FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Guardian Industries, LLC

AUTHORIZING THE OPERATION OF
Guardian Industries Corsicana
Flat Glass Manufacturing

LOCATED AT
Navarro County, Texas
Latitude 32° 3′ 48″ Longitude 96° 25′ 37″
Regulated Entity Number: RN100221811

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: O1091 Issuance Date: January 13, 2025

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:

    A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.

    B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

    C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

    D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

E. Emission units subject to 40 CFR Part 63, Subpart ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, § 113.1090 which incorporates the 40 CFR Part 63 Subpart by reference.

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements

B. Title 30 TAC § 101.3 (relating to Circumvention)

C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ

D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ

E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)

F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)

G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)

H. Title 30 TAC § 101.221 (relating to Operational Requirements)

I. Title 30 TAC § 101.222 (relating to Demonstrations)

J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

(i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(1)(E)

(iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)

(iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive

ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

(1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.

(2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.

(3) Records of all observations shall be maintained.

(4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity

requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

(c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)

(iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:

(1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.

(2) Records of all observations shall be maintained.

(3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to

condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(7) and (a)(7)(A).

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

C. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

D. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).

E. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:

(i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

(ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)

(iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

4. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:

A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)

B. Title 40 CFR § 60.8 (relating to Performance Tests)

C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)

D. Title 40 CFR § 60.12 (relating to Circumvention)

E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)

F. Title 40 CFR § 60.14 (relating to Modification)

G. Title 40 CFR § 60.15 (relating to Reconstruction)

H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

5. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

6. The permit holder shall comply with certified registrations submitted to the TCEQ for purposes of establishing federally enforceable emission limits. A copy of the certified registration shall be maintained with the permit. Records sufficient to demonstrate compliance with the established limits shall be maintained. The certified registration and records demonstrating compliance shall be provided, on request, to representatives of the appropriate TCEQ regional office and any local air pollution control agency having jurisdiction over the site. The permit holder shall submit updated certified registrations when changes at the site require establishment of new emission limits. If changes result in emissions that do not remain below major source thresholds, the permit holder shall submit a revision application to codify the appropriate requirements in the permit.

Additional Monitoring Requirements

7. The permit holder shall comply with the periodic monitoring requirements as specified in the attached “Periodic Monitoring Summary” upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the “Periodic Monitoring Summary,” for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

8. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule (including the terms, conditions, monitoring, recordkeeping, and reporting identified in registered PBRs and permits by rule identified in the PBR Supplemental Tables dated January 7, 2026 in the application for project 39595), standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:

A. Are incorporated by reference into this permit as applicable requirements

B. Shall be located with this operating permit

C. Are not eligible for a permit shield

9. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.

10. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

11. The permit holder shall comply with the following requirements for Air Quality Standard Permits:

A. Registration requirements listed in 30 TAC § 116.611, unless otherwise provided for in an Air Quality Standard Permit

B. General Conditions listed in 30 TAC § 116.615, unless otherwise provided for in an Air Quality Standard Permit

C. Requirements of the non-rule Air Quality Standard Permit for Pollution Control Projects

Compliance Requirements

12. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

13. Use of Discrete Emission Credits to comply with the applicable requirements:

A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) If applicable, offsets for Title 30 TAC Chapter 116

(iv) Temporarily exceed state NSR permit allowables

B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)

(ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4

(iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

(v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Protection of Stratospheric Ozone

14. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:

A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

B. The permit holder shall comply with 40 CFR Part 82, Subpart F related to the disposal requirements for appliances using Class I or Class II (ozone-depleting) substances or non-exempt substitutes as specified in 40 CFR §§ 82.150 - 82.166 and the applicable Part 82 Appendices.

Permit Location

15. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

New Source Review Authorization References

Applicable Requirements Summary

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
01002	GLASS MANUFACTURING UNITS	N/A	60CC-1	40 CFR Part 60, Subpart CC	No changing attributes.
10	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R1151-1	30 TAC Chapter 111, Nonagricultural Processes	No changing attributes.
10	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
787A	SRIC ENGINES	N/A	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
787A	SRIC ENGINES	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
787B	SRIC ENGINES	N/A	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
787B	SRIC ENGINES	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
787C	SRIC ENGINES	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
01002	EU	60CC-1	PM	40 CFR Part 60, Subpart CC	§ 60.293(b)(1) § 60.293(c)	Modified-process furnaces shall not emit PM at rates > 0.5g of particulate/kg of glass produced (5.0 x10-4 lb pm /lb glass) measured as per § 60.293(e) for specified glasses with a soda-lime recipe.	§ 60.293(c)(1) § 60.293(c)(2) § 60.293(c)(3) § 60.293(c)(4) § 60.293(f) § 60.296(a) § 60.296(c) § 60.296(d) § 60.296(d)(1) § 60.296(d)(2) § 60.296(d)(3)	None	§ 60.293(c)(5) § 60.296(a)
01002	EU	60CC-1	PM (Opacity)	40 CFR Part 60, Subpart CC	§ 60.293(c)(4) § 60.293(c)	Determine, based on the 6-minute opacity averages, the opacity value corresponding to the 99 percent upper confidence level of a normal distribution of average opacity values.	§ 60.293(c)(1) § 60.293(c)(2) § 60.293(c)(3) § 60.293(c)(4) § 60.293(f) § 60.296(a) § 60.296(d)(4)	None	§ 60.293(c)(5) § 60.296(a)
10	EP	R1151-1	PM	30 TAC Chapter 111, Nonagricultural Processes	§ 111.151(a) § 111.151(c)	No person may cause, suffer, allow, or permit emissions of particulate matter from any source to exceed the allowable rates specified in Table 1 as follows, except as provided by §111.153 of this title (relating to Emissions Limits for Steam Generators).	** See Periodic Monitoring Summary	None	None
10	EP	R111-1	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(B) § 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 20% averaged over a six minute period for any source on which construction was begun after January 31, 1972.	§ 111.111(a)(1)(D) [G]§ 111.111(a)(1)(F)	§ 111.111(a)(1)(C) § 111.111(a)(1)(D)	None
787A	EU	60IIII-1	CO	40 CFR Part 60,	§ 60.4205(c)-Table	Owners and operators of	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
				Subpart IIII	4 § 60.4206 § 60.4207(b) § 60.4211(b) § 60.4211(b)(1) § 60.4211(f) § 60.4211(f)(1) [G]§ 60.4211(f)(2) § 60.4211(f)(3)	emergency stationary fire pump CI ICE with a maximum engine power greater than or equal to 130 KW and less than or equal to 560 KW and a displacement of less than 30 liters per cylinder and is a 2008 model year or earlier must comply with a CO emission limit of 3.5 g/KW-hr, as listed in Table 4 to this subpart.			
787A	EU	60IIII-1	NMHC and NO_X	40 CFR Part 60, Subpart IIII	§ 60.4205(c)-Table 4 § 60.4206 § 60.4207(b) § 60.4211(b) § 60.4211(b)(1) § 60.4211(f) § 60.4211(f)(1) [G]§ 60.4211(f)(2) § 60.4211(f)(3)	Owners and operators of emergency stationary fire pump CI ICE with a maximum engine power greater than or equal to 130 KW and less than or equal to 560 KW and a displacement of less than 30 liters per cylinder and is a 2008 model year or earlier must comply with an NMHC+NOx emission limit of 10.5 g/KW-hr, as listed in Table 4 to this subpart.	None	None	None
787A	EU	60IIII-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(c)-Table 4 § 60.4206 § 60.4207(b) § 60.4211(b) § 60.4211(b)(1) § 60.4211(f) § 60.4211(f)(1) [G]§ 60.4211(f)(2) § 60.4211(f)(3)	Owners and operators of emergency stationary fire pump CI ICE with a maximum engine power greater than or equal to130 KW and less than or equal to 560 KW and a displacement of less than 30 liters per cylinder and is a 2008 model year or earlier must comply with a PM	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						emission limit of 0.54 g/KW-hr, as listed in Table 4 to this subpart.			
787A	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines as applicable. No further requirements apply for such engines under this part.	None	None	None
787B	EU	60IIII-1	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1039-Appendix I § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) § 60.4211(f) § 60.4211(f)(1) [G]§ 60.4211(f)(2) § 60.4211(f)(3)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 3.5 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 1039-Appendix I.	None	None	None
787B	EU	60IIII-1	NMHC and NO_X	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1039-Appendix I § 60.4202(a)(2)	Owners and operators of emergency stationary CI ICE, that are not fire pump	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) § 60.4211(f) § 60.4211(f)(1) [G]§ 60.4211(f)(2) § 60.4211(f)(3)	engines, with a maximum engine power greater than or equal to 75 KW and less than or equal to 560 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with an NMHC+NOx emission limit of 4.0 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 1039-Appendix I.			
787B	EU	60IIII-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1039-Appendix I § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) § 60.4211(f) § 60.4211(f)(1) [G]§ 60.4211(f)(2) § 60.4211(f)(3)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 1039-Appendix I.	None	None	None
787B	EU	60IIII-1	PM (Opacity)	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1039.105(b)(1) § 1039.105(b)(2) § 1039.105(b)(3) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) § 60.4211(f)	Emergency stationary CI ICE, that are not fire pump engines, with displacement < 10 lpc and not constant-speed engines, with max engine power < 2237 KW and a 2007 model year and later or max engine power > 2237 KW and a 2011 model year and later, must comply	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.4211(f)(1) [G]§ 60.4211(f)(2) § 60.4211(f)(3)	with following opacity emission limits: 20% during acceleration, 15% during lugging, 50% during peaks in either acceleration or lugging modes as stated in §60.4202(a)(1)-(2), (b)(2), and 40 CFR 1039.105(b)(1)-(3).			
787B	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines as applicable. No further requirements apply for such engines under this part.	None	None	None
787C	EU	63ZZZZ-1	CO	40 CFR Part 63, Subpart ZZZZ	§ 63.6603(a)-Table 2d.3.a § 63.6595(a)(1) § 63.6595(c) § 63.6603(a)-Table 2b.2.a § 63.6603(a)-Table 2b.2.b § 63.6604(a) § 63.6605(a) § 63.6605(b) [G]§ 63.6625(g)	For each existing non-emergency, non-black start CI stationary RICE with a site rating greater than 500 HP, located at an area source, you must limit the concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15% O2.	§ 63.6612(a) § 63.6615 § 63.6620(a) § 63.6620(a)-Table 3.4 § 63.6620(a)-Table 4.3.a.i § 63.6620(a)-Table 4.3.a.ii § 63.6620(a)-Table 4.3.a.iii § 63.6620(a)-Table	§ 63.6620(i) § 63.6630(a)-Table 5.2.a.iii § 63.6635(a) § 63.6635(c) § 63.6655(a) § 63.6655(a)(1) § 63.6655(a)(2) § 63.6655(a)(3) § 63.6655(a)(4) § 63.6655(a)(5) [G]§ 63.6655(b)	§ 63.6620(i) § 63.6630(c) § 63.6640(b) § 63.6640(e) § 63.6645(a) § 63.6645(g) § 63.6645(h) § 63.6645(h)(2) § 63.6650(a) § 63.6650(a)-Table 7.1.a.i § 63.6650(a)-Table 7.1.b

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.6625(h) § 63.6630(a) § 63.6630(b) § 63.6640(b)		4.3.a.v § 63.6620(b) § 63.6620(d) [G]§ 63.6620(e)(2) [G]§ 63.6625(b) § 63.6630(a)-Table 5.2.a.i § 63.6630(a)-Table 5.2.a.ii § 63.6630(a)-Table 5.2.a.iii § 63.6635(a) § 63.6635(b) § 63.6640(a) § 63.6640(a)-Table 6.10.a.i § 63.6640(a)-Table 6.10.a.ii § 63.6640(a)-Table 6.10.a.iii § 63.6640(a)-Table 6.10.a.iv § 63.6640(a)-Table 6.10.a.v § 63.6640(b)	§ 63.6655(d) § 63.6660(a) § 63.6660(b) § 63.6660(c)	§ 63.6650(a)-Table 7.1.c § 63.6650(b) § 63.6650(b)(1) § 63.6650(b)(2) § 63.6650(b)(3) § 63.6650(b)(4) [G]§ 63.6650(c) [G]§ 63.6650(e) § 63.6650(f)

Additional Monitoring Requirements

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 10	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
Monitoring Information	
Indicator: Opacity	
Minimum Frequency: Six times per minute	
Averaging Period: Six-minutes	
Deviation Limit: Opacity shall not exceed 20 percent averaged over a six minute period	
Periodic Monitoring Text: Measure and record the opacity with a continuous opacity monitoring system (COMS). The COMS shall be operated in accordance with 40 CFR § 60.13. Any opacity readings that are above the opacity limit from the underlying applicable requirement shall be considered and reported as a deviation.	

New Source Review Authorization References

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: PSDTX370M3	Issuance Date: 09/19/2025
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 8518	Issuance Date: 09/19/2025
Authorization No.: 125863	Issuance Date: 11/01/2023
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.183	Version No./Date: 09/04/2000
Number: 106.227	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.264	Version No./Date: 09/04/2000
Number: 106.265	Version No./Date: 09/04/2000
Number: 106.371	Version No./Date: 03/14/1997
Number: 106.412	Version No./Date: 09/04/2000
Number: 106.452	Version No./Date: 09/04/2000
Number: 106.453	Version No./Date: 09/04/2000
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.476	Version No./Date: 03/14/1997
Number: 106.511	Version No./Date: 09/04/2000
Number: 106.532	Version No./Date: 03/14/1997

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization**
01002	GLASS MELTING FURNACE	8518, PSDTX370M3
10	GLASS FURNACE STACK	8518, PSDTX370M3, 106.264/09/04/2000
787A	FIRE WATER PUMP ENGINE	106.511/09/04/2000
787B	COLD WELL PUMP ENGINE	106.511/09/04/2000
787C	GENERATOR	106.511/09/04/2000

**This column may include Permit by Rule (PBR) numbers and version dates, PBR Registration numbers in brackets, Standard Permit Registration numbers, Minor NSR permit numbers, and Major NSR permit numbers.

Appendix A

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM ..... actual cubic feet per minute
AMOC ..... alternate means of control
ARP ..... Acid Rain Program
ASTM ..... American Society of Testing and Materials
B/PA ..... Beaumont/Port Arthur (nonattainment area)
CAM ..... Compliance Assurance Monitoring
CD ..... control device
CEMS ..... continuous emissions monitoring system
CFR ..... Code of Federal Regulations
COMS ..... continuous opacity monitoring system
CVS ..... closed vent system
D/FW ..... Dallas/Fort Worth (nonattainment area)
EP ..... emission point
EPA ..... U.S. Environmental Protection Agency
EU ..... emission unit
FCAA Amendments ..... Federal Clean Air Act Amendments
FOP ..... federal operating permit
gr/100 scf ..... grains per 100 standard cubic feet
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... hydrogen sulfide
ID No. ..... identification number
lb/hr ..... pound(s) per hour
MACT ..... Maximum Achievable Control Technology (40 CFR Part 63)
MMBtu/hr ..... Million British thermal units per hour
NA ..... nonattainment
N/A ..... not applicable
NADB ..... National Allowance Data Base
NESHAP ..... National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
NO_x ..... nitrogen oxides
NSPS ..... New Source Performance Standard (40 CFR Part 60)
NSR ..... New Source Review
ORIS ..... Office of Regulatory Information Systems
Pb ..... lead
PBR ..... Permit By Rule
PEMS ..... predictive emissions monitoring system
PM ..... particulate matter
ppmv ..... parts per million by volume
PRO ..... process unit
PSD ..... prevention of significant deterioration
psia ..... pounds per square inch absolute
RO ..... Responsible Official
SIP ..... state implementation plan
SO_2 ..... sulfur dioxide
TCEQ ..... Texas Commission on Environmental Quality
TSP ..... total suspended particulate
TVP ..... true vapor pressure
U.S.C. ..... United States Code
VOC ..... volatile organic compound

Appendix B

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
SORBENT	Sorbent Truck Unloading and Sorbent Storage Silo Filter Stack	PM	0.02	<0.01	6, 13, 31, 39	6, 31, 39	31
		PM_{10}	0.02	<0.01			
		$PM_{2.5}$	0.02	<0.01			
CCFDC	Dust Collection Silo and Transport System, ECS Dust Collection Super Sack Fill Station Filter Stack	PM	0.04	0.15	6, 13, 31, 39	6, 31, 39	31
		PM_{10}	0.04	0.15			
		$PM_{2.5}$	0.04	0.15			
10	Glass Furnace Stack (Normal Operation)	PM	11.70	51.25	2, 3, 4, 5, 7, 8, 9, 10, 11, 30, 32, 33, 34, 36, 38, 40, 42, 46, 47, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 68, 69, 70, 71	2, 4, 5, 7, 8, 9, 30, 32, 33, 34, 38, 40, 46, 47, 50, 51, 52, 53, 71	2, 38, 51
		PM_{10}	11.70	51.25			
		$PM_{2.5}$	10.65	46.63			
		NO_x (7)	120.00	525.60			
		CO	2.60	11.39			
		SO_2 (7)	31.20	136.66			
		H_2SO_4	1.60	7.01			
		VOC	2.60	11.39			

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
		Pb	0.11	0.48			
		NH_3	3.08	13.49			
10	Glass Furnace Stack (Alternate Operation Scenario) (8)	PM	25.00	1.80	2, 3, 4, 5, 7, 8, 9, 10, 11, 30, 32, 33, 34, 36, 38, 40, 42, 46, 47, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68,69, 70, 71	2, 4, 5, 7, 8, 9, 30, 32, 33, 34, 38, 40, 46, 47, 50, 51, 52, 53, 71	2, 38, 51
		PM_{10}	25.00	1.80			
		$PM_{2.5}$	22.75	1.63			
		NO_x (7)	600.00	43.20			
		CO	2.60	0.18			
		SO_2 (7)	100.00	7.20			
		H_2SO_4	4.25	0.31			
		VOC	2.60	0.18			
		Pb	0.11	<0.01			
10	Glass Furnace Stack Cap	PM	25.00	52.20			
		PM_{10}	25.00	52.20			
		$PM_{2.5}$	22.75	47.51			

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lb/hr	**TPY (4)**	**Special Condition/Application Information**	**Special Condition/Application Information**	**Special Condition/Application Information**
		NO_x (7)	600.00	560.16	2, 3, 4, 5, 7, 8, 9, 10, 11, 30, 32, 33, 34, 36, 38, 40, 42, 46, 47, 50, 51, 52, 53	2, 4, 5, 7, 8, 9, 30, 32, 33, 34, 38, 40, 46, 47, 50, 51, 52, 53	2, 38, 51
		CO	2.60	11.39			
		SO_2 (7)	100.00	141.61			
		H_2SO_4	4.25	7.20			
		VOC	2.60	11.39			
		Pb	0.11	0.48			
		NH_3	3.08	13.49			
766	Raw Materials Unloading 1 Baghouse Stack (DC1)	PM	0.25	1.07	6, 7, 12, 16, 31, 32, 35, 52, 53	6, 31, 32, 35, 52, 53	31
		PM_{10}	0.25	1.07			
		$PM_{2.5}$	0.25	1.07			
766A	Raw Materials Unloading 2 Baghouse Stack (DC16)	PM	0.06	0.27	6, 7, 12, 16, 31, 32, 35, 39, 52, 53	6, 31, 32, 35, 39, 52, 53	31
		PM_{10}	0.06	0.27			
		$PM_{2.5}$	0.06	0.27			
767	Bulk Elevator	PM	0.06	0.27			

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
	Baghouse Stack (DC9)	PM_{10}	0.06	0.27	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		$PM_{2.5}$	0.06	0.27			
767A	Bulk Elevator WBE Baghouse Stack (DC10)	PM	0.06	0.27	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		PM_{10}	0.06	0.27			
		$PM_{2.5}$	0.06	0.27			
768	Sand Storage Bin 1 Baghouse Stack (DC3)	PM	0.09	0.38	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		PM_{10}	0.09	0.38			
		$PM_{2.5}$	0.09	0.38			
768A	Soda Ash Storage Bin Baghouse Stack (DC6)	PM	0.09	0.38	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		PM_{10}	0.09	0.38			
		$PM_{2.5}$	0.09	0.38			
768B	Dolomite Storage Bin Baghouse Stack (DC2)	PM	0.09	0.38	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		PM_{10}	0.09	0.38			
		$PM_{2.5}$	0.09	0.38			

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
768C	Salt Cake, Limestone, Dolomite Storage Bins Baghouses Stack (DC13, DC15 [DC13A], and DC14)	PM	0.27	0.69	6, 7, 12, 14, 16, 31, 32, 52, 53	6, 14, 31, 32, 52, 53	31
		PM_{10}	0.27	0.69			
		$PM_{2.5}$	0.27	0.69			
769	Cullet Storage Bin Baghouse Stack (DC12)	PM	0.03	0.11	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		PM_{10}	0.03	0.11			
		$PM_{2.5}$	0.03	0.11			
770	Cullet Elevator Baghouse Stack (DC11)	PM	0.06	0.27	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		PM_{10}	0.06	0.27			
		$PM_{2.5}$	0.06	0.27			
771	Cullet Crusher Surge Hopper Baghouse Stack (DC7)	PM	0.01	0.04	6, 7, 12, 16, 31, 32, 52, 53	6, 31, 32, 52, 53	31
		PM_{10}	0.01	0.04			
		$PM_{2.5}$	0.01	0.04			
771A	Cullet Conveyor Baghouse Stack (DC8 [DC7A])	PM	0.01	0.03	6, 7, 12, 16, 31, 32, 52,	6, 31, 32, 52, 53	31
		PM_{10}	0.01	0.03			

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
		$PM_{2.5}$	0.01	0.03	53		
783	Sand Storage Bin 2 Baghouse Stack (DC4)	PM	0.09	0.23	6, 7, 12, 16, 31, 32, 52, 53	6, 14, 31, 32, 52, 53	31
		PM_{10}	0.09	0.23			
		$PM_{2.5}$	0.09	0.23			
784	Sand Storage Bin 3 Baghouse Stack (DC5)	PM	0.09	0.23	6, 7, 12, 16, 31, 32, 52, 53	6, 14, 31, 32, 52, 53	31
		PM_{10}	0.09	0.23			
		$PM_{2.5}$	0.09	0.23			
785	Cullet Return System Baghouse Stack (DC-CRS)	PM	0.73	3.19	6, 7, 12, 16, 31, 32, 37, 52, 53	6, 31, 32, 52, 53	31, 37
		PM_{10}	0.73	3.19			
		$PM_{2.5}$	0.73	3.19			
786	Batch House Vacuum System Baghouse Stack (DC-BHVS)	PM	0.09	0.25	6, 7, 12, 14, 16, 31, 32, 52, 53	6, 14, 31, 32, 52., 53	31
		PM_{10}	0.09	0.25			
		$PM_{2.5}$	0.09	0.25			
796	Bulk Conveyor	PM	0.06	0.27			

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lb/hr	**TPY (4)**	**Special Condition/Application Information**	**Special Condition/Application Information**	**Special Condition/Application Information**
	Baghouse Stack (DC17)	PM_{10}	0.06	0.27	6, 12, 31, 39	6, 31, 39	31
		$PM_{2.5}$	0.06	0.27			
797	Bulk Conveyor Baghouse Stack (DC18)	PM	0.06	0.27	6, 12, 31, 39	6, 31, 39	31
		PM_{10}	0.06	0.27			
		$PM_{2.5}$	0.06	0.27			
798	Bulk Conveyor Baghouse Stack (DC19)	PM	0.06	0.27	6, 12, 31, 39	6, 31, 39	31
		PM_{10}	0.06	0.27			
		$PM_{2.5}$	0.06	0.27			
799	ECS Dust Bin Baghouse Stack (DC20)	PM	0.04	0.15	6, 12, 31, 39	6, 31, 39	31
		PM_{10}	0.04	0.15			
		$PM_{2.5}$	0.04	0.15			
0600	Cutting Area (5)	VOC (mineral spirits)	31.91	49.43	20, 52, 53	20, 52, 53	
788	Lehr Exhaust Stack	SO_2	5.25	23.00	7, 32, 53	32, 53	
F-1	Glass Rolls Lube Fugitives (5)	SO_2	3.08	13.49	7, 32, 53	32, 53	

Major NSR Summary Table

Permit Numbers 8518 and PSDTX370M3					Issuance Date: September 19, 2025		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
F-2	Tin Bath Fugitives (5)	PM	<0.01	0.02	7, 23, 32, 53	23, 32, 53	23
		PM_{10}	<0.01	0.02			
		$PM_{2.5}$	<0.01	0.02			
NH3TNK	Ammonia Tank	NH_3	<0.01	0.02	23	23	23
NH3FUG	Ammonia Piping Fugitives (5)	NH_3	<0.01	0.01	23	23	23

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
H_2SO_4 - sulfuric acid
Pb - lead
NH_3 - ammonia
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Planned startup and shutdown emissions are included. Maintenance activities, except as specified in Special Condition No. 24, are not authorized by this permit and will need separate authorization, unless the activity can meet the conditions of 30 TAC § 116.119.
(7) Compliance with hourly allowable emission rates in pounds per hour shall be based on a 30-day rolling average of the daily average values.
(8) Glass Furnace Stack Alternate Operation Scenario applies when the emission control system (ECS) is offline for maintenance. The ECS maintenance Alternate Operation Scenario shall be limited to no more than 144 hours per year.

Texas Commission on Environmental Quality
Air Quality Permit

A Permit Is Hereby Issued To
Guardian Industries, LLC
Authorizing the Construction and Operation of
Float Glass Manufacturing Plant
Located at **Corsicana, Navarro County, Texas**
Latitude 32.063888 Longitude -96.438888

Permits: 8518 and PSDTX370M3

Amendment Date: September 19, 2025

Expiration Date: December 15, 2026

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] [1]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

1. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] [1]
2. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC § 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC § 116.115(b)(2)(G)]
3. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
4. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
5. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
6. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) § 382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
7. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. [1]

[1] Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Common Acronyms in Air Permits

°C = Temperature in degrees Celsius
°F = Temperature in degrees Fahrenheit
°K = Temperature in degrees Kelvin
µg = microgram
$\mu g/m^3$ = microgram per cubic meter
acfm = actual cubic feet per minute
AMOC = alternate means of control
AOS = alternative operating scenario
AP-42 = Air Pollutant Emission Factors, 5th edition
APD = Air Permits Division
API = American Petroleum Institute
APWL = air pollutant watch list
BPA = Beaumont/ Port Arthur
BACT = best available control technology
BAE = baseline actual emissions
bbl = barrel
bbl/day = barrel per day
bhp = brake horsepower
BMP = best management practices
Btu = British thermal unit
Btu/scf = British thermal unit per standard cubic foot or feet
CAA = Clean Air Act
CAM = compliance-assurance monitoring
CEMS = continuous emissions monitoring systems
cfm = cubic feet (per) minute
CFR = Code of Federal Regulations
CN = customer ID number
CNG = compressed natural gas
CO = carbon monoxide
COMS = continuous opacity monitoring system
CPMS = continuous parametric monitoring system
DFW = Dallas/ Fort Worth (Metroplex)
DE = destruction efficiency
DRE = destruction and removal efficiency
dscf = dry standard cubic foot or feet
dscfm = dry standard cubic foot or feet per minute
ED = (TCEQ) Executive Director
EF = emissions factor
EFR = external floating roof tank
EGU = electric generating unit
EI = Emissions Inventory
ELP = El Paso
EPA = (United States) Environmental Protection Agency
EPN = emission point number
ESL = effects screening level
ESP = electrostatic precipitator
FCAA = Federal Clean Air Act
FCCU = fluid catalytic cracking unit
FID = flame ionization detector
FIN = facility identification number
ft = foot or feet
ft/sec = foot or feet per second
g = gram
gal/wk = gallon per week
gal/yr = gallon per year
GLC = ground level concentration
GLC_{max} = maximum (predicted) ground-level concentration
gpm = gallon per minute
gr/1000scf = grain per 1000 standard cubic feet
gr/dscf = grain per dry standard cubic feet
H_2CO = formaldehyde
H_2S = hydrogen sulfide
H_2SO_4 = sulfuric acid
HAP = hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
HC = hydrocarbons
HCl = hydrochloric acid, hydrogen chloride
Hg = mercury
HGB = Houston/Galveston/Brazoria
hp = horsepower
hr = hour
IFR = internal floating roof tank
in H_2O = inches of water
in Hg = inches of mercury
IR = infrared
ISC3 = Industrial Source Complex, a dispersion model
ISCST3 = Industrial Source Complex Short-Term, a dispersion model
K = Kelvin; extension of the degree Celsius scaled-down to absolute zero
LACT = lease automatic custody transfer
LAER = lowest achievable emission rate
lb = pound
lb/day = pound per day
lb/hr = pound per hour
lb/MMBtu = pound per million British thermal units
LDAR = Leak Detection and Repair (Requirements)
LNG = liquefied natural gas
LPG = liquefied petroleum gas
LT/D = long ton per day
m = meter
m^3 = cubic meter
m/sec = meters per second
MACT = maximum achievable control technology
MAERT = Maximum Allowable Emission Rate Table
MERA = Modeling and Effects Review Applicability
mg = milligram
mg/g = milligram per gram
mL = milliliter
MMBtu = million British thermal units
MMBtu/hr = million British thermal units per hour
MSDS = material safety data sheet
MSS = maintenance, startup, and shutdown
MW = megawatt
NAAQS = National Ambient Air Quality Standards
NESHAP = National Emission Standards for Hazardous Air Pollutants
NGL = natural gas liquids
NNSR = nonattainment new source review
NO_x = total oxides of nitrogen
NSPS = New Source Performance Standards

PAL = plant-wide applicability limit
PBR = Permit(s) by Rule
PCP = pollution control project
PEMS = predictive emission monitoring system
PID = photo ionization detector
PM = periodic monitoring
PM = total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
$PM_{2.5}$ = particulate matter equal to or less than 2.5 microns in diameter
PM_{10} = total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
POC = products of combustion
ppb = parts per billion
ppm = parts per million
ppmv = parts per million (by) volume
psia = pounds (per) square inch, absolute
psig = pounds (per) square inch, gage
PTE = potential to emit
RA = relative accuracy
RATA = relative accuracy test audit
RM = reference method
RVP = Reid vapor pressure
scf = standard cubic foot or feet
scfm = standard cubic foot or feet (per) minute
SCR = selective catalytic reduction
SIL = significant impact levels
SNCR = selective non-catalytic reduction
SO_2 = sulfur dioxide
SOCMI = synthetic organic chemical manufacturing industry
SRU = sulfur recovery unit
TAC = Texas Administrative Code
TCAA = Texas Clean Air Act
TCEQ = Texas Commission on Environmental Quality
TD = Toxicology Division
TLV = threshold limit value
TMDL = total maximum daily load
tpd = tons per day
tpy = tons per year
TVP = true vapor pressure
VOC = volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
VRU = vapor recovery unit or system

Special Conditions

Permit Numbers 8518 and PSDTX370M3

Emission Limitations

1. This permit authorizes only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and those sources are limited to the emission rates and other conditions specified in the table. In addition, this permit authorizes all emissions from planned startup and shutdown activities associated with facilities or groups of facilities that are authorized by this permit.

Federal Applicability

2. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources in Title 40 Code of Federal Regulations (40 CFR) Part 60, specifically the following:

   A. Subpart A - General Provisions; and

   B. Subpart CC - Glass Manufacturing Plants.

Fuel Specifications

3. Fuel used in the glass manufacturing process shall be pipeline-quality, sweet natural gas. Backup fuel for the glass melt furnace shall be liquefied petroleum gas (LPG). Use of any other fuel will require prior approval of the Executive Director of the Texas Commission on Environmental Quality (TCEQ). **(9/25)**

4. Upon request by the Executive Director of the TCEQ or TCEQ Regional Director or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuels used in these facilities or shall allow air pollution control program representatives to obtain a sample for analysis.

Opacity/Visible Emission Limitations

5. Opacity of particulate matter emissions from the Glass Furnace Stack (Emission Point No. [EPN] 10) shall not exceed 20 percent, averaged over a six-minute period.

6. Opacity of particulate matter emissions from all Baghouse Stacks (EPNs SORBENT, CCFDC, 766, 766A, 767, 767A, 768, 768A, 768B, 768C, 769, 770, 771, 771A, 783, 784, 785, 786, 796, 797, 798, and 799) shall not exceed 5 percent, averaged over a six-minute period. **(9/25)**

7. Visible fugitive emissions shall not leave the plant property for more than 30 cumulative seconds in any six-minute period.

Operational Limitations, Work Practices, and Plant Design

8. This facility shall be limited to a maximum hourly glass production rate of 26 tons, based on a daily average, and a maximum daily glass production rate of 624 tons.

9. The Glass Furnace Stack (EPN 10) shall be a 300-foot natural draft stack with a diameter of 11 feet at the sampling port. Operating temperatures in the Glass Furnace shall not exceed 3100°F.

10. A Catalytic Ceramic Filter System with ammonia and hydrated lime injection (CCF) shall be used to control PM, SO_2, and H_2SO_4 emissions from the Glass Furnace Stack (EPN 10). Emissions shall be controlled to the limits as specified in Consent Decree 15-CV-13426 attached to this permit. **(9/25)**

11. Selective Catalytic Reduction (SCR) shall be used to control NO_x emissions from the Glass Furnace Stack (EPN 10). Emissions shall be controlled to the limits as specified in Consent Decree 15-CV-13426 attached to this permit. **(9/25)**

    A. Aqueous ammonia shall be used in the SCR system and shall have a concentration of no more than 20% ammonia by weight.

    B. Aqueous ammonia shall be stored in a pressure vessel.

    C. Ammonia emissions from the Glass Furnace Stack (EPN 10) shall be limited to no more than 10 parts per million by volume (ppmv).

12. Fabric filter baghouses designed to meet an outlet grain loading of not more than 0.01 grain per dry standard cubic foot (dscf) of exhaust each, properly installed and in good working order, shall control particulate matter (PM) emissions from the Raw Materials Unloading, Bulk Elevator, Batch Elevator, the three Sand Storage Bins, Soda Ash Storage Bin, Dolomite Storage Bin, Salt Cake Storage Bin, Limestone Storage Bins, Cullet Storage Bin, Cullet Elevator, Cullet Crusher Surge Hopper, Cullet Conveyor, Cullet Return System, Batch House Vacuum System, the three Bulk Conveyors, ECS Dust Bin, Dust Collection Silo and Transport System, and ECS Dust Collection Super Sack Fill Station (EPNs 766, 766A, 767, 767A, 768, 768A, 768B, 768C, 769, 770, 771, 771A, 783, 784, 785, 786, 796, 797, 798, 799, and CCFDC) when these processes are in operation, except during periods of baghouse maintenance or periods in which the furnace is operating on backup generator power not to exceed a total of 168 hours per year per baghouse. **(9/25)**

13. Fabric filter baghouse designed to meet an outlet grain loading of not more than 0.003 grain per dscf of exhaust, properly installed and in good working order, shall control PM emissions from the Sorbent Truck Unloading and Sorbent Storage Silo (EPN SORBENT) when this process is in operation. **(9/25)**

14. Fabric filter baghouses and their associated processes for EPNs 783, 784, 768c, and 786 shall have a maximum annual operating schedule of 5,256 hours.

15. Cleaning and maintenance of the abatement equipment shall be performed as recommended by the manufacturer and as necessary so that the equipment efficiency can be adequately maintained.

16. All hood, duct, and collection systems associated with the baghouses or any other pollution abatement equipment shall be effective in capturing emissions from this equipment and in preventing fugitive emissions from the building. The hood and duct systems shall be maintained free of holes, cracks, and other conditions that would reduce the collection efficiency of the emission capture system.

17. All batch components, sweepings, baghouse dust, and waste that is not recycled shall be disposed of in such a manner that will prevent dust from becoming airborne. Specifically, disposal of all solid waste shall be accomplished in such a manner that will prevent nuisance PM emissions.

18. Fabric filter baghouses designed to meet an outlet grain loading of not more than 0.01 grain per dscf of exhaust each, properly installed and in good working order, shall control PM emissions from the rouge and charcoal storage bins. The baghouses shall vent within the building and never into the atmosphere. There shall be no visible emissions from the building.

19. To minimize fugitive emissions, all material spills, including any raw products, finished products, and waste products, shall be cleaned up immediately. Spillage of chemicals, including solvents, solutions, and acids also shall be cleaned up immediately. Clean up of these spills shall be accomplished with no visible emissions.

20. Mineral spirits usage rates shall be limited to a maximum rate of 31.91 pounds per hour and 98,860 pounds per year.

21. The holder of this permit shall physically identify and mark in a conspicuous location all equipment that has the potential of emitting air contaminants as follows:

    A. The facility identification numbers as submitted to the Emissions Inventory Section of the TCEQ.

    B. The emission point numbers as listed on the maximum allowable emission rates table (MAERT).

22. The operations/processes listed in the following table operate per the criteria of the referenced Permit by Rule (PBR)/Standard Permit and are incorporated by reference:

Table 1: Authorizations Incorporated by Reference

Operation/Process	PBR No./ Standard Permit No.	Registration No.
Replacement of burners on the glass furnace and installation of burners in the sixth port	6001 Non-rule	125863
Fugitive emissions associated with chlorination of the tin bath	106.261/262	73858

Piping, Valves, and Pumps in contact with NH_3 – 28AVO (9/25)

23. Except as may be provided for in the Special Conditions of this permit, the following requirements apply to the above-referenced equipment:

    A. Audio, olfactory, and visual checks for leaks within the operating area shall be made every four hours.

    B. As an alternative to AVO monitoring in SC 23.A, the permittee may conduct continuous monitoring for ammonia leaks using an ammonia sensor located in the ammonia operating area.

    C. Immediately, but no later than one hour upon detection of a leak, plant personnel shall take at least one of the following actions:

        (1) Isolate the leak.

        (2) Commence repair or replacement of the leaking component.

        (3) Use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible.

Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the Texas Commission on Environmental Quality (TCEQ) upon request.

Maintenance, Startup, and Shutdown (MSS)

24. The following MSS activities, which are planned and predictable and ensure the continuous normal operation of a facility or control device or return a facility or control device to normal operating conditions, are authorized: **(9/25)**

    A. Checker (regenerator) burning

    B. Regenerator/port neck/superflue raking

    C. Burner block work adjustments

    D. Combustion and dilution air fan swaps

    E. Glass furnace supplemental burner replacements

    F. Maintenance on the furnace add-on control devices

25. All maintenance activities shall be conducted to ensure compliance with the MAERT. Maintenance events on the furnace add-on control devices shall be limited to no more than 144 hours per year. **(9/25)**

26. Upset conditions and the resulting emissions are not authorized by this permit

27. No other maintenance activities are authorized by this permit.

Chemical Flexibility

28. This permit allows the use of those chemicals or compounds as listed in the permit file. Use of alternate chemicals or compounds will be allowed provided the following conditions are met:

    A. The new or replacement compound or product shall serve the same basic process function and the emissions shall be emitted from the same location as the replaced compound or product emissions.

    B. The Effects Screening Level (ESL) for any new or replacement compound or product shall not be less than the ESL value for any current compound or product and the emission rate (ER) for the replacement compound or product shall not be greater than the ER for the current compound or product, except if the following condition is met:

    where: there is a direct substitution of one chemical for another

    OR

    where: the replacement has different constituents

    where:

    ER1 is the ER of an authorized compound or product (chemical).

    ER2 is the ER of the replacement compound or product (chemical).

    ESL1 is the ESL for an authorized compound or product.

ESL2 is the ESL for the replacement compound or product.

The ESL shall be taken from the permit application or the current TCEQ ESL list. The use of new chemicals not listed in the current TCEQ ESL list will require that the TCEQ Toxicology Division develop an ESL for each chemical to be applied in the ratio test set forth above.

Records as required in Recordkeeping Requirements section of this permit shall be maintained at this site by the permit holder to demonstrate compliance with this condition and Special Condition No. 1 above.

C. This condition allows for changes in chemical formulations and does not allow for any increase in total emissions from any emission point.

Initial Demonstration of Compliance

29. To demonstrate compliance with the MAERT and with emission performance levels as specified in the special conditions, the holder of this permit shall perform stack sampling and/or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Glass Furnace Stack (EPN 10). Air contaminants to be tested for include (but are not limited to) PM (filterable PM via EPA Method 5), PM_{10}, $PM_{2.5}$, H_2SO_4, and NH_3. Sampling shall be accomplished within 60 days of achieving maximum production but not later than 180 days after startup. Sampling must be conducted in accordance with the TCEQ *Guidelines for Stack Sampling Facilities* and in accordance with the applicable EPA 40 CFR procedures. Any deviations from those procedures must be approved by the TCEQ Executive Director prior to sampling. The initial demonstration of compliance for NO_x and SO_2 30-day rolling average hourly emissions for the Glass Furnace shall be based on all quality assured hourly average data collected by the CEMS for all operating hours during the first 30 furnace operating days after furnace start-up following the initial CEMS certification/re-certification. **(9/25)**

Demonstration of Continuous Compliance

30. Upon request by the TCEQ Executive Director or the TCEQ Regional Director having jurisdiction, the holder of this permit shall conduct stack sampling analysis or otherwise prove satisfactory equipment performance and demonstrate compliance with this permit. Sampling must be conducted in accordance with appropriate procedures of the TCEQ *Guidelines for Stack Sampling Facilities* or in accordance with applicable procedures stated by the EPA Code of Federal Regulations. Any deviations from those procedures must be approved by the TCEQ Executive Director or the appropriate TCEQ Regional Director prior to conducting sampling.

31. The holder of this permit shall conduct a quarterly visible emissions determination to demonstrate compliance with the opacity limitations specified in this permit for all Baghouse Stacks (EPNs SORBENT, CCFDC, 766, 766A, 767, 767A, 768, 768A, 768B, 768C, 769, 770, 771, 771A, 783, 784, 785, 786, 796, 797, 798, and 799). This visible emissions determination shall be performed: 1) during normal plant operations, 2) for a minimum of six minutes, 3) approximately perpendicular to plume direction, 4) with the sun behind the observer (to the extent practicable), and 5) at least two stack heights, but not more than five stack heights, from the emission point. If visible emissions are observed from the emission point, the owner or operator shall: **(9/25)**

A. Take immediate action to eliminate visible emissions, record the corrective action within 24 hours, and comply with any applicable requirements in 30 Texas Administrative Code (TAC) § 101.201, Emissions Event Reporting and Recordkeeping Requirements; or

B. Determine opacity using 40 CFR Part 60, Appendix A, Test Method 9 as soon as practicable but no later than 24 hours after observing visible emissions. If the opacity limit is exceeded, take immediate action (as appropriate) to reduce opacity to within the permitted limit, record the corrective action within 24 hours, and comply with applicable requirements in 30 TAC § 101.201, Emissions Event Reporting and Recordkeeping Requirements.

32. The holder of this permit shall conduct a quarterly visible emissions determination to demonstrate compliance with the visible emissions limitation specified in this permit for the plant property. This visible emissions determination shall be performed: 1) during normal plant operations, 2) for a minimum of six minutes, 3) approximately perpendicular to plume direction, 4) with the sun behind the observer (to the extent practicable), 5) at least 15 feet, but not more than 0.25 mile, from the plume, and 6) in accordance with EPA 40 CFR Part 60, Appendix A, Test Method 22, except where stated otherwise in this condition. If visible emissions leaving the property exceed 30 cumulative seconds in any six-minute period, the owner or operator shall take immediate action (as appropriate) to eliminate the excessive visible emissions. The corrective action shall be documented within 24 business hours of completion.

33. To demonstrate compliance with the MAERT and with emission performance levels as specified in the special conditions, the holder of this permit shall perform annual stack sampling and/or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Glass Furnace Stack (EPN 10). Air contaminants to be tested for include lead (Pb). Sampling must be conducted in accordance with the TCEQ Guidelines for Stack Sampling Facilities or in accordance with the applicable U.S. EPA Code of Federal Regulations procedures. Any deviations from those procedures must be approved by the TCEQ Executive Director prior to sampling.

34. The holder of this permit shall conduct stack sampling and/or other testing as required to establish the actual pattern and quantities for Pb being emitted into the atmosphere from the Glass Furnace Stack (EPN 10) whenever the glass production rate increases equal or exceed 25 tons per day above that of the last stack test.

35. The holder of this permit shall install, calibrate, and maintain a device to monitor and record pressure drop in both the Raw Materials Unload DC1 and DC1a baghouses (EPNs 766 and 766a). The monitoring devices shall be calibrated in accordance with the manufacturer's specifications and shall be calibrated at least annually and shall be accurate to within a range of ±0.5 inch water gauge pressure (± 125 pascals); or ±0.5 percent of span.

    A. A minimum and maximum pressure drop shall be maintained at (or above) 0.75 inches water gauge pressure and below six inches water gauge. The actual pressure drop shall be recorded at least once per day.

    B. The holder of this permit may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging times specified, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).

    C. The holder of this permit shall perform monthly inspections to verify proper operation of the capture system to verify there are no holes, cracks, and/or other conditions that would reduce the collection efficiency of the emission capture system as represented. If the results of the inspections indicate that the capture system is not operating properly, the permit holder shall promptly take necessary corrective actions.

36. The control devices shall not have a bypass.The holder of this permit shall install, calibrate, and maintain a device to monitor and record pressure drop in the Glass Furnace Catalytic Ceramic Filter System (CCF) (EPN 10). The monitoring device shall be calibrated in accordance with the manufacturer's specifications and shall be calibrated at least annually and shall be accurate to within a range of ± 0.5 inches water gauge pressure (± 125 pascals); or ± 0.5% of span. **(9/25)**

    A. A minimum and maximum pressure drop shall be maintained in accordance with the manufacturer's specifications prior to the initial stack test performed in accordance with Special Condition No. 29. After the initial stack test has been completed, the pressure drop shall be maintained at (or above) and below the minimum and maximum pressure drops achieved and maintained during the last satisfactory stack test or in accordance with the manufacturer's specifications, as appropriate. The actual pressure drop shall be recorded at least once per day.

    B. The holder of this permit may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging times specified, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).

    C. The holder of this permit shall perform monthly inspections to verify proper operation of the capture system to verify there are no holes, cracks, and/or other conditions that would reduce the collection efficiency of the emission capture system as represented. If the results of the inspections indicate that the capture system is not operating properly, the permit holder shall promptly take necessary corrective actions.

37. Daily visible emissions observations for the Cullet Return System Baghouse Stack (EPN 785) shall be made and recorded in accordance with the requirements specified in 40 CFR § 64.7(c). To properly determine the presence of visible emissions, all sources shall be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor.

    If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity, consistent with Test Method 9, as soon as practicable but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no opacity limit stated in the corresponding specific permit condition, the emission unit's opacity limit will be established in accordance with §111.111(a)(1)(A) or (B). If the result of the Method 9 Test is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying specific permit condition or as established in accordance with §111.111(a)(1)(A) or (B)), the permit holder shall report a deviation.

    A. The holder of this permit shall perform monthly inspections to verify proper operation of the capture system to verify there are no holes, cracks, and/or other conditions that would reduce the collection efficiency of the emission capture system as represented. If the results of the

inspections indicate that the capture system is not operating properly, the permit holder shall promptly take necessary corrective actions.

B. The control device shall not have a bypass.

38. The holder of this permit shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) and continuous flow rate sensor to measure and record the concentrations of NO_x and SO_2 and exhaust flow rate from the Glass Furnace Stack (EPN 10).

A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications Nos. 1 through 9, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division for requirements to be met.

The flow rate sensor shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification No. 6, 40 CFR Part 60, Appendix B.

B. The CEMS shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in 40 CFR Part 60, Appendix B or as specified by the TCEQ if not specified in Appendix B.

Each CEMS shall be quality-assured at least quarterly in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2. All cylinder gas audit exceedances of ± 15 percent accuracy and any CEMS downtime shall be reported to the appropriate TCEQ Regional Director in the "Excess Emissions and CEMS Downtime" quarterly report that is used to comply with 40 CFR § 60.7(c), and necessary corrective action shall be taken. Failure to complete any corrective action as directed by the TCEQ Regional Office may be deemed a violation of the permit. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.

The flow rate monitoring system shall be maintained according to 40 CFR Part 60, Appendix B.

C. Each NO_x and SO_2 CEMS shall complete a minimum of one cycle of sampling, analyzing, and data recording for each successive 15-minute period except as required for maintenance and quality-assurance activities. One-hour averages shall be computed as follows: **(9/25)**

(1) For a full operating hour (any clock hour with 60 minutes of unit operation), at least four valid data points are required to calculate the hourly average, i.e., one data point in each of the 15-minute quadrants of the hour.

(2) For a partial operating hour (any clock hour with less than 60 minutes of unit operation), at least one valid data point in each 15-minute quadrant of the hour in which the unit operates is required to calculate the hourly average.

(3) For any operating hour in which required maintenance or quality-assurance activities are performed:

(a) If the unit operates in two or more quadrants of the hour, a minimum of two valid data points, separated by at least 15 minutes, is required to calculate the hourly average; or

(b) If the unit operates in only one quadrant of the hour, at least one valid data point is required to calculate the hourly average.

Data recorded during periods of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the computed data averages.

The monitoring data shall be reduced to hourly average concentrations at least once per day, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emission rate in pounds per hour at least once per day and cumulative tons per year on a 12-month rolling average at least once per month. Compliance with the permit allowable emission rates in pounds per hour shall be based on a 30-day rolling average of the daily average values.

D. The TCEQ Regional Director with jurisdiction shall be notified as soon as possible after the discovery of any CEMS malfunction that is expected to result in more than 24 hours of lost data. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director in case of extended CEMS downtime.

E. The TCEQ Regional Office with jurisdiction shall be notified in writing at least 30 days prior to any quarterly cylinder gas audit required by 40 CFR Part 60, Appendix F in order to provide the TCEQ staff the opportunity to observe the testing.

F. All monitoring data and quality-assurance data shall be maintained by the source for a rolling 24-month period and made available at the request of the TCEQ Executive Director or designated representative.

39. The holder of this permit shall install, calibrate, and maintain a device to monitor pressure drop in the Sorbent Truck Unloading and Sorbent Storage Silo Filter, Dust Collection Silo and Transport System Filter, Raw Materials Unloading 2 Baghouse, Bulk Elevator Baghouse, Batch Elevator Baghouse, Cullet Elevator Baghouse, Cullet Conveyor Baghouse, the three Bulk Conveyors Baghouses, and ECS Dust Bin (EPNs SORBENT, CCFDC, 766A, 767, 767A, 770, 771A, 796, 797, 798, and 799). The monitoring devices shall be calibrated in accordance with the manufacturer's specifications and shall be calibrated at least annually and shall be accurate to within a range of ± 0.5 inches water gauge pressure (± 125 pascals); or ± 0.5% of span. **(9/25)**

A minimum and maximum pressure drop shall be maintained in accordance with the manufacturer's specifications. The actual pressure drop shall be recorded at least once per day.

40. The NH_3 concentration in the Glass Furnace Stack (EPN 10) shall be tested or calculated according to one of the methods listed below and shall be tested or calculated according to frequency listed below. Testing for the NH_3 stack concentration is only required on days when the SCR unit is in operation. **(9/25)**

A. The holder of this permit may install, calibrate, maintain, and operate a CEMS to measure and record the concentrations of NH_3. The NH_3 concentrations shall be corrected and reported in accordance with Special Condition No. 11.

B. The NH_3 stack concentration may be measured using a sorbent or stain tube device specific for NH_3 measurement in the appropriate range. The frequency of sorbent or stain tube testing shall be monthly.

(1) If the sorbent or stain tube testing indicates an ammonia (NH_3) stack concentration that exceeds 10 parts per million (ppm) at any time, the permit holder shall begin NH_3 testing by either the Phenol-Nitroprusside Method, the Indophenol Method, or EPA Conditional Test Method (CTM) 27 on a quarterly basis in addition to the monthly sorbent or stain tube testing.

(2) If the quarterly testing indicates NH_3 stack concentration is 10 ppm or less, the Phenol Nitroprusside Indophenol CTM 27 tests may be suspended until sorbent or stain tube testing again indicate 10 ppm NH_3 stack concentration or greater.

C. The permit holder may install and operate a second NO_x CEMS probe located between the furnace and the SCR, upstream of the stack NO_x CEMS, which may be used in association with the SCR efficiency and NH_3 injection rate to estimate NH_3 stack concentration. This condition shall not be construed to set a minimum NO_x reduction efficiency on the SCR unit. These results shall be recorded and used to determine compliance with Special Condition No. 11.

D. The permit holder may install and operate a dual stream system of NO_x CEMS at the exit of the SCR. One of the exhaust streams would be routed, in an unconverted state, to one NO_x CEMS, and the other exhaust stream would be routed through a NH_3 converter to convert NH_3 to NO_x and then to a second NO_x CEMS. The NH_3 stack concentration shall be calculated from the delta between the two NO_x CEMS readings (converted and unconverted). These results shall be recorded and used to determine compliance with Special Condition No. 11.

E. The permit holder may establish a correlation between the maximum NH_3 stack concentration limit and maximum NH_3 injection rate or other surrogate parameter that may be monitored to determine compliance with NH_3 stack concentration BACT requirements. These results shall be recorded and used to determine compliance with Special Condition No. 11.

F. Other alternative methods used for measuring NH_3 stack concentration shall require prior written approval from the TCEQ Air Permits Division in Austin.

Sampling Requirements

41. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at their own expense. Sampling ports and platforms shall be incorporated into the design of the stacks according to the specifications set forth in the TCEQ *Guidelines for Stack Sampling Facilities* prior to stack sampling. Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Office with jurisdiction. **(9/25)**

42. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ *Guidelines for Stack Sampling Facilities*, or applicable EPA Methods in 40 CFR Part 60, Appendix A, including Test Method 12 for Pb.

43. A pretest meeting shall be held with personnel from the TCEQ before the required tests are performed. The TCEQ Regional Office and the TCEQ Office of Compliance and Enforcement in Austin shall be notified not less than 45 days prior to sampling to schedule a pretest meeting. Test methods to be used shall be determined at this pretest meeting. The notice shall include:

A. Date for pretest meeting;

B. Date sampling will occur;

C. Points or sources to be sampled;

D. Name of the firm conducting the sampling;

E. Type of sampling equipment to be used; and

F. Method or procedure to be used in sampling.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

44. Alternate sampling methods and representative unit testing may be proposed by the permit holder. A written proposed description of any deviation from sampling procedures or emissions sources specified in permit conditions or TCEQ or U.S. EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. Such a proposal must be approved, in writing, by the TCEQ Regional Director and the TCEQ Office of Compliance and Enforcement in Austin or the TCEQ Office of Air, Air Permits Division in Austin at least two weeks prior to sampling.

45. Requests to waive testing for any pollutant specified shall be submitted, in writing, for approval to the TCEQ Office of Air, Air Permits Division in Austin.

46. Prior to stack sampling for Pb, the holder of this permit shall perform an analysis to determine the actual Pb concentrations in the raw material to be used during the stack sampling.

47. During stack sampling emission testing, the facilities shall operate at maximum represented production/throughput rates. Primary operating parameters that enable determination of production rates shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting.

    If the plant is unable to operate at the maximum represented production/throughput rates during testing, then additional stack testing shall be required when the glass production rate equals or exceeds the previous stack test production rate by 25 tons per day unless otherwise determined, in writing, by the TCEQ Executive Director.

48. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office right jurisdiction. Additional time to comply with the applicable federal requirements requires U.S. EPA approval, and requests shall be submitted to the TCEQ Office of Compliance and Enforcement in Austin.

49. The final sampling report shall be submitted electronically to the TCEQ within 60 days after sampling is completed. Sampling reports shall comply with the provisions of RG-578 Submitting a Complete Air Emission Test Report. **(9/25)**

50. If, as a result of stack sampling, compliance with the permitted emission rates cannot be demonstrated, the holder of this permit shall adjust any operating parameters so as to comply with Special Condition No. 1 and the permitted emission rates.

51. If the holder of this permit is required to adjust any operating parameters for compliance, then beginning no later than 60 days after the date of the test conducted, the holder of this permit shall submit to the TCEQ, on a monthly basis, a record of adjusted operating parameters and daily records of glass production sufficient to demonstrate compliance with the permitted emission rates. These records will be required until the holder of this permit is able to demonstrate compliance through subsequent stack testing. Daily records of glass production and operating parameters shall be distributed as follows:

    One copy to the TCEQ Dallas/Fort Worth Regional Office.

    One copy to the TCEQ Office of Air, Air Permits Division in Austin.

Recordkeeping Requirements

52. The following records shall be maintained at this facility and made available at the request of personnel from the TCEQ or any other air pollution control program having jurisdiction to demonstrate compliance with the special conditions. These records shall be retained for a rolling 60-month period:

    A. Quarterly observations for visible emissions and/or opacity determinations from the plant property and all baghouse stacks;

    B. Daily glass production (in tons);

    C. Furnace operating temperatures;

    D. Hours the furnace is operating on emergency generator power; **(9/25)**

    E. Maintenance events on the furnace add-on control devices; **(9/25)**

    F. Hours of operation for EPNs 783, 784, 768c, and 786;

    G. Daily baghouse pressure drop readings when the baghouse is in operation; **(9/25)**

    H. Baghouse manufacturer's specifications; **(9/25)**

    I. Repairs and/or maintenance performed on any abatement device, including hours any baghouse is out of service; **(9/25)**

    J. Hourly and annual mineral spirits usage (in pounds);

    K. Cutting Area VOC-containing chemicals or compounds, and their respective usage rates (in pounds), summarized on a monthly basis. The safety data sheet or speciated chemical information for all materials that are currently in use or on-site at this facility shall be maintained in one central, up-to-date file at the facility site; and

    L. Records of new or replacement chemicals or compounds shall be maintained to demonstrate compliance with Special Condition No. 28, including ERs and ESLs.

53. The following records shall be maintained at this facility site and made available at the request of personnel from the TCEQ or any other air pollution control program having jurisdiction. These records shall be retained for a rolling 60-month period:

    A. All monitoring data and support information as specified in 30 TAC § 122.144; and

    B. Inspections of capture systems and abatement devices shall be recorded as they occur.

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NOx Emission Controls and Limits

54. The facility shall operate the Glass Furnace Stack (EPN 10) passing all stack gases (except during Furnace Startup; Control Device Startup; Malfunction of the SCR, DS, or PD; or Maintenance of the SCR, DS, or PD) through a SCR in compliance with the following:

    A. SCRs shall be designed for a removal efficiency of at least 90 percent; and

    B. While each SCR is operating, the facility shall continuously operate the SCR in accordance with good air pollution control practice for minimizing emissions to the extent practicable, consistent with 40 C.F.R. § 60.11(d), taking into consideration Ammonia Slip.

55. The Glass Furnace Stack (EPN 10) shall comply with an 80% 30-day Rolling Average NOx Removal Efficiency, except as provided in Special Condition 56. The facility shall demonstrate compliance with the 80% 30-day Rolling Average NOx Removal Efficiency using a NOx CEMS.

56. During Glass Furnace startup, for no more than the 40 days allowed, the Glass Furnace exhaust may bypass the SCR to avoid having the operating inlet temperature of the SCR fall below its operational range. During these bypass Days the facility shall burn no more than five (5) million standard cubic feet of natural gas in the Glass Furnace per day. When technically feasible and available, the facility will operate the SCR on the Glass Furnace exhaust.

57. For each operating day that the SCR does not operate or is not operating normally because of the control device startup or malfunction of the SCR, DS, or PD, the facility may exclude that day's Removal Efficiency from the 30-day Rolling Average NOx Removal Efficiency. During the Days excluded from the 30-day Rolling Average NOx Removal Efficiency, a NOx CEMS shall be used to demonstrate compliance with 14,400 pounds per day NOx limit on a 24-hour block average.

58. For any operating day where maintenance activities on the canals, SCR, or DS/PD are performed, the facility may exclude the Maintenance Day from the 30- day Rolling Average NOx Removal Efficiency. For any Day which is excluded from the 30-day Rolling Average NOx Removal Efficiency, a NOx CEMS shall be used to demonstrate compliance on a 24-hour block average with the following pounds per day limit:

where:

$NOx_{SCR\ Maint}$ = NOx emission limit for a Glass Furnace during maintenance of the canals, SCR, DS or PD, in pounds per day.

$NOx_{W/o\ SCR\ Maint}$ = 14,400 pounds per day

MH = Hours of Maintenace

NH = Normal Hours = 24 – MH

59. The facility may elect to use the following alternative compliance option in lieu of complying with the NOx emission limits required in Special Condition 54-58, provided that the facility satisfies the requirements below:

A. If the facility is able to reduce the 30-day Rolling Average Emission Rate into the SCR to less than 8.0 lb NOx per Ton of glass produced for at least 180 consecutive days of normal Operation (excluding periods that qualify as Maintenance, Malfunction, Glass Furnace Startup, Control Device Startup, or Abnormally Low Production Rate Days), the facility may notify the TCEQ (and EPA prior to Consent Decree termination), if any, that it elects to comply with a 30-day Rolling Average Emission Rate of 1.6 lb NO_X per Ton of glass produced (measured after the SCR) in lieu of the final NO_X emission limit(s) in subparagraph(s) 10.b. and/or 11.b. The facility shall comply with a 30-day Rolling Average Emission Rate of 1.6 lb NOx per Ton of glass produced 60 days after the facility provides notice to TCEQ (and EPA prior to Consent Decree termination), if any. After electing to comply with the alternative compliance option in this Paragraph, the facility may not revert to complying with the final NOx emission limit(s) in Special Condition 55. If TCEQ (and EPA

prior to Consent Decree termination), determines that the facility has not satisfied any of the following criteria, the facility shall continue complying with the applicable final NOx emission limit in Special Condition 55.

B. The facility's notice shall include all 30-day rolling average data for NOX for the 12-month period prior to the date the notice is submitted. The facility must clearly identify any days that it believes are exempted from the 30-day Rolling Average Emission Rate and indicate which exemption applies (i.e., Maintenance, Malfunction, Glass Furnace or Control Device Startup, or Abnormally Low Production Rate Days).

C. The facility's notice shall identify any equipment that it installed and explain all actions that it took in order to achieve reduced emissions at the Glass Furnace for which it seeks an Alternative Compliance Option. The facility shall continue to operate any equipment and continue all actions necessary to maintain such emissions reductions.

D. The facility may not elect to comply with an alternative compliance option for a Glass Furnace that has had any exceedances of the Final NOx Emission Limit(s) required by Special Condition 55 within the last twelve (12) months prior to the election allowed by this Special Condition 59.

E. The facility shall continue to operate the SCR at all times as required in the applicable Special Condition 54-58. However, the facility may also comply with a NOx limit for Abnormally Low Production Rate days, which shall be calculated as follows:

The facility may exclude the NOx emissions generated from the Glass Furnace during an abnormally low production rate day (or days) from the 30-day Rolling Average Emissions Rate. During these Days, a CEMS shall be used to demonstrate the Glass Furnace's compliance on a 24-hour Block Average with the following pound per Day limit:

Where:

NOx_{Abn} = NOx emission limit in pounds per day for a Glass Furnace using SCR during days when an abnormally low production rate is occurring.

P = 218 tons per day.

60. If increased production capacity at a Furnace is authorized by a revised Permit limit, the applicable pound per day limit(s) established Special Condition 54-58 will be increased using the following formula:

Where:

COD_{new} = New Daily Glass Production in Tons of glass per day

COD_{old} = Original Daily Glass Production in Tons of glass per day

SO_2 Emission Controls, Limits, and Compliance Schedule

61. The facility shall operate the Glass Furnace by passing all stack gases (except during Furnace Startup; Control Device Startup; Malfunction of the DS or PD; or Maintenance of the DS or PD) through a DS.

62. The facility shall not exceed a 30-day Rolling Average Emission Rate of 1.2 lb SO_2 per Ton of glass produced, except as provided in Special Condition 63. The facility shall demonstrate compliance with the 30-day Rolling Average Emission Rate using a SO_2 CEMS.

63. SO_2 Limit During Glass Furnace Startup, Control Device Startup, Malfunction of the DS or PD, Maintenance of the DS or PD, and Abnormally Low Production Rate Days.

A. During Glass Furnace startup, for no more than the 40 days allowed, furnace exhaust may bypass the DS to avoid having the operating inlet temperature of the DS fall below its operational range. During the days that Glass Furnace exhaust bypasses the DS, the facility shall burn no more than five (5) million standard cubic feet of natural gas in that Glass Furnace per day. When technically feasible and available, the facility will operate the DS on the Glass Furnace exhaust.

B. For any operating day during control device startup or on which a malfunction of the DS or PD occurs, the facility may exclude the emissions generated during that operating day (or days) from all Glass Furnaces connected to that DS or PD from the 30-day Rolling Average Emission Rate. During the day(s) excluded from the 30-day Rolling Average Emission Rate, a CEMS shall be used to demonstrate the Glass Furnace's compliance with the 3,095 pound per Day SO_2 limit on a 24-hour block average.

C. For any operating day when maintenance is performed on the DS or PD, the facility may exclude the emissions generated during that operating day (or days) from the Glass Furnace from the 30-day Rolling Average Emission Rate. During the day(s) excluded from the 30-day Rolling Average Emission Rate, a CEMS shall be used to demonstrate the Glass Furnace's compliance with the following pound per day SO_2 limit on a 24-hour Block Average:

where:

$SO_{2\ Scrub\ Maint}$ = SO_2 emission limit in pounds per day for a Glass Furnace with a DS during maintenance of the DS or PD.

$SO_{2\ w/o\ DS}$ = 3,095 pounds per day.

P = 218 tons per day.

MH = Hours of Maintenance.

NH = Normal Hours = 24 – MH.

D. When a Glass Furnace is operating at an abnormally low production rate, the facility may exclude SO_2 emissions generated from the Glass Furnace during that operating day (or days) from the 30-day Rolling Average Emissions Rate. During the days excluded from the 30-day Rolling Average Emissions Rate, a SO_2 CEMS shall be used to demonstrate the Glass Furnace's compliance with the following pound per day SO_2 limit on a 24-hour Block Average:

where:

$SO_{2\ Abn}$ = SO_2 emission limit in pounds per day for a Glass Furnace during days when an abnormally low production rate is occurring.

P = 218 tons per day.

PM Emission Controls and Limits

64. The facility shall operate the Glass Furnace by passing all stack gases (except during Glass Furnace Startup; Control Device Startup; Malfunction of the PD; or Maintenance of the PD) through a PD.

65. The facility shall not exceed a limit of 0.45 lb of PM per ton of glass produced.

66. Compliance with PM emission limits shall be demonstrated through annual stack tests and using EPA Test Method 5 (40 C.F.R. Part 60, Appendix A-3).

H_2SO_4 Controls, Limits, and Compliance Schedule

67. The facility shall Operate each Glass Furnace equipped with a DS passing all stack gases through the DS (except during a Glass Furnace Startup, Control Device Startup, a Malfunction of the DS and PD, and Maintenance of the DS or PD).

68. The facility shall not exceed a H_2SO_4 emission limit of 1.6 pounds of H_2SO_4 per hour.

69. Compliance with the H_2SO_4 emission limits shall be demonstrated through annual stack tests and using EPA Conditional Test Method CTM 13, 13A or 13B.

CEMS Installation, Calibration, Certification, Maintenance, and Operation

70. The facility shall install, calibrate, certify, maintain and operate NOx CEMS (on both the Inlet and Outlet of the SCR) for each Glass Furnace and SO_2 CEMS in accordance with the following requirements:

    A. NOx and SO_2 CEMS shall continuously monitor and record the hourly NOx and SO_2 emission concentrations (in parts per million (ppm)) during each operating day at each Glass Furnace.

    B. NOx and SO_2 CEMS shall be installed, calibrated, certified, maintained, and operated in accordance with 40 C.F.R. § 60.13, 40 C.F.R. Part 60, Appendix B (Performance Specification 2), and 40 C.F.R. Part 60, Appendix F (Quality Assurance Procedures).

    C. Glass Furnace startup or control device startup will trigger subsequent CEMS Certification or re-Certification. The facility shall commence such CEMS re-Certification no later than thirty (30) days after Glass Furnace startup commences or a control device startup period concludes. If a Glass Furnace startup and a control device startup happen at the same time, then the CEMS re-certification shall not be conducted until the first operating day after the later startup event concludes.

71. When the use of CEMS is required to determine compliance with an emission rate, the data acquisition and handling system for the CEMS shall:

    A. Convert the ppm values into pounds per hour values using an O_2 CEMS or a flow monitor installed, calibrated, certified, maintained, and operated in accordance with 40 C.F.R. § 60.13, 40 C.F.R. Part 60, Appendix B (Performance Specification 2 or 6, as applicable) and 40 C.F.R. Part 60, Appendix F (Quality Assurance Procedures).

B. At the end of each operating day, the data acquisition and handling system shall divide the total daily emissions in pounds per day for valid CEMS hourly data by the total tons of glass produced during the operating day (reduced proportionally based on the valid CEMS data hours) to describe the pound per ton emission rate for the operating day. The resulting number shall be recorded in units of pounds of pollutant per Ton of glass produced for the applicable Operating Day.

72. For CEMS Certification and CEMS Certification Events, The facility shall:

A. Not perform CEMS Certification or CEMS re-Certifications during abnormally low production rate days, idling, Glass Furnace startup, control device startup, malfunction of any control device, or maintenance of any control device.

B. Conduct a new CEMS certification or re-certification for a Glass Furnace no later than 30 days following the conclusion of a CEMS certificate event.

C. If a CEMS Certification event occurs at the Glass Furnace, the requirement to demonstrate compliance continuously with the applicable final NOx or SO_2 emission limit for the Glass Furnace will be suspended until CEMS Certification or CEMS re-Certification is complete (provided that the seven-day test required for CEMS Certification is commenced within 30 days following the conclusion of the CEMS Certification Event).

Good Air Pollution Control Practices

73. At all times, including during abnormally low production rate days, idling, a Glass Furnace startup, a control device startup, malfunction, and maintenance, the facility shall maintain and operate the Glass Furnace, control device, and any other associated air pollution control equipment in accordance with 40 C.F.R. § 60.11(d).

Maintenance for Control Devices and Canal Changes

74. Any operating hour that is exempted from the applicable 30-day rolling average emission rate because of maintenance being performed on a control device is subject to the following restrictions and must comply with the following requirements:

A. Scheduled or preventive maintenance of control devices shall occur and shall be completed while the Glass Furnace connected to the control device is not operating, unless the Glass Furnace connected to the control device is scheduled to have a continuous operating year.

B. During a continuous operating year, scheduled or preventive maintenance on the control devices may be conducted while the Glass Furnace connected to the control device is operating.

75. All control device maintenance occurring during a continuous operating year shall be performed in accordance with the following requirements:

A. Maintenance on add-on control device shall not exceed 144 hours total per calendar year.

B. Bypassing a SCR for the purpose of preventive maintenance shall not exceed 144 hours per calendar year. bypass of the SCR required as a result of bypassing the PD or DS shall count towards the 144 hour limit.

C. Bypassing a PD for the purpose of preventive maintenance shall not exceed 144 hours per calendar year. Furthermore, if a PD is bypassed, the associated DS and SCR must be bypassed as well.

D. Bypassing a DS for the purpose of preventive maintenance shall not exceed 144 hours per calendar year. Bypass of the DS required as a result of bypassing the PD shall count towards the 144 hour limit.

76. No more than once every 2 calendar years, the facility is permitted 96 hours to complete a Canal Change on their downstream equipment. During this period, the Glass Furnace will operate at abnormally low production rate, good air pollution control practices will be used at all times, the DS and PD (if technologically feasible for the catalyst-impregnated ceramic filter system) must be operated, and the SCR must be operated unless the inlet temperature or flow to the SCR drops to less than 115% of the minimum operating temperature or flow (as defined by the SCR vendor) for 15 consecutive minutes, and then the facility may discontinue use of the SCR until temperature and flow stabilize at 115% of the recommended minimums. In the event a Canal Change becomes necessary in less than 2 years, the facility shall notify the TCEQ, including the justification and timing of the necessary Canal Change.

Source/Stack Testing

77. All source/stack tests shall be conducted in accordance with the requirements of the specified test method and shall be performed under representative operating conditions or applicable state requirements for the glass furnace being tested. Each test shall be comprised of at least three (3) valid one-hour stack test runs. The facility shall discard any invalid test runs, such as those that are compromised because of sample contamination. If a test run is discarded, the facility shall replace it with an additional valid test run. The facility shall report the results of the discarded test runs to the TCEQ (and EPA prior to termination of the consent decree) and shall provide all information necessary to document why the test run was not valid. Source/stack testing shall not be conducted during abnormally low production rate days, idling, a Glass Furnace startup, a control device startup, a malfunction of the Glass Furnace or relevant control device, or maintenance of the Glass Furnace or relevant control device.

Recordkeeping

78. The facility shall record:

A. The hourly NOx emissions (ppm) before and after the SCR as calculated using CEMS data;

B. The hourly SO_2 emissions (lb per hour) as calculated using CEMS data;

C. The daily production rate; and

D. If applicable, the 30-day rolling average emissions (removal efficiency or rate).

79. For any operating day(s) that the facility excludes from the relevant 30-day Rolling Average NOx Removal Efficiency or 30-day Rolling Average NOx or SO_2 Emission Rate, it shall record:

A. The date;

B. The relevant exception pursuant to which the facility is excluding the emissions generated during that Operating Day (or Days) (i.e. Abnormally Low Production Rate Day, Idling, start-

up as defined by SIP-approved District Rule 4354, Glass Furnace Startup, Control Device Startup, Malfunction, or Maintenance);

C. A calculation of the applicable emission limit (in pounds of NOx and/or SO_2 per Day); according to the equations in Special Conditions 54-58 and 62-63;

D. The emissions recorded by the CEMS (in pounds of NOx and/or SO_2 per day); and

E. If it was a malfunction an explanation and any corrective actions taken. For any operating day(s) excluded for maintenance of a control device or Glass Furnace, the facility shall also record the total number of hours during which maintenance occurred.

80. During glass furnace startup, the facility shall:

A. The amount of salt cake added to the batch materials in pounds per Ton of total batch material (including cullet);

B. The total natural gas usage in that Glass Furnace (in million standard cubic feet);

C. The excess oxygen percentage (as measured and recorded using a probe and a portable analyzer in the crown of each Furnace regenerator at least once per shift); and

D. A description of whether thermal blankets or similar techniques were used during this period.

Definitions

A. "Abnormally Low Production Rate" shall mean a glass production rate for a Glass Furnace that is at or below the production rate of 218 Tons/day, which reflects 35 percent of the permitted production rate.

B. "Abnormally Low Production Rate Day" shall mean any Operating Day where glass production at a Glass Furnace occurs at or below the applicable Abnormally Low Production Rate for at least one continuous hour.

C. "Canal Change" shall mean the replacement of a refractory device used to transfer the molten glass from the Glass Furnace to the forming process. Canal Change includes the stoppage of molten glass into the forming process, replacement and installation of a new canal, heat-up of the canal, and restart of production.

D. "CEMS Certification" or "CEMS re-Certification" shall mean the certification of a CEMS as required by 40 C.F.R. § 60.13, 40 C.F.R. Part 60 Appendix B (Performance Specification 2), and 40 C.F.R. Part 60 Appendix F (Quality Assurance Procedures).

E. "CEMS Certification Event" shall mean any event that triggers the requirement to complete a first CEMS Certification or subsequent CEMS re- Certification.

F. "Cold Tank Repair" shall refer to the process of stopping glass production, stopping the flow of fuel, fully cooling down a Glass Furnace, replacing some or all of the refractory in the Glass Furnace, the crown and/or the regenerators (if applicable), and beginning a new campaign by starting up the Glass Furnace again by firing fuel again and starting the production of glass. Cold Tank Repair does not include any refractory repairs conducted when the Glass Furnace is still hot, and repairs solely required for restart of a Glass Furnace which has temporarily ceased Operation due to economic reasons.

G. "Continuous Operating Year" shall mean a Calendar Year during which a Glass Furnace that is connected to a Control Device Operates on every Day of that Calendar Year.

H. "Control Device" shall mean a SCR, DS, PD or similar add-on air pollution control device.

I. "Control Device Startup" shall mean the period of time from the initial commencement of operation of a Control Device until operation of the device is stable and the device has

achieved normal operating conditions. A Control Device Startup shall not exceed thirty (30) Days. Control Device Startup does not include subsequent startups of the Control Device, unless the subsequent startup of the Control Device occurs during a restart after a downtime of more than six months.

J. "Daily Glass Production" shall mean the Tons of glass produced per Day from the Glass Furnace (commonly known as "pulled") as measured by the measurement method or the weight method. It will be the composite of approximately 12 samples taken throughout a day to give a daily production rate.

K. "Day" shall mean a calendar day unless expressly stated to be a business day. In computing any period of time, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day. A Day starts at 12:00 a.m. and ends at 11:59 p.m.

L. "Dry Scrubber" and "DS" shall mean a pollution control system, sometimes referred to as a sorbent injection system, which involves the addition of an alkaline material into the gas stream to react with the acid gases. The acid gases react with the alkaline sorbents to form solid salts. There is no moisture added in the reaction chamber or reaction area. DS include traditional add-on DS and ceramic filter systems.

M. "Glass Furnace Startup". shall mean the period of time during which a Furnace's refractory is heated from ambient temperature to operating temperature. A Furnace Startup shall last no more than 40 Days and includes the slow heating of the Furnace refractory, initially with portable burners and transitioning to main burners once the Furnace reaches a temperature at which it can commence operation. Furnace Startup shall be considered complete the later of when (i) production commences, or (ii) when the operating inlet temperature of the DS reaches its operational range on a consistent basis. Furnace Startup also includes the initial filling of the Furnace, following the heat-up, with cullet and/or raw materials, to a level at which production launch can commence.

N. "Idling" shall mean the operation of a Glass Furnace at less than 25 percent of the permitted glass production capacity as stated in the District Permit to Operate. This definition applies to the Kingsburg Facility only.

O. "Inlet" shall mean the concentration of NO_X (in ppmv corrected to 7% O2 unless the permit states otherwise) measured prior to a SCR.

P. "Maintenance" shall mean activities necessary to keep Control Devices in normal operating condition, as described in Special Condition 74.

Q. "Malfunction" shall mean, consistent with 40 C.F.R. § 60.2, any sudden, infrequent, and not reasonably preventable failure of a Control Device to operate in a normal or usual manner, but shall not include failures that are caused in part by poor maintenance or careless operation.

R. "NOX" shall mean the sum of oxides of nitrogen in the flue gas, collectively expressed as NO2.

S. "Outlet" shall mean the NO_X concentration (in ppmv corrected to 7% O2 unless the permit states otherwise) measured after a SCR.

T. "Particulate Device" and "PD" shall mean a control device that uses filtration technology to reduce Particulate Matter emissions, including, but not limited to, electrostatic precipitators, baghouses, and ceramic filter systems.

U. "Particulate Matter" and "PM" shall mean any finely divided solid or liquid material, other than uncombined water, as measured using EPA Test Method 5 (40 C.F.R. Part 60 Appendix A-3).

V. "Removal Efficiency" for NO_X shall mean the percent reduction in concentration of NO_X achieved by a Glass Furnace's Control Device. This percent reduction shall be calculated by subtracting the Outlet concentration of NO_X (corrected to 7% O2 unless the Permit states otherwise) from the Inlet concentration of NO_X (corrected to 7% O2 unless the Permit states otherwise), dividing the difference by the Inlet concentration and then multiplying the result by 100.

W. "Selective Catalytic Reduction" and "SCR" shall mean a pollution control device that reacts ammonia (NH_3) or urea with NO_X to form nitrogen (N_2) and water (H_2O) using a catalyst to speed the reaction. SCRs include traditional add-on SCRs and catalyst-impregnated ceramic filters.

X. "Semi-Dry Scrubber" and "SDS" shall mean a pollution control system, sometimes referred to as a sorbent injection system, which involves the addition of a finely atomized water-based alkaline slurry material injected into the gas stream to react with the acid gases. The acid gases are absorbed by the slurry droplets and react to form solid salts. The heat of the flue gas is used to evaporate all the water droplets, with a non- saturated (i.e. dry) flue gas leaving the reaction chamber or reaction area.

Y. "SO2" shall mean the pollutant sulfur dioxide.

Z. "24-hour Block Average" shall be calculated by averaging all valid one- hour emissions data outputs (concentrations or pounds) for a given Operating Day and using the Daily Glass Production on that Operating Day where applicable.

AA. "30-day Rolling Average Emission Rate" shall be expressed as pounds of pollutant emitted per Ton of glass produced and calculated at a Glass Furnace in accordance with the following formula and subparagraphs below:

where:

30-day average (lb E/Ton) = The 30-day Rolling Average Emission Rate

E = emissions of NO_X or SO_2.

COD = Current Operating Day where the relevant 30-day Rolling Average Emission Rate is the applicable limit and the CEMS measures at least 1 full hour of emissions data.

COD_E = The daily emissions as measured by a CEMS on the COD, in pounds. COD_{Prod} = Daily Glass Production on the COD in Tons of glass.

P29D = The Previous 29 Operating Days where the relevant 30-day Rolling Average Emission Rate is the applicable limit and the CEMS measures at least 1 full hour of emissions data.

$P29D_E$ = The sum of the daily NO_X or SO_2 emissions as measured by a CEMS during the P29D, in pounds.

$P29D_{Prod}$ = The sum of the Daily Glass Production during the P29D, in Tons of glass.

A new 30-day Rolling Average Emission Rate shall be calculated for each new Operating Day where the 30-day Rolling Average Emission Rate is the applicable standard and the CEMS measures at least 1 full hour of emissions data. Any Operating Day where the newly calculated 30-day Rolling Average Emission Rate exceeds the limit is a separate one Day violation; and

As specified in Paragraphs 10-12 and 15-16 of this Consent Decree, certain Abnormally Low Production Rate Days, Glass Furnace and/or Control Device Startup Days,

Malfunction Days, Idling, and Maintenance Days may be excluded from the 30-day Rolling Average Emission Rate.

BB. "30-day Rolling Average NO_X Removal Efficiency" shall be calculated each Day where the 30-day Rolling Average NO_X Removal Efficiency is the applicable standard and the CEMS measures at least 1 full hour of emissions data. It is calculated by summing the Removal Efficiency 24-hour Block Averages from the Glass Furnace for each Operating Day and previous twenty-nine (29) Operating Days when the 30-day Rolling Average NO_X Removal Efficiency was the applicable standard and the CEMS measured at least 1 full hour of emissions data and then dividing by 30. A new 30-day Rolling Average NO_X Removal Efficiency shall be calculated for each new Operating Day. Any Operating Day where the newly calculated 30-day Rolling Average NO_X Removal Efficiency is less than the Removal Efficiency limit is a separate one-day violation.

Date: September 19, 2025

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 8518 and PSDTX370M3

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)	
			lbs/hour	TPY (4)
SORBENT	Sorbent Truck Unloading and Sorbent Storage Silo Filter Stack	PM	0.02	<0.01
		PM_{10}	0.02	<0.01
		$PM_{2.5}$	0.02	<0.01
CCFDC	Dust Collection Silo and Transport System, ECS Dust Collection Super Sack Fill Station Filter Stack	PM	0.04	0.15
		PM_{10}	0.04	0.15
		$PM_{2.5}$	0.04	0.15
10	Glass Furnace Stack (Normal Operation)	PM	11.70	51.25
		PM_{10}	11.70	51.25
		$PM_{2.5}$	10.65	46.63
		NO_x (7)	120.00	525.60
		CO	2.60	11.39
		SO_2 (7)	31.20	136.66
		H_2SO_4	1.60	7.01
		VOC	2.60	11.39
		Pb	0.11	0.48
		NH_3	3.08	13.49
10	Glass Furnace Stack (Alternate Operation Scenario) (8)	PM	25.00	1.80
		PM_{10}	25.00	1.80
		$PM_{2.5}$	22.75	1.63

Emission Sources - Maximum Allowable Emission Rates

		NO_x (7)	600.00	43.20
		CO	2.60	0.18
		SO_2 (7)	100.00	7.20
		H_2SO_4	4.25	0.31
		VOC	2.60	0.18
		Pb	0.11	<0.01
10	Glass Furnace Stack Cap	PM	25.00	52.20
		PM_{10}	25.00	52.20
		$PM_{2.5}$	22.75	47.51
		NO_x (7)	600.00	560.16
		CO	2.60	11.39
		SO_2 (7)	100.00	141.61
		H_2SO_4	4.25	7.20
		VOC	2.60	11.39
		Pb	0.11	0.48
		NH_3	3.08	13.49
766	Raw Materials Unloading 1 Baghouse Stack (DC1)	PM	0.25	1.07
		PM_{10}	0.25	1.07
		$PM_{2.5}$	0.25	1.07
766A	Raw Materials Unloading 2 Baghouse Stack (DC16)	PM	0.06	0.27
		PM_{10}	0.06	0.27
		$PM_{2.5}$	0.06	0.27
767	Bulk Elevator Baghouse Stack (DC9)	PM	0.06	0.27
		PM_{10}	0.06	0.27

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.06	0.27
767A	Bulk Elevator WBE Baghouse Stack (DC10)	PM	0.06	0.27
		PM_{10}	0.06	0.27
		$PM_{2.5}$	0.06	0.27
768	Sand Storage Bin 1 Baghouse Stack (DC3)	PM	0.09	0.38
		PM_{10}	0.09	0.38
		$PM_{2.5}$	0.09	0.38
768A	Soda Ash Storage Bin Baghouse Stack (DC6)	PM	0.09	0.38
		PM_{10}	0.09	0.38
		$PM_{2.5}$	0.09	0.38
768B	Dolomite Storage Bin Baghouse Stack (DC2)	PM	0.09	0.38
		PM_{10}	0.09	0.38
		$PM_{2.5}$	0.09	0.38
768C	Salt Cake, Limestone, Dolomite Storage Bins Baghouses Stack (DC13, DC15 [DC13A], and DC14)	PM	0.27	0.69
		PM_{10}	0.27	0.69
		$PM_{2.5}$	0.27	0.69
769	Cullet Storage Bin Baghouse Stack (DC12)	PM	0.03	0.11
		PM_{10}	0.03	0.11
		$PM_{2.5}$	0.03	0.11
770	Cullet Elevator Baghouse Stack (DC11)	PM	0.06	0.27
		PM_{10}	0.06	0.27
		$PM_{2.5}$	0.06	0.27
771	Cullet Crusher Surge Hopper Baghouse Stack (DC7)	PM	0.01	0.04
		PM_{10}	0.01	0.04

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.01	0.04
771A	Cullet Conveyor Baghouse Stack (DC8 [DC7A])	PM	0.01	0.03
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.03
783	Sand Storage Bin 2 Baghouse Stack (DC4)	PM	0.09	0.23
		PM_{10}	0.09	0.23
		$PM_{2.5}$	0.09	0.23
784	Sand Storage Bin 3 Baghouse Stack (DC5)	PM	0.09	0.23
		PM_{10}	0.09	0.23
		$PM_{2.5}$	0.09	0.23
785	Cullet Return System Baghouse Stack (DC-CRS)	PM	0.73	3.19
		PM_{10}	0.73	3.19
		$PM_{2.5}$	0.73	3.19
786	Batch House Vacuum System Baghouse Stack (DC-BHVS)	PM	0.09	0.25
		PM_{10}	0.09	0.25
		$PM_{2.5}$	0.09	0.25
796	Bulk Conveyor Baghouse Stack (DC17)	PM	0.06	0.27
		PM_{10}	0.06	0.27
		$PM_{2.5}$	0.06	0.27
797	Bulk Conveyor Baghouse Stack (DC18)	PM	0.06	0.27
		PM_{10}	0.06	0.27
		$PM_{2.5}$	0.06	0.27
798	Bulk Conveyor Baghouse Stack (DC19)	PM	0.06	0.27
		PM_{10}	0.06	0.27

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.06	0.27
799	ECS Dust Bin Baghouse Stack (DC20)	PM	0.04	0.15
		PM_{10}	0.04	0.15
		$PM_{2.5}$	0.04	0.15
0600	Cutting Area (5)	VOC (mineral spirits)	31.91	49.43
788	Lehr Exhaust Stack	SO_2	5.25	23.00
F-1	Glass Rolls Lube Fugitives (5)	SO_2	3.08	13.49
F-2	Tin Bath Fugitives (5)	PM	<0.01	0.02
		PM_{10}	<0.01	0.02
		$PM_{2.5}$	<0.01	0.02
NH3TNK	Ammonia Tank	NH_3	<0.01	0.02
NH3FUG	Ammonia Piping Fugitives (5)	NH_3	<0.01	0.01

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
H_2SO_4 - sulfuric acid
Pb - lead
NH_3 - ammonia
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Planned startup and shutdown emissions are included. Maintenance activities, except as specified in Special Condition No. 24, are not authorized by this permit and will need separate authorization, unless the activity can meet the conditions of 30 TAC § 116.119.
(7) Compliance with hourly allowable emission rates in pounds per hour shall be based on a 30-day rolling average of the daily average values.
(8) Glass Furnace Stack Alternate Operation Scenario applies when the emission control system (ECS) is offline for maintenance. The ECS maintenance Alternate Operation Scenario shall be limited to no more than 144 hours per year.

Emission Sources - Maximum Allowable Emission Rates

Date: September 19, 2025