

Statement of Basis of the Federal Operating Permit

Knauf Insulation, Inc.

Site Name: McGregor Facility
Physical Location: 3000 Judith Road
Nearest City: McGregor
County: McLennan

Permit Number: O4686
Project Type: Initial Issuance

The North American Industry Classification System (NAICS) Code: 327993
NAICS Name: Mineral Wool Manufacturing

This Statement of Basis sets forth the legal and factual basis for the draft permit conditions in accordance with 30 TAC §122.201(a)(4). An application for initial permit issuance has been submitted in accordance with 30 TAC § 122.201. This document may include the following information:

- A description of the facility/area process description;
- A basis for applying permit shields;
- A list of the federal regulatory applicability determinations;
- A table listing the determination of applicable requirements;
- A list of the New Source Review Requirements;
- The rationale for periodic monitoring methods selected;
- The rationale for compliance assurance methods selected;
- A compliance status; and
- A list of available unit attribute forms.

Prepared on: June 25, 2025

Operating Permit Basis of Determination

Permit Area Process Description

The McGregor Facility can produce two types of insulation, a bonded product and an unbonded product. The facility receives raw materials that are mixed into batch, and the batch is then melted to form molten glass. The molten glass is separated in streams by use of a forehearth and fiber is spun into strands by means of fiberizers. In bonded fiberglass production, the fibers are transferred to a fiber forming section where water, dedusting agent, and ECOSE® binder are added and are collected to form a binder coated fiber blanket, which is then cured in the curing oven. The ECOSE® binder is a biobased resin, which contains no listed HAPs. Upon exiting the curing oven, the blanket is cooled via the cooling section. The cooled blanket is then cut and sized in rolls or batts of insulation per customer demand and packaged for shipment offsite. In the unbonded process, the molten glass is processed into fibers which are collected in a forming section. Fluids are applied at various locations to enhance the performance of the final product. The product is then bagged for storage and shipment. Wet electrostatic precipitators, dry electrostatic precipitators, low NOx burners, and dust collectors are used to control emissions at various points in the material handling and the bonded and unbonded processes.

FOPs at Site

The “application area” consists of the emission units and that portion of the site included in the application and this permit. Multiple FOPs may be issued to a site in accordance with 30 TAC § 122.201(e). When there is only one area for the site, then the application information and permit will include all units at the site. Additional FOPs that exist at the site, if any, are listed below.

Additional FOPs: None

Major Source Pollutants

The table below specifies the pollutants for which the site is a major source:

Major Pollutants	VOC, PM, NOX, CO
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Reading State of Texas’s Federal Operating Permit

The Title V Federal Operating Permit (FOP) lists all state and federal air emission regulations and New Source Review (NSR) authorizations (collectively known as “applicable requirements”) that apply at a particular site or permit area (in the event a site has multiple FOPs). **The FOP does not authorize new emissions or new construction activities.** The FOP begins with an introductory page which is common to all Title V permits. This page gives the details of the company, states the authority of the issuing agency, requires the company to operate in accordance with this permit and 30 Texas Administrative Code (TAC) Chapter 122, requires adherence with NSR requirements of 30 TAC Chapter 116, and finally indicates the permit number and the issuance date.

This is followed by the table of contents, which is generally composed of the following elements. Not all permits will have all of the elements.

- General Terms and Conditions
- Special Terms and Conditions
 - Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting
 - Additional Monitoring Requirements
 - New Source Review Authorization Requirements
 - Compliance Requirements
 - Protection of Stratosphere Ozone
 - Permit Location
 - Permit Shield (30 TAC § 122.148)
- Attachments
 - Applicable Requirements Summary

- Unit Summary
 - Applicable Requirements Summary
- Additional Monitoring Requirements
- Permit Shield
- New Source Review Authorization References
- Compliance Plan
- Alternative Requirements
- Appendix A
 - Acronym list
- Appendix B
 - Copies of major NSR authorizations

General Terms and Conditions

The General Terms and Conditions are the same and appear in all permits. The first paragraph lists the specific citations for 30 TAC Chapter 122 requirements that apply to all Title V permit holders. The second paragraph describes the requirements for record retention. The third paragraph provides details for voiding the permit, if applicable. The fourth paragraph states that the permit holder shall comply with the requirements of 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. The fifth paragraph provides details on submission of reports required by the permit.

Special Terms and Conditions

Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting. The TCEQ has designated certain applicable requirements as site-wide requirements. A site-wide requirement is a requirement that applies uniformly to all the units or activities at the site. Units with only site-wide requirements are addressed on Form OP-REQ1 and are not required to be listed separately on an OP-UA Form or Form OP-SUM. Form OP-SUM must list all units addressed in the application and provide identifying information, applicable OP-UA Forms, and preconstruction authorizations. The various OP-UA Forms provide the characteristics of each unit from which applicable requirements are established. Some exceptions exist as a few units may have both site-wide requirements and unit specific requirements.

Other conditions. The other entries under special terms and conditions are in general terms referring to compliance with the more detailed data listed in the attachments.

Attachments

Applicable Requirements Summary. The first attachment, the Applicable Requirements Summary, has two tables, addressing unit specific requirements. The first table, the Unit Summary, includes a list of units with applicable requirements, the unit type, the applicable regulation, and the requirement driver. The intent of the requirement driver is to inform the reader that a given unit may have several different operating scenarios and the differences between those operating scenarios.

The applicable requirements summary table provides the detailed citations of the rules that apply to the various units. For each unit and operating scenario, there is an added modifier called the “index number,” detailed citations specifying monitoring and testing requirements, recordkeeping requirements, and reporting requirements. The data for this table is based on data supplied by the applicant on the OP-SUM and various OP-UA forms.

Additional Monitoring Requirement. The next attachment includes additional monitoring the applicant must perform to ensure compliance with the applicable standard. Compliance assurance monitoring (CAM) is often required to provide a reasonable assurance of compliance with applicable emission limitations/standards for large emission units that use control devices to achieve compliance with applicant requirements. When necessary, periodic monitoring (PM) requirements are specified for certain parameters (i.e. feed rates, flow rates, temperature, fuel type and consumption, etc.) to determine if a term and condition or emission unit is operating within specified limits to control emissions. These additional monitoring approaches may be required for two reasons. First, the applicable rules do not adequately specify monitoring requirements (exception- Maximum Achievable Control Technology Standards (MACTs) generally have sufficient monitoring), and second, monitoring may be required to fill gaps in the monitoring requirements of certain applicable requirements. In situations where the NSR permit is the applicable requirement requiring extra monitoring for a specific emission unit, the preferred solution is to have the monitoring requirements in the NSR permit updated so that all NSR requirements are consolidated in the NSR permit.

Permit Shield. A permit may or may not have a permit shield, depending on whether an applicant has applied for, and justified the granting of, a permit shield. A permit shield is a special condition included in the permit document stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirement(s) or specified applicable state-only requirement(s).

New Source Review Authorization References. All activities which are related to emissions in the state of Texas must have a NSR authorization prior to beginning construction. This section lists all units in the permit and the NSR authorization that allowed the unit to be constructed or modified. Units that do not have unit specific applicable requirements other than the NSR authorization do not need to be listed in this attachment. While NSR permits are not physically a part of the Title V permit, they are legally incorporated into the Title V permit by reference. Those NSR permits whose emissions exceed certain PSD/NA thresholds must also undergo a Federal review of federally regulated pollutants in addition to review for state regulated pollutants.

Compliance Plan. A permit may have a compliance schedule attachment for listing corrective actions plans for any emission unit that is out of compliance with an applicable requirement.

Alternative Requirements. This attachment will list any alternative monitoring plans or alternative means of compliance for applicable requirements that have been approved by the EPA Administrator and/or the TCEQ Executive Director.

Appendix A

Acronym list. This attachment lists the common acronyms used when discussing the FOPs.

Appendix B

Copies of major NSR authorizations applicable to the units covered by this permit have been included in this Appendix, to ensure that all interested persons can access those authorizations.

Stationary vents subject to 30 TAC Chapter 111, Subchapter A, § 111.111(a)(1)(B) addressed in the Special Terms and Conditions

The site contains stationary vents with a flowrate less than 100,000 actual cubic feet per minute (acfm) and constructed after January 31, 1972 which are limited, over a six-minute average, to 20% opacity as required by 30 TAC § 111.111(a)(1)(B). As a site may have a large number of stationary vents that fall into this category, they are not required to be listed individually in the permit's Applicable Requirements Summary. This is consistent with EPA's White Paper for Streamlined Development of Part 70 Permit Applications, July 10, 1995, that states that requirements that apply identically to emission units at a site can be treated on a generic basis such as source-wide opacity limits.

Periodic monitoring is specified in Special Term and Condition 3 for stationary vents subject to 30 TAC § 111.111(a)(1)(B) to verify compliance with the 20% opacity limit. These vents are not expected to produce visible emissions during normal operation. The TCEQ evaluated the probability of these sources violating the opacity standards and determined that there is a very low potential that an opacity standard would be exceeded. It was determined that continuous monitoring for these sources is not warranted as there would be very limited environmental benefit in continuously monitoring sources that have a low potential to produce visible emissions. Therefore, the TCEQ set the visible observation monitoring frequency for these sources to once per calendar quarter.

The TCEQ has exempted vents that are not capable of producing visible emissions from periodic monitoring requirements. These vents include sources of colorless VOCs, non-fuming liquids, and other materials that cannot produce emissions that obstruct the transmission of light. Passive ventilation vents, such as plumbing vents, are also included in this category. Since this category of vents are not capable of producing opacity due to the physical or chemical characteristics of the emission source, periodic monitoring is not required as it would not yield any additional data to assure compliance with the 20% opacity standard of 30 TAC § 111.111(a)(1)(B).

In the event that visible emissions are detected, either through the quarterly observation or other credible evidence, such as observations from company personnel, the permit holder shall either report a deviation or perform a Test Method 9 observation to determine the opacity consistent with the 6-minute averaging time specified in 30 TAC § 111.111(a)(1)(B). An additional provision is included to monitor combustion sources more frequently than quarterly if alternate fuels are burned for periods greater than 24 consecutive hours. This will address possible emissions that may arise when switching fuel types.

Stationary Vents subject to 30 TAC Chapter 111 not addressed in the Special Terms and Conditions

All other stationary vents subject to 30 TAC Chapter 111 not covered in the Special Terms and Conditions are listed in the permit's Applicable Requirements Summary. The basis for the applicability determinations for these vents are listed in the Determination of Applicable Requirements table.

Federal Regulatory Applicability Determinations

The following chart summarizes the applicability of the principal air pollution regulatory programs to the permit area:

Regulatory Program	Applicability (Yes/No)
Prevention of Significant Deterioration (PSD)	Yes
Nonattainment New Source Review (NNSR)	No
Minor NSR	Yes
40 CFR Part 60 - New Source Performance Standards	Yes
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)	No
40 CFR Part 63 - NESHAPs for Source Categories	Yes
Title IV (Acid Rain) of the Clean Air Act (CAA)	No
Title V (Federal Operating Permits) of the CAA	Yes
Title VI (Stratospheric Ozone Protection) of the CAA	No
CSAPR (Cross-State Air Pollution Rule)	No
Federal Implementation Plan for Regional Haze (Texas SO ₂ Trading Program)	No

Basis for Applying Permit Shields

An operating permit applicant has the opportunity to specifically request a permit shield to document that specific applicable requirements do not apply to emission units in the permit. A permit shield is a special condition stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements. A permit shield has been requested in the application for specific emission units. For the permit shield requests that have been approved, the basis of determination for regulations that the owner/operator need not comply with are located in the "Permit Shield" attachment of the permit.

Insignificant Activities and Emission Units

In general, units not meeting the criteria for inclusion on either Form OP-SUM or Form OP-REQ1 are not required to be addressed in the operating permit application. Examples of these types of units include, but are not limited to, the following:

De Minimis Sources

1. Sources identified in the "De Minimis Facilities or Sources" list maintained by TCEQ. The list is available at https://www.tceq.texas.gov/permitting/air/newsourcereview/de_minimis.html.

Miscellaneous Sources

2. Office activities such as photocopying, blueprint copying, and photographic processes.
3. Outdoor barbecue pits, campfires, and fireplaces.
4. Storage and handling of sealed portable containers, cylinders, or sealed drums.
5. Vehicle exhaust from maintenance or repair shops.
6. Storage and use of non-VOC products or equipment for maintaining motor vehicles operated at the site (including but not limited to, antifreeze and fuel additives).
7. Air contaminant detectors and recorders, combustion controllers and shut-off devices, product analyzers, laboratory analyzers, continuous emissions monitors, other analyzers and monitors, and emissions associated with sampling activities. Exception to this category includes sampling activities that are deemed fugitive emissions and under a regulatory leak detection and repair program.
8. Steam vents, steam leaks, and steam safety relief valves, provided the steam (or boiler feedwater) has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
9. Storage of water that has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
10. Well cellars.
11. Fire or emergency response equipment and training, including but not limited to, use of fire control equipment including equipment testing and training, and open burning of materials or fuels associated with firefighting training.
12. Equipment used exclusively for the melting or application of wax.
13. Instrument systems utilizing air, natural gas, nitrogen, oxygen, carbon dioxide, helium, neon, argon, krypton, and xenon.
14. Battery recharging areas.

Sources Authorized by 30 TAC Chapter 106, Permits by Rule

15. Sources authorized by §106.102: Combustion units designed and used exclusively for comfort heating purposes employing liquid petroleum gas, natural gas, solid wood, or distillate fuel oil.
16. Sources authorized by §106.122: Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including but not limited to, assorted vacuum producing devices and laboratory fume hoods.
17. Sources authorized by §106.141: Batch mixers with rated capacity of 27 cubic feet or less for mixing cement, sand, aggregate, lime, gypsum, additives, and/or water to produce concrete, grout, stucco, mortar, or other similar products.
18. Sources authorized by §106.143: Wet sand and gravel production facilities that obtain material from subterranean and subaqueous beds where the deposits of sand and gravel are consolidated granular materials resulting from natural disintegration of rock and stone and have a production rate of 500 tons per hour or less.
19. Sources authorized by §106.148: Railcar or truck unloading of wet sand, gravel, aggregate, coal, lignite, and scrap iron or scrap steel (but not including metal ores, metal oxides, battery parts, or fine dry materials) into trucks or other railcars for transportation to other locations.
20. Sources authorized by §106.149: Sand and gravel production facilities that obtain material from deposits of sand and gravel consisting of natural disintegration of rock and stone, provided that crushing or breaking operations are not used and no blasting is conducted to obtain the material.
21. Sources authorized by §106.161: Animal feeding operations which confine animals in numbers specified and any associated on-site feed handling and/or feed millings operations, not including caged laying and caged pullet operations.
22. Sources authorized by §106.162: Livestock auction sales facilities.
23. Sources authorized by §106.163: All animal racing facilities, domestic animal shelters, zoos, and their associated confinement areas, stables, feeding areas, and waste collection and treatment facilities, other than incineration units.
24. Sources authorized by §106.229: Equipment used exclusively for the dyeing or stripping of textiles.
25. Sources authorized by §106.241: Any facility where animals or poultry are slaughtered and prepared for human consumption provided that waste products such as blood, offal, and feathers are stored in such a manner as to prevent the creation of a nuisance condition and these waste products are removed from the premises daily or stored under refrigeration.
26. Sources authorized by §106.242: Equipment used in eating establishments for the purpose of preparing food for human consumption.

27. Sources authorized by §106.243: Smokehouses in which the maximum horizontal inside cross-sectional area does not exceed 100 square feet.
28. Sources authorized by §106.244: Ovens, mixers, blenders, barbecue pits, and cookers if the products are edible and intended for human consumption.
29. Sources authorized by §106.266: Vacuum cleaning systems used exclusively for industrial, commercial, or residential housekeeping purposes.
30. Sources authorized by §106.301: Aqueous fertilizer storage tanks.
31. Sources authorized by §106.313: All closed tumblers used for the cleaning or deburring of metal products without abrasive blasting, and all open tumblers with a batch capacity of 1,000 lbs. or less.
32. Sources authorized by §106.316: Equipment used for inspection of metal products.
33. Sources authorized by §106.317: Equipment used exclusively for rolling, forging, pressing, drawing, spinning, or extruding either hot or cold metals by some mechanical means.
34. Sources authorized by §106.318: Die casting machines.
35. Sources authorized by §106.319: Foundry sand mold forming equipment to which no heat is applied.
36. Sources authorized by §106.331: Equipment used exclusively to package pharmaceuticals and cosmetics or to coat pharmaceutical tablets.
37. Sources authorized by §106.333: Equipment used exclusively for the mixing and blending of materials at ambient temperature to make water-based adhesives.
38. Sources authorized by §106.372: Any air separation or other industrial gas production, storage, or packaging facility. Industrial gases, for purposes of this list, include only oxygen, nitrogen, helium, neon, argon, krypton, and xenon.
39. Sources authorized by §106.391: Presses used for the curing of rubber products and plastic products.
40. Sources authorized by §106.394: Equipment used for compression molding and injection molding of plastics.
41. Sources authorized by §106.414: Equipment used exclusively for the packaging of lubricants or greases.
42. Sources authorized by §106.415: Laundry dryers, extractors, and tumblers used for fabrics cleaned with water solutions of bleach or detergents.
43. Sources authorized by §106.431: Equipment used exclusively to mill or grind coatings and molding compounds where all materials charged are in paste form.
44. Sources authorized by §106.432: Containers, reservoirs, or tanks used exclusively for dipping operations for coating objects with oils, waxes, or greases where no organic solvents, diluents, or thinners are used; or dipping operations for applying coatings of natural or synthetic resins which contain no organic solvents.
45. Sources authorized by §106.451: Blast cleaning equipment using a suspension of abrasives in water.
46. Sources authorized by §106.453: Equipment used for washing or drying products fabricated from metal or glass, provided no volatile organic materials are used in the process and no oil or solid fuel is burned.
47. Sources authorized by §106.471: Equipment used exclusively to store or hold dry natural gas.
48. Sources authorized by §106.531: Sewage treatment facilities, excluding combustion or incineration equipment, land farms, or grease trap waste handling or treatment facilities.

Determination of Applicable Requirements

The tables below include the applicability determinations for the emission units, the index number(s) where applicable, and all relevant unit attribute information used to form the basis of the applicability determination. The unit attribute information is a description of the physical properties of an emission unit which is used to determine the requirements to which the permit holder must comply. For more information about the descriptions of the unit attributes specific Unit Attribute Forms may be viewed at www.tceq.texas.gov/permitting/air/nav/air_all_ua_forms.html.

A list of unit attribute forms is included at the end of this document. Some examples of unit attributes include construction date; product stored in a tank; boiler fuel type; etc.. Generally, multiple attributes are needed to determine the requirements for a given emission unit and index number. The table below lists these attributes in the column entitled "Basis of Determination." Attributes that demonstrate that an applicable requirement applies will be the factual basis for the specific citations in an applicable requirement that apply to a unit for that index number. The TCEQ Air Permits Division has developed flowcharts for determining applicability of state and federal regulations based on the unit attribute information in a Decision Support System (DSS). These flowcharts can be accessed via the internet at www.tceq.texas.gov/permitting/air/nav/air_supportsys.html. The Air Permits Division staff may also be contacted for assistance at (512) 239-1250.

The attributes for each unit and corresponding index number provide the basis for determining the specific legal citations in an applicable requirement that apply, including emission limitations or standards, monitoring, recordkeeping, and reporting. The rules were found to apply or not apply by using the unit attributes as answers to decision questions found in the flowcharts of the DSS. Some additional attributes indicate which legal citations of a rule apply. The legal citations

that apply to each emission unit may be found in the Applicable Requirements Summary table of the draft permit. There may be some entries or rows of units and rules not found in the permit, or if the permit contains a permit shield, repeated in the permit shield area. These are sets of attributes that describe negative applicability, or; in other words, the reason why a potentially applicable requirement does not apply.

If applicability determinations have been made which differ from the available flowcharts, an explanation of the decisions involved in the applicability determination is specified in the column "Changes and Exceptions to RRT." If there were no exceptions to the DSS, then this column has been removed.

The draft permit includes all emission limitations or standards, monitoring, recordkeeping and reporting required by each applicable requirement. If an applicable requirement does not require monitoring, recordkeeping, or reporting, the word "None" will appear in the Applicable Requirements Summary table. If additional periodic monitoring is required for an applicable requirement, it will be explained in detail in the portion of this document entitled "Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected."

When attributes demonstrate that a unit is not subject to an applicable requirement, the applicant may request a permit shield for those items. The portion of this document entitled "Basis for Applying Permit Shields" specifies which units, if any, have a permit shield.

Operational Flexibility

When an emission unit has multiple operating scenarios, it will have a different index number associated with each operating condition. This means that units are permitted to operate under multiple operating conditions. The applicable requirements for each operating condition are determined by a unique set of unit attributes. For example, a tank may store two different products at different points in time. The tank may, therefore, need to comply with two distinct sets of requirements, depending on the product that is stored. Both sets of requirements are included in the permit, so that the permit holder may store either product in the tank.

Determination of Applicable Requirements

Unit ID	Regulation	Index Number	Basis of Determination*	Changes and Exceptions to the DSS**
FURN-1	40 CFR Part 63, Subpart NN	63NN-01	Unit Type: Emission Unit Date Constructed/Placed in Service = On/After Compliance Date – 117.540	The rule citations were determined from an analysis of the rule text and the basis of determination.
GEN-1	40 CFR Part 60, Subpart IIII	60IIII-01	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after 07/11/2005.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Service = CI ICE is an emergency engine.</p> <p>Commencing = CI ICE was newly constructed after 07/11/2005</p> <p>Manufacture Date = Date of manufacture was after 04/01/2006.</p> <p>Diesel = Diesel fuel is used.</p> <p>Displacement = Displacement is less than 10 liters per cylinder.</p> <p>Model Year = CI ICE was manufactured in model year 2017 or later.</p> <p>Kilowatts = Power rating is greater than 560 KW and less than or equal to 2237 KW.</p> <p>AECD = The CI ICE is not equipped with auxiliary emission control devices (AECDs) pursuant to the requirements of 40 CFR 1039.665</p> <p>Standard = The emergency CI ICE does not meet the Tier 1, 2, 3, or 4 standards applicable to non-emergency engines (for the same KW and model year)</p> <p>Compliance Option = The CI ICE and control device is installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions.</p>	
GEN-1	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	<p>HAP Source = The site is an area source of hazardous air pollutants as defined in 40 CFR § 63.2</p> <p>Brake HP = Stationary RICE with a brake HP greater than 500 HP.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p>	
FC-1	30 TAC Chapter 111, Visible Emissions	R1111	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p>	

Unit ID	Regulation	Index Number	Basis of Determination*	Changes and Exceptions to the DSS**
			<p>Construction Date = After January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.</p>	
FURN-1	30 TAC Chapter 111, Nonagricultural Processes	R1151	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).	
GPR-COOL	30 TAC Chapter 111, Visible Emissions	R1111	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = After January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.</p>	
FORM-1	40 CFR Part 60, Subpart PPP	60PPP-01	<p>Manufactures Rotary Spin Wool Fiberglass Insulation = The facility is a rotary spin wool fiberglass insulation manufacturing line.</p> <p>Construction/Modification Date = After February 7, 1984.</p> <p>Control Device = Wet electrostatic precipitator.</p>	
FURN-1	40 CFR Part 60, Subpart CC	60CC-01	<p>Facility Type = Glass melting furnace as defined in 40 CFR Part 60, Subpart CC with a design capacity of 4550 kg/day or greater.</p> <p>Construction/Modification Date = After June 15, 1979.</p> <p>Modified Process = The affected facility is not a modified process glass melting furnace.</p> <p>Simultaneous Firing = The furnace fires only gaseous fuel or only liquid fuel.</p> <p>Complying with § 60.292 = Choosing to comply with the provisions of 40 CFR § 60.292.</p>	

* - The "unit attributes" or operating conditions that determine what requirements apply

** - Note changes made to the automated results from the DSS, and a brief explanation why

NSR Versus Title V FOP

The state of Texas has two Air permitting programs, New Source Review (NSR) and Title V Federal Operating Permits. The two programs are substantially different both in intent and permit content.

NSR is a preconstruction permitting program authorized by the Texas Clean Air Act and Title I of the Federal Clean Air Act (FCAA). The processing of these permits is governed by 30 Texas Administrative Code (TAC) Chapter 116.111. The Title V Federal Operating Program is a federal program authorized under Title V of the FCAA that has been delegated to the state of Texas to administer and is governed by 30 TAC Chapter 122. The major differences between the two permitting programs are listed in the table below:

NSR Permit	Federal Operating Permit (FOP)
Issued Prior to new Construction or modification of an existing facility	For initial permit with application shield, can be issued after operation commences; significant revisions require approval prior to operation.
Authorizes air emissions	Codifies existing applicable requirements, does not authorize new emissions
Ensures issued permits are protective of the environment and human health by conducting a health effects review and that requirement for best available control technology (BACT) is implemented.	Applicable requirements listed in permit are used by the inspectors to ensure proper operation of the site as authorized. Ensures that adequate monitoring is in place to allow compliance determination with the FOP.
Up to two Public notices may be required. Opportunity for public comment and contested case hearings for some authorizations.	One public notice required. Opportunity for public comments. No contested case hearings.
Applies to all point source emissions in the state.	Applies to all major sources and some non-major sources identified by the EPA.
Applies to facilities: a portion of site or individual emission sources	One or multiple FOPs cover the entire site (consists of multiple facilities)
Permits include terms and conditions under which the applicant must construct and operate its various equipment and processes on a facility basis.	Permits include terms and conditions that specify the general operational requirements of the site; and include codification of all applicable requirements for emission units at the site.
Opportunity for EPA review for Federal Prevention of Significant Deterioration (PSD) and Nonattainment (NA) permits for major sources.	Opportunity for EPA review, affected states review, and a Public petition period for every FOP.
Permits have a table listing maximum emission limits for pollutants	Permit has an applicable requirements table and Periodic Monitoring (PM) / Compliance Assurance Monitoring (CAM) tables which document applicable monitoring requirements.
Permits can be altered or amended upon application by company. Permits must be issued before construction or modification of facilities can begin.	Permits can be revised through several revision processes, which provide for different levels of public notice and opportunity to comment. Changes that would be significant revisions require that a revised permit be issued before those changes can be operated.
NSR permits are issued independent of FOP requirements.	FOPs are independent of NSR permits, but contain a list of all NSR permits incorporated by reference

New Source Review Requirements

Below is a list of the New Source Review (NSR) permits for the permitted area. These NSR permits are incorporated by reference into the operating permit and are enforceable under it. These permits can be found in the main TCEQ file room, located on the first floor of Building E, 12100 Park 35 Circle, Austin, Texas. In addition, many of the permits are accessible online through the link provided below. The Public Education Program may be contacted at 1-800-687-4040 or the Air Permits Division (APD) may be contacted at 1-512-239-1250 for help with any question.

Additionally, the site contains emission units that are permitted by rule under the requirements of 30 TAC Chapter 106, Permits by Rule. Permit by Rule (PBR) registrations submitted by permittees are also available online through the link provided below. The following table specifies the PBRs that apply to the site.

The status of air permits, applications, and PBR registrations may be found by performing the appropriate search of the databases located at the following website:

www.tceq.texas.gov/permitting/air/nav/air_status_permits.html

Details on how to search the databases are available in the **Obtaining Permit Documents** section below.

New Source Review Authorization References

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

Permits by Rule

The TCEQ has interpreted the emission limits prescribed in 30 TAC §106.4(a) as both emission thresholds and default emission limits. The emission limits in 30 TAC §106.4(a) are all considered applicable to each facility as a threshold matter to ensure that the owner/operator qualifies for the PBR authorization. Those same emission limits are also the default emission limits if the specific PBR does not further limit emissions or there is no lower, certified emission limit claimed by the owner/operator.

This interpretation is consistent with how TCEQ has historically determined compliance with the emission limits prior to the addition of the “as applicable” language. The “as applicable” language was added in 2014 as part of changes to the sentence structure in a rulemaking that made other changes to address greenhouse gases and was not intended as a substantive rule change. This interpretation also provides for effective and practical enforcement of 30 TAC §106.4(a), since for the TCEQ to effectively enforce the emission limits in 30 TAC §106.4(a) as emission thresholds, all emission limits must apply. As provided by 30 TAC §106.4(a)(2) and (3), an owner/operator shall not claim a PBR authorization if the facility is subject to major New Source Review. The practical and legal effect of the language in 30 TAC § 106.4 is that if a facility does not emit a pollutant, then the potential to emit for that particular pollutant is zero, and thus, the facility is not authorized to emit the pollutant pursuant to the PBR.

The permit holder is required to keep records for demonstrating compliance with PBRs in accordance with 30 TAC § 106.8 for the following categories:

- As stated in 30 TAC § 106.8(a), the permit holder is not required to keep records for de minimis sources as designated in 30 TAC § 116.119.
- As stated in 30 TAC § 106.8(b) for PBRs on the insignificant activities list, the permit holder is required to provide information that would demonstrate compliance with the general requirements of 30 TAC § 106.4.
- As stated in 30 TAC § 106.8(c) for all other PBRs, the permit holder must maintain sufficient records to demonstrate compliance with the general requirements specified in 30 TAC § 106.4 and to demonstrate compliance with the emission limits and any specific conditions of the PBR as applicable.

The PBR 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, or parametric monitoring. The PBR records also satisfy the federal operating permit periodic monitoring requirements of 30 TAC § 122.142(c) as they are representative of the emission unit’s compliance with 30 TAC Chapter 106.

Emission Units and Emission Points

In air permitting terminology, any source capable of generating emissions (for example, an engine or a sandblasting area) is called an Emission Unit. For purposes of Title V, emission units are specifically listed in the operating permit when they have applicable requirements other than New Source Review (NSR), or when they are listed in the permit shield table.

The actual physical location where the emissions enter the atmosphere (for example, an engine stack or a sand-blasting yard) is called an emission point. For New Source Review preconstruction permitting purposes, every emission unit has an associated emission point. Emission limits are listed in an NSR permit, associated with an emission point. This list of emission points and emission limits per pollutant is commonly referred to as the "Maximum Allowable Emission Rate Table", or "MAERT" for short. Specifically, the MAERT lists the Emission Point Number (EPN) that identifies the emission point, followed immediately by the Source Name, identifying the emission unit that is the source of those emissions on this table.

Thus, by reference, an emission unit in a Title V operating permit is linked by reference number to an NSR authorization, and its related emission point.

Monitoring Sufficiency

Federal and state rules, 40 CFR § 70.6(a)(3)(i)(B) and 30 TAC § 122.142(c) respectively, require that each federal operating permit include additional monitoring for applicable requirements that lack periodic or instrumental monitoring (which may include recordkeeping that serves as monitoring) that yields reliable data from a relevant time period that are representative of the emission unit's compliance with the applicable emission limitation or standard. Furthermore, the federal operating permit must include compliance assurance monitoring (CAM) requirements for emission sources that meet the applicability criteria of 40 CFR Part 64 in accordance with 40 CFR § 70.6(a)(3)(i)(A) and 30 TAC § 122.604(b).

With the exception of any emission units listed in the Periodic Monitoring or CAM Summaries in the FOP, the TCEQ Executive Director has determined that the permit contains sufficient monitoring, testing, recordkeeping, and reporting requirements that assure compliance with the applicable requirements. If applicable, each emission unit that requires additional monitoring in the form of periodic monitoring or CAM is described in further detail under the Rationale for CAM/PM Methods Selected section following this paragraph.

Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected

Compliance Assurance Monitoring (CAM):

Compliance Assurance Monitoring (CAM) is a federal monitoring program established under Title 40 Code of Federal Regulations Part 64 (40 CFR Part 64).

Emission units are subject to CAM requirements if they meet the following criteria:

1. the emission unit is subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement;
2. the emission unit uses a control device to achieve compliance with the emission limitation or standard specified in the applicable requirement; and
3. the emission unit has the pre-control device potential to emit greater than or equal to the amount in tons per year for a site to be classified as a major source.

The following table(s) identify the emission unit(s) that are subject to CAM:

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 the most recent performance test.	
Basis of CAM: 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.	

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.	
Basis of CAM: 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:

The Federal Clean Air Act requires that each federal operating permit include monitoring sufficient to assure compliance with the terms and conditions of the permit. Most of the emission limits and standards applicable to emission units at Title V sources include adequate monitoring to show that the units meet the limits and standards. For those requirements that do not include monitoring, or where the monitoring is not sufficient to assure compliance, the federal operating permit must include such monitoring for the emission units affected. The following emission units are subject to periodic monitoring requirements because the emission units are subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement that does not already require monitoring, or the monitoring for the applicable requirement is not sufficient to assure compliance:

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	
Basis of monitoring: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.	

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	
<p>Basis of monitoring: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

Obtaining Permit Documents

The New Source Review Authorization References table in the FOP specifies all NSR authorizations that apply at the permit area covered by the FOP. Individual NSR permitting files are located in the TCEQ Central File Room (TCEQ Main Campus located at 12100 Park 35 Circle, Austin, Texas, 78753, Building E, Room 103). They can also be obtained electronically from TCEQ's Central File Room Online (<https://www.tceq.texas.gov/goto/cfr-online>). Guidance documents that describe how to search electronic records, including Permits by Rule (PBRs) or NSR permits incorporated by reference into an FOP, archived in the Central File Room server are available at https://www.tceq.texas.gov/permitting/air/nav/air_status_permits.html

All current PBRs are contained in Chapter 106 and can be viewed at the following website:

https://www.tceq.texas.gov/permitting/air/permitbyrule/air_pbr_index.html

Previous versions of 30 TAC Chapter 106 PBRs may be viewed at the following website:

www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/old106list/index106.html

Historical Standard Exemption lists may be viewed at the following website:

www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/oldselist/se_index.html

Additional information concerning PBRs is available on the TCEQ website:

https://www.tceq.texas.gov/permitting/air/nav/air_pbr.html

Compliance Review

1. In accordance with 30 TAC Chapter 60, the compliance history was reviewed on May 20, 2025.

Site rating: Unclassified Company rating: Unclassified
(*High < 0.10; Satisfactory ≥ 0.10 and ≤ 55 ; Unsatisfactory > 55*)

2. Has the permit changed on the basis of the compliance history or site/company rating?No

Site/Permit Area Compliance Status Review

1. Were there any out-of-compliance units listed on Form OP-ACPS?No

2. Is a compliance plan and schedule included in the permit?No

Available Unit Attribute Forms

OP-UA1 - Miscellaneous and Generic Unit Attributes

OP-UA2 - Stationary Reciprocating Internal Combustion Engine Attributes

OP-UA3 - Storage Tank/Vessel Attributes

OP-UA4 - Loading/Unloading Operations Attributes

OP-UA5 - Process Heater/Furnace Attributes

OP-UA6 - Boiler/Steam Generator/Steam Generating Unit Attributes

OP-UA7 - Flare Attributes

OP-UA10 - Gas Sweetening/Sulfur Recovery Unit Attributes

OP-UA11 - Stationary Turbine Attributes

OP-UA12 - Fugitive Emission Unit Attributes

OP-UA13 - Industrial Process Cooling Tower Attributes

OP-UA14 - Water Separator Attributes

OP-UA15 - Emission Point/Stationary Vent/Distillation Operation/Process Vent Attributes

OP-UA16 - Solvent Degreasing Machine Attributes

OP-UA17 - Distillation Unit Attributes

OP-UA18 - Surface Coating Operations Attributes

OP-UA19 - Wastewater Unit Attributes

OP-UA20 - Asphalt Operations Attributes

OP-UA21 - Grain Elevator Attributes

OP-UA22 - Printing Attributes

OP-UA24 - Wool Fiberglass Insulation Manufacturing Plant Attributes

OP-UA25 - Synthetic Fiber Production Attributes
OP-UA26 - Electroplating and Anodizing Unit Attributes
OP-UA27 - Nitric Acid Manufacturing Attributes
OP-UA28 - Polymer Manufacturing Attributes
OP-UA29 - Glass Manufacturing Unit Attributes
OP-UA30 - Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mill Attributes
OP-UA31 - Lead Smelting Attributes
OP-UA32 - Copper and Zinc Smelting/Brass and Bronze Production Attributes
OP-UA33 - Mineral Processing Plant Attributes
OP-UA34 - Pharmaceutical Manufacturing
OP-UA35 - Incinerator Attributes
OP-UA36 - Steel Plant Unit Attributes
OP-UA37 - Basic Oxygen Process Furnace Unit Attributes
OP-UA38 - Lead-Acid Battery Manufacturing Plant Attributes
OP-UA39 - Sterilization Source Attributes
OP-UA40 - Ferroalloy Production Facility Attributes
OP-UA41 - Dry Cleaning Facility Attributes
OP-UA42 - Phosphate Fertilizer Manufacturing Attributes
OP-UA43 - Sulfuric Acid Production Attributes
OP-UA44 - Municipal Solid Waste Landfill/Waste Disposal Site Attributes
OP-UA45 - Surface Impoundment Attributes
OP-UA46 - Epoxy Resins and Non-Nylon Polyamides Production Attributes
OP-UA47 - Ship Building and Ship Repair Unit Attributes
OP-UA48 - Air Oxidation Unit Process Attributes
OP-UA49 - Vacuum-Producing System Attributes
OP-UA50 - Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas Combustion Device/Claus Sulfur Recovery Plant Attributes
OP-UA51 - Dryer/Kiln/Oven Attributes
OP-UA52 - Closed Vent Systems and Control Devices
OP-UA53 - Beryllium Processing Attributes
OP-UA54 - Mercury Chlor-Alkali Cell Attributes
OP-UA55 - Transfer System Attributes
OP-UA56 - Vinyl Chloride Process Attributes
OP-UA57 - Cleaning/Depainting Operation Attributes
OP-UA58 - Treatment Process Attributes
OP-UA59 - Coke By-Product Recovery Plant Attributes
OP-UA60 - Chemical Manufacturing Process Unit Attributes
OP-UA61 - Pulp, Paper, or Paperboard Producing Process Attributes
OP-UA62 - Glycol Dehydration Unit Attributes
OP-UA63 - Vegetable Oil Production Attributes
OP-UA64 - Coal Preparation Plant Attributes