

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

MEMORANDUM

November 4, 2022

TO: Lee Warden, P.E., Permits and Engineering Group Manager

THROUGH: Rick Groshong, Environmental Manager, Compliance and Enforcement

THROUGH: Richard Kienlen, P.E., Engineering Manager, New Source Permits Section

THROUGH: Ryan Buntyn, P.E., New Source Permits Section

FROM: Junru Wang, P.E., Existing Source Permits Section

SUBJECT: Evaluation of Permit Application No. **2020-0493-C (M-1)**
Green Bay Packaging Inc.
Tulsa Division (SIC 2653/NAICS 322211)
Facility ID: 21934
Latitude: 36.08553°N, Longitude: 96.05993°W
Section 32, Township 19N, Range 12E, Tulsa County, Oklahoma
Physical Address: 5901 W. 55th Street South, Tulsa, OK 74107

INTRODUCTION

Green Bay Packaging Inc. (GBP or the applicant) has requested an individual minor source construction permit modification for their Tulsa Division facility in Tulsa County, Oklahoma. The facility is currently operating under an individual minor source FESOP No. 2020-0493-O, issued on May 31, 2022.

The applicant is proposing to permit an existing 125-kW diesel-fired emergency generator and construct a new 600-kW diesel-fired emergency generator in this permit action. The existing 125-kW diesel-fired emergency generator was installed during the initial construction and has been in operation since without a permit. Due to this, the applicant submitted a self-disclosure on August 22, 2022, for failure to permit the emergency generator, which resulted in Enforcement Case ID 10616. Therefore, this permit will require Compliance and Enforcement review when processing.

Based on data provided by GBP, the facility has uncontrolled emissions of 18.08 TPY for NO_x, 20.17 TPY for CO, and 12.93 TPY for VOC, and controlled emissions of 0.60 TPY for PM. However, to allow for maximum operational flexibility, the facility is requesting facility-wide limits of 79.99 TPY for VOC and PM, 7.99 TPY per individual HAP, and 19.99 TPY for total HAPs. This facility, therefore, qualifies for a “synthetic minor” permit because the controlled emissions of each of the regulated pollutants are below the major source threshold of 100 TPY, HAP emissions are below the 10 TPY threshold for a single HAP, and below the 25 TPY threshold for any combination of HAPs. The applicant has requested to process the construction permit through the Traditional NSR process.

PROCESS DESCRIPTION

The facility is a corrugated box manufacturing facility. Paper roll stock is material input to the corrugator, where emissions are generated from adhesive mixing, corrugating, bonding, and slitting. A natural gas-fired boiler provides steam to the corrugator. The corrugator produces corrugated sheets that are sent to the presses and converting units where emissions are generated from printing, folding, gluing, and cutting, or they are directly banded and unitized as unprinted product. All product is banded and unitized before being shipped out of the facility. A closed-loop pneumatic trim/scrap system collects paper trim from the corrugator and converting operations. Scrap is separated from the transport air stream via two (2) mechanical screens, through a rotary air lock, and into one of two balers for transport to a recycling site. The transport air then passes through a cartridge filter and returned to the production area. The entire system is under roof and does not have the capability to discharge to the exterior of the building. The site also has space heating.

EMISSIONS

Emissions estimates from the facility are based on the following operational data, methods, and factors.

BOILER AND HEATERS

The natural gas-fired boiler is rated at 31.475-MMBTUH and the space heaters are rated at 20-MMBTUH total. The emissions are based on operating the boiler and heaters at maximum output for 8,760 hours per year and emission factors from AP-42 (7/98), Section 1.4 for NO_x, CO, and VOC, and NCASI (National Council for Air Stream Improvement) *Evaluation of Performance of EPA Methods 201 A and 202 on Natural Gas-Fired Package Boiler* (05/13) for PM.

Boiler and Heater Emission Factors

Source	NO _x (lb/MMSCF)	CO (lb/MMSCF)	VOC (lb/MMSCF)	PM (lb/MMSCF)
Boiler (31.475-MMBTUH)	50.0	84.0	5.5	0.94
Space Heaters (20-MMBTUH)	100.0	84.0	5.5	0.94

Boiler and Heater Emissions

Source	NO _x		CO		VOC		PM	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boiler	1.54	6.76	2.59	11.35	0.17	0.74	0.03	0.13
Space Heaters	1.96	8.59	1.65	7.21	0.11	0.47	0.02	0.08

CORRUGATOR

Process additives and steam heating of paper are expected to generate VOC emissions emitted at the 110" Corrugator. The emissions from the steam heating of paper are calculated based on the emission factor from the San Joaquin Valley Air Pollution Control District BACT Guideline 4.9.13A in pounds per millions of square feet (MMSF) and the maximum paper processing

capacity. The emission factor resulted from testing conducted by NCASI for the corrugator operation unit at the box making plant. The emissions from corrugators are predominantly from heating (cook off) of organics in paper across hot plates that dry/adhere three paper layers together after a starch-water glue is applied. The process tested is consistent with the process used at the GBP facility; therefore, the emission factors derived are representative. The VOC emission factor may already include VOC emissions from the coatings; however, to be conservative, coating emissions are considered separately.

Steam Heating of Paper Emissions

Maximum Paper Processing Rate ⁽¹⁾		Pollutant	Emission Factor, lb/MMSF	Emissions	
ft ² /hr	MMSF/yr			lb/hr	TPY
410,959	3,600	VOC	8.0	3.29	14.40

⁽¹⁾ Based on the expected best-in-class production and quality scenario with necessary maintenance and downtime, plus a 50% safety factor (1+50%).

Emissions from the corrugator process additives are based on the maximum application rate and constituent content % from the Material Safety Data Sheets (MSDS). The maximum application rate is based on the design formula of starch batch adhesive to combine the paper layers per MSF of area.

Process Additive Emissions

Application Rate		Pollutant	Content %	Emissions	
gal/hr	lb/hr			lb/hr	TPY
1.66	19.92	VOC	1.6	0.32	1.40
		HAP	1.6	0.32	1.40

PAPER SCRAP COLLECTION (FACILITY-WIDE)

The closed-loop pneumatic trim/scrap system utilizes two (2) mechanical screens, through a rotary air lock, to remove scrap from the transport air stream. The scrap collection system compacts bales from the collected scrap material for transport to a recycling site. The transport air passes through a cartridge filter and is returned to the production area. The entire system is under roof and does not have the capability to be discharged to the exterior of the building. The process lines are electronically interlocked with the paper scrap collection system (turn off/turn on); meaning the scrap system must be on for the process lines to turn on, and the scrap system will shut down following the shutdown of the process line. If the scrap collection system is not working properly (unplanned shutdown or malfunction), the scrap system will immediately clog up at the presses or corrugator with scrap material. The operator will immediately shutdown the process line if the scrap system is not operating. Potential PM emissions from the dust collector are calculated based on the design outlet rating from the manufacturer guarantee and the maximum air flow through the filter.

Paper Scrap Emissions

Source	Air Flow	Potential Emission Factor	PM Emissions	
	CFM	gr/CFM	lb/hr	TPY
Pneumatic-Mechanical Screen (M20)	78,384	0.00815	-	-

Source	Air Flow	Potential Emission Factor	PM Emissions	
	CFM	gr/CFM	lb/hr	TPY
Pneumatic-Mechanical Screen (M10)	18,850	0.00815	-	-
Baghouse/Dust Collector	98,000	0.00002	0.02	0.07

FLEXOGRAPHIC PAPER PRINTING

The corrugator produces corrugated sheets that are sent to the five (5) flexographic printing presses and converting units where emissions are generated from printing, adhesive, additives, cleaners and coatings. Print and adhesive potential emissions from these units are based on the maximum paper processing capacity of 3,600 MMSF per year, the highest VOC % by weight, and the following inputs.

Printing and Adhesive Potential Emissions

Parameter	Mitsubishi Evol FFG	Mitsubishi Evol FFG	Ward FFG	Bobst Gopfert RDC	Ward RDC	J&L FG
Printing						
Ratio of Total Corrugator Max Production	0.24	0.20	0.14	0.20	0.21	No Printing
Unit Max, MSF/hr ⁽¹⁾	99.67	83.06	57.20	83.38	87.65	
Coverage (Flexographic Printing), %	100.00	100.00	100.00	100.00	100.00	
Ink Usage, lb/hr	249.17	207.64	143.00	208.45	219.14	
VOC Percentage by Weight, %	4.40	4.40	4.40	4.40	4.40	
VOC Emissions, lb/hr	10.96	9.14	6.29	9.17	9.64	
Set Up Time, %	25.00	25.00	25.00	25.00	25.00	
Run Hours Available (Out of 8,760)	6,570	6,570	6,570	6,570	6,570	
Printing VOC Emissions, TPY	36.02	30.01	20.67	30.13	31.67	
Adhesives						
Ratio of Total Unit Production	0.38	0.31	0.22	No Gluing		0.09
Unit Max, MSF/hr ⁽¹⁾	154.75	128.95	88.81			38.45
Adhesive Usage, lb/Sq. Ft.	0.00016	0.00016	0.00016			0.00016
Adhesive Usage, lb/hr	25.11	20.93	14.41			6.24
VOC Percentage by Weight, %	0.50	0.50	0.50			0.50
VOC Emissions, lb/hr	0.13	0.10	0.07			0.03
Set Up Time, %	20.00	20.00	20.00			20.00
Run Hours Available (Out of 8,760)	7,008	7,008	7,008			7,008
Adhesive VOC Emissions, TPY	0.44	0.37	0.25			0.11

⁽¹⁾ MSF = thousands of square feet.

Print and adhesive actual emissions from these units are based on the expected paper processing throughput of 1,440 MMSF per year, the highest VOC % by weight, and the following inputs.

Printing and Adhesive Actual Emissions

Parameter	Mitsubishi Evol FFG	Mitsubishi Evol FFG	Ward FFG 37x97	Bobst Gopfert 1632 RDC	Ward RDC	J&L FG
Printing						
Ratio of Total Corrugator Max Production	0.24	0.20	0.14	0.20	0.21	No Printing
Unit Max, MSF/hr	39.87	33.22	22.88	33.35	35.06	
Coverage (Flexographic Printing), %	5.00	5.00	5.00	5.00	5.00	
Ink Usage, lb/hr	4.98	4.15	2.86	4.17	4.38	
VOC Percentage by Weight, %	4.40	4.40	4.40	4.40	4.40	
VOC Emissions, lb/hr	0.22	0.18	0.13	0.18	0.19	
Set Up Time, %	25.00	25.00	25.00	25.00	25.00	
Run Hours Available (Out of 8,760)	6,570	6,570	6,570	6,570	6,570	
Printing VOC Emissions, TPY	0.72	0.60	0.41	0.60	0.63	
Adhesives						
Ratio of Total Unit Production	0.38	0.31	0.22	No Gluing		0.09
Unit Max, MSF/hr ⁽¹⁾	61.90	51.58	35.52			15.38
Adhesive Usage, lb/Sq. Ft.	0.00016	0.00016	0.00016			0.00016
Adhesive Usage, lb/hr	10.05	8.37	5.77			2.50
VOC Percentage by Weight, %	0.50	0.50	0.50			0.50
VOC Emissions, lb/hr	0.05	0.04	0.03			0.01
Set Up Time, %	20.00	20.00	20.00			20.00
Run Hours Available (Out of 8,760)	7,008	7,008	7,008			7,008
Adhesive VOC Emissions, TPY	0.18	0.15	0.10		0.04	

Emissions from the additives, cleaners, and coatings are calculated based on maximum product usage and maximum VOC weight percentage.

Additive, Cleaner, and Coating Emissions

Source	VOC Weight %	Product Usage	VOC Emissions	
		lb/yr	lb/hr	TPY
Antifoam	0.00	75,010	-	-
Ink Refresh	20.00	828	0.03	0.08
AP-3918-5 Anilox Cleaner	27.00	8,878	0.27	1.20
AP-3919-5 Anilox Cleaner	27.00	8,878	0.27	1.20
Isopropanol	100.00	958	0.11	0.48
Coating	0.50	210,240	0.15	0.53
Total Emissions			0.83	3.49

STARCH STORAGE SILO

Emissions from the starch storage silo are controlled by the starch silo filter. PM emissions from the storage silo are calculated based on the emission factor from the filter’s manufacturer guarantee and the maximum air follow through the filter.

Storage Silo Emissions

Source	Air Flow	Controlled Emission Factor	PM Emissions	
	CFM	gr/CFM	lb/hr	TPY
Starch Silo Filter	600	0.01	0.05	0.23

EMERGENCY GENERATORS

Emissions from the 600-kW (678-kW gross output) emergency generator and the 125-kW (155-kW gross output) emergency generator are calculated based on the emission standards for 2007+ model year under NSPS Subpart IIII for NO_x, CO, and PM; AP-42 (10/96) Table 3.3-1 and Table 3.4-1 for VOC; combustion of ultra-low sulfur diesel (< 15 ppm) for SO₂; and 500 hours of operation annually.

Emergency Generator Emission Factors

Source	Gross Output	NO _x	CO	VOC	SO ₂	PM
	kW	g/kW-hr	g/kW-hr	lb/MMBTU	lb/MMBTU	g/kW-hr
600-kW Emergency Generator ⁽¹⁾	678	6.4	3.5	0.09	0.0016	0.20
125-kW Emergency Generator ⁽²⁾	155	4.0	3.5	0.35	0.0016	0.20

⁽¹⁾ Diesel fuel heat input = 5.80-MMBTUH.

⁽²⁾ Diesel fuel heat input = 1.42-MMBTUH.

Emergency Generator Emissions

Source	NO _x		CO		VOC ⁽¹⁾		SO ₂		PM	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
600-kW Emergency Generator	9.56	2.39	5.23	1.31	0.52	0.13	0.01	<0.01	0.30	0.07
125-kW Emergency Generator	1.37	0.34	1.19	0.30	0.50	0.12	<0.01	<0.01	0.07	0.02

⁽¹⁾ Includes H₂CO.

FACILITY-WIDE EMISSIONS

Facility-Wide Potential Emissions

Source	NO _x		CO		VOC		PM	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Boiler and Heaters	3.50	15.35	4.24	18.56	0.28	1.21	0.05	0.21
Corrugator	-	-	-	-	3.61	15.80	-	-
Paper Scrap Collection	-	-	-	-	-	-	0.02	0.07
Flexographic Paper Printing	-	-	-	-	46.37	153.15	-	-
Starch Storage Silo	-	-	-	-	-	-	0.05	0.23
Emergency Generators	10.93	2.73	6.42	1.61	1.02	0.25	0.37	0.09
Total Emissions	14.43	18.08	10.66	20.17	51.28	170.41⁽¹⁾	0.49	0.60
Previous Emissions (Permit No. 2020-0493-O)	3.50	15.35	4.24	18.56	50.26	170.16⁽¹⁾	0.12	0.51

Source	NO _x		CO		VOC		PM	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Change in Emissions	10.93	2.73	6.42	1.61	1.02	0.25	0.37	0.09
Requested Facility-Wide Limits	-	-	-	-	-	79.99	-	79.99

⁽¹⁾ Actual emissions are less than the major source threshold.

HAP EMISSIONS

HAP emissions are based on MSDS information on speciated constituents used in various materials associated with the corrugator and printing presses, the most significant being the Glycol Ethers. Emissions of speciated pollutants are not included for the boiler, the heaters, and the emergency generators since they are negligible. The applicant has requested a facility-wide cap on each individual HAP (7.99 TPY) and on total HAPs (19.99 TPY). The applicant will be required to maintain records demonstrating compliance with emission caps.

HAP Potential Emissions

Source	HAP Weight %	Product Usage	HAP Emissions
		lb/yr	TPY
Printing Ink (Glycol Ethers)	0.9	6,750,000	30.38
Printing Ink (Ethylene Glycol)	0.1	6,750,000	3.38
Adhesive (4003X)	0.5	467,419	1.17
Corrugator Additives	1.6	174,500	1.40
Total HAP Emissions			36.32⁽¹⁾
Requested Facility-Wide Total HAP Limits			19.99

⁽¹⁾ Actual emissions are less than the major source threshold.

OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
 Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
 This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
 Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-5 (Registration, Emission Inventory, and Annual Fees) [Applicable]
 The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Air Quality Division. Required annual information shall be provided to Air Quality.

OAC 252:100-7 (Permits for Minor Facilities) [Applicable]
 Subchapter 7 sets forth the permit application fees and the basic substantive requirements of permits for minor facilities. This project meets the conditions for a minor facility construction permit because there is no emission of any regulated pollutant of 100 TPY or more and HAP emissions do not exceed the 10/25 TPY threshold. As such, major source BACT consideration is not required.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]
 Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, and 63.

OAC 252:100-13 (Open Burning) [Applicable]
 Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]
Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Fuel-burning equipment is defined in OAC 252:100-19 as any internal combustion engine or gas turbine, or other combustion device used to convert the combustion of fuel into usable energy. OAC 252:100, Appendix C specifies a PM emission limitation of 0.35 lb/MMBTU for all equipment at this facility with a heat input rating larger than 10-MMBTUH but less than 100-MMBTUH. Based on NCASI (5/13), Evaluation of Performance of EPA Methods 201A and 202 on Natural Gas-Fired Package Boiler, PM emissions from the boiler and space heaters will be 0.00092 lb/MMBTU which is in compliance. For diesel fuel, AP-42 (10/96), Table 3.4-1, lists TPM emissions of 0.01 lb/MMBTU which is also in compliance.

Section 19-12 limits particulate emissions from new and existing fuel-burning equipment and/or any emission point in an industrial process based on process weight rate, as specified in Appendix G. As shown in the following table, all emission points are in compliance with Subchapter 19.

Source	Process Rate, (TPH)	Appendix G Emission Limit, (lb/hr)	Potential Emission Rate, (lb/hr)
Starch Silo	0.5	2.58	0.05
Scrap Collection System	4.2	10.72	0.02 ⁽¹⁾

⁽¹⁾ Based on the manufacturer's guarantee.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
 No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three

such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. Using pipeline-quality natural gas for the fuel-burning equipment and PM emissions controls on the starch silo and scrap collection system will ensure compliance with this rule.

OAC 252:100-29 (Fugitive Dust)

[Applicable]

No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. The permit includes a requirement to use "reasonable precautions" to minimize the fugitive dust emissions to achieve compliance with the requirements of Subchapter 29.

OAC 252:100-31 (Sulfur Compounds)

[Applicable]

Part 2 limits the ambient air concentration of H₂S emissions from any facility to 0.2 ppmv (24-hour average) at standard conditions which is equivalent to 283 µg/m³. Fuel-burning equipment fired with commercial natural gas will not have the potential to exceed the H₂S ambient air concentration limit.

Part 5 limits sulfur dioxide emissions from new equipment. Fuel-burning equipment at this facility uses commercial natural gas. The AP-42 (7/98), Table 1.4-2 emission factor of 0.6 pounds of SO₂ per million cubic feet equates to approximately 0.0006 lb/MMBTU. AP-42 (5/10), Table 1.3-1 lists SO₂ emissions at 0.007 lb/MMBTU for diesel fuel. This is well below the new equipment standard of 0.2 lb/MMBTU for gas fuel and 0.8 lb/MMBTU for liquid fuels.

OAC 252:100-33 (Nitrogen Oxides)

[Not Applicable]

This subchapter limits new gas-fired fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.2 lb of NO_x per MMBTU. There are no equipment items that exceed the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

This facility has none of the affected sources: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds)

[Applicable]

Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5-psia at maximum storage temperature to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. There are no storage tanks on-site that are subject to this requirement.

Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.

Part 5 limits the VOC content of coating or other operations. Section 37-25 sets limits on VOC content per gallon of paint and Section 37-26 specifies that clean up solvents and thinners must be included in the calculations. Printing ink and associated adhesives, cleaners, and additives do not fall under any of the applicable coating categories and are therefore not subject to this requirement. Part 7 requires fuel-burning and refuse-burning equipment to be operated to minimize emissions of VOC. The equipment at this location is subject to this requirement.

Part 7 requires all effluent water separator openings which receive water containing more than 200 gallons per day of any VOC, to be sealed or the separator to be equipped with an external floating roof or a fixed roof with an internal floating roof or a vapor recovery system. No effluent water separators are located at this facility.

OAC 252:100-39 (Organic Compounds, Former Nonattainment Areas) [Not Applicable]
This subchapter imposes additional conditions beyond those of Subchapter 37 on emissions of organic materials from new and existing facilities in Tulsa and Oklahoma Counties. This facility is in Tulsa County.

Section 39-41(b) affects gasoline or VOC storage vessel having a capacity of greater than 400 gallons but less than 40,000 gallons. Section 39-41(e) contains additional requirements for the control of vapors from storage vessels located in Tulsa County having a storage capacity of greater than 2,000 gallons but less than 40,000 gallons and having an average annual throughput of 120,000 gallons or greater of gasoline or other VOCs. Section 39-4 exempts VOCs with vapor pressures less than 1.5 psia under actual storage conditions.

Section 39-43. This section applies only to packaging rotogravure, publication rotogravure, and flexographic printing facilities whose potential emissions of VOC are equal to or more than 100 tons/yr (90 Mg/yr). Potential emissions shall be calculated based on historical records of actual consumption of VOC and ink. The facility is requesting a federally enforceable facility-wide cap of 79.99 TPY for VOC, which will limit the potential emissions below the threshold contained in Section 39-43. Therefore, the facility is not subject to this requirement.

Section 39-46. Coating of parts and products. This section shall apply only to industries located in Tulsa County which manufacture and/or coat metal parts and products, such as large farm machinery, small farm machinery, small appliances, commercial machinery, industrial machinery and fabricated metal products. Architectural coating, aerospace coating, and automobile refinishing are not included. This facility does not engage in these activities.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates TAC that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and

submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

FEDERAL REGULATIONS

NSPS, 40 CFR Part 60 [Subparts Dc and IIII Applicable]
Subpart Dc (Small Steam Generating Units) sets standards of performance for steam generating units with a maximum design heat input capacity of 100 MMBTUH or less, but greater than 10 MMBTUH that were constructed after June 9, 1989. The natural gas-fired boiler is subject to this subpart. The only standard applicable to gas-fired units is to keep records showing the amount of natural gas fuel delivered to the unit (or consumed) each month.

Subpart IIII, Stationary Compression Ignition Internal Combustion Engines, affects stationary compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those manufactured after April 1, 2006. The existing 125-kW Emergency Generator and the new 600-kW Emergency Generator are expected to be manufactured after April 1, 2006. Therefore, they are potentially subject to this subpart and the permit requires compliance with all applicable requirements of this subpart.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride.

NESHAP, 40 CFR Part 63 [Subpart ZZZZ Applicable]
Subpart KK, (Printing and Publishing) applies to facilities engaged in rotogravure and wide-web flexographic printing that are major sources as defined in 40 CFR Part 63 §63.821. The applicant has requested a federally enforceable facility-wide cap on each individual HAP (7.99 TPY) and on total HAPs (19.99 TPY). Therefore, this facility is an area source of HAPs and is not subject to this subpart.

Subpart JJJJ, Paper and Other Web Coating. This subpart is applicable to major sources of HAP in the Printing/Publishing Industry. This facility is an area source of HAPs and is therefore not subject to this subpart.

Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary RICE. This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. The existing 125-kW Emergency Generator and the new 600-kW Emergency Generator are expected to be manufactured after June 12, 2006, and shall comply with this subpart by demonstrating compliance with NSPS Subpart IIII.

Subpart DDDDD, “Industrial, Commercial, and Institutional Boilers and Process Heaters” affects boilers located at major sources of HAPs. This facility is not a major source.

Subpart JJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. This facility is an area source of HAP. According to 40 CFR 63.11195(e), gas-fired boilers are not subject to the subpart.

COMPLIANCE

TIER CLASSIFICATION

This application has been determined to be **Tier I** based on the request for a modification of a construction permit for a minor facility. The draft permit will undergo public notice on the DEQ's web site as required in OAC 252:4-7-13(g). The public, tribal governments, and the EPA will have 30 days to comment on the draft permit. Permits available for public review and comment are found at this location:

<https://www.deq.ok.gov/permits-for-public-review/>

The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the land used to accomplish the permitted purpose.

FEE PAID

A fee of \$2,000 for an individual minor source construction permit was paid on August 26, 2022.

ENVIRONMENTAL JUSTICE REVIEW

All people should be protected from the impacts of environmental pollution regardless of race, national origin, or income. DEQ is committed to ensuring such protection through the development, implementation, and consistent enforcement of environmental laws and regulations.

Pending any public review indicated in this Section, AQD has determined that no communities with environmental justice concerns are impacted by the issuance of this permit. This determination is based on this permit qualifying as a minor source under OAC 252:100-7.

SUMMARY

The facility has demonstrated the ability to comply with all applicable air quality rules and regulations. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues that would prevent issuance of the permit. Issuance of the construction permit is recommended, contingent on public review.



PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 N. ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2020-0493-C (M-1)

Green Bay Packaging Inc.,

having complied with the requirements of the law, is hereby granted permission to construct the Tulsa Division facility located in Section 32, Township 19N, Range 12E, Tulsa County, Oklahoma, and subject to the standard conditions dated February 13, 2020, and specific conditions, both attached.

In the absence of construction commencement, this permit shall expire 18 months from the date of issuance below, except as Authorized under Section B of the Standard Conditions.

DRAFT

Lee Warden, P.E.

Permits and Engineering Group Manager

Date

DRAFT PERMIT

PERMIT TO CONSTRUCT AIR POLLUTION CONTROL FACILITY SPECIFIC CONDITIONS

Green Bay Packaging Inc.
Tulsa Division

Permit No. 2020-0493-C (M-1)

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on August 23, 2022. The Evaluation Memorandum, dated November 4, 2022, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Commencing construction and continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

- 1. Facility-Wide PM, VOC, and HAP Emission Limits:** PM, VOC, and HAP emissions from the whole facility are based on raw material usage, emission factors, and hours of operation and shall be limited to the emission limits shown below. The total PM, VOC, and HAP emissions from the whole facility shall not exceed the following limits based on a 12-month rolling total. Each month the permittee shall calculate the total emissions from the whole facility for that month and add it to the previous eleven months for the following: PM, VOC, and HAPs reported on any Material Safety Data Sheet (MSDS) for any material used or consumed (e.g., inks, adhesives, additives, cleaners, coatings) at the facility.

Pollutant	Facility-Wide Emission Limit ¹
PM	79.99 TPY
VOCs	79.99 TPY
Individual HAP	7.99 TPY
Combination of HAPs	19.99 TPY

¹ TPY limits are expressed as a 12-month rolling total.

- 2. Points of emissions and emission limitations:**

- A. Boiler and Heaters:** Emissions from the boiler and heaters shall be limited by (and will contribute to) the facility-wide cap on PM and VOC emissions identified in Specific Condition 1. In addition, the boiler and heaters shall be limited by the following limits.

Source	NO _x	CO
	TPY ¹	TPY ¹
Boiler	6.76	11.35
Space Heaters	8.59	7.21

¹ TPY limits are expressed as a 12-month rolling total.

- Each calendar month, the applicant shall calculate emissions from the boiler and heaters using emission factors from AP-42 (7/98), Section 1.4 for NO_x, CO, and VOC, and NCASI *Evaluation of Performance of EPA Methods 201 A and 202 on Natural Gas-Fired Package Boiler* (05/13) for PM, the heat input ratings of the boiler and heaters, and/or fuel consumption. PM and VOC emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
- The boiler shall have a permanent identification plate attached that shows the make, model number, and serial number.

- iii. The boiler is subject to 40 CFR Part 60, Subpart Dc, and shall comply with all applicable sections including, but not necessarily restricted to, the following.
 - a. §60.40c Applicability and delegation of authority.
 - b. §60.41c Definitions.
 - c. §60.42c Standard for sulfur dioxide (SO₂).
 - d. §60.43c Standard for particulate matter (PM).
 - e. §60.44c Compliance and performance test methods and procedures for sulfur dioxide.
 - f. §60.45c Compliance and performance test methods and procedures for particulate matter.
 - g. §60.46c Emission monitoring for sulfur dioxide.
 - h. §60.47c Emission monitoring for particulate matter.
 - i. §60.48c Reporting and recordkeeping requirements.

B. Corrugator: Emissions from the corrugator and related operations (e.g., steam heating of paper, process additives) shall be limited by (and will contribute to) the facility-wide cap on VOC and HAP emissions identified in Specific Condition 1.

- i. Each calendar month, the applicant shall calculate emissions of VOC from the corrugator operations using emission factors from the San Joaquin Valley Air Pollution Control District BACT Guideline 4.9.13A and the quantity of paper processed (MMSF) per month. VOC emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
- ii. Each calendar month, the applicant shall calculate emissions of VOC and HAP from the starch additives based on additive usage and associated VOC and HAP content of each additive from the MSDS. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
- iii. The permittee shall retain a copy of the MSDS of each type of starch additive used.
- iv. Discharge from the corrugator shall be processed by the scrap trim process collection system which consists of two (2) mechanical screens and a cartridge filter. The collection system shall be operated and maintained per manufacturer specifications.

C. Flexographic Paper Printing: Emissions from the printing presses and related operations (e.g. adhesives, additives, cleaners, coatings) shall be limited by (and will contribute to) the facility-wide cap on VOC and HAP emissions identified in Specific Condition 1.

- i. Each calendar month, the applicant shall calculate emissions of VOC and HAP from the printing presses and adhesives based on ink and adhesive usage during that month, the associated VOC and HAP content of each ink and adhesive from the MSDS, and assume 100% of the VOCs and HAPs are emitted. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
- ii. Each calendar month, the applicant shall calculate emissions of VOC from the additives, cleaners, and coatings based on their usage and associated VOC content of each material from the MSDS. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
- iii. The permittee shall retain a copy of the MSDS of each type of ink, adhesive, additive, cleaner, and coating used.

- iv. Discharge from the printing presses and related operations shall be processed by the scrap trim process collection system which consists of two (2) mechanical screens and a cartridge filter. The collection system shall be operated and maintained per manufacturer specifications.

D. Starch Storage Silo: Emissions from the starch storage silo shall be limited by (and will contribute to) the facility-wide cap on PM emissions identified in Specific Condition 1.

- i. The starch storage silo shall be equipped with a fabric filter or equivalent PM emissions control device. The starch silo filter shall be operated and maintained per manufacturer specifications and inspected quarterly during a delivery of starch.

E. Emergency Generators: Emissions from the emergency generators shall be limited by (and will contribute to) the facility-wide cap on PM and VOC emissions identified in Specific Condition 1.

- i. Each calendar month, the applicant shall calculate emissions from the emergency generators based on the emission standards for 2007+ model year under NSPS Subpart IIII for NO_x, CO, and PM; AP-42 (10/96) Table 3.3-1 and Table 3.4-1 for VOC; the heat input ratings of the emergency generators; and/or fuel consumption. PM and VOC emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
- ii. Each emergency generator shall have a permanent identification plate attached that shows the make, model number, and serial number.
- iii. Each engine/generator set shall be equipped with an hour meter which is either non-resettable or if resettable, equipped with a logbook recording the date and hour meter reading each time the meter is reset. The permittee shall record the number of hours the engines operated each month.
- iv. The emergency generators are subject to 40 CFR Part 60, Subpart IIII, and shall comply with all applicable sections including, but not necessarily restricted to, the following.
 - a. § 60.4200 Am I subject to this subpart?
 - b. § 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?
 - c. § 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?
 - d. § 60.4203 How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?
 - e. § 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
 - f. § 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?
 - g. § 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
 - h. § 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
 - i. § 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

- j. § 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?
 - k. § 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?
 - l. §60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?
 - m. § 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?
 - n. § 60.4218 What parts of the General Provisions apply to me?
 - o. § 60.4219 What definitions apply to this subpart?
- v. The emergency generators are subject to 40 CFR Part 63, Subpart ZZZZ, and shall comply with all applicable sections including, but not necessarily restricted to, the following.
- a. § 63.6580 What is the purpose of subpart ZZZZ?
 - b. § 63.6585 Am I subject to this subpart?
 - c. § 63.6590 What parts of my plant does this subpart cover?
 - d. § 63.6595 When do I have to comply with this subpart?
 - e. § 63.6600 What emission limitations and operating limitations must I meet?
 - f. § 63.6605 What are my general requirements for complying with this subpart?
 - g. § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations?
 - h. § 63.6615 When must I conduct subsequent performance tests?
 - i. § 63.6620 What performance tests and other procedures must I use?
 - j. § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
 - k. § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
 - l. § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?
 - m. § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
 - n. § 63.6645 What notifications must I submit and when?
 - o. § 63.6650 What reports must I submit and when?
 - p. § 63.6655 What records must I keep?
 - q. § 63.6660 In what form and how long must I keep my records?
 - r. § 63.6665 What parts of the General Provisions apply to me?
 - s. § 63.6670 Who implements and enforces this subpart?
 - t. § 63.6675 What definitions apply to this subpart?
3. The permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year, 8,760 hours).
4. The fuel-burning equipment, except for the emergency generators, shall be fired with pipeline grade natural gas as defined in Part 72 as having 20.0 grains TRS/100 SCF to ensure compliance with Subchapter 31. The emergency generator shall burn diesel fuel with 15 ppm or less sulfur. Compliance can be shown by the following methods: for diesel, the supplier's latest delivery ticket;

for pipeline grade natural gas, a current gas company bill. Compliance shall be demonstrated at least once every calendar year.

5. The permittee shall keep records of operations as listed below. These records shall be retained on-site for a period of at least five years following dates of recording, and shall be made available to regulatory personnel upon request.

- a. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 4, updated whenever the supplier changes.
- b. Operating hours for the emergency generators (monthly and 12-month rolling totals).
- c. Usage of materials listed in Specific Condition No. 2 by type and volume/quantity and PM, VOC, and HAP emissions calculations (monthly and 12-month rolling totals).
- d. MSDS for all inks, adhesives, additives, cleaners, coatings, etc., showing the VOC and HAP content by weight of each, excluding the volume of water and exempt organic solvents.
- e. Calculations showing compliance with the facility wide VOC, PM, and HAP (individual and total) emission limitation of Specific Condition No. 1 (monthly and 12-month rolling totals).
- f. Inspection and maintenance of starch storage silo filter (quarterly)
- g. Inspection and maintenance of scrap handling filters (monthly).
- h. Records as required by 40 CFR Part 60, Subparts Dc and IIII.
- i. Records as required by 40 CFR Part 63, Subpart ZZZZ.

6. The permittee shall submit an application for an operating permit within 180 days of starting operation under this permit.

Muscogee Creek Nation
Attn.: David Hill, Principal Chief
P.O. Box 580
Okmulgee, OK 74447

Re: Permit Application No. **2020-0493-C (M-1)**
Green Bay Packaging Inc., Tulsa Division (FAC ID 21934)
Tulsa County

Dear Mr. Hill:

The Oklahoma Department of Environmental Quality (ODEQ), Air Quality Division (AQD), has received the Tier I application referenced above. A Tier I application requires AQD to provide a 30-day public comment period on the draft Tier I permit on the ODEQ website. Since the proposed project falls within your Tribal jurisdiction, AQD is providing this direct notice. This letter notification is in addition to email notifications provided to tribal contacts on record.

Copies of draft permits and comment opportunities are provided to the public on the ODEQ website at the following location:

<https://www.deq.ok.gov/permits-for-public-review/>

If you prefer a copy of the draft permit, or direct notification by letter for any remaining public comment opportunities, if applicable, on the referenced permit action, please notify our Chief Engineer, Phillip Fielder, by e-mail at phillip.fielder@deq.ok.gov, or by letter at:

Department of Environmental Quality, Air Quality Division
Attn.: Phillip Fielder, Chief Engineer
P.O. Box 1677
Oklahoma City, OK, 73101-1677

Thank you for your cooperation. If you have any questions, I can be contacted at (405) 702-4237, and Mr. Fielder may be reached at (405) 702-4185.

Sincerely,



Lee Warden, P.E.
Permits and Engineering Group Manager
AIR QUALITY DIVISION

Cherokee Nation
Attn.: Chuck Hoskin, Jr., Principal Chief
P.O. Box 948
Tahlequah, OK 74465

Re: Permit Application No. **2020-0493-C (M-1)**
Green Bay Packaging Inc., Tulsa Division (FAC ID 21934)
Tulsa County

Dear Mr. Hoskin:

The Oklahoma Department of Environmental Quality (ODEQ), Air Quality Division (AQD), has received the Tier I application referenced above. A Tier I application requires AQD to provide a 30-day public comment period on the draft Tier I permit on the ODEQ website. Since the proposed project falls within your Tribal jurisdiction, AQD is providing this direct notice. This letter notification is in addition to email notifications provided to tribal contacts on record.

Copies of draft permits and comment opportunities are provided to the public on the ODEQ website at the following location:

<https://www.deq.ok.gov/permits-for-public-review/>

If you prefer a copy of the draft permit, or direct notification by letter for any remaining public comment opportunities, if applicable, on the referenced permit action, please notify our Chief Engineer, Phillip Fielder, by e-mail at phillip.fielder@deq.ok.gov, or by letter at:

Department of Environmental Quality, Air Quality Division
Attn.: Phillip Fielder, Chief Engineer
P.O. Box 1677
Oklahoma City, OK, 73101-1677

Thank you for your cooperation. If you have any questions, I can be contacted at (405) 702-4237, and Mr. Fielder may be reached at (405) 702-4185.

Sincerely,



Lee Warden, P.E.
Permits and Engineering Group Manager
AIR QUALITY DIVISION

Green Bay Packaging Inc.
Attn.: Mr. Jordan Geenen
1700 N. Webster Court
Green Bay, WI 54302

Subject: Minor Source Construction Permit No. **2020-0493-C (M-1)**
Tulsa Division (SIC 2653)
Facility ID No. 21934
Section 32, Township 19N, Range 12E, Tulsa County, Oklahoma

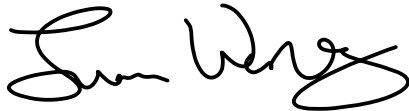
Dear Mr. Geenen:

Enclosed is the permit authorizing the construction of the referenced facility above. Please note that this permit is issued subject to standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed through DEQ's electronic reporting system by April 1st of every year. Any questions concerning the submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me at Junru.Wang@deq.ok.gov, or (405) 702-4197.

Sincerely,



Junru Wang, P.E.
Existing Source Permits Section
AIR QUALITY DIVISION

Enclosure

**MINOR SOURCE PERMIT TO OPERATE / CONSTRUCT
AIR POLLUTION CONTROL FACILITY
STANDARD CONDITIONS
(February 13, 2020)**

- A. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ) in accordance with and under the authority of the Oklahoma Clean Air Act. The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. This specifically includes compliance with the rules of the other Divisions of DEQ: Land Protection Division and Water Quality Division.
- B. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-7-15(g)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-7-15(f)]
- C. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-7-18(a)]
- D. Unless specified otherwise, the term of an operating permit shall be unlimited.
- E. Notification to the Air Quality Division of DEQ of the sale or transfer of ownership of this facility is required and shall be made in writing by the transferor within 30 days after such date. A new permit is not required. [OAC 252:100-7-2(f)]
- F. The following limitations apply to the facility unless covered in the Specific Conditions:
1. No person shall cause or permit the discharge of emissions such that National Ambient Air Quality Standards (NAAQS) are exceeded on land outside the permitted facility. [OAC 252:100-3]
 2. All facilities that emit air contaminants are required to file an emission inventory and pay annual operating fees based on the inventory. Instructions are available on the Air Quality section of the DEQ web page. www.deq.ok.gov [OAC 252:100-5]
 3. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-9]
 4. Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning subchapter. [OAC 252:100-13]
 5. No particulate emissions from new fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lbs/MMBTU. [OAC 252:100-19]
 6. No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. [OAC 252:100-25]
 7. No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

8. No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lbs/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
9. Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with an organic material vapor-recovery system. [OAC 252:100-37-15(b)]
10. All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

G. Any owner or operator subject to provisions of NSPS shall provide written notification as follows: [40 CFR 60.7 (a)]

1. A notification of the date construction (or reconstruction as defined under §60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
2. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
3. A notification of the actual date of initial start-up of an affected facility postmarked within 15 days after such date.
4. If a continuous emission monitoring system is included in the construction, a notification of the date upon which the test demonstrating the system performance will commence, along with a pretest plan, postmarked no less than 30 days prior to such a date.

H. Any owner or operator subject to provisions of NSPS shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility or any malfunction of the air pollution control equipment. [40 CFR 60.7 (b)]

I. Any owner or operator subject to the provisions of NSPS shall maintain a file of all measurements and other information required by this subpart recorded in a permanent file suitable for inspection. This file shall be retained for at least five years following the date of such measurements, maintenance, and records. [40 CFR 60.7 (f)]

J. Any owner or operator subject to the provisions of NSPS shall conduct performance test(s) and furnish to AQD a written report of the results of such test(s). Test(s) shall be conducted within 60 days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial start-up. [40 CFR 60.8]

Department of Environmental Quality (DEQ)
Air Quality Division (AQD)
Acronym List
9-10-21

ACFM	Actual Cubic Feet per Minute	GDF	Gasoline Dispensing Facility
AD	Applicability Determination	GEP	Good Engineering Practice
AFRC	Air-to-Fuel Ratio Controller	GHG	Greenhouse Gases
API	American Petroleum Institute	GR	Grain(s) (gr)
ASTM	American Society for Testing and Materials	H₂CO	Formaldehyde
BACT	Best Available Control Technology	H₂S	Hydrogen Sulfide
BAE	Baseline Actual Emissions	HAP	Hazardous Air Pollutants
BBL	Barrel(s)	HC	Hydrocarbon
BHP	Brake Horsepower (bhp)	HCFC	Hydrochlorofluorocarbon
BTU	British thermal unit (Btu)	HFR	Horizontal Fixed Roof
C&E	Compliance and Enforcement	HON	Hazardous Organic NESHAP
CAA	Clean Air Act	HP	Horsepower (hp)
CAM	Compliance Assurance Monitoring	HR	Hour (hr)
CAS	Chemical Abstract Service	I&M	Inspection and Maintenance
CAAA	Clean Air Act Amendments	IBR	Incorporation by Reference
CC	Catalytic Converter	ICE	Internal Combustion Engine
CCR	Continuous Catalyst Regeneration	LAER	Lowest Achievable Emission Rate
CD	Consent Decree	LB	Pound(s) [Mass] (lb, lbs, lbm)
CEM	Continuous Emission Monitor	LB/HR	Pound(s) per Hour (lb/hr)
CFC	Chlorofluorocarbon	LDAR	Leak Detection and Repair
CFR	Code of Federal Regulations	LNG	Liquefied Natural Gas
CI	Compression Ignition	LT	Long Ton(s) (metric)
CNG	Compressed Natural Gas	M	Thousand (Roman Numeral)
CO	Carbon Monoxide or Consent Order	MAAC	Maximum Acceptable Ambient Concentration
COA	Capable of Accommodating	MACT	Maximum Achievable Control Technology
COM	Continuous Opacity Monitor	MM	Prefix used for Million (Thousand-Thousand)
D	Day	MMBTU	Million British Thermal Units (MMBtu)
DEF	Diesel Exhaust Fluid	MMBTUH	Million British Thermal Units per Hour (MMBtu/hr)
DG	Demand Growth	MMSCF	Million Standard Cubic Feet (MMscf)
DSCF	Dry Standard (At Standard Conditions) Cubic Foot (Feet)	MMSCFD	Million Standard Cubic Feet per Day
EGU	Electric Generating Unit	MSDS	Material Safety Data Sheet
EI	Emissions Inventory	MWC	Municipal Waste Combustor
EPA	Environmental Protection Agency	MWe	Megawatt Electrical
ESP	Electrostatic Precipitator	NA	Nonattainment
EUG	Emissions Unit Group	NAAQS	National Ambient Air Quality Standards
EUSGU	Electric Utility Steam Generating Unit	NAICS	North American Industry Classification System
FCE	Full Compliance Evaluation	NESHAP	National Emission Standards for Hazardous Air Pollutants
FCCU	Fluid Catalytic Cracking Unit	NH₃	Ammonia
FEL	Federally Enforceable Limit(s)	NMHC	Non-methane Hydrocarbon
FESOP	Federally Enforceable State Operating Permit	NGL	Natural Gas Liquids
FIP	Federal Implementation Plan	NO₂	Nitrogen Dioxide
FR	Federal Register	NO_x	Nitrogen Oxides
GACT	Generally Achievable Control Technology	NOI	Notice of Intent
GAL	Gallon (gal)		

NSCR	Non-Selective Catalytic Reduction	SNCR	Selective Non-Catalytic Reduction
NSPS	New Source Performance Standards	SO₂	Sulfur Dioxide
NSR	New Source Review	SO_x	Sulfur Oxides
		SOP	Standard Operating Procedure
O₃	Ozone	SRU	Sulfur Recovery Unit
O&G	Oil and Gas		
O&M	Operation and Maintenance	T	Tons
O&NG	Oil and Natural Gas	TAC	Toxic Air Contaminant
OAC	Oklahoma Administrative Code	TEG	Triethylene Glycol
OC	Oxidation Catalyst	THC	Total Hydrocarbons
		TPY	Tons per Year
PAH	Polycyclic Aromatic Hydrocarbons	TRS	Total Reduced Sulfur
PAE	Projected Actual Emissions	TSP	Total Suspended Particulates
PAL	Plant-wide Applicability Limit	TV	Title V of the Federal Clean Air Act
Pb	Lead		
PBR	Permit by Rule	µg/m³	Micrograms per Cubic Meter
PCB	Polychlorinated Biphenyls	US EPA	U. S. Environmental Protection Agency
PCE	Partial Compliance Evaluation		
PEA	Portable Emissions Analyzer	VFR	Vertical Fixed Roof
PFAS	Per- and Polyfluoroalkyl Substance	VMT	Vehicle Miles Traveled
PM	Particulate Matter	VOC	Volatile Organic Compound
PM_{2.5}	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers	VOL	Volatile Organic Liquid
PM₁₀	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers	VRT	Vapor Recovery Tower
		VRU	Vapor Recovery Unit
POM	Particulate Organic Matter or Polycyclic Organic Matter	YR	Year
ppb	Parts per Billion	2SLB	2-Stroke Lean Burn
ppm	Parts per Million	4SLB	4-Stroke Lean Burn
ppmv	Parts per Million Volume	4SRB	4-Stroke Rich Burn
ppmvd	Parts per Million Dry Volume		
PSD	Prevention of Significant Deterioration		
psi	Pounds per Square Inch		
psia	Pounds per Square Inch Absolute		
psig	Pounds per Square Inch Gage		
RACT	Reasonably Available Control Technology		
RATA	Relative Accuracy Test Audit		
RAP	Regulated Air Pollutant or Reclaimed Asphalt Pavement		
RFG	Refinery Fuel Gas		
RICE	Reciprocating Internal Combustion Engine		
RO	Responsible Official		
ROAT	Regional Office at Tulsa		
RVP	Reid Vapor Pressure		
SCC	Source Classification Code		
SCF	Standard Cubic Foot		
SCFD	Standard Cubic Feet per Day		
SCFM	Standard Cubic Feet per Minute		
SCR	Selective Catalytic Reduction		
SER	Significant Emission Rate		
SI	Spark Ignition		
SIC	Standard Industrial Classification		
SIP	State Implementation Plan		