FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Knauf Insulation, Inc.

AUTHORIZING THE OPERATION OF
McGregor Facility
Mineral Wool Manufacturing

LOCATED AT
McLennan County, Texas
Latitude 31° 24′ 17″ Longitude 97° 23′ 31″
Regulated Entity Number: RN111330627

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: O4686 Issuance Date: _____

_____
For the Commission

Table of Contents

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, Subparts NN and ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113,

Subchapter C, § 113.450 and 113.1090 which incorporates the 40 CFR Part 63 Subparts 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.

Additional Monitoring Requirements

6. Unless otherwise specified, the permit holder shall comply with the compliance assurance monitoring requirements as specified in the attached "CAM Summary" upon issuance of the permit. In addition, the permit holder shall comply with the following:

A. The permit holder shall comply with the terms and conditions contained in 30 TAC § 122.147 (General Terms and Conditions for Compliance Assurance Monitoring).

B. The permit holder shall report, consistent with the averaging time identified in the "CAM Summary," deviations as defined by the deviation limit in the "CAM Summary." Any monitoring data below a minimum limit or above a maximum limit, that is collected in accordance with the requirements specified in 40 CFR § 64.7(c), shall be reported as a deviation. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

C. 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 "CAM 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 in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).

D. The permit holder shall operate the monitoring, identified in the attached "CAM Summary," in accordance with the provisions of 40 CFR § 64.7.

E. The permit holder shall comply with either of the following requirements for any particulate matter capture system associated with the control device subject to CAM. If the results of the following inspections indicate that the capture system is not working properly, the permit holder shall promptly take necessary corrective action:

(i) Once per year the permit holder shall inspect any fan for proper operation and inspect the capture system used in compliance of CAM for cracks, holes, tears, and other defects; or

(ii) Once per year, the permit holder shall inspect for fugitive emissions escaping from the capture system in compliance of CAM by performing a visible emissions observation for a period of at least six minutes in accordance with 40 CFR Part 60, Appendix A, Test Method 22.

F. The permit holder shall comply with the requirements of 40 CFR § 70.6(a)(3)(ii)(A) and 30 TAC § 122.144(1)(A)-(F) for documentation of all required inspections.

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, 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).

Compliance Requirements

11. 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.

12. 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)

Permit Location

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

Permit Shield (30 TAC § 122.148)

14. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

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
FC-1	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R1111	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FORM-1	WOOL FIBERGLASS INSULATION MANUFACTURING PLANTS	N/A	60PPP-01	40 CFR Part 60, Subpart PPP	No changing attributes.
FURN-1	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R1151	30 TAC Chapter 111, Nonagricultural Processes	No changing attributes.
FURN-1	GLASS MANUFACTURING UNITS	N/A	60CC-01	40 CFR Part 60, Subpart CC	No changing attributes.
FURN-1	MISCELLANEOUS UNITS	N/A	63NN-01	40 CFR Part 63, Subpart NN	No changing attributes.
GEN-1	SRIC ENGINES	N/A	60IIII-01	40 CFR Part 60, Subpart IIII	No changing attributes.
GEN-1	SRIC ENGINES	N/A	63ZZZZ-01	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GPR-COOL	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	COOL-1, COOL-2	R1111	30 TAC Chapter 111, Visible Emissions	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)
FC-1	EP	R1111	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
FORM-1	PRO	60PPP-01	PM	40 CFR Part 60, Subpart PPP	§ 60.682	After the date which the performance test required by §60.8 is completed, no person may discharge any gases containing PM in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled.	§ 60.683(b) § 60.683(c) § 60.684(e) § 60.685(a) § 60.685(b) [G]§ 60.685(c) § 60.685(d) ** See CAM Summary	§ 60.684(b) § 60.684(c) § 60.684(e)	§ 60.684(d) § 60.684(e) § 60.685(d)
FURN-1	EP	R1151	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 CAM Summary	None	None
FURN-1	EU	60CC-01	PM	40 CFR Part 60, Subpart CC	§ 60.292(a)(1) § 60.292(e) § 60.292(e)(1) § 60.292(e)(2)	No glass melting furnace, fired exclusively with either a gaseous or a liquid fuel, shall discharge PM at emission rates exceeding those specified in Table CC-1, Column 2 and Column 3, respectively.	§ 60.296(a) § 60.296(c) § 60.296(d) § 60.296(d)(1) § 60.296(d)(2) § 60.296(d)(3)	None	§ 60.292(e)(3) § 60.296(a)
FURN-1	EU	63NN-01	CHROMIUM	40 CFR Part 63, Subpart NN	§ 63.882(a) [G]§ 63.882(b)(2)	For each existing, new, or reconstructed gas-fired	[G]§ 63.1383(a) [G]§ 63.1383(c)	[G]§ 63.1386(d) § 63.886	§ 63.1386(e) [G]§ 63.1386(f)

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)
						glass-melting furnace, on and after the compliance date specified in § 63.887 whichever date is earlier, emissions discharged to the atmosphere shall not exceed 0.00025 lb of chromium compounds per ton of glass pulled (0.25 lb per thousand tons glass pulled).	§ 63.1383(j) § 63.1383(k) § 63.1383(l) § 63.1383(m) § 63.883 [G]§ 63.884 [G]§ 63.885		§ 63.1386(g) § 63.886
GEN-1	EU	60IIII-01	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) [G]§ 60.4211(f)	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.	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
GEN-1	EU	60IIII-01	NMHC and NO_X	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) [G]§ 60.4211(f)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than 560 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 an NMHC+NOx emission limit	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)

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)
						of 6.4 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 1039-Appendix I.			
GEN-1	EU	60IIII-01	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) [G]§ 60.4211(f)	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.	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
GEN-1	EU	60IIII-01	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) [G]§ 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 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).	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
GEN-1	EU	63ZZZZ-	112(B)	40 CFR Part 63,	§ 63.6590(c)	Stationary RICE subject to	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)
		01	HAPS	Subpart ZZZZ		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.			
GPR-COOL	EP	R1111	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None

Additional Monitoring Requirements

CAM Summary

Unit/Group/Process Information	
ID No.: FORM-1	
Control Device ID No.: FORM-1	Control Device Type: Wet or dry electrostatic precipitator
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart PPP	SOP Index No.: 60PPP-01
Pollutant: PM	Main Standard: § 60.682
Monitoring Information	
Indicator: Secondary voltage and secondary current; inlet water solids	
Minimum Frequency: Secondary voltage and secondary current – once per minute, inlet water solids - once per day	
Averaging Period: Secondary voltage and secondary current - 3-hour	
Deviation Limit: Per the manufacturer's recommendations, the minimum secondary voltage limit is 12 KV, and the minimum secondary current is 75 mA. The inlet water total solids content shall not exceed 2% or two times the amount of the highest value recorded during t	
CAM Text: Secondary voltage and secondary current - The monitoring devices shall be calibrated in accordance with the manufacturer's specifications, shall be calibrated at least annually, and shall be accurate to within a range of ± 1% of the reading or ± 5% over its operating range. Inlet water solids - Method 209A, "Total Residue Dried at 103-105 degrees C", in the Standard Methods for Examination of Water and Wastewater, 15th Edition, 1980. Secondary voltage and secondary current - the monitoring equipment manufacturer's recommendations for operation will be followed. Inlet water solids - Method 209A, "Total Residue Dried at 103-105 degrees C", in the Standard Methods for Examination of Water and Wastewater, 15th Edition, 1980. Monitoring secondary voltage and secondary current provides information on how ESP is performing. Monitoring the total solid content of the inlet water ensures adequate cleaning of the collection plates. This monitoring is consistent with the NSPS Subpart PPP requirements. In addition, monitoring will be conducted during the initial performance test to establish the data's representativeness.	

CAM Summary

Unit/Group/Process Information	
ID No.: FURN-1	
Control Device ID No.: FURN-1	Control Device Type: Wet or dry electrostatic precipitator
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151
Pollutant: PM	Main Standard: § 111.151(a)
Monitoring Information	
Indicator: Secondary voltage and secondary current	
Minimum Frequency: Once per minute	
Averaging Period: 3-hour	
Deviation Limit: Per the manufacturer's recommendations, the minimum secondary voltage limit is 12 KV, and the minimum secondary current is 25 mA.	
CAM Text: The monitoring device shall be calibrated in accordance with the manufacturer's specifications, shall be calibrated at least annually, and shall be accurate to within a range of ± 2% of the reading or ± 5% over its operating range. The monitoring equipment manufacturer's recommendations for operation will be followed. Monitoring secondary voltage and secondary current provides information on how ESP is performing. Monitoring will be conducted during the initial performance test to establish the data's representativeness.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: FC-1	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: Quarterly	
Averaging Period: N/A	
Deviation Limit: Maximum Opacity = 15% Averaged Over a Six-Minute Period	
Periodic Monitoring Text: Determine opacity using 40 CFR Part 60, Appendix A, Test Method 9. 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 Record Keeping Requirements.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: GPR-COOL	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: Quarterly	
Averaging Period: N/A	
Deviation Limit: Maximum Opacity = 15% Averaged Over a Six-Minute Period	
Periodic Monitoring Text: Determine opacity using 40 CFR Part 60, Appendix A, Test Method 9. 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 Record Keeping Requirements.	

Permit Shield

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
FORM-1	N/A	40 CFR Part 63, Subpart HHHH	The facility is a wool-fiberglass production facility that produces insulation, whereas wet-formed fiberglass is a material used to manufacture asphalt roofing products (shingles and rolls).
FORM-1	N/A	40 CFR Part 63, Subpart NNN	The facility is a minor source of HAPs.
FURN-1	N/A	40 CFR Part 61, Subpart N	The facility does not use any arsenic as a raw material.
FURN-1	N/A	40 CFR Part 63, Subpart SSSSSS	The facility does not manufacture flat glass.
GPR-COOL	COOL-1, COOL-2	40 CFR Part 63, Subpart Q	The facility does not use chromium based water treatment chemicals in the cooling towers.

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.: PSDTX1600	Issuance Date: 09/11/2022
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.: 166392	Issuance Date: 09/11/2024

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
COOL-1	COLLING TOWER 1	166392, PSDTX1600
COOL-2	COOLING TOWER 2	166392, PSDTX1600
FC-1	FORMING/CURING STACK	166392, PSDTX1600
FORM-1	FORMING	166392, PSDTX1600
FURN-1	FURNACE	166392, PSDTX1600
GEN-1	EMERGENCY GENERATOR	166392, PSDTX1600

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
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 Number 166392 and PSDTX1600					Issuance Date: September 11, 2024		
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**
BLD01-FUG	Raw Material Handling Baghouse Stack	PM	0.66	2.90	32	35	
		PM_{10}	0.33	1.45			
		$PM_{2.5}$	0.33	1.45			
FURN-1	Furnace Stack (Dry Electrostatic Precipitator)	PM	7.58	33.22	21, 34	35	28
		PM_{10}	7.58	33.22			
		$PM_{2.5}$	7.58	33.22			
		VOC	2.28	9.96			
		NO_x	19.68	86.19			
		CO	0.46	1.99			
		SO_2	0.03	0.12			
MSS_F	Furnace MSS Stack (DESP Bypass)	PM	49.33	3.55		35	
		PM_{10}	33.00	2.38			
		$PM_{2.5}$	6.00	0.43			
		VOC	2.28	0.16			

Major NSR Summary Table

Permit Number 166392 and PSDTX1600					Issuance Date: September 11, 2024		
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	19.68	1.42			
		CO	0.46	0.03			
		SO_2	0.03	<0.01			
FC-1	Forming/Curing Stack (Wet Scrubbers, Wet Electrostatic Precipitator)	PM	42.09	184.34	21, 34	35	28
		PM_{10}	42.09	184.34			
		$PM_{2.5}$	42.09	184.34			
		VOC	28.44	124.56			
		NO_x	15.93	69.75			
		CO	54.60	239.15			
		SO_2	0.46	1.99			
		NH_3	91.00	398.58			
BLD08	Facing, Sizing, Packaging Baghouse Stack	PM	0.48	2.11	32	35	
		PM_{10}	0.48	2.11			
		$PM_{2.5}$	0.48	2.11			

Major NSR Summary Table

Permit Number 166392 and PSDTX1600					Issuance Date: September 11, 2024		
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
BLD03-FUG	Inking (5)	VOC	3.69	16.16		35	
BLD07-FUG	WBW Scrap Dock Baghouse Stack	VOC	0.54	2.36	32	35	
		PM	0.29	1.27			
		PM_{10}	0.29	1.27			
		$PM_{2.5}$	0.29	1.27			
BLD05-FUG	Adhesive – Backing (5)	VOC	2.25	11.57		35	
CT-1	Cooling Tower 1	PM	0.13	0.57	20	20	
		PM_{10}	0.02	0.07			
		$PM_{2.5}$	<0.01	<0.01			
CT-2	Cooling Tower 2	PM	0.13	0.57	20	20	
		PM_{10}	0.02	0.07			
		$PM_{2.5}$	<0.01	<0.01			
GEN-1	Emergency Generator	PM	0.05	<0.01		35	
		PM_{10}	0.05	<0.01			

Major NSR Summary Table

Permit Number 166392 and PSDTX1600					Issuance Date: September 11, 2024		
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
		$PM_{2.5}$	0.05	<0.01			
		VOC	0.07	<0.01			
		NO_x	12.24	0.61			
		CO	0.54	0.03			
		SO_2	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
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 for maintenance on the Furnace DESP, are not authorized by this permit and will need separate authorization, unless the activity can meet the conditions of 30 TAC § 116.119.

Texas Commission on Environmental Quality
Air Quality Permit

A Permit Is Hereby Issued To
Knauf Insulation, Inc.
Authorizing the Construction and Operation of
Fiberglass Manufacturing Facility
Located at **McGregor, McLennan County, Texas**
Latitude 31.404742 Longitude -97.39191

Permits: 166392 and PSDTX1600

Amendment Date: September 11, 2024

Expiration Date: September 6, 2032

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)]

8. **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]
9. **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)]
10. **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)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **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)]
13. **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.
14. **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 166392 and PSDTX1600

Emission Limitations

1. This permit authorizes 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;

   B. Subpart CC – Glass Manufacturing Plants;

   C. Subpart PPP – Wool Fiberglass Insulation Manufacturing Plants; and

   D. Subpart IIII - Stationary Compression Ignition Internal Combustion Engines.

3. These facilities shall comply with all applicable requirements of the EPA regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:

   A. Subpart A – General Provisions;

   B. Subpart NN – Wool Fiberglass Manufacturing at Area Sources; and

   C. Subpart ZZZZ - Stationary Reciprocating Internal Combustion Engines (RICE).

Fuel Specifications

4. Fuel for the furnaces and ovens at this facility shall be pipeline-quality natural gas. Use of any other fuel will require prior approval from the Executive Director of the Texas Commission on Environmental Quality (TCEQ).

5. The fuel for the emergency generator (EPN GEN-1) shall be limited to diesel fuel containing no more than 15 ppm sulfur by weight.

6. Upon request by the Executive Director of the TCEQ or the 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

7. Visible fugitive emissions from process buildings and raw material storage buildings shall not leave the property for more than 30 cumulative seconds in any six-minute period, as determined by EPA Test Method 22 or equivalent.

8. Opacity of particulate matter emissions from the sources listed in the table below shall not exceed the associated opacity percentage, averaged over a six-minute period.

EPN	Source Name	Opacity (percent)
BLD01-FUG; BLD07-FUG; BLD08-FUG	Raw Material Handling Building Roof Vent; WBW Scrap Dock Building Roof Vent; Facing, Sizing and Packaging Operations Building Roof Vent	5
FURN-1;	Melting and Refining Furnace;	10
MSS_F; FC-1; GEN-1	Furnace MSS Stack; Forming, Curing, and Cooling Operations; Emergency Generator	20

Operational Limitations, Work Practices, and Plant Design

9. The following throughput or production limitations shall occur:

   A. The maximum authorized glass pull rates for the Furnace EPN FURN-1 shall be limited to 30,333.33 lb of glass per hour;

   B. The Furnace EPN FURN-1 shall be limited to firing 750 standard cubic feet per minute (scfm) of natural gas;

   C. When using ECOSE® binder, the maximum usage rate shall not exceed 195 tons per day; and

   D. The maximum raw material throughput for the Furnace EPN FURN-1 shall not exceed 413 tons per day.

10. A dry electrostatic precipitator (DESP), properly installed and in good working order, shall control particulate matter (PM) emissions from the Melting and Refining Furnace (EPN FURN-1). DESP dust shall be collected in enclosed and/or covered containers. The Melting and Refining Furnace (EPN FURN-1) shall use oxygen with natural gas as a combustion control process (gas-oxy firing).

11. Bypass of the Furnace DESP, exhausting at EPN MSS_F, shall be limited to 144 hours per year on a rolling 12-month basis. **(9/24)**

12. The furnace EPN FURN-1 shall be limited to the following maximum emission performance levels:

   A. 1.30 pounds (lb) NOx per ton of glass pulled;

   B. 0.03 lb CO per ton of glass pulled;

   C. 0.50 lb PM, PM_{10}, and $PM_{2.5}$ per ton of glass pulled; and

   D. 0.15 lb VOC per ton of glass pulled.

13. There shall be no outside storage DESP dust unless in sealed containers. Entrained dust shall be allowed to settle prior to opening the control device.

14. A Wet Electrostatic Precipitator (WESP), properly installed and in good working order, shall control particulate matter emissions from wool forming, curing, and the cooling sections (EPN FC-1).

15. The WESP EPN FC-1 shall be limited to the following maximum emission performance levels:

    A. 1.05 lb NO_x per ton of glass pulled;

    B. 3.60 lb CO per ton of glass pulled;

    C. 2.78 lb PM, PM_{10}, and $PM_{2.5}$ per ton of glass pulled;

    D. 1.88 lb VOC per ton of glass pulled;

    E. 0.03 lb SO_2 per ton of glass pulled; and

    F. 6.00 lb NH_3 per ton of glass pulled.

16. All in-plant roads and traffic areas, and active work areas shall be sprinkled with water, and/or be treated with effective dust suppressant(s), and/or be paved (with a cohesive hard surface) and cleaned as necessary to maintain compliance with all applicable Texas Commission on Environmental Quality (TCEQ) rules and regulations.

17. Raw materials unloaded by truck or railcar shall be conducted within an enclosed building which is vented to the Raw Material Handling Baghouse Stack (EPN BLD01-FUG).

18. The emergency generator (EPN GEN-1) is limited to 100 hours of non-emergency operation per year on a calendar year basis, in accordance with 40 CFR 60.4211(f).

Fabric Filter Baghouse

19. The capture and control/ventilation system for the Raw Material Handling Baghouse (EPN BLD01-FUG); WBW Scrap Dock Baghouse (EPN BLD07-FUG); and the Facing, Sizing, and Packaging Operations Baghouse (EPN BLD08-FUG) shall be designed and operated according to the following requirements:

    A. The capture and control/ventilation system from Raw Material Handling shall be equipped with a baghouse designed or warranted to achieve a filter efficiency of 99 percent or greater for emissions of particulate matter (PM);

    B. The emissions of PM from the WBW Scrap Dock and the Facing, Sizing, and Packaging Operations shall be captured and routed to baghouses which have a maximum outlet grain loading of equal to or less than 0.005 grain per dry standard cubic foot (dscf) each;

    C. The capture and control system shall be operated and maintained in accordance with the manufacturer's recommendations to assure that the minimum control efficiency is met at all times when the Raw Material Handling; WBW Scrap Dock; and the Facing, Sizing, and Packaging operations are required to be operated;

    D. The holder of this permit shall install and operate continuous bag leak detection systems (BLDS). The bag leak detection systems shall meet the following requirements:

        (1) The bag leak detection systems must be certified by the manufacturer to be capable of detecting particulate matter emissions.

(2) The bag leak detection system sensor must provide output of relative particulate matter loading.

(3) The bag leak detection system must be equipped with an alarm system that will alarm when an increase in relative particulate loading is detected over a preset level.

(4) The bag leak detection system shall be installed and operated in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system.

(5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time.

(6) In no event shall the sensitivity be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless such adjustment follows a complete baghouse inspection, which demonstrates the baghouse is in good operating condition.

(7) The bag detector must be installed downstream of the baghouses.

E. Planned maintenance on the dust collection system shall be performed only when the facilities being controlled by the dust collection system are not in operation.

Cooling Towers

20. The cooling towers (EPNs CT-1 and CT-2) shall be operated and monitored in accordance with the following:

A. Each cooling tower shall be equipped with drift eliminators having manufacturer's design assurance of 0.001% drift or less. Drift eliminators shall be maintained and inspected at least annually. The permit holder shall maintain records of all inspections and repairs.

B. Total dissolved solids (TDS) shall not exceed 12,000 parts per million by weight (ppmw). Dissolved solids in the cooling water drift are considered to be emitted as PM, PM_{10}, and $PM_{2.5}$ as represented in the permit application calculations.

C. Cooling water shall be sampled at least once per week for TDS.

D. Cooling water sampling shall be representative of the cooling tower feed water and shall be conducted using approved methods.

(1) The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, and SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. Water samples should be capped upon collection and transferred to a laboratory area for analysis.

(2) Alternate sampling and analysis methods may be used to comply with D(1) with written approval from the TCEQ Regional Director. If approved by the TCEQ Regional Director, the permit holder shall submit a permit application to incorporate the alternative sampling and analysis method into the permit within 2 months of the date of written approval.

(3) Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.

E. Emission rates of PM, PM_{10} and $PM_{2.5}$ shall be calculated using the measured TDS, the design drift rate and the daily maximum and average actual cooling water circulation rate for the short term and annual average rates. Alternately, the design maximum circulation rate may be used for all calculations. Emission records shall be updated within 30 days following the end of each month.

Initial Determination of Compliance

21. To demonstrate compliance with the MAERT and with emission performance levels as specified in the special conditions, the permit holder 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 Furnace EPN FURN-1 and the WESP controlling the forming, curing, and cooling processes (EPN FC-1). Air contaminants emitted from the Furnace EPN FURN-1 to be tested for include (but are not limited to) PM_{10}, $PM_{2.5}$, NO_x, VOC, CO, and chromium. Air contaminants emitted from the WESP (EPN FC-1) to be tested for include PM_{10}, $PM_{2.5}$, NO_x, VOC, CO, and ammonia.

    Sampling shall occur within 60 days after achieving the maximum glass pull rate, but no later than 180 days after initial start-up of the facilities (or increase in production, as appropriate) and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

Sampling Requirements

22. 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 attachment entitled “Chapter 2, Stack Sampling Facilities” prior to stack sampling. Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Office with jurisdiction.

23. A pretest meeting shall be held with personnel from the TCEQ before the required tests are performed. The TCEQ Regional Office shall be notified not less than 45 days prior to sampling to schedule a 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 firm conducting sampling;

    E. Type of sampling equipment to be used;

    F. Method or procedure to be used in sampling; and

    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, establish critical operating conditions for successful sampling, and to review the format procedures for submitting the test reports.

24. 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 emission sources

specified in permit conditions or TCEQ or 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 with jurisdiction at least two weeks prior to sampling.

25. 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.

26. During stack sampling emissions testing, the facilities shall operate at maximum represented glass pull rates and other operating parameters. Primary operating parameters that enable determination of glass pull rates (primary technique is glass flow cameras) for the furnaces 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 maximum represented production rates during testing, then additional stack testing shall be required when the future glass production rate exceeds the previous stack test production rate by +10 percent unless otherwise determined, in writing, by the TCEQ Executive Director.

27. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office with jurisdiction. Additional time to comply with the applicable federal requirements requires U.S. EPA approval, and requests shall be submitted to the TCEQ Regional Office with jurisdiction.

28. Copies of the final sampling report shall be forwarded to the TCEQ within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled “Chapter 14, Contents of Sampling Reports” of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

    One copy to the TCEQ Regional Office with jurisdiction.

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

    One copy to each appropriate local air pollution control program with jurisdiction.

29. 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.

30. 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 and binder usage rates sufficient to demonstrate compliance with the permitted emission rates. Records are required until a full month of daily adjusted operating parameters is demonstrated. Daily records of glass production, binder usage rates, and operating parameters shall be distributed as follows:

    One copy to the TCEQ Regional Office with jurisdiction.

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

Demonstration of Continuous Compliance

31. Upon request by the TCEQ Executive Director or the TCEQ Regional Director having jurisdiction, the holder of this permit shall perform ambient air monitoring, and/or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere. The tests shall be performed during normal operation of the facilities and shall be performed in accordance with accepted TCEQ practices and procedures.

32. The holder of this permit shall conduct a quarterly visible emissions determination to demonstrate compliance with the opacity limitations specified in this permit for EPNs BLD01-FUG; BLD07-FUG; and BLD08-FUG. 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:

    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. 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.

33. The holder of this permit shall conduct a quarterly visible fugitive emissions determination to demonstrate compliance with the visible fugitive emissions limitation specified in this permit for the plant property. This visible fugitive 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 fugitive 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 fugitive emissions. The corrective action shall be documented within 24 business hours of completion.

34. Following the date on which the performance test required to be conducted by Special Condition No. 21, the DESP (EPN FURN-1) and WESP (EPN FC-1) shall be monitored according to the following requirements:

    A. The holder of this permit shall install, calibrate, and maintain devices to monitor and record secondary voltage on the dry electrostatic precipitator associated with the Furnace (EPN FURN-1). The monitoring device shall be calibrated in accordance with the manufacturer's specifications, shall be calibrated at least annually, and shall be accurate to within a range of ± 2% of the reading or ± 5% over its operating range.

    A minimum secondary voltage shall be established using the most appropriate of the following: the most recent performance test data, the manufacturer's recommendations, engineering calculations, and/or historical data. The actual secondary voltage shall be recorded at least once per day.

B. The holder of this permit shall install, calibrate, and maintain devices to monitor and record the secondary current and voltage in the wet electrostatic precipitator associated with the Forming, Curing, and Cooling Operations (EPN FC-1). The monitoring devices shall be calibrated in accordance with the manufacturer's specifications, shall be calibrated at least annually, and shall be accurate to within a range of ± 1% of the reading or ± 5% over its operating range.

A minimum secondary voltage and minimum secondary current shall be established using the most appropriate of the following: the most recent performance test data, the manufacturer's recommendations, engineering calculations and/or historical data. The actual secondary current and secondary voltage shall be recorded at least once per day.

The wet electrostatic precipitator inlet water solids shall be determined daily using the reference Method 209A, "Total Residue Dried at 103-105 degree C", in the Standard Methods for Examination of Water and Wastewater, 15th Edition, 1980. The inlet water total solids content shall not exceed two times the amount of the highest value recorded during the most recent performance test.

Recordkeeping Requirements

35. 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 permit limitations. These records shall be totaled for each calendar month, retained for a rolling 60-month period, and include the following:

A. Hourly and annual glass pull rates for the furnace (in tons per hour and tons per year, respectively);

B. Raw material throughput rate (in tons per hour and tons per year);

C. Amount of natural gas fired in the Melting and Refining Furnace EPN FURN-1 and MSS_F on an annual basis in SCFM;

D. Hours of Furnace DESP bypass; **(9/24)**

E. Amount of total binder used, including binder chemicals and respective usage rates (in tons per hour and tons per year) when using binder.

F. Daily BLDS readings for each baghouse;

G. Quarterly observations for visible fugitive emissions and/or opacity determinations for each baghouse stack;

H. All chemicals used in the WBW Scrap Dock, adhesive, printing, and inking steps and their respective usage rates (in tons/hour), summarized on a monthly basis and annual basis, on which the emissions calculations are based. 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 plant site.

I. Records of the number of non-emergency hours of operation for the emergency generator (EPN GEN-1);

J. Inspections, malfunctions, repairs, and maintenance of abatement equipment (including bag replacement) as actions occur; and

K. A copy of the manufacturer's suggested cleaning and maintenance schedule for abatement equipment.

Pollution Prevention

36. All coating and solvent spills shall be cleaned up immediately using appropriate procedures.

37. All volatile waste shall be stored in closed containers until removed from the site in accordance with applicable rules.

38. Towels, rags, or other absorbent materials used for coating and solvent spill cleanup shall be placed into closed containers immediately after use.

39. Containers that contain waste inks, solvent, equipment cleaning waste and spill cleanup materials may be opened to allow for the addition or removal of material and shall be closed immediately after the transfer operation is complete. All waste materials shall be kept in storage until removed from the plant site in accordance with all applicable waste rules.

Date: September 11, 2024

Emission Sources - Maximum Allowable Emission Rates

Permit Number 166392 and PSDTX1600

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)
BLD01-FUG	Raw Material Handling Baghouse Stack	PM	0.66	2.90
		PM_{10}	0.33	1.45
		$PM_{2.5}$	0.33	1.45
FURN-1	Furnace Stack (Dry Electrostatic Precipitator)	PM	7.58	33.22
		PM_{10}	7.58	33.22
		$PM_{2.5}$	7.58	33.22
		VOC	2.28	9.96
		NO_x	19.68	86.19
		CO	0.46	1.99
		SO_2	0.03	0.12
MSS_F	Furnace MSS Stack (DESP Bypass)	PM	49.33	3.55
		PM_{10}	33.00	2.38
		$PM_{2.5}$	6.00	0.43
		VOC	2.28	0.16
		NO_x	19.68	1.42
		CO	0.46	0.03
		SO_2	0.03	<0.01
FC-1	Forming/Curing Stack (Wet Scrubbers, Wet Electrostatic Precipitator)	PM	42.09	184.34
		PM_{10}	42.09	184.34
		$PM_{2.5}$	42.09	184.34
		VOC	28.44	124.56
		NO_x	15.93	69.75
		CO	54.60	239.15
		SO_2	0.46	1.99
		NH_3	91.00	398.58

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)	
			lbs/hour	TPY (4)
BLD08	Facing, Sizing, Packaging Baghouse Stack	PM	0.48	2.11
		PM_{10}	0.48	2.11
		$PM_{2.5}$	0.48	2.11
BLD03-FUG	Inking (5)	VOC	3.69	16.16
BLD07-FUG	WBW Scrap Dock Baghouse Stack	VOC	0.54	2.36
		PM	0.29	1.27
		PM_{10}	0.29	1.27
		$PM_{2.5}$	0.29	1.27
BLD05-FUG	Adhesive – Backing (5)	VOC	2.25	11.57
CT-1	Cooling Tower 1	PM	0.13	0.57
		PM_{10}	0.02	0.07
		$PM_{2.5}$	<0.01	<0.01
CT-2	Cooling Tower 2	PM	0.13	0.57
		PM_{10}	0.02	0.07
		$PM_{2.5}$	<0.01	<0.01
GEN-1	Emergency Generator	PM	0.05	<0.01
		PM_{10}	0.05	<0.01
		$PM_{2.5}$	0.05	<0.01
		VOC	0.07	<0.01
		NO_x	12.24	0.61
		CO	0.54	0.03
		SO_2	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

Emission Sources - Maximum Allowable Emission Rates

$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
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 for maintenance on the Furnace DESP, are not authorized by this permit and will need separate authorization, unless the activity can meet the conditions of 30 TAC § 116.119.

Date: September 11, 2024