N-593-31-3	422	5	30	91	34	0
N-593-32-2	265	7	23	121	10	0
N-593-35-1	0	0	4,000	0	0	0
N-593-36-1	0	0	0	0	0	0
N-593-42-2	0	0	15	0	0	0
N-593-43-0	0	0	0	0	0	0
<b>SSPE2</b>	<b>537,117</b>	<b>321,623</b>	<b>131,418</b>	<b>364,310</b>	<b>19,967</b>	<b>8,541</b>

<sup>3</sup> Combined PM10 emissions from the glass furnaces are limited to 110,000 lb-NOx/year

## 5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

<b>Major Source Thresholds</b>			
<b>Pollutant</b>	<b>SSPE2 lb/year</b>	<b>Major Source Thresholds lb/year</b>	<b>Major Source?</b>
NOx	537,117	50,000	Yes
SOx	321,623	140,000	Yes
PM <sub>10</sub>	131,418	140,000	No
CO	346,310	200,000	Yes
VOC	19,967	50,000	No

Additionally, a major source of PM<sub>2.5</sub> is defined as one with the potential to emit 100 tons/yr (200,000 lb/yr) or more of PM<sub>2.5</sub>. Since PM<sub>2.5</sub> is a subset of PM<sub>10</sub>, it is evident that SSPE2 for PM<sub>2.5</sub> emissions is less than or equal to 100 tons/yr; thus, this facility is not a major source for PM<sub>2.5</sub>.

## 6. Baseline Emissions (BE)

Baseline emission calculations (in lbs/year) are performed, on a pollutant-by-pollutant for each emission unit, to determine the quantity of offsets required. Pursuant to District Rule 4.6.8, for existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders is exempt from offset requirements if certain criteria is met. As is demonstrated later in this evaluation, this proposal meets the criteria for the offset exemption and baseline emission calculations are not necessary.

## 7. SB288 Modification

Major Modification is defined in 40 CFR Part 51.165 (in effect 12/19/02) as "*any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.*"

This facility is a Major Source for NOx, SOx, and CO emissions. The District is in attainment for CO; therefore, an SB288 modification cannot be triggered for CO.

SB288 calculations are required for NOx and SOx, to determine whether this project will trigger an SB288 Modification. A project triggers an SB288 Modification if the net emissions increase (NEI) exceeds the thresholds in District Rule 2201. For NOx and SOx, the respective thresholds are 50,000 lb/year and 80,000 lb/year.

For existing units, NEI is equal to PE2 – BAE

BAE = Baseline average emissions over a representative 2-years of operation.

NOx:

The following emissions data was taken from the emissions inventory data sheets.

<b>Glass Furnace</b>	<b>2010 NOx (lb/year)</b>	<b>2011 NOx (lb/year)</b>	<b>BAE NOx (lb/year)</b>
N-593-10	144,080	296,040	220,060
N-593-12	271,200	157,760	214,480
N-593-13	240,580	224,380	232,480
		<b>Total</b>	<b>667,020</b>

$$\text{PE2} = 219,000 \text{ lb-NOx/year} + 130,853 \text{ lb-NOx/year} + 186,150 \text{ lb-NOx/year}$$
$$\text{PE2} = 536,003 \text{ lb-NOx/year}$$

$$\text{NEI} = \text{PE2} - \text{BAE} = 536,003 \text{ lb-NOx/year} - 667,020 \text{ lb-NOx/year}$$
$$\text{NEI} < 0 < 50,000 \text{ lb-NOx/year SB288 Threshold}$$

Thus, an SB288 Modification is not triggered for NOx emissions.

SOx:

The following emissions data was taken from the emissions inventory data sheets.

<b>Glass Furnace</b>	<b>2010 SOx (lb/year)</b>	<b>2011 SOx (lb/year)</b>	<b>BAE SOx (lb/year)</b>
N-593-10	80,880	99,540	90,210
N-593-12	152,520	55,120	103,820
N-593-13	135,060	70,700	102,880
		<b>Total</b>	<b>296,910</b>

$$\text{PE2} = 131,400 \text{ lb-SOx/year} + 78,512 \text{ lb-SOx/year} + 111,690 \text{ lb-SOx/year}$$
$$\text{PE2} = 321,602 \text{ lb-SOx/year}$$

$$\text{NEI} = \text{PE2} - \text{BAE} = 321,602 \text{ lb-SOx/year} - 296,910 \text{ lb-SOx/year}$$
$$\text{NEI} = 24,692 \text{ lb-SOx} < 80,000 \text{ lb-SOx/year SB288 Threshold}$$

Thus, an SB288 Modification is not triggered for SOx emissions.

## 8. Federal Major Modification

District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA. Pursuant to the District's draft Major Modification policy, Case 3:

*"Modifications to existing emission units solely for District, State, or Federal Rule compliance, where there are no changes in capacity of the unit, the default assumption is that the modification will not allow the emission unit to operate at a higher utilization rate. For such projects the emission increase is presumed to be 0 for all pollutants."*

This proposed project is for compliance with District Rule 4354 and will not result in a higher utilization rate of the glass furnaces. Pursuant to the District's draft Major Modification Policy, the net emission increase is presumed to be 0 for all pollutants for cases where there is no increase in utilization along with no increases in criteria pollutant emissions. Thus, the project does not trigger a Federal Major Modification.

## 9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix V.

## VIII. Compliance

### Rule 1080 Stack Monitoring

This Rule grants the APCO the authority to request the installation and use of continuous emissions monitors (CEMs), and specifies performance standards for the equipment and administrative requirements for recordkeeping, reporting, and notification.

The furnace will continue to be equipped with an operational CEMs for NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub>, and opacity. Compliance with the requirements of this Rule is anticipated.

### N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces

The following conditions will be included on each of the Authority to Construct permits:

- *The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack gas NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354]*

- *The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101]*
- *The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]*
- *Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080]*
- *{2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080]*
- *Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute sampling periods in accordance with all applicable requirements of CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13]*
- *Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, any periods during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080]*
- *Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080]*
- *The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within  $\pm 30$  days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080]*
- *Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080]*

- *Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080]*
- *The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown the CEMS at least 24 hours prior to the event. [District Rule 1080]*
- *Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; corrective actions taken and preventive measures adopted; applicable time and date of each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been operative, repaired, or adjusted. [District Rule 1080]*

### **Rule 1081 Source Sampling**

This rule requires adequate and safe facilities for use in sampling to determine compliance with emission limits, and specifies methods and procedures for source testing and sample collection. Compliance with this Rule is expected.

#### N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces

The following conditions will be included on each of the Authority to Construct permits:

- *All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081]*
- *The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resource Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081]*
- *Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the test methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

- *Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081]*

## **Rule 2201 New and Modified Stationary Source Review Rule**

### **A. Best Available Control Technology (BACT)**

Per District Rule 2201 Section 4.2.3, for existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State, or Federal air pollution control laws, regulations, or orders, as approved by the APCO, are exempt from BACT requirements provided all of the following criteria are met:

1. There must be no increase in the physical or operation design of the existing facility, except for the changes to the design needed for the installation and modification of the emission control technique itself;

The applicant's proposal does not change the physical or operation design of the existing facility, with the exception of the changes necessary to install the new NOx emission control devices.

2. There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;

This proposal does not increase any permitted rating or permitted operating schedules.

3. There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas;

This project will not result in an increase in emissions of any pollutants that are subject to a National Ambient Air Quality Standard. Therefore, it cannot cause or contribute to a violation of any of the items listed above.

4. The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NOx, or 25 tons per year of VOC, or 15 tons per year of SOx, or 15 tons per year of PM<sub>10</sub>, or 50 tons/year of CO.

This project does not result in an increase in permitted emissions of any of the listed pollutants.

5. The project shall not constitute a Federal Major Modification.

As demonstrated earlier in this evaluation, this project does not trigger a Federal Major Modification.

As demonstrated above, this project qualifies for the BACT exemption that is outlined in District Rule 2201 Section 4.2.3; therefore, BACT requirements are not applicable.

## **B. Offsets**

Per District Rule 2201 Section 4.6.8, for existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State, or Federal air pollution control laws, regulations, or orders, as approved by the APCO, are exempt from offset requirements provided all of the following criteria are met:

1. There must be no increase in the physical or operation design of the existing facility, except for the changes to the design needed for the installation and modification of the emission control technique itself;

The applicant's proposal does not change the physical or operation design of the existing facility, with the exception of the changes necessary to install the new NO<sub>x</sub> emission controls.

2. There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;

This proposal does not increase any permitted rating or permitted operating schedules.

3. There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas;

This project will not result in an increase in emissions of any pollutants that are subject to a National Ambient Air Quality Standard. Therefore, it cannot cause or contribute to a violation of any of the items listed above.

4. The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM<sub>10</sub>, or 50 tons/year of CO.

This project does not result in an increase in permitted emissions of any of the listed pollutants.

As demonstrated above, this project qualifies for the offset exemption that is outlined in District Rule 2201 Section 4.6.8; therefore, offsets are not required.

## C. Public Notification

### 1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSPE of greater than 20,000 lb/year for any pollutant.

#### a. New Major Source

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

#### b. Major Modification

As demonstrated in VII.C.7, this project is not an SB288 or Federal Major Modification; therefore, public noticing for Major Modification purposes is not required.

#### c. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units proposed in this project. Therefore, public noticing is not required for this purpose.

#### d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Offset Threshold Surpassed?
NO <sub>x</sub>	1,214,194	537,117	20,000 lb/year	No
SO <sub>x</sub>	321,623	321,623	54,750 lb/year	No
PM <sub>10</sub>	131,418	131,418	29,200 lb/year	No
CO	364,310	346,310	200,000 lb/year	No
VOC	19,967	19,967	20,000 lb/year	No

Facility emissions are either decreasing or remaining the same. Thus, an offset threshold will not be surpassed.

**e. SSIPE > 20,000 lb/year**

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e.  $SSIPE = SSPE2 - SSPE1$ . The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

<b>Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice</b>					
<b>Pollutant</b>	<b>SSPE2 (lb/year)</b>	<b>SSPE1 (lb/year)</b>	<b>SSIPE (lb/year)</b>	<b>SSIPE Public Notice Threshold</b>	<b>Public Notice Required?</b>
NO <sub>x</sub>	537,117	1,214,194	< 0	20,000 lb/year	No
SO <sub>x</sub>	321,623	321,623	0	20,000 lb/year	No
PM <sub>10</sub>	131,418	131,418	0	20,000 lb/year	No
CO	346,310	364,310	0	20,000 lb/year	No
VOC	19,967	19,967	0	20,000 lb/year	No
NH <sub>3</sub>	8,541	0	8,541	20,000 lb/year	No

As demonstrated in the table above, a public notice is not required for SSIPE greater than 20,000 lb/year.

**2. Public Notice Action**

As discussed above, public notice will not be required for this project.

**D. Daily Emission Limits (DELs)**

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.16.1 and 3.16.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

**N-593-10-16: Furnace C and Electrostatic Precipitator Handling System**

The following conditions will be included on the Authority to Construct permit for this furnace.

- *The glass pull rate shall not exceed 417 tons during any one day. [District Rules 2201 and 4354]*
- *The glass pull rate shall not exceed 146,000 tons during any rolling 12-month period. [District NSR Rule]*

- *The weight percent of cullet per batch shall not be less than 17.5%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule]*
- *NOx emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 69.50 lb-NOx/hr<sup>4</sup> and 4.0 lb-NOx/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354]*
- *NOx emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 26.06 lb-NOx/hr<sup>5</sup> and 1.5 lb-NOx/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354]*
- *SOx emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 15.64 lb-SOx/hr and 0.9 lb-SOx/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354]*
- *CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354]*
- *VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354]*
- *PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 6.59 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354]*
- *Particulate matter emissions shall not exceed 17.5 lb/hr. [40 CFR 52.233(g)]*
- *Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NOx/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)]*

<sup>4</sup> The hourly NOx emission rate, based on a 24-hour block average, for this furnace is calculated using the daily emissions rate of 1,668.0 lb/day and assuming 24 hours/day operation of the furnace.

Hourly NOx = 1668.0 lb-NOx/day ÷ 24 hr/day = 69.50 lb-NOx/hr (block 24-hour average)

<sup>5</sup> This unit is limited to 417 tons of glass pulled per day. At 1.5 lb-NOx/ton, the daily NOx emission rate would be 625.5 lb-NOx/day (based on a 30-day rolling average). Thus,

Hourly NOx = 625.5 lb/day ÷ 24 hr/day = 26.06 lb-NOx/hr (30-day rolling average)

- *Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM10/year. [District NSR Rule]<sup>6</sup>*
- *Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354]*
- *The throughput for each electrostatic precipitator dust silo shall not exceed 1.81 tons in any one day [District Rule 2201]*
- *PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201]*

#### N-593-12-14: Furnace A and Electrostatic Precipitator Handling System

The following conditions will be included on the Authority to Construct permit for this furnace.

- *The glass pull rate shall not exceed 250 tons during any one day. [District Rules 2201 and 4354]*
- *The glass pull rate shall not exceed 87,235 tons during any rolling 12-month period. [District NSR Rule]*
- *The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule]*
- *NOx emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 41.67 lb-NOx/hr<sup>7</sup> and 4.0 lb-NOx/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354]*

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<sup>6</sup> Note, the current permit limits the combined annual NOx emissions for these permits; however, the post-project potential to emit for the three furnaces is less than the current combined limit. Thus, the combined annual NOx emission limit has been removed from the permit.

<sup>7</sup> The hourly NOx emission rate, based on a 24-hour block average, for this furnace is calculated using the daily emissions rate of 1,000.0 lb/day and assuming 24 hours/day operation of the furnace.

$$\text{Hourly NOx} = 1,000.0 \text{ lb-NOx/day} \div 24 \text{ hr/day} = 41.67 \text{ lb-NOx/hr (24-hour block average)}$$

- *NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 15.63 lb-NO<sub>x</sub>/hr<sup>8</sup> and 1.5 lb-NO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354]*
- *SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 9.38 lb-SO<sub>x</sub>/hr and 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354]*
- *CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354]*
- *VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354]*
- *PM<sub>10</sub> emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 3.78 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354]*
- *Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)]*
- *Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM<sub>10</sub>/year. [District NSR Rule]<sup>9</sup>*

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<sup>8</sup> This unit is limited to 250 tons of glass pulled per day. At 1.5 lb-NO<sub>x</sub>/ton, the daily NO<sub>x</sub> emission rate would be 375.0 lb-NO<sub>x</sub>/day (based on a 30-day rolling average). Thus,

$$\text{Hourly NO}_x = 375.0 \text{ lb/day} \div 24 \text{ hr/day} = 15.63 \text{ lb-NO}_x/\text{hr (30-day rolling average)}$$

<sup>9</sup> Note, the current permit limits the combined annual NO<sub>x</sub> emissions for these permits; however, the post-project potential to emit for the three furnaces is less than the current combined limit. Thus, the combined annual NO<sub>x</sub> emission limit has been removed from the permit.

- *Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354]*
- *The throughput for each electrostatic precipitator dust silo shall not exceed 1.23 tons in any one day [District Rule 2201]*
- *PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201]*

#### N-593-13-12: Furnace B and Electrostatic Precipitator Handling System

The following conditions will be included on the Authority to Construct permit for this furnace.

- *The glass pull rate shall not exceed 340 tons during any one day. [District Rules 2201 and 4354]*
- *The glass pull rate shall not exceed 124,100 tons during any rolling 12-month period. [District NSR Rule]*
- *The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule]*
- *NOx emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 56.67 lb-NOx/hr<sup>10</sup> and 4.0 lb-NOx/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354]*
- *NOx emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 21.25 lb-NOx/hr<sup>11</sup> and 1.5 lb-NOx/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354]*

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<sup>10</sup> The hourly NOx emission rate for this furnace is calculated using the daily emissions rate of 1,360.0 lb/day and assuming 24 hours/day operation of the furnace.

$$\text{Hourly NOx} = 1,360.0 \text{ lb-NOx/day} \div 24 \text{ hr/day} = 56.67 \text{ lb-NOx/hr}$$

<sup>11</sup> This unit is limited to 340 tons of glass pulled per day. At 1.5 lb-NOx/ton, the daily NOx emission rate would be 510.0 lb-NOx/day (based on a 30-day rolling average). Thus,

$$\text{Hourly NOx} = 510.0 \text{ lb/day} \div 24 \text{ hr/day} = 21.25 \text{ lb-NOx/hr (30-day rolling average)}$$

- *SOx emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 12.75 lb-SOx/hr and 0.9 lb-SOx/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354]*
- *CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O2 or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354]*
- *VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O2 or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354]*
- *PM10 emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 5.38 lb-PM10/hr and 0.5 lb-PM10/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354]*
- *Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NOx/day, 300.0 lb-PM10/day, and 105.0 lb-filterable PM10/day. [District NSR Rule and 40 CFR 52.233(g)]*
- *Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM10/year. [District NSR Rule]<sup>12</sup>*
- *Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354]*
- *The throughput for each electrostatic precipitator dust silo shall not exceed 1.64 tons in any one day [District Rule 2201]*
- *PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201]*

<sup>12</sup> Note, the current permit limits the combined annual NOx emissions for these permits; however, the post-project potential to emit for the three furnaces is less than the current combined limit. Thus, the combined annual NOx emission limit has been removed from the permit.

## **E. Compliance Assurance**

### **1. Source Testing**

#### **N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces**

Source testing is required annually for NO<sub>x</sub>, SO<sub>x</sub>, CO, PM<sub>10</sub>, and VOC emissions for the glass furnaces. The following condition will be included on each Authority to Construct permit:

- *Performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM10 (lb/ton of glass pulled and lb/hr), SO<sub>x</sub> (lb/ton of glass pulled and lb/hr), and NO<sub>x</sub> (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 1070, Rule 4354, 6.4, and 40 CFR 52.233(g)]*

This proposal will lower the NO<sub>x</sub> limit. Additionally, the addition of ammonia could affect PM10 emissions. Thus, initial testing for NO<sub>x</sub>, and PM10 emissions from the glass furnaces will be required within 60 days of startup, to verify that the individual furnaces are meeting these emission limits. The following condition will be included on each Authority to Construct permit:

- *Initial performance testing shall be conducted for PM10 (lb/ton of glass pulled and lb/hr) and NO<sub>x</sub> (lb/ton of glass pulled) emissions within 90 days of startup. [District Rule 2201]*

#### **N-593-10-16, '-12-14, and '-13-12: Electrostatic Precipitator Dust Handling Systems**

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201 for units served by a baghouse with emissions less than 30 pounds of PM10 per day. The daily emission rate for each of the electrostatic precipitator dust storage silos are each less than 30 pounds of PM10 per day; therefore, performance testing is not required.

### **2. Monitoring**

#### **N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces**

Each glass furnace will be equipped with a CEMS for NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions. Further information on the requirements for the CEMS is included in the District Rule 1080 and District Rule 4354 section of this document.

In addition to the NO<sub>x</sub>, CO, and SO<sub>x</sub>, District Rule 4354 requires monitoring of VOC and PM<sub>10</sub> emissions. The applicant has chosen to monitor these pollutants using a parametric monitoring system. The VOC and PM<sub>10</sub> parametric monitoring systems are discussed further in the Rule 4354 section of this document.

#### N-593-10-16, '-12-14, and '-13-12: Electrostatic Precipitator Dust Handling Systems

Each of the electrostatic precipitator dust silos is equipped with a bin vent filter and a differential operating pressure gauge. The following monitoring requirements will be included on each Authority to Construct permit:

- *Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rule 2201]*
- *The differential pressure gauge reading range shall be established per manufacturer's recommendation at the time of the startup inspection. [District Rule 2201]*
- *Differential operating pressure shall be monitored and recorded on each day that the unit operates. [District Rule 2201]*

### **3. Recordkeeping**

#### N-593-10-16, '-12-14, and '-13-12: All Three Glass Furnaces

*The following recordkeeping requirements will be placed on each permit:*

- *The permittee shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070]*
- *The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NO<sub>x</sub> emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SO<sub>x</sub> emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354]*
- *Permittee shall keep a record of the rolling 12-month quantity of glass pulled. This record shall be updated on a monthly basis. [District Rule 2201]*

- *Permittee shall keep a record of the combined daily NOx emissions (based on CEMs data), the combined daily PM10 emissions (based on annual source test results and daily production data), and the combined daily filterable PM10 emissions (based on annual source test results and daily production data), each in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-B). [District Rule 2201]*
- *Permittee shall keep a record of the combined rolling 12-month PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B). This record shall be updated on a monthly basis. [District Rule 2201]*

#### N-593-10-16, '-12-14, and '-13-12: Electrostatic Precipitator Dust Handling Systems

The electrostatic precipitator dust silos are an enclosed system and daily recordkeeping of the dust throughput is not feasible. Therefore, only the following requirement will be included on each permit:

- *{3464} Records of all maintenance of the baghouse, including all change outs of filter media, shall be maintained. [District Rule 2201]*

#### **4. Reporting**

Reporting requirements for these units are listed in the discussions for District Rules 1080 and 4354. Further reporting requirements for District Rule 2201 are not required.

#### **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed earlier, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application.

#### **Rule 4001 New Source Performance Standards (NSPS)**

40 CFR Part 60 Subpart CC, "Standards of Performance for Glass Manufacturing Plants" applies to each glass furnace that commences construction or modification after June 15, 1979.

Each glass furnace was constructed prior to June 15, 1979. A modification is defined as any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of Section 111 of the Act. Additionally, the Code of Federal regulation states that the emission rate shall be expressed in terms of kg/hr. This proposal does not result in an increase in the kg/hr emission rate for any of the pollutants to which a standard applies. Additionally, it was determined in the most recent previous ATC project for the furnaces, project N-1030430, that a modification has not occurred since June 15, 1979.

Since these furnaces were constructed prior to June 15, 1979 and a modification has not occurred since that time, the requirements of 40 CFR 60 Subpart CC are not applicable. The current permits for the glass furnaces contain a permit shield from the requirements of Subpart CC and this permit shield will remain on the new ATC's.

#### **Rule 4002 National Emission Standards for Hazardous Air Pollutants**

##### **40 CFR Part 61 Subpart N, National Emission Standard for Inorganic Arsenic Emissions from Glass Manufacturing Plants**

This subpart is applicable to glass melting furnaces that use commercial arsenic as a raw material. Each furnace is currently prohibited from using arsenic as a raw material by a permit condition and this permit condition will remain on each glass furnace permit; therefore, Subpart N requirements will not be applicable to these furnaces.

##### **40 CFR Part 63 Subpart SSSSSS, National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources**

This subpart is applicable to glass furnaces that manufacture container glass containing metal HAP as raw materials. Compliance with this subpart was required by December 28, 2009. Currently, only furnace 22A (N-593-12) manufactures glass containing metal HAP.

All three furnaces are subject to the requirements of Subpart SSSSSS. Each furnace is considered an existing source, since each furnace has not been constructed or reconstructed since September 20, 2007.

§63.11451 states that the owner or operator of a new or existing glass furnace must meet the applicable emission limit listed in Table 1 of this subpart.

<b>Table 1 of Subpart SSSSSS</b>	
<b>For each...</b>	<b>You must meet one of the following emission limits...</b>
1. New or existing glass melting furnace that produces glass at an annual rate of at least 45 Mg/year (50 tpy) and is charged with compounds of arsenic, cadmium, chromium, manganese, lead, or nickel as raw materials	a. The 3-hour block average production-based PM mass emission rate must not exceed 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of glass produced; OR b. The 3-hour block average production-based metal HAP mass emission rate must not exceed 0.01 g/kg (0.02 lb/ton) of glass produced.

The three furnaces are charged with chromium and produces glass at a rate greater than 50 tpy. The facility performed initial source testing that demonstrates that the metal HAP emission rates are in compliance with the 0.02 lb/ton of glass produced metal HAP limit (option b above).

The following condition will be included on each Authority to Construct permit:

- *The 3-hour block average production-based metal HAP mass emission rate shall not exceed 0.02 lb/ton of glass produced, except during periods of startup, shutdown, or malfunction. Compliance with this requirements shall be verified by keeping product data records. [40 CFR 63.11451 and 40 CFR 63.11455(a)]*

§63.11452 states that the owner or operator of a furnace that is subject to the Subpart SSSSSS emission limits must conduct a performance test within 180 days of the compliance date and report the results of that test in the notification of compliance status sent to the administrator. The facility has performed the test and submitted the notification. Thus, this requirement has already been satisfied.

§63.11453 and §63.11454 list the initial compliance demonstration and monitoring requirements for new and existing glass furnaces. The facility has already submitted the Notification of Compliance Status that was required by §63.11453. §63.11453(d) requires the use of monitoring equipment on the electrostatic precipitator if an electrostatic precipitator is required to demonstrate compliance. The metal HAP tests were conducted at a location prior to the exhaust treatment by an electrostatic precipitator. Thus, the electrostatic precipitator is not required to meet the metal HAP limit and monitoring requirement of Subpart SSSSSS are not applicable.

§63.11455 lists continuous compliance requirements for new and existing glass furnaces that are subject to this subpart. This section states that the unit must be in compliance with the emission limit of this Subpart, except during periods of startup, shutdown, and malfunction. This provision has been included in the condition limiting the metal HAP emissions. No further requirements of this section are applicable.

§63.11456 lists the notification requirements. The facility has already submitted their notification. Thus, these requirements have already been satisfied.

§63.11457 lists the recordkeeping requirements.

§63.11457(a)(1) states that the facility must keep a copy of the Initial Notification and Notification of Compliance Status. The following condition will be included on each Authority to Construct permit:

- *Permittee shall keep a copy of the Initial Notification and Notification of Compliance Status for 40 CFR 63 Subpart SSSSSS. [40 CFR 63.11457(a)(1)]*

§63.11457(a)(4) requires the facility to keep records of the production rate on a process throughput basis. The production data must include the amount (weight or weight percent) of each ingredient in the batch formulation, including all glass manufacturing metal HAP compounds. The following condition will be included on each Authority to Construct permit:

- *Permittee shall keep records of the product data. The product data shall include the amount (weight or weight percent) of each ingredient in the batch formation, including all glass manufacturing metal HAP compounds. [40 CFR 63.11457(a)(4)]*

Compliance with Subpart SSSSSS requirements is expected.

#### **Rule 4101 Visible Emissions**

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.

The following condition will be listed on each Authority to Construct permit

- *No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and San Joaquin County Rule 401]*

In addition, District Policy SSP 1005 limits visible emissions from processes served by a baghouse or fabric filter to 5% opacity. The following condition will be placed on each Authority to Construct permit:

- *Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201]*

### **Rule 4102 Nuisance**

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

The following condition will be included on each Authority to Construct permit:

- *No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]*

### **California Health & Safety Code 41700 (Health Risk Assessment)**

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

The following table outlines the results from the Health Risk Assessment:

<b>RMR Summary (For Full Results See Appendix IV)</b>		
<b>Categories</b>	<b>Add SCR to Glass Furnaces (Units 10-16, 12-14, and 13-12)</b>	<b>Facility Totals</b>
Prioritization Score	0.01*	0.62
Acute Hazard Index	N/A	N/A
Chronic Hazard Index	N/A	N/A
Maximum individual Cancer Risk ( $10^{-6}$ )	N/A	N/A
T-BACT Required?	No	
Special Permit Conditions?	No	

\* The project passed on prioritization with a score of less than 1; therefore, no further analysis was required.

### **Rule 4201 Particulate Matter Concentration**

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. As shown in the calculations below, compliance is expected for all of the source operations associated with this project.

#### **N-593-10-16: Furnace C**

Hourly PM emission rate: 6.59 lb-PM/hr (Assuming all PM emitted is PM<sub>10</sub>)

Glass Furnace Exhaust Flow Rate: 42,030 CFM (Per Manufacturer)

$$\text{GrainLoading} = \frac{6.59 \frac{\text{lb-PM}}{\text{hr}} \times 7000 \frac{\text{grains}}{\text{lb}}}{42,030 \text{CFM} \times 60 \frac{\text{min}}{\text{hr}}}$$

Grain Loading = 0.018 grains/dscf

#### N-593-10-16: Electrostatic Precipitator Dust Handling System

The following analysis applies to each of the ESP dust silos served by bin vent filters and assumes that all particulate matter emitted is PM<sub>10</sub>.

Daily PM emission rate = 0.0006 lb-PM/day

The airflow rate for this operation is not known. The minimum airflow rate will be calculated by determining the volume of air displaced by the material loaded into the silo. 1.81 tons of material are loaded into the silo per day. Much of this material is trona/dry reagent that was injected into the SOx scrubber and captured by the electrostatic precipitator. Pursuant to the MSDS sheet for the trona, trona has a density of 49 lb/cubic feet. The minimum airflow rate is then:

Minimum Airflow Rate = Volume of Material Loaded into Silo  
Volume of Material Loaded into Silo = 1.81 tons/day x 1 ft<sup>3</sup>/49 lb x 2000 lb/ton  
Minimum Airflow Rate = 73.9 SCF/day

$$\text{GrainLoading} = \frac{0.0006 \frac{\text{lb-PM}}{\text{day}} \times 7000 \frac{\text{grains}}{\text{lb}}}{73.9 \frac{\text{SCF}}{\text{Day}}}$$

Grain Loading = 0.06 grains/dscf

#### N-593-12-14: Furnace A

Hourly PM emission rate: 3.78 lb-PM/hr (Assuming all PM emitted is PM<sub>10</sub>)  
Glass Furnace Exhaust Flow Rate: 24,480 CFM (Per Manufacturer)

$$\text{GrainLoading} = \frac{3.78 \frac{\text{lb-PM}}{\text{hr}} \times 7000 \frac{\text{grains}}{\text{lb}}}{24,480 \text{CFM} \times 60 \frac{\text{min}}{\text{hr}}}$$

Grain Loading = 0.018 grains/dscf

N-593-12-14: Electrostatic Precipitator Dust Handling System

The following analysis applies to each of the two ESP dust silos served by bin vent filters and assumes that all particulate matter emitted is PM<sub>10</sub>.

Daily PM emission rate = 0.0004 lb-PM/day

The airflow rate for this operation is not known. The minimum airflow rate will be calculated by determining the volume of air displaced by the material loaded into the silo. 1.23 tons of material are loaded into the silo per day. Much of this material is trona/dry reagent that was injected into the SO<sub>x</sub> scrubber and captured by the electrostatic precipitator. Pursuant to the MSDS sheet for the trona, trona has a density of 49 lb/cubic feet. The minimum airflow rate is then:

Minimum Airflow Rate = Volume of Material Loaded into Silo  
Volume of Material Loaded into Silo = 1.23 tons/day x 1 ft<sup>3</sup>/49 lb x 2000 lb/ton  
Minimum Airflow Rate = 50.2 SCF/day

$$\text{GrainLoading} = \frac{0.0004 \frac{\text{lb-PM}}{\text{day}} \times 7000 \frac{\text{grains}}{\text{lb}}}{50.2 \frac{\text{SCF}}{\text{Day}}}$$

Grain Loading = 0.06 grains/dscf

N-593-13-12: Furnace B

Hourly PM emission rate: 3.78 lb-PM/hr (Assuming all PM emitted is PM<sub>10</sub>)

Glass Furnace Exhaust Flow Rate: 24,480 CFM (Per Manufacturer)

$$\text{GrainLoading} = \frac{3.78 \frac{\text{lb-PM}}{\text{hr}} \times 7000 \frac{\text{grains}}{\text{lb}}}{24,480 \text{CFM} \times 60 \frac{\text{min}}{\text{hr}}}$$

Grain Loading = 0.014 grains/dscf

N-593-13-12: Electrostatic Precipitator Dust Handling System

The following analysis applies to each of the two ESP dust silos served by bin vent filters and assumes that all particulate matter emitted is PM<sub>10</sub>.

Daily PM emission rate = 0.0006 lb-PM/day

The airflow rate for this operation is not known. The minimum airflow rate will be calculated by determining the volume of air displaced by the material loaded into the silo. 1.64 tons of material are loaded into the silo per day. Much of this material is trona/dry reagent that was injected into the SOx scrubber and captured by the electrostatic precipitator. Pursuant to the MSDS sheet for the trona, trona has a density of 49 lb/cubic feet. The minimum airflow rate is then:

Minimum Airflow Rate = Volume of Material Loaded into Silo  
Volume of Material Loaded into Silo = 1.64 tons/day x 1 ft<sup>3</sup>/49 lb x 2000 lb/ton  
Minimum Airflow Rate = 66.9 SCF/day

$$\text{GrainLoading} = \frac{0.0006 \frac{\text{lb-PM}}{\text{day}} \times 7000 \frac{\text{grains}}{\text{lb}}}{66.9 \frac{\text{SCF}}{\text{Day}}}$$

Grain Loading = 0.06 grains/dscf

#### **Rule 4202 Particulate Matter Emission Rate**

Per Section 4.1, particulate matter emissions from any source operation shall not exceed the allowable hourly emission rate (E) as calculated using the following formulas:

$$E (\text{lb/hr}) = 3.59 P^{0.62} \text{ for process rates } \leq 30 \text{ tons/hr, and}$$
$$E (\text{lb/hr}) = 17.31 P^{0.16} \text{ for process rates } > 30 \text{ tons/hr}$$

Where,

P = process weight in tons/hr

#### N-593-10-16: Furnace C

Hourly PM emission rate: 6.57 lb-PM/hr (Assuming all PM emitted is PM<sub>10</sub>)

Daily Throughput: 416 tons/day

Hourly Throughput = 416 tons/day ÷ 24 hr/day = 17.3 tons/hr

$$E(\text{lb/hr}) = 3.59 \times (17.3 \text{ tons/hr})^{0.62}$$

$$E(\text{lb/hr}) = 21.02 \text{ lb-PM/hr}$$

Since the actual hourly PM emission rate of 6.57 lb-PM/hr is less than the allowable PM emission rate of 21.02 lb-PM/hr, compliance with District Rule 4202 is expected.

#### N-593-10-16: Electrostatic Precipitator Dust Handling System

Daily PM emission rate: 0.0006 lb-PM/day (Assuming all PM emitted is PM<sub>10</sub>)

Hourly PM emission rate = 0.0006 lb-PM/day ÷ 24 hr/day = 0.000025 lb-PM/hr

Daily Throughput: 1.81 tons/day

Hourly Throughput = 1.81 tons/day ÷ 24 hr/day = 0.075 tons/hr

$$E(\text{lb/hr}) = 3.59 \times (0.075 \text{ tons/hr})^{0.62}$$
$$E(\text{lb/hr}) = 0.72 \text{ lb-PM/hr}$$

Since the actual hourly PM emission rate of 0.000025 lb-PM/hr is less than the allowable PM emission rate of 0.72 lb-PM/hr, compliance with District Rule 4202 is expected.

#### N-593-12-14: Furnace B

Hourly PM emission rate: 3.78 lb-PM/hr (Assuming all PM emitted is PM<sub>10</sub>)  
Daily Throughput: 239 tons/day  
Hourly Throughput = 239 tons/day ÷ 24 hr/day = 10.0 tons/hr

$$E(\text{lb/hr}) = 3.59 \times (10.0 \text{ tons/hr})^{0.62}$$
$$E(\text{lb/hr}) = 14.97 \text{ lb-PM/hr}$$

Since the actual hourly PM emission rate of 3.78 lb-PM/hr is less than the allowable PM emission rate of 14.97 lb-PM/hr, compliance with District Rule 4202 is expected.

#### N-593-12-14: Electrostatic Precipitator Dust Handling System

Daily PM emission rate: 0.0004 lb-PM/day (Assuming all PM emitted is PM<sub>10</sub>)  
Hourly PM emission rate = 0.0004 lb-PM/day ÷ 24 hr/day = 0.000017 lb-PM/hr  
Daily Throughput: 1.23 tons/day  
Hourly Throughput = 1.23 tons/day ÷ 24 hr/day = 0.05 tons/hr

$$E(\text{lb/hr}) = 3.59 \times (0.05 \text{ tons/hr})^{0.62}$$
$$E(\text{lb/hr}) = 0.56 \text{ lb-PM/hr}$$

Since the actual hourly PM emission rate of 0.000017 lb-PM/hr is less than the allowable PM emission rate of 0.56 lb-PM/hr, compliance with District Rule 4202 is expected.

#### N-593-13-12: Furnace C

Hourly PM emission rate: 5.38 lb-PM/hr (Assuming all PM emitted is PM<sub>10</sub>)  
Daily Throughput: 340 tons/day  
Hourly Throughput = 340 tons/day ÷ 24 hr/day = 14.2 tons/hr

$$E(\text{lb/hr}) = 3.59 \times (14.2 \text{ tons/hr})^{0.62}$$
$$E(\text{lb/hr}) = 18.60 \text{ lb-PM/hr}$$

Since the actual hourly PM emission rate of 5.38 lb-PM/hr is less than the allowable PM emission rate of 18.60 lb-PM/hr, compliance with District Rule 4202 is expected.

#### N-593-13-12: Electrostatic Precipitator Dust Handling System

Daily PM emission rate: 0.0006 lb-PM/day (Assuming all PM emitted is PM<sub>10</sub>)  
Hourly PM emission rate = 0.0006 lb-PM/day ÷ 24 hr/day = 0.000025 lb-PM/hr  
Daily Throughput: 1.64 tons/day  
Hourly Throughput = 1.64 tons/day ÷ 24 hr/day = 0.068 tons/hr

$$E(\text{lb/hr}) = 3.59 \times (0.068 \text{ tons/hr})^{0.62}$$
$$E(\text{lb/hr}) = 0.68 \text{ lb-PM/hr}$$

Since the actual hourly PM emission rate of 0.000025 lb-PM/hr is less than the allowable PM emission rate of 0.68 lb-PM/hr, compliance with District Rule 4202 is expected.

### **Rule 4301 Fuel Burning Equipment**

This rule applies to fuel burning equipment, which is defined as any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. The glass melting furnaces are direct-fired units and do not produce heat or power by indirect heat transfer. Therefore, the requirements of District Rule 4301 are not applicable to the glass melting furnaces.

### **District Rule 4354 Glass Melting Furnaces**

This rule is applicable to any glass melting furnace. Each of the three glass melting furnaces in this project are therefore subject to District Rule 4354 requirements.

#### Section 5.1: NOx Emission Limits

Section 5.1.1 of this rule lists Tier 2 and Tier 3 NOx emission requirements for container glass manufacturing operations. Pursuant to Section 7.1 of this rule, each of the glass furnaces must be in full compliance with the Tier 3 NOx emissions limit of 1.5 lb-NOx/ton of glass pulled by January 1, 2014. The Tier 2 NOx emissions limit of 4.0 lb/ton of glass pulled, on a block 24-hour average, is currently applicable to each of the furnaces. The applicant is proposing to meet both of these limits; therefore, compliance is expected. Permit conditions limiting NOx emissions were presented earlier in this evaluation.

#### Section 5.2: CO and VOC Emission Limits

Section 5.2.1 of this rule lists CO and VOC emission limits for the oxygen assisted container glass manufacturing operations. The applicable emission limits are: 1.0 lb-CO/ton of glass pulled and 0.25 lb-VOC/ton of glass pulled, each on a rolling three hour average. Each furnace currently meets the CO and VOC emission limits; therefore, compliance is expected. Permit conditions limiting CO and VOC emissions were presented earlier in this evaluation.

#### Section 5.3: SOx Emission Limits

Section 5.3.2 of this rule lists SOx emission limitations. Effective January 1, 2011, each furnace must meet a SOx emissions limit of 0.9 lb-SOx/ton of glass produced, on a 30-day rolling average. Each furnace currently meets the SOx emission limit; therefore, compliance is expected. Permit conditions limiting SOx emissions were presented earlier in this evaluation.

Section 5.4: PM10 emission limits

Section 5.4.1 of this rule lists PM10 emission limitations. Effective on January 1, 2011, each container glass furnace must meet a PM10 emissions limit of 0.5 lb-PM10/ton of glass pulled on a block 24-hour average. Each furnace currently meets the PM10 emission limit; therefore, compliance is expected. Permit conditions limiting PM10 emissions were presented earlier in this evaluation.

Section 5.5: Start-up Requirements

Sections 5.5.1 through 5.5.7 list furnace start-up requirements for start-ups associated with a furnace rebuild. This proposal does not involve rebuilding the furnace, nor does it involve shutting down and restarting the furnace. The following condition will be included on each Authority to Construct Permit:

- *During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354]*

Section 5.6: Shutdown

Section 5.6 lists shutdown requirements for glass furnace operations. The following conditions will be included on each Authority to Construct Permit:

- *The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold specified in District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354]*
- *The emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354]*

Section 5.7: Idling Requirements

Section 5.7.1 states that the emission control system shall be in operation whenever technologically feasible during idling to minimize emissions.

Section 5.7.2 states that the emissions of NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> during idling shall not exceed the amount as calculated using the following equation:

$$E_{i,max} = E_i \times \text{Capacity}$$

Where,

- $E_{i,max}$  = maximum daily emissions of pollutant i during idling, in pounds of pollutant per day.
- $E_i$  = Applicable emission limit for pollutant i, in pounds pollutant per ton.
- Capacity = Furnace's permitted glass production capacity in tons glass produced per day.

Each furnace currently meets the idling emission requirements; therefore, continued compliance is expected. The following conditions will be included on each Authority to Construct permit:

- *During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule]*
- *The emission control systems shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354]*
- *NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354]*

#### Section 5.9: Monitoring Requirements

Section 5.9.1 lists NO<sub>x</sub> emission monitoring requirements. The operator of any glass melting furnace must implement a NO<sub>x</sub> CEMS that meets the requirements of Section 6.6. The applicant is proposing the use of a NO<sub>x</sub> CEMS on each furnace and compliance with this requirement is expected. Permit conditions outlining the CEMS requirements were included earlier in this evaluation.

Section 5.9.2.1 requires each furnace subject to Table 2 CO limits to implement the use of a CO CEMS that meets the requirements of Section 6.6.1. The applicant is proposing the use of a CO CEMS on each furnace and compliance with this requirement is expected. Permit conditions outlining the CEMS requirements were included earlier in this evaluation.

Section 5.9.2.2 requires each furnace subject to Table 2 VOC limits to implement the use of a VOC CEMS that meets the requirements of Section 6.6.1. Section 5.9.2.3 states that in lieu of installing and operating a CEMS for VOC, the operator may propose an alternate monitoring scheme for VOC's. Owens Brockway previously received approval of an alternate monitoring scheme for VOC's. The following conditions will be included on each Authority to Construct permit:

- *The permittee shall monitor and record the furnace temperature daily. [District Rule 4354]*
- *The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354]*

- *The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354]*

Section 5.9.3.1 requires each furnace, subject to Section 5.3, to implement a SOx CEMS that meets the requirements of Section 6.6.1 and that is approved, in writing, by the APCO and EPA. The applicant is proposing the use of a SOx CEMS on each furnace and compliance with these requirements is expected. Permit conditions outlining the CEMS requirements were included earlier in this evaluation.

Section 5.9.4.1 requires the operators to propose key system operating parameter(s) and frequency of monitoring and recording of those parameters, for PM10 monitoring. Owens Brockway previously received approval of an alternate monitoring scheme for PM10. The following conditions will be included on each Authority to Construct permit:

- *The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354]*
- *The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354]*
- *The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the measured average daily total power input into the electrostatic precipitator drops below the level for which compliance with the permitted PM10 limit has been demonstrated, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354]*
- *The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354]*

#### Section 5.10: Routine Maintenance of Add-On Emission Control Systems

Section 5.10 states that during routine maintenance of add-on emission control system a glass furnace is exempt from the emission requirements listed in Sections 5.1 through 5.4 if:

1. Routine maintenance in each calendar year does not exceed 144 hours total for all add-on controls.
2. Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

The following conditions will continue to be included on each Authority to Construct permit:

- *The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of the add-on control systems shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354]*
- *The SOx and PM10 emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems, provided the routine maintenance in each calendar year does not exceed 144 hours total for all add-on controls and routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354]*

#### Section 6.1: Permitted Glass Production Capacity and Fuel Use Capacity

Section 6.1 states that on and after October 1, 2009, each glass melting furnace permit shall include the furnace's permitted glass production capacity in tons of glass pulled per day as a permit condition. Conditions limiting the glass production capacity were included earlier in this evaluation and the fuel use is limited by the capacity of the burners that is listed in the equipment description. Compliance with this requirement is expected.

#### Section 6.2: Operation Records

Section 6.2 lists recordkeeping requirements that apply through December 31, 2010. This date has passed; therefore, Section 6.2 requirements are not applicable.

#### Section 6.3: Operation Records

Section 6.3.1 states that the applicant shall keep daily records of the following items:

- 6.3.1.1: Total hours of operation;
- 6.3.1.2: The quantity of glass pulled from each furnace;
- 6.3.1.3: NOx emission rate in lb/ton of glass pulled;
- 6.3.1.4: CO emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.5: VOC emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.6: SOx emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.7: PM10 emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.8: For container glass furnaces that are oxy-fuel fired:
  - 6.3.1.8.1: The weight of mixed color mix cullet used;
  - 6.3.1.8.2: The total amount of cullet used by weight; and
  - 6.3.1.8.3: The ratio expressed in percent of mixed color mix weight to total cullet weight

The applicant is proposing to keep the appropriate records for the applicable items of the items listed above. Therefore, compliance is expected. The following condition will be included on each Authority to Construct permit:

- *The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NO<sub>x</sub> emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SO<sub>x</sub> emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of at least five years and shall be made available for District inspection upon request. [District Rules 220 and 4354]*

Section 6.3.2 states that for pollutants monitored using an approved parametric monitoring arrangement, operators shall record the operating values of the key system operating parameters at the approved recording frequency. Compliance with this requirement is expected.

Section 6.3.3 requires operators to keep the following records:

- 6.3.3.1: Source tests and source test results
- 6.3.3.2: The acceptable range for each approved key system operating parameter, as established during source test;
- 6.3.3.3: Maintenance and repair; and
- 6.3.1.4: Malfunction.

The applicant is proposing to keep the appropriate records for the items listed above. The condition listed above includes the requirement to keep these records.

Section 6.3.4 requires the operator to retain records specified in Sections 6.3.1 through 6.3.3 for a period of five years; make the records available on site during normal business hours to the APCO, ARB, or EPA; and submit the records to the APCO, ARB, or EPA upon request. Compliance with this requirement is expected.

#### Section 6.4: Compliance Source Testing

Section 6.4.1 requires each glass melting furnace or a furnace battery to be source tested at least once every calendar year, but not more than every 18 months and not sooner than every 6 months to demonstrate compliance with the applicable requirements of Section 5.0. Compliance with this requirement is expected. A permit condition enforcing this requirement was presented earlier in this evaluation.

Section 6.4.2 requires the source test conditions to be representative of normal operations, but not less than 60 percent of the permitted glass production capacity. The following condition will be included on each Authority to Construct permit:

- *Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production capacity, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354]*

Section 6.4.3 requires operators using alternate monitoring systems to, during the source test, monitor and record, at a minimum, all operating data for each parameter, fresh feed rate, and flue gas flow rate and submit that data with the test report. Compliance with this requirement is expected. The conditions presented earlier in this evaluation include this requirement.

Section 6.4.4 requires states that the arithmetic average of three 30-consecutive minute source test runs must be used to determine compliance with the NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. Compliance with this requirement is expected. The following condition will be included on each Authority to Construct permit:

- *For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4]*

Section 6.4.5 requires states that the arithmetic average of three 60-consecutive minute source test runs must be used to determine compliance with the PM<sub>10</sub> emission limits. Compliance with this requirement is expected. The following condition will be included on each Authority to Construct permit:

- *For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5]*

Section 6.4.6 states that for a given pollutant, if two of the three runs individually demonstrate emission above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. The following condition will be included on each Authority to Construct permit:

- *If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354]*

### Section 6.5: Test Methods

Section 6.5 states that Compliance with the requirements of 5.0 shall be determined in accordance with the following source test procedures or their equivalents approved by the EPA, ARB, and the APCO:

<b>Pollutant/Parameter to be Measured</b>	<b>Test Methods</b>
Oxides of Nitrogen	EPA Method 7E, EPA Method 19, or ARB Method 100
Carbon Monoxide (ppmv)	EPA Method 10 or ARB Method 100
Volatile Organic Compounds (ppmv)	EPA Method 25A expressed in terms of carbon, or ARB Method 100. EPA Method 18 or ARB method 422 shall be used to determine emissions of exempt compounds.
Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocity or Volumetric Flow Rate	EPA Method 2
Oxides of Sulfur	EPA Method 6C, EPA Method 8, or ARB Method 100
Sulfur Content of Liquid Fuel	ASTM D 6248-99 or ASTM D5433-99
Filterable PM10	EPA Method 5; EPA Method 201; or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM as PM10.
Condensable PM10	EPA Method 202

The following condition will be included on each Authority to Construct permit:

- Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM10: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM10; (7) Condensable PM10: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH4 Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)]*

### Section 6.6: Emission Monitoring Systems

Section 6.6.1 states that an approved CEMS must comply with all of the following requirements:

1. Code of Federal Regulations title 40 CFR Part 51;
2. 40 CFR Part 60.7 (Notification and Recordkeeping);
3. 40 CFR Part 60.13 (Monitoring Requirements);
4. 40 CFR Part 60 Appendix B (Performance Specifications);
5. 40 CFR Part 60 Appendix F (Quality Assurance Procedures);
6. and the applicable sections of District Rule 1080 (Stack Monitoring).

The NO<sub>x</sub>, CO, and SO<sub>x</sub> CEMS are expected to comply with the above requirements.

Section 6.6.2 states that an approved alternate emissions monitoring method must be capable of determining the furnace emissions on an hourly basis and must comply with the following requirements:

1. 40 CFR 64 (Compliance Assurance Monitoring); and
2. 40 CFR 60.13 (Monitoring Requirements).

The proposed VOC and PM<sub>10</sub> alternate monitoring schemes will comply with the above requirements.

### Section 6.7: Notification and Records for Start-up, Shutdown, and Idling

Section 6.7.1 states that the operator of any glass melting furnace claiming an exemption under Section 4.4 must notify the APCO by telephone at least 24 hours before initiating idling, shutdown, or start-up. The notification must include the date and time for the start of the exempt operation, reason for performing the operation, and an estimated completion date. The following condition will be included on each Authority to Construct permit:

- *The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354]*

### Section 6.8: Records for Exempt Furnaces

Section 6.8 of this rule applies to exempt furnaces. Each of the furnaces in this project is not exempt. Therefore, the requirements of Section 6.8 are not applicable

### Conclusion:

Compliance with all of the requirements of District Rule 4354 is expected.

## District Rule 4801 Sulfur Compounds

Per Section 3.1, a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO<sub>2</sub> on a dry basis averaged over 15 consecutive minutes:

$$\text{Volume SO}_2 = nRT/P$$

$$n = \text{moles SO}_2$$

$$T (\text{standard temperature}) = 60^\circ \text{F or } 520^\circ \text{R}$$

$$R (\text{universal gas constant}) = \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}}$$

### Assumption

The F-Factor for each glass furnace is: 8578 dscf/MMBtu (EPA F-Factor, Natural Gas)

### N-593-10-16: Furnace C

The SO<sub>x</sub> emission factor (EF) was determined using the following calculation:

$$\text{SO}_x = (375.3 \text{ lb/day} \div 24 \text{ hr/day}) \div 60 \text{ MMBtu/hr} = 0.26 \text{ lb/MMBtu}$$

$$0.26 \text{ lb/MMBtu} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}_{\text{exhaust}}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}} \times \frac{520^\circ \text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 179.8 \text{ ppmv}$$

Since 179.8 ppmv is  $\leq$  2000 ppmv, the furnace is expected to comply with Rule 4801.

### N-593-12-14: Furnace A

The SO<sub>x</sub> emission factor (EF) was determined using the following calculation:

$$\text{SO}_x = (225.0 \text{ lb/day} \div 24 \text{ hr/day}) \div 36 \text{ MMBtu/hr} = 0.26 \text{ lb/MMBtu}$$

$$0.26 \text{ lb/MMBtu} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}_{\text{exhaust}}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}} \times \frac{520^\circ \text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 179.8 \text{ ppmv}$$

Since 179.8 ppmv is  $\leq$  2000 ppmv, the furnace is expected to comply with Rule 4801.

N-593-13-12: Furnace B

The SO<sub>x</sub> emission factor (EF) was determined using the following calculation:

$$\text{SO}_x = (306.0 \text{ lb/day} \div 24 \text{ hr/day}) \div 67 \text{ MMBtu/hr} = 0.19 \text{ lb/MMBtu}$$

$$0.19 \text{ lb/MMBtu} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}_{\text{exhaust}}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 137.9 \text{ ppmv}$$

Since 137.9 ppmv is  $\leq$  2000 ppmv, the furnace is expected to comply with Rule 4801.

**40 CFR Part 64 Compliance Assurance Monitoring**

40 CFR Part 64 requires Compliance Assurance Monitoring (CAM) for units that meet the following three criteria:

- 1) the unit must have an emission limit for the pollutant;
- 2) the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), baghouses, and catalytic oxidizers; and
- 3) the unit must have a pre-control potential to emit of greater than the major source thresholds.

The following Major Source thresholds will be used, as necessary, to determine whether CAM is triggered.

Pollutant	lb/year	ton/year
NO <sub>x</sub>	20,000	10
SO <sub>x</sub>	140,000	70
PM10	140,000	70
CO	200,000	100
VOC	20,000	10

The facility is a Major Source for NO<sub>x</sub>, SO<sub>x</sub>, CO, and VOC, therefore, a CAM determination must be performed for these pollutants.

NO<sub>x</sub>, CO, and SO<sub>x</sub> CAM Determination:

Pursuant to Section 64.2(b)(vi), emission limits or standards for which the permit specifies a continuous compliance determination method are exempt from CAM requirements. Each of the glass furnaces is equipped with a Continuous Emission Monitoring System (CEMs) that directly measures NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions. Therefore, the glass furnaces are exempt from CAM requirements for NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions.

VOC CAM Determination

The only remaining pollutant is VOC. Since there is no VOC control device associated with these units, CAM is not triggered for VOC emissions.

### Summary of CAM Requirements

As demonstrated above, CAM requirements are not triggered for this equipment. No further analysis is necessary.

### **California Environmental Quality Act (CEQA)**

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

### **IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permits N-593-10-16, '-12-14, and '-13-12 subject to the permit conditions on the attached draft Authority to Construct permits in Appendix I.

**X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Previous Fee Schedule</b>
N-593-10-16	3020-02-H	60 MMBtu/hr	3020-02-H
N-593-12-14	3020-02-H	36 MMBtu/hr	3020-02-H
N-593-13-12	3020-02-H	67 MMBtu/hr	3020-02-H

**Appendices**

- I: Draft Authority to Construct Permits
- II: Current Permits to Operate
- III. Emission Control System Diagram
- IV. Risk Management Review
- V. Quarterly Net Emissions Change (QNEC)
- VI. Facility Comments and District Response
- VII. EPA Comments and District Response

**APPENDIX I**  
**Draft Authority to Construct Permits**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-593-10-16

**LEGAL OWNER OR OPERATOR:** OWENS-BROCKWAY GLASS CONTAINER  
**MAILING ADDRESS:** 14700 W SCHULTE RD  
TRACY, CA 95376

**LOCATION:** 14700 W SCHULTE ROAD  
TRACY, CA 95376

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 60 MMBTU/HR GLASS MELTING FURNACE #22-C WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT) TO INSTALL A SELECTIVE CATALYTIC REDUCTION SYSTEM AND ADD A 30-DAY ROLLING NOX EMISSION LIMIT FOR DISTRICT RULE 4354 COMPLIANCE. POST-PROJECT EQUIPMENT DESCRIPTION: 60 MMBTU/HR GLASS MELTING FURNACE #22-C WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, A 10 MMBTU/HR DUCT BURNER SYSTEM (OR EQUIVALENT), A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DRAFT**

DAVID WARNER, Director of Permit Services

N-593-10-18 - Dec 7 2012 3:11PM - HARADERJ : Joint Inspection NOT Required

3. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and San Joaquin Country Rule 401] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
8. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
11. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
13. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
14. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
15. The emission control systems shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
16. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit

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17. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
19. The SO<sub>x</sub> and PM<sub>10</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
20. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
22. The glass pull rate shall not exceed 417 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. The glass pull rate shall not exceed 146,000 tons during any rolling 12-month period. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The weight percent of cullet per batch shall not be less than 17.5%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
25. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 69.50 lb-NO<sub>x</sub>/hr and 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 26.06 lb-NO<sub>x</sub>/hr and 1.5 lb-NO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
27. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 15.64 lb-SO<sub>x</sub>/hr and 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
28. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
29. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
30. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 6.59 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
31. Particulate matter emissions shall not exceed 17.5 lb/hr. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
32. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
33. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM<sub>10</sub>/year. [District NSR Rule] Federally Enforceable Through Title V Permit

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34. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
36. Initial performance testing shall be conducted for PM<sub>10</sub> (lb/ton of glass pulled and lb/hr) and NO<sub>x</sub> (lb/ton of glass pulled) emissions within 90 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM<sub>10</sub> (lb/ton of glass pulled and lb/hr), SO<sub>x</sub> (lb/ton of glass pulled and lb/hr), and NO<sub>x</sub> (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
38. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
39. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
40. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM<sub>10</sub>: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>; (7) Condensable PM<sub>10</sub>: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH<sub>4</sub> Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
41. In lieu of performing a source test for PM<sub>10</sub>, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM<sub>10</sub> emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM<sub>10</sub>. [District NSR Rule] Federally Enforceable Through Title V Permit
42. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit
43. For source testing purposes, arithmetic average of three ~~30 consecutive-minute~~ test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit

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44. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM10 emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit
45. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
46. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NOx, SOx, CO, O2 concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
47. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
48. The facility shall install and maintain equipment, facilities, and systems compatible with the Districts CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
49. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
50. {2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
51. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
52. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
53. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
54. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
56. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit

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57. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
58. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
59. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
60. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
61. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
62. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
63. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
64. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the measured average daily total power input into the electrostatic precipitator drops below the level for which compliance with the permitted PM10 limit has been demonstrated, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
65. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
66. The 3-hour block average production-based metal HAP mass emission rate shall not exceed 0.02 lb/ton of glass produced, except during periods of startup, shutdown, or malfunction. Compliance with this requirement shall be verified by keeping product data records. [40 CFR 63.11451 and 40 CFR 63.11455(a)] Federally Enforceable Through Title V Permit
67. Permittee shall keep a copy of the Initial Notification and Notification of Compliance Status for 40 CFR 63 Subpart SSSSS. [40 CFR 63.11457(a)(1)] Federally Enforceable Through Title V Permit

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68. Permittee shall keep records of the product data. The product data shall include the amount (weight or weight percent) of each ingredient in the batch formation, including all glass manufacturing metal HAP compounds. [40 CFR 63.11457(a)(4)] Federally Enforceable Through Title V Permit
69. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
70. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
71. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
72. The throughput for each electrostatic precipitator dust silo shall not exceed 1.81 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
73. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
74. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
75. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
76. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
77. Records of all maintenance of each bin vent filter, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
78. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
79. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
80. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
81. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
82. Permittee shall keep a record of the rolling 12-month quantity of glass pulled. This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
83. Permittee shall keep a record of the combined daily NOx emissions (based on CEMs data), the combined daily PM10 emissions (based on annual source test results and daily production data), and the combined daily filterable PM10 emissions (based on annual source test results and daily production data), each in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-B). [District Rule 2201] Federally Enforceable Through Title V Permit

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84. Permittee shall keep a record of the combined rolling 12-month PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
85. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
86. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
87. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
88. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
89. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-593-12-14

**LEGAL OWNER OR OPERATOR:** OWENS-BROCKWAY GLASS CONTAINER  
**MAILING ADDRESS:** 14700 W SCHULTE RD  
TRACY, CA 95376

**LOCATION:** 14700 W SCHULTE ROAD  
TRACY, CA 95376

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 29 MMBTU/HR OXYGEN-ENRICHED AIR-STAGING (OEAS) GLASS MELTING FURNACE #22-A WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 7 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT) TO INSTALL A SELECTIVE CATALYTIC REDUCTION SYSTEM FOR RULE 4354 COMPLIANCE AND TO CORRECT THE HEAT INPUT RATING OF THE FURNACE. POST-PROJECT EQUIPMENT DESCRIPTION: 36 MMBTU/HR GLASS MELTING FURNACE #22-A, WITH AN OPTIONAL OXYGEN-ENRICHED AIR STAGING SYSTEM (USE OF THIS SYSTEM IS OPTIONAL), A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 7 / 0.4 ELECTROSTATIC PRECIPITATOR, A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

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**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER**, Director of Permit Services

N-593-12-14 \* Dec 7 2012 3:11PM - HARADERJ : Joint Inspection NOT Required

3. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and San Joaquin County Rule 401] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
8. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
11. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
13. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
14. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
15. The emission control systems shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
16. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit

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17. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
19. The SO<sub>x</sub> and PM<sub>10</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
20. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
22. The glass pull rate shall not exceed 250 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. The glass pull rate shall not exceed 87,235 tons during any rolling 12-month period. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
25. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 41.67 lb-NO<sub>x</sub>/hr and 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 15.63 lb-NO<sub>x</sub>/hr and 1.5 lb-NO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
27. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 9.38 lb-SO<sub>x</sub>/hr and 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
28. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
29. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
30. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 3.78 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
31. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
32. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM<sub>10</sub>/year. [District NSR Rule] Federally Enforceable Through Title V Permit
33. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

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34. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Initial performance testing shall be conducted for PM<sub>10</sub> (lb/ton of glass pulled and lb/hr) and NO<sub>x</sub> (lb/ton of glass pulled) emissions within 90 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM<sub>10</sub> (lb/ton of glass pulled and lb/hr), SO<sub>x</sub> (lb/ton of glass pulled and lb/hr), and NO<sub>x</sub> (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
37. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
38. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
39. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM<sub>10</sub>: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>; (7) Condensable PM<sub>10</sub>: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH<sub>4</sub> Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
40. In lieu of performing a source test for PM<sub>10</sub>, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM<sub>10</sub> emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM<sub>10</sub>. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit
42. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit
43. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit

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44. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
45. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
46. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
47. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
48. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
49. {2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
51. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
52. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
53. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit
56. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit

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57. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
58. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
59. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
60. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
61. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
62. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
63. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the measured average daily total power input into the electrostatic precipitator drops below the level for which compliance with the permitted PM10 limit has been demonstrated, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
64. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
65. The 3-hour block average production-based metal HAP mass emission rate shall not exceed 0.02 lb/ton of glass produced, except during periods of startup, shutdown, or malfunction. Compliance with this requirement shall be verified by keeping product data records. [40 CFR 63.11451 and 40 CFR 63.11455(a)] Federally Enforceable Through Title V Permit
66. Permittee shall keep a copy of the Initial Notification and Notification of Compliance Status for 40 CFR 63 Subpart SSSSSS. [40 CFR 63.11457(a)(1)] Federally Enforceable Through Title V Permit
67. Permittee shall keep records of the product data. The product data shall include the amount (weight or weight percent) of each ingredient in the batch formation, including all glass manufacturing metal HAP compounds. [40 CFR 63.11457(a)(4)] Federally Enforceable Through Title V Permit

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68. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
69. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
70. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
71. The throughput for each electrostatic precipitator dust silo shall not exceed 1.23 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
72. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
73. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
74. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
75. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
76. Records of all maintenance of the bin vent filters, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
77. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
78. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
79. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
80. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
81. Permittee shall keep a record of the rolling 12-month quantity of glass pulled. This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
82. Permittee shall keep a record of the combined daily NOx emissions (based on CEMs data), the combined daily PM10 emissions (based on annual source test results and daily production data), and the combined daily filterable PM10 emissions (based on annual source test results and daily production data), each in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-B). [District Rule 2201] Federally Enforceable Through Title V Permit
83. Permittee shall keep a record of the combined rolling 12-month PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit

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84. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
85. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
86. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
87. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
88. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE:** DRAFT  
**DRAFT**

**PERMIT NO:** N-593-13-12

**LEGAL OWNER OR OPERATOR:** OWENS-BROCKWAY GLASS CONTAINER  
**MAILING ADDRESS:** 14700 W SCHULTE RD  
TRACY, CA 95376

**LOCATION:** 14700 W SCHULTE ROAD  
TRACY, CA 95376

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 67 MMBTU/HR OXYGEN-ENRICHED AIR STAGING (OEAS) GLASS MELTING FURNACE #22-B WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT) TO INSTALL A SELECTIVE CATALYTIC REDUCTION SYSTEM FOR RULE 4354 COMPLIANCE. POST-PROJECT EQUIPMENT DESCRIPTION: 67 MMBTU/HR GLASS MELTING FURNACE #22-B WITH AN OXYGEN-ENRICHED AIR STAGING SYSTEM (USE OF THIS SYSTEM IS OPTIONAL), A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, A GEA PROCESS ENGINEERING SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTROSTATIC PRECIPITATOR DUST HANDLING SYSTEM CONSISTING OF A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

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**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of Issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCD

**DAVID WARNER, Director of Permit Services**

N-593-13-12: Dec 7 2012 3:11PM - HARADERJ - Joint Inspection NOT Required

3. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and San Joaquin County Rule 401] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
8. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
9. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
10. The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
11. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
13. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
14. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
15. The emission control systems shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
16. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit

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17. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
19. The SO<sub>x</sub> and PM<sub>10</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
20. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
22. The glass pull rate shall not exceed 340 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. The glass pull rate shall not exceed 124,100 tons during any rolling 12-month period. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
25. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 56.67 lb-NO<sub>x</sub>/hr and 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 21.25 lb-NO<sub>x</sub>/hr and 1.5 lb-NO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
27. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 12.75 lb-SO<sub>x</sub>/hr and 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
28. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
29. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
30. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 5.38 lb-PM<sub>10</sub>/hr and 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
31. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
32. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a rolling 12-month period shall not exceed 55 tons-PM<sub>10</sub>/year. [District NSR Rule] Federally Enforceable Through Title V Permit
33. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

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34. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Initial performance testing shall be conducted for PM<sub>10</sub> (lb/ton of glass pulled and lb/hr) and NO<sub>x</sub> (lb/ton of glass pulled) emissions within 90 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM<sub>10</sub> (lb/ton of glass pulled and lb/hr), SO<sub>x</sub> (lb/ton of glass pulled and lb/hr), and NO<sub>x</sub> (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
37. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
38. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
39. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM<sub>10</sub>: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>; (7) Condensible PM<sub>10</sub>: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH<sub>4</sub> Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
40. In lieu of performing a source test for PM<sub>10</sub>, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM<sub>10</sub> emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM<sub>10</sub>. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit
42. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit
43. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit

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44. If two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
45. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
46. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
47. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
48. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
49. {2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
51. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
52. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
53. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within a 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit
56. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit

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57. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
58. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
59. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
60. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
61. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
62. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
63. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the measured average daily total power input into the electrostatic precipitator drops below the level for which compliance with the permitted PM10 limit has been demonstrated, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
64. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
65. The 3-hour block average production-based metal HAP mass emission rate shall not exceed 0.02 lb/ton of glass produced, except during periods of startup, shutdown, or malfunction. Compliance with this requirement shall be verified by keeping product data records. [40 CFR 63.11451 and 40 CFR 63.11455(a)] Federally Enforceable Through Title V Permit
66. Permittee shall keep a copy of the Initial Notification and Notification of Compliance Status for 40 CFR 63 Subpart SSSSSS. [40 CFR 63.11457(a)(1)] Federally Enforceable Through Title V Permit
67. Permittee shall keep records of the product data. The product data shall include the amount (weight or weight percent) of each ingredient in the batch formation, including all glass manufacturing metal HAP compounds. [40 CFR 63.11457(a)(4)] Federally Enforceable Through Title V Permit

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68. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
69. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
70. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
71. The throughput for each electrostatic precipitator dust silo shall not exceed 1.64 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
72. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
73. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
74. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
75. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
76. Records of all maintenance of each bin vent filter, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
77. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
78. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
79. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
80. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
81. Permittee shall keep a record of the rolling 12-month quantity of glass pulled. This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
82. Permittee shall keep a record of the combined daily NOx emissions (based on CEMs data), the combined daily PM10 emissions (based on annual source test results and daily production data), and the combined daily filterable PM10 emissions (based on annual source test results and daily production data), each in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-B). [District Rule 2201] Federally Enforceable Through Title V Permit
83. Permittee shall keep a record of the combined rolling 12-month PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit

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84. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
85. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
86. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
87. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
88. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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**APPENDIX II**  
**Current Permits to Operate**

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** N-593-10-14

**EXPIRATION DATE:** 07/31/2012

## **EQUIPMENT DESCRIPTION:**

60 MMBTU/HR GLASS MELTING FURNACE #22-C WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

## **PERMIT UNIT REQUIREMENTS**

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1. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
4. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. The exhaust from the glass melting furnace shall be vented through an operational SO<sub>x</sub> scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
7. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
8. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

9. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
10. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
11. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit
12. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The PM<sub>10</sub> and SO<sub>x</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354]
15. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
16. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
17. The glass pull rate shall not exceed 417 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
18. The glass pull rate shall not exceed 146,000 tons during any 12 consecutive month period. [District NSR Rule] Federally Enforceable Through Title V Permit
19. The weight percent of cullet per batch shall not be less than 17.5%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
20. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 69.50 lb-NO<sub>x</sub>/hr or 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
21. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 15.64 lb-SO<sub>x</sub>/hr or 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
22. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
24. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 6.59 lb-PM<sub>10</sub>/hr or 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
25. Particulate matter emissions shall not exceed 17.5 lb/hr. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

26. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NOx/day, 300.0 lb-PM10/day, and 105.0 lb-filterable PM10/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
27. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a 12 consecutive month period shall not exceed either of the following limits: 606.540 tons-NOx/year and 55 tons-PM10/year. [District NSR Rule] Federally Enforceable Through Title V Permit
28. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Annual performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM10 (lb/ton of glass pulled and lb/hr), SOx (lb/ton of glass pulled and lb/hr), and NOx (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
31. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
32. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
33. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM10: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM10; (7) Condensable PM10: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH4 Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
34. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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35. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit
36. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit
37. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit
38. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
39. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
40. The facility shall install and maintain equipment, facilities, and systems compatible with the Districts CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
41. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
42. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
43. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
44. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
45. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
46. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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47. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
48. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit
49. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
50. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
51. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
52. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
53. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
54. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
55. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
56. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the minimum measured average daily total power input into the electrostatic precipitator is exceeded, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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57. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
58. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
59. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
60. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
61. The throughput for each electrostatic precipitator dust silo shall not exceed 1.81 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
62. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
63. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
64. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
65. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
66. Records of all maintenance of each bin vent filter, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
67. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
68. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
69. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
70. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
71. Permittee shall keep a record of the combined daily NOx emissions, in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-C). [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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72. Permittee shall keep a record of the combined rolling 12-month NOx and PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-C). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
73. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
75. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
76. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
77. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** N-593-12-12

**EXPIRATION DATE:** 07/31/2012

## **EQUIPMENT DESCRIPTION:**

29 MMBTU/HR OXYGEN-ENRICHED AIR-STAGING (OEAS) GLASS MELTING FURNACE #22-A WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 7 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

## **PERMIT UNIT REQUIREMENTS**

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1. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
4. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
7. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
8. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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9. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
10. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
11. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit
12. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The PM<sub>10</sub> and SO<sub>x</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354]
15. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
16. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
17. The glass pull rate shall not exceed 250 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
18. The glass pull rate shall not exceed 87,235 tons during any 12 consecutive month period. [District NSR Rule] Federally Enforceable Through Title V Permit
19. The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
20. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 41.67 lb-NO<sub>x</sub>/hr or 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
21. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 9.38 lb-SO<sub>x</sub>/hr or 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
22. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
24. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 3.78 lb-PM<sub>10</sub>/hr or 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
25. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit

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26. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a 12 consecutive month period shall not exceed either of the following limits: 606.540 tons-NOx/year and 55 tons-PM10/year. [District NSR Rule] Federally Enforceable Through Title V Permit
27. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Annual performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM10 (lb/ton of glass pulled and lb/hr), SOx (lb/ton of glass pulled and lb/hr), and NOx (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
30. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
31. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
32. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM10: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM10; (7) Condensable PM10: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH4 Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
33. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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35. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit
36. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit
37. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
38. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
39. The facility shall install and maintain equipment, facilities, and systems compatible with the Districts CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
40. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
41. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
42. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
43. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
44. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
45. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
46. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
47. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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48. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
49. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
50. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
51. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
52. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
53. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
54. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
55. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the minimum measured average daily total power input into the electrostatic precipitator is exceeded, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354]
56. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
57. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
58. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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59. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
60. The throughput for each electrostatic precipitator dust silo shall not exceed 1.23 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
61. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
62. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
63. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
64. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
65. Records of all maintenance of the bin vent filters, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
66. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
67. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
68. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
69. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
70. Permittee shall keep a record of the combined daily NOx emissions, in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-C). [District Rule 2201] Federally Enforceable Through Title V Permit
71. Permittee shall keep a record of the combined rolling 12-month NOx and PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-C). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
72. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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74. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
75. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
76. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** N-593-13-10

**EXPIRATION DATE:** 07/31/2012

## **EQUIPMENT DESCRIPTION:**

67 MMBTU/HR OXYGEN-ENRICHED AIR STAGING (OEAS) GLASS MELTING FURNACE #22-B WITH A CUSTOM GEA BISCHOFF INC. DRY SOX SCRUBBER, A GEA BISCHOFF MODEL BS 780 10 / 5.0 / 2 X 11 / 0.4 ELECTROSTATIC PRECIPITATOR, WITH A 153 CUBIC FOOT STORAGE SILO AND A 190 CUBIC FOOT STORAGE SILO, EACH WITH A MET-PRO CORP FLEX-KLEEN BIN VENT FILTER (OR EQUIVALENT)

## **PERMIT UNIT REQUIREMENTS**

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1. All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of the Federal Major Stationary Source permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions. [40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202 and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
4. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [San Joaquin County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. The exhaust from the glass melting furnace shall be vented through an operational SOx scrubber and electrostatic precipitator, except during periods of furnace startup (when technologically infeasible), furnace idle (when technologically infeasible), and during add-on control system maintenance. Scheduled maintenance of add-on control system shall be accomplished during periods of furnace idling whenever possible. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
7. The emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by District Rule 4354. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or start-up of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
8. Start-up is defined as the period of time, after initial construction of a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purposes of a furnacc rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit

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9. During startup, the permittee shall comply with the requirements of Section 5.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
10. The duration of shutdown of the furnace, as measured from the time the furnace operations drop below the idle threshold (operation of the furnace at less than 25 percent of the permitted glass production capacity or fuel use capacity) to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
11. During periods when the furnace is in idle state, the glass throughput shall not exceed 50 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit
12. The emission control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The PM<sub>10</sub> and SO<sub>x</sub> emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354]
15. The furnace shall be fired on PUC regulated natural gas or LPG/propane fuel only. [District NSR Rule] Federally Enforceable Through Title V Permit
16. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61 Subpart N] Federally Enforceable Through Title V Permit
17. The glass pull rate shall not exceed 340 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
18. The glass pull rate shall not exceed 124,100 tons during any 12 consecutive month period. [District NSR Rule] Federally Enforceable Through Title V Permit
19. The weight percent of cullet per batch shall not be less than 13.6%. Batch weight distribution data shall be available for District inspection during normal operating hours. [District NSR Rule] Federally Enforceable Through Title V Permit
20. NO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 56.67 lb-NO<sub>x</sub>/hr or 4.0 lb-NO<sub>x</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
21. SO<sub>x</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 12.75 lb-SO<sub>x</sub>/hr or 0.9 lb-SO<sub>x</sub>/ton of glass pulled, based on a 30-day rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
22. CO emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 300 ppmvd @ 8% O<sub>2</sub> or 1.0 lb-CO/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. VOC emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 20 ppmvd @ 8% O<sub>2</sub> or 0.25 lb-VOC/ton of glass pulled, based on a 3-hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
24. PM<sub>10</sub> emissions from the glass furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 5.38 lb-PM<sub>10</sub>/hr or 0.5 lb-PM<sub>10</sub>/ton of glass pulled, based on a block 24-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
25. Daily combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) shall not exceed any of the following limits: 3,392.2 lb-NO<sub>x</sub>/day, 300.0 lb-PM<sub>10</sub>/day, and 105.0 lb-filterable PM<sub>10</sub>/day. [District NSR Rule and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit

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26. Combined emissions from furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-B) computed over a 12 consecutive month period shall not exceed either of the following limits: 606.540 tons-NOx/year and 55 tons-PM10/year. [District NSR Rule] Federally Enforceable Through Title V Permit
27. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Annual performance testing shall be conducted for VOC (ppmv and lb/ton of glass pulled), CO (ppmv and lb/ton of glass pulled), PM10 (lb/ton of glass pulled and lb/hr), SOx (lb/ton of glass pulled and lb/hr), and NOx (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District NSR Rule, Rule 4354, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
30. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production rate, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
31. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the methods and procedures specified in this permit. The District must be notified 45 days prior to any compliance source test, and a source test plan must be submitted for approval 30 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
32. Performance testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM10: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM10; (7) Condensable PM10: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH4 Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)] Federally Enforceable Through Title V Permit
33. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for measuring PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Source testing to measure emissions when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. Once 100 hours of operation using LPG fuel is exceeded, a source test shall be performed within 90 days after the exceedance of 100 hours. [District Rule 1081] Federally Enforceable Through Title V Permit

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These terms and conditions are part of the Facility-wide Permit to Operate.

35. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rules 2201, 4354, 6.4.4] Federally Enforceable Through Title V Permit
36. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354, 6.4.5] Federally Enforceable Through Title V Permit
37. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack NO<sub>x</sub>, SO<sub>x</sub>, CO, O<sub>2</sub> concentration (if required for compliance determination), and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2, 3, and 4, or shall meet equivalent specifications established by mutual agreement of the District, the California Air Resources Board, and EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 2201, and 4354] Federally Enforceable Through Title V Permit
38. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR Part 60, Appendix B, or shall meet equivalent specifications established by mutual consent of the District, the California Air Resources Board, and EPA. [District Rules 1080, 2201, and 4101] Federally Enforceable Through Title V Permit
39. The facility shall install and maintain equipment, facilities, and systems compatible with the Districts CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
40. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternate method. [District Rule 1080] Federally Enforceable Through Title V Permit
41. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
42. Results of the CEM system shall be averaged over the appropriate averaging period, using consecutive 15-minute samples in accordance with all applicable requirements of 40 CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, California Air Resources Board, and EPA. [District Rule 1080 and 40 CFR 60.13] Federally Enforceable Through Title V Permit
43. Records of the following items shall be maintained: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, and any period during which the CEM is inoperative, and the CEM emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
44. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
45. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within ± 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
46. Any visible emission monitoring exceedance showing air contaminant discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
47. Any violation of an emission standard, as shown by the stack CEMS, shall be reported to the APCO within 96 hours of detection. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

48. The operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shutdown a CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
49. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventative measures adopted; applicable time and data for each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080] Federally Enforceable Through Title V Permit
50. The permittee shall monitor and record the furnace temperature daily. [District Rule 4354] Federally Enforceable Through Title V Permit
51. The furnace temperature shall be maintained at or above the level for which compliance with the permitted VOC limit has been demonstrated. If the measured furnace temperature is less than the minimum furnace temperature limit, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
52. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace temperature during the source test that showed compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
53. The permittee shall install, operate, and maintain a continuous monitoring and recording system to accurately measure and record the electrostatic precipitator secondary current and secondary voltage. [District Rule 4354] Federally Enforceable Through Title V Permit
54. The average daily total power input into the electrostatic precipitator shall be calculated by multiplying the average daily secondary amperage by the average daily secondary voltage, both recorded by the continuous monitoring system. [District Rule 4354] Federally Enforceable Through Title V Permit
55. The average daily total power input of the electrostatic precipitator shall be maintained at or above the level for which compliance with the permitted PM10 limit has been demonstrated. If the minimum measured average daily total power input into the electrostatic precipitator is exceeded, the permittee shall conduct a certified PM10 source test within 60 days to re-establish the minimum average daily total power input limit. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average daily total power input to or above the minimum level), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354]
56. The permittee shall keep records of the date of the measure electrostatic precipitator average daily total power input and the minimum electrostatic precipitator daily total power input established during the source test that showed compliance with the PM10 emission limit of this permit. [District Rule 4354] Federally Enforceable Through Title V Permit
57. Replacement filters numbering at least 10% of the total number of filters in the largest bin vent filter using each type of filter shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
58. Each bin vent filter cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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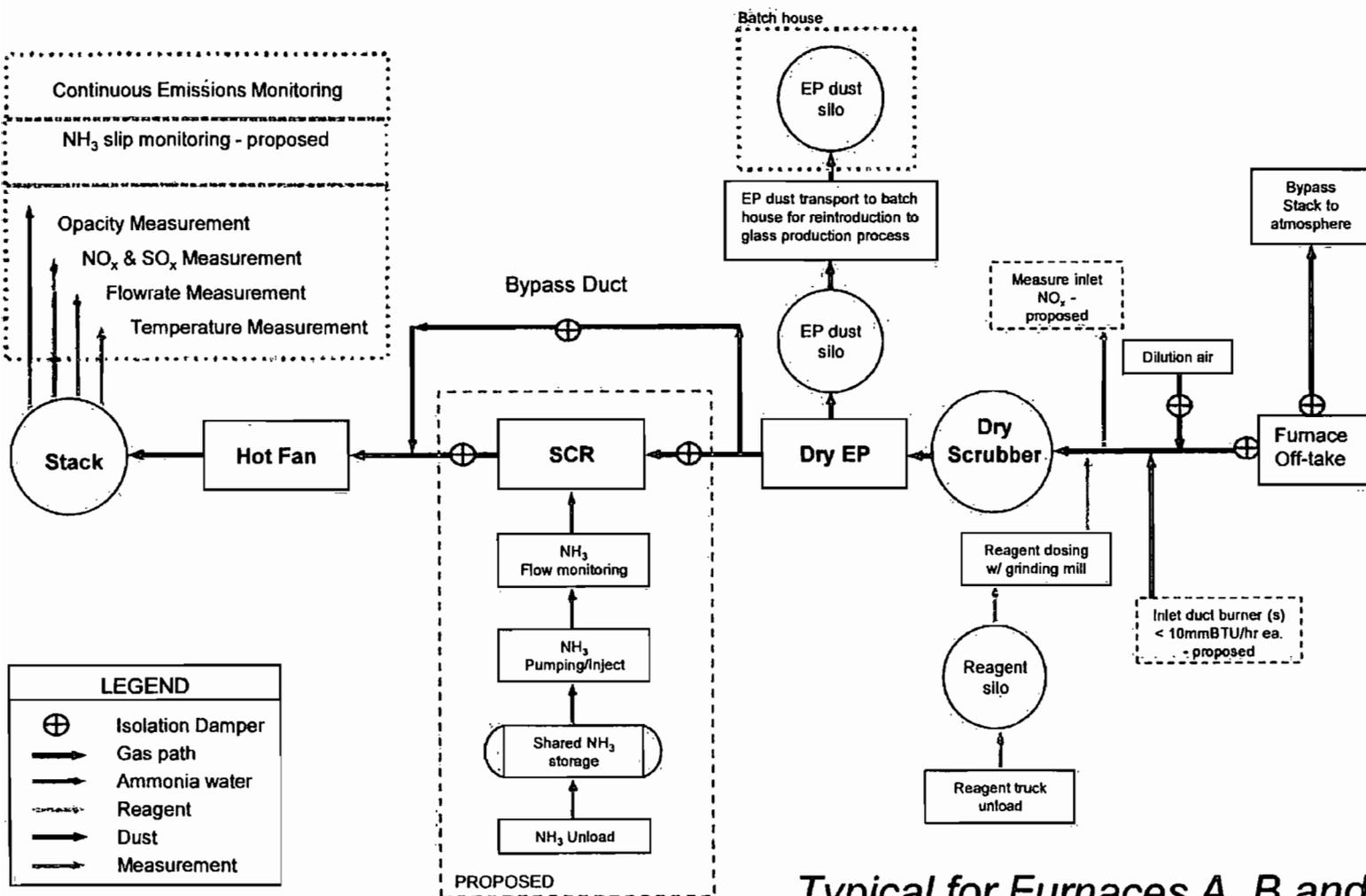
59. Visible emissions from the exhaust of each bin vent filter shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
60. The throughput for each electrostatic precipitator dust silo shall not exceed 1.64 tons in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
61. PM10 emissions from each electrostatic precipitator dust silo shall not exceed 0.00034 lb/ton. [District Rule 2201] Federally Enforceable Through Title V Permit
62. Each bin vent filter shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
63. The differential pressure gauge reading range for each bin vent filter shall be established per manufacturer's recommendation at time of start up inspection. [District Rule 2201] Federally Enforceable Through Title V Permit
64. The differential operating pressure across each bin vent filter shall be monitored and recorded on each day that the unit operates. [District Rule 2201] Federally Enforceable Through Title V Permit
65. Records of all maintenance of each bin vent filter, including all change outs of filter media, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
66. A log of daily process weight, wt% cullet per batch, electric boosting, fuel usage and other relevant operating parameters shall be kept on the premises and shall be made available for District inspection upon request. [District Rule 2520, 9.3.2 and District NSR Rule] Federally Enforceable Through Title V Permit
67. During periods of electrostatic precipitator maintenance and furnace startup, the furnace visible emissions shall be recorded by CARB certified personnel during daylight hours using EPA Method 9 within 2 hours of electrostatic precipitator shutdown or bypass and at least three times a day. Each visible emissions evaluation shall be at least 4 hours apart. [District NSR Rule] Federally Enforceable Through Title V Permit
68. The applicant shall maintain accurate records of the time, date, cause (e.g. electrostatic precipitator maintenance, furnace startup, or furnace idle), and duration electrostatic precipitator is not in operation and result of any visible emissions testing during the period. Records shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
69. The permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, quantity of glass pulled, the NOx emission rate (in lb/ton of glass pulled), the CO emission rate (in lb/ton of glass pulled), and the SOx emission rate (in lb/ton of glass pulled). The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. All records shall be maintained on the premises for a period of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
70. Permittee shall keep a record of the combined daily NOx emissions, in pounds, for furnaces N-593-10 (22-C), N-593-12 (22-A) and N-593-13 (22-C). [District Rule 2201] Federally Enforceable Through Title V Permit
71. Permittee shall keep a record of the combined rolling 12-month NOx and PM10 emissions for furnaces N-593-10 (22-C), N-593-12 (22-A), and N-593-13 (22-C). This record shall be updated on a monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
72. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rules 4201 and 4202. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. The requirements of District Rule 4301 were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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74. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and San Joaquin County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
75. The requirements of 40 CFR 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
76. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

**APPENDIX III**  
**Emission Control System Diagram**



Typical for Furnaces A, B and C

Emission Control / GEA Bischoff, Inc.

**APPENDIX IV**

**Risk Management Review Results**

## San Joaquin Valley Air Pollution Control District Risk Management Review

To: James Harader – Permit Services  
 From: Cheryl Lawler – Technical Services  
 Date: June 21, 2012  
 Facility Name: Owens Brockway  
 Location: 14700 Schulte Road, Tracy  
 Application #(s): N-593-10-14, 12-14, 13-12  
 Project #: N-1121347

### A. RMR SUMMARY

RMR Summary			
Categories	Add SCR to Glass Furnaces (Units 10-14, 12-14, 13-12)	Project Totals	Facility Totals
Prioritization Score	0.01*	0.01	0.62
Acute Hazard Index	N/A	N/A	N/A
Chronic Hazard Index	N/A	N/A	N/A
Maximum Individual Cancer Risk	N/A	N/A	N/A
T-BACT Required?	No		
Special Permit Conditions?	No		

\* The project passed on prioritization with a score of less than 1; therefore, no further analysis was required.

#### I. Project Description

Technical Services received a request on June 11, 2012, to perform a Risk Management Review for the facility to add Selective Catalytic Reduction (SCR) to three glass furnaces. The project will only result in an increase in Ammonia emissions. Per the processing engineer, there will not be an increase in any other pollutants.

#### II. Analysis

Ammonia emission rates were calculated and supplied by the processing engineer and were prioritized in accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001) using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the project was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

<b>Analysis Parameters</b>			
<b>Facility Location Type</b>	Urban	<b>Closest Receptor (m)</b>	610
<b>Total Ammonia Emissions Rate (lbs/yr)</b>	8,541	<b>Closest Receptor Type</b>	Business

### **III. Conclusion**

The prioritization score for this project is not above 1.0. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

**APPENDIX V**  
**Quarterly Net Emissions Change**

**QNEC Calculations**

$QNEC = (PE2 - BE) \div 4$

As shown in Section VII.C.5, BE is equal to PE1 for all pollutants. Therefore, the equation for QNEC reduces to:

$QNEC = (PE2 - PE1) \div 4$

**N-593-10-16**

<b>Pollutant</b>	<b>PE2 (lb/year)</b>	<b>PE1 (lb/year)</b>	<b>QNEC (lb/qtr)</b>
NOx	219,000	584,000	-91,250.0
SOx	131,400	131,400	0
PM10	57,706	57,706	0
CO	161,680	161,680	0
VOC	6,160	6,160	0

**N-593-12-14**

<b>Pollutant</b>	<b>PE2 (lb/year)</b>	<b>PE1 (lb/year)</b>	<b>QNEC (lb/qtr)</b>
NOx	130,853	348,940	-54,589.25
SOx	78,512	78,512	0
PM10	33,140	33,140	0
CO	78,140	78,140	0
VOC	2,980	2,980	0

**N-593-13-12**

<b>Pollutant</b>	<b>PE2 (lb/year)</b>	<b>PE1 (lb/year)</b>	<b>QNEC (lb/qtr)</b>
NOx	186,150	496,400	-77,562.5
SOx	111,690	111,690	0
PM10	47,160	47,160	0
CO	124,100	124,100	0
VOC	6,860	6,860	0

## **APPENDIX VI**

### **Facility Comments and District Response**

## **Facility Comments and District Response**

The following comments were received from Owens-Brockway Glass Container Inc., and are followed by the District response to the comment.

### **Facility Comment #1:**

Condition #15 states that the emission control systems must be operated whenever technologically feasible during shutdown to minimize emissions. Please revise the condition to clarify that the emission control system is not required to operate when the furnace is in a "cold state".

### **District Response to Facility Comment #1:**

During a "cold state", there is no expected emissions from the furnace. Based on the requirements for a furnace shutdown in Condition #14 of each Authority to Construct, it is clear that a furnace in a "cold state" is not operating in a shutdown mode. Therefore, no changes to the permit are necessary.

### **Facility Comment #2:**

The control vendor for the selective catalytic reduction system has indicated that the unit may not be ready for testing within 60 days of initial startup. Therefore, please revise condition #35 of each of the draft permits to require the initial test to occur within 90 days of initial start-up rather than 60 days.

### **District Response to Facility Comment #2:**

Condition #35 of each of the Authority to Construct permits has been modified to require initial testing within 90 days of startup.

### **Facility Comment #3:**

Condition #66 of each draft Authority to Construct requires 3-hour block average metal HAP mass emission rate to not exceed 0.02 lb/ton of glass produced. Please clarify how compliance will be determined for this requirement.

### **District Response to Facility Comment #3:**

Initial source testing was already conducted and indicated initial compliance with the HAP emission rate. Compliance with this requirement will be determined by keeping records of the product data, as required by condition #68 of the Authority to Construct permit. Condition #66 of each Authority to Construct has been revised to further clarify the intent of the permit.

### **Facility Comment #4:**

Condition #83 of each permit requires the permittee to keep a record of the combined daily PM10 emissions and combined filterable PM10 emissions from the three glass furnaces.

Please revise the condition to state that the PM10 and filterable PM10 daily emissions will be based on source testing data, since the unit is not equipped with a CEMS for PM10.

**District Response to Facility Comment #4:**

Condition #83 of each permit has been revised to state that daily combined NOx emission records will be determined using CEMs data, and daily PM10 and filterable PM10 emissions will be determined using the annual source test data and daily production data.

**Facility Comment #5:**

Condition #84 of each permit contains a typo. "N-593-13 (22-C)" should read "N-593-13 (22-B).

**District Response to Facility Comment #5:**

The typo has been corrected on each of the final Authority to Construct permits.

**APPENDIX VII**  
**EPA Comments and District Response**

## **EPA Comments and District Response**

The following comments were received from the US Environmental Protection Agency (EPA), and are followed by the District response to the comment.

### **EPA Comment #1:**

*EPA notes that the limits in SIP approved Rule 4354 are in terms of lbs/ton of glass pulled on both a 1 and 24 hr basis. However, several of the proposed permit conditions to limit emissions are stated in units of both lbs/hr and lb/ton of glass pulled. (See page 28 of the evaluation). The pound per hour limits do not ensure enforceability of the SIP emission limits because they are calculated assuming the lbs/ton of glass pulled limit applies when the unit is operating at 100% capacity. If the furnace operates at less than 100% capacity, then they can still comply at the lb/hr emission limit but exceed the lb/ton of glass pulled emission limit. Since the lb/hr emission limits proposed for this permit do not ensure compliance with the lb/ton of glass pulled emission limits, the permit must be revised to either indicate both limits always apply (i.e., change the condition to read "and" rather than "or" for the stated limits); or remove all lb/hr emission limits. This change is not required for any pollutant with a concentration (ppmvd) emission limit. Please make this revision to all three of the furnace permits.*

### **District Response to EPA Comment #1:**

The District agrees and has revised the engineering evaluation and Authority to Construct permits accordingly.

### **EPA Comment #2:**

*Page 10 of the evaluation states: "The combined post-project annual potential to emit for the three furnaces will be less than the existing combined NOx emission limit. Thus, the existing combined annual NOx limit will no longer be applicable and will be removed from the permit. The combined daily NOx limit will continue to apply." EPA multiplied the daily limit of 3,392.2 lbs/day by 365 days/yr, which results in an annual PTE of 619 tpy, which is higher than the current annual permit limit of 606.54 tpy. To ensure no increase in allowable emissions, please retain the current annual permit limit of 606.54 tpy.*

### **District Response to EPA Comment #2:**

As demonstrated in the following calculations, it is not possible for the combined annual emissions from the three furnaces to exceed 606.54 tons-NOx per year (1,213,080 tons-NOx/year) without either first exceeding the 30-day rolling NOx emission limits or exceeding the rolling 12-month pull rate, which were both included as permit conditions on the draft Authority to Construct permits.

Annual NOx emissions from each glass furnace is based on a rolling 30-day limit of 1.5 lb-NOx/ton. The rolling 12-month glass pull rates limits for the three furnace permits, respectively, are 146,000 tons, 87,235 tons, and 124,100 tons. The sum of the pull rates from the three furnaces is 357,335 tons of glass pulled per rolling 12-months. At the previously mentioned 1.5 lb-NOx/ton emission rate, the total combined emissions from the three furnaces cannot exceed the following:

Combined NOx = 357,335 tons of glass pulled/rolling 12 months x 1.5 lb-NOx/ton  
Combined NOx = 536,003 lb-NOx/rolling 12-months

Therefore, the inclusion of a combined limit of 606.54 tons-NOx/year is not necessary.

**EPA Comment #3:**

*The evaluation does not include an evaluation of CAM applicability. EPA notes that the evaluation indicates that the facility is a major source for NOx, SOx and VOC and that all three furnaces have emissions above the major source threshold for NOx. Therefore, please revise the evaluation to include an analysis of the applicable CAM requirements.*

**District Response to EPA Comment #3:**

A CAM applicability section has been added to the final engineering evaluation.

**EPA Comment #4:**

*Please revise the evaluation to include an analysis for PM2.5, or at a minimum, that since no NSR related requirements are triggered for PM10, then none are applicable to PM2.5, which has higher applicability thresholds.*

**District Response to EPA Comment #4:**

The final engineering evaluation has been revised to indicate that the facility is not a Major Source for PM2.5 emissions. Therefore, no NSR requirements are applicable for PM2.5 emissions.