

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

MEMORANDUM

April 8, 2024

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

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

THROUGH: Alex Johnson, E.I., New Source Permits Section

FROM: Jennie Doan, E.I., Engineering Section, ROAT

SUBJECT: Evaluation of Permit Application No. **2023-0899-C**
Blue Whale Materials LLC
Blue Whale Materials LLC (SIC 3341/NAICS 331492)
Facility ID: 23890
Latitude: 36.73198°/36.73373°/36.73393°/36.73397°,
Longitude: -95.89496°/-95.89389°/-95.89368°/-95.89356°
Section 14, Township 26N, Range 13E, Washington County, Oklahoma
Address: 1560 Industrial Blvd (Lots 7, 8, & 9 Bartlesville Industrial Part II)/
7232 International Ct (Lots 2 & 3 Bartlesville Industrial Park II)/
1582 SE Industrial Blvd (Lots 10 & 11 3 Bartlesville Industrial Park II)/
7380 International Ct Bartlesville, Oklahoma 74006

SECTION I. INTRODUCTION

Blue Whale Materials LLC (applicant) has applied for an individual synthetic minor source construction permit to construct a facility that recycles lithium-ion batteries in Bartlesville, Oklahoma. The facility is expected to start construction in April 2024.

Based on the projected operations that will be constructed at this facility, the facility-wide emissions are estimated to be 30.46 TPY of NO_x, 27.72 TPY of CO, 70.88 TPY of VOC, 12.18 TPY of PM₁₀, and 9.42 TPY of HAPs. This facility qualifies for a “synthetic minor” permit because the facility’s controlled emissions stay below the major source threshold of 100 TPY and the 10 TPY threshold for a single HAP and below the 25 TPY threshold for any combination of HAPs.

SECTION II. PROCESS DESCRIPTION

Blue Whale Materials LLC plans to construct a lithium-ion battery (LiB) material recycling facility located in Bartlesville, Oklahoma. The facility will receive lithium-ion batteries and recover metals through thermal processing and separation. The primary reclaimed material is BlackSand™, which includes recovered lithium, cobalt, manganese, and nickel. Other reclaimed metal streams include aluminum, copper, iron, zorba (nonferrous scrap metal, primarily aluminum with some copper,

cobalt, and nickel). These reclaimed materials are sold for final offsite hydrometallurgical or other refining.

The facility consists of four buildings:

7323 International Court– used for initial receipt and storage of LiB, battery scrap and related materials and product storage.

1560 Industrial Boulevard – houses the majority of the processing operations, including initial LiB packaging removal, thermal processing and materials separation into the final reclaimed product streams.

1582 SE Industrial Boulevard – proposed to be used for intake disposition, truck scaling, and future storage of incoming batteries for recycling.

7380 International Court – houses bench scale laboratory equipment for quality assurance/quality control testing.

LiB Sorting/Disassembly Process

Boxes of LiB material are off-loaded into bin tippers and conveyors for removal of packaging materials in preparation for disposition, manual sorting and disassembly processes. PM emissions from removal of packaging materials will be controlled with a baghouse.

Thermal Processing (with feedstock preparation)

Sorted LiB are transferred to the next processing steps which may include removal of plastics and/or potential size reduction followed by thermal processing. Emissions from these steps are routed to an air quality control system, which includes baghouse, scrubber, and thermal oxidizer.

Product Stream Materials Separation & Packaging

Following thermal processing, the material undergoes further size reduction. The various reclaimed metal streams are further separated based on physical properties. Final reclaimed streams are bagged for shipment in gaylord boxes or drums. Emissions from these steps are controlled with a baghouse.

Supporting Utilities

Supporting utilities include small (<1 MMBTUH) natural-gas fired space heaters and makeup-air handling units for the building. Facility proposes to install a 450-kW natural-gas fired generator for emergency use only. Two closed-loop electric-powered refrigerant chillers are proposed to support cooling following thermal processing. A nitrogen generator and associated storage tank would also be installed. Facility also anticipates installation of a supporting QA/QC laboratory consisting of bench-scale analytical equipment for metals analysis. Facility support activities will also include wastewater treatment and storage prior to offsite disposal.

SECTION III. EQUIPMENT

EUG	Emission Point	Description	Capacity	Mfg./Const. Date
1	1-07-ST	LiB Sorting/Disassembly	Confidential	TBD
2	12-17-ST	Pre-Thermal/Thermal Processing	Confidential	TBD
3	11-05-ST	Product Stream Separation & Packaging	Confidential	TBD
4	1-07-ST 12-17-ST 11-05-ST	Control Devices for EUGs #1, 2, and 3	Confidential	TBD
5	200	Emergency Generator	656-HP	TBD
6	100	South Building Space Heaters	Total 3.40-MMBTUH	TBD
	101	North Building Space Heaters	Total 1.60-MMBTUH	TBD
	102	Laboratory Building Space Heating Units	Total 1.60-MMBTUH	TBD

SECTION IV. EMISSIONS

Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) in the following outline. Potential emission calculations for EUGs 1 through 3 are estimated based on maximum potential processing rate. For other units, the potential emissions are assumed using continuous operation (8,760 hrs) unless stated otherwise.

EUG 1 – LiB Sorting/Disassembly

CONFIDENTIAL INFORMATION REMOVED

EUG 2 – Pre-Thermal/Thermal Processing

CONFIDENTIAL INFORMATION REMOVED

EUG 3 – Product Stream Separation/Packaging

CONFIDENTIAL INFORMATION REMOVED

EUG 4 – Control Devices

Emission Point	Description	Control Efficiency
1-07-ST	EUG 1's Baghouse	99%
12-17-ST	EUG 2's Baghouse	99%
	EUG 2's Thermal Oxidizer	99%
	EUG 2's Acid Scrubber	99.5%
11-05-ST	EUG 3's Baghouse	99%

Thermal Oxidizer's Natural Gas Combustion Emissions⁽¹⁾

Pollutant	EF	Emissions	
	lb/MMBTUH	lb/hr	TPY
NO _x	Confidential	1.96	8.59
CO	Confidential	1.65	7.21
VOC	Confidential	0.11	0.47

⁽¹⁾ Emissions from combusting flue gas are confidential and not included in this table.

EUG 5 – Emergency Generator

NO_x, CO, and VOC emissions from the emergency natural gas-fired engine are estimated using emission factors (EF) from NSPS Subpart JJJJ Table 1 per §60.4233(e). The PM₁₀, SO₂, and formaldehyde (H₂CO) are estimated based on emission factors from AP-42 (08/00), Table 3.2-3. All emissions are estimated based on 500 hpy of operation.

Pollutant	EF	Emissions	
	g/hp-hr	lb/hr	TPY
NO _x	2.0	2.89	0.72
CO	4.0	5.78	1.44
VOC	1.0	1.44	0.36
PM ₁₀	0.02 lb/MMBTU ^{(1) (2)}	0.10	0.02
SO ₂	5.88E-04 lb/MMBTU ⁽¹⁾	0.03	0.01
H ₂ CO	5.28E-02 lb/MMBTU ⁽¹⁾	0.27	0.07

⁽¹⁾ The heat input of this engine is 5.141 MMBTUH. (5,040 SCFH * 1,020 BTU/SCF * 1 MMBTU/ 10⁶ BTU=5.141 MMBTUH)

⁽²⁾ Sum of PM₁₀ and PM_{cond.} emission factors.

EUG 6 – Gas-Fired Heaters

Emissions from gas-fired heaters are estimated using emission factors from AP-42 (7/98) Tables 1.4-1 through 1.4-3 and the total heat inputs.

Pollutant	EF
NO _x	100 lb/MMSCF
CO	84 lb/MMSCF
VOC	5.5 lb/MMSCF
SO ₂	1.5E lb/MMSCF (assuming 0.5 gr S/100 scf)
PM ₁₀	7.6 lb/MMSCF

Pollutant	Emissions			
	EU #100	EU #101	EU #102	Total
NO _x	1.46	0.69	0.69	2.84
CO	1.23	0.58	0.58	2.39
VOC	0.08	0.04	0.04	0.16
SO ₂	0.02	0.01	0.01	0.04
PM ₁₀	0.11	0.05	0.05	0.22

Facility-Wide PTE Emissions

The following table shows facility-wide emissions based on the emissions calculations described above. The applicant has requested minor source emissions limits below major source levels.

Facility-Wide Controlled Emissions

EUG	NO _x	CO	PM ₁₀	VOC	SO ₂
	TPY	TPY	TPY	TPY	TPY
1	C ⁽¹⁾	C	C	C	C
2	C	C	C	C	C
3	C	C	C	C	C
4	8.59	7.21	C	0.47	C
5	0.72	1.44	0.01	0.36	0.01
6	2.84	2.39	0.22	0.16	0.04
Total	30.46	27.72	12.18	70.88	0.17

⁽¹⁾ C- confidential information.

Facility-Wide Controlled HAPs Emissions

HAP	Emissions
	TPY
Acetaldehyde	0.01
Arsenic	0.01
Cobalt	2.67
Formaldehyde	0.08
Manganese	2.67
Nickel	2.67
Hydrogen Fluoride	0.99
Hydrogen Chloride	0.07
Hexane	0.22
Other HAPs ⁽¹⁾	0.03
Total	9.42

⁽¹⁾ Breakdown of other HAPs is considered confidential information.

SECTION V. 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, Emissions Inventory and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Required annual information (Turn-Around Document) shall be provided to Air Quality by April 1st every year.

OAC 252:100-7 (Permits for Minor Facilities) [Applicable]
This facility qualifies as a synthetic minor source because the uncontrolled emissions have the potential to exceed 100 TPY for the criteria pollutant and uncontrolled HAP emissions have the potential to exceed 10 TPY for any one HAP and 25 TPY for any aggregate of HAP.

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, or 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 (PM)) [Applicable]
Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment. Particulate emission limits are based on maximum design heat input rating, as described in Appendix C.

Appendix C specifies a PM emission limitation of 0.60 lb/MMBTU for all equipment with a heat input rating of 10 MMBTUH or less. For equipment with rated heat input greater than 10 but less than 1,000 MMBTUH, the PM limit is calculated using the equation from OAC 252:100 Appendix C, which is listed below.

$$E = 1.0428080X^{(-0.238561)}$$

Where:

E = allowable total particulate matter emissions in pounds per MMBTH

X = the maximum heat input in MMBTU

For heaters, AP-42 (7/98), Table 1.4-2 lists PM emission factors for natural gas-fired small heater to be 7.6 lbs/MMSCF or about 0.0076 lbs/MMBtu, which shows all units to be in compliance. For emergency generator, the PM emission factors are based on AP-42 (7/00) Table 3.2-3.

EUG	Heat Rate	Appendix C PM ₁₀ Limitation	Potential PM ₁₀ Emissions
	MMBTUH	lb/MMBTU	lb/MMBTU
4 (Thermal Oxidizer)	<1000 ⁽¹⁾	<0.60 ⁽¹⁾	C ⁽¹⁾
5	5.14	0.60	0.02
6	6.60	0.60	0.0076

⁽¹⁾ Exact heat input, the calculated Appendix C PM₁₀ limit, and the potential PM emissions for EUG 4 are confidential.

Section 19-12 limits particulate emissions from new and existing directly fired fuel-burning units (and/or) emission points in an industrial process based on process weight rate, as specified in Appendix G.

$$E = 4.10P^{0.67}$$

Where:

E = allowable total particulate matter emissions in pounds per hour

P = process weight rate in tons per hour (TPH)

The estimated process weight rate for EUGs 1 through 3 processes are under 30 TPH and are confidential. The projected PM emission rates for EUG 1 through 3 do not exceed the allowable emission rates.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]

No discharge of greater than 20% opacity is allowed except for short-term occurrences that 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. The permit will require that fuel-burning units be fueled only with natural gas to ensure compliance with these requirements.

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. Under normal operating conditions, this facility will not cause a problem in this area, therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]

Part 2 limits the ambient air concentration of hydrogen sulfide (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 pipeline-grade natural gas will not have the potential to exceed the H₂S ambient air concentration limit.

Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input, 3-hour average. When combusting

natural gas, the fuel-burning equipment shall only be fueled with pipeline natural gas. Pipeline natural gas is subject (under Part 72) to a limit of 0.5 grains of total reduced sulfur (TRS) per 100 scf. The boilers only combust natural gas, and facility can demonstrate compliance by providing the gas company bill/tariff or other supplier document.

OAC 252:100-33 (Nitrogen Oxides)

[Not Applicable]

This subchapter limits NO_x emissions from new 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. None of the fuel-burning equipment exceed the 50 MMBTUH threshold. Therefore, this subchapter does not apply.

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds)

[Part 7 Applicable]

Part 3 requires VOC 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 to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. There is no storage tank meeting these criteria located at this facility.

Part 5 limits the VOC content of coatings used in coating lines or operations. This facility has no coating operation.

Part 7 requires fuel-burning and refuse-burning equipment to be operated to minimize emissions of VOC. EUGs 4, 5, and 6 are subject to this requirement.

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.

SECTION VI. FEDERAL REGULATIONS

PSD, 40 CFR Part 52

[Not Applicable]

Final total emissions are less than the threshold of 250 TPY of any single regulated pollutant and the facility is not one of the 26 specific industries with a threshold of 100 TPY.

NSPS, 40 CFR Part 60

[Subpart JJJJ Applicable]

Subpart Z, Standards of Performance for Ferroalloy Production Plants. The provisions of this subpart are applicable to the following affected facilities: Electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust-handling equipment. Any facility under this subpart that commences construction or modification after October 21, 1974, is subject to the requirements of this subpart. BWM does not operate an electric submerged arc furnace producing these products, and therefore, this facility is not an affected source under this subpart.

Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units. This subpart affects steam generating units with a heat input capacity between 10 and 100 MMBTUH and that commence construction, modification, or reconstruction after June 9, 1989. There is no boiler at this facility. This subpart does not apply.

Subpart LL, Standards of Performance for Metallic Mineral Processing Plants. The provisions of this subpart are applicable to the following affected facilities in metallic mineral processing plants: Each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this subpart. At uranium ore processing plants, all facilities subsequent to and including the beneficiation of uranium ore are exempted from the provisions of this subpart. An affected facility that commences construction or modification after August 24, 1982, is subject to the requirements of this part. BWM is not considered a metallic mineral processing plant because this facility does not process ore as defined under §60.381. Therefore, this subpart does not apply.

Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants. the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart. BWM does not process any product listed under nonmetallic mineral definition in §60.671. Therefore, this subpart does not apply.

Subpart UUU, Standards of Performance for Calciners and Dryers in Mineral Industries. The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. BWM does not meet the definition of mineral processing plant under §60.731, and so, this subpart does not apply.

Subpart JJJJ, Stationary Spark Ignition Internal Combustion Engines (SI-ICE). This subpart promulgates emission standards for all new SI engines ordered after June 12, 2006, and all SI engines modified or reconstructed after June 12, 2006, regardless of size. The specific emission standards (either in g/hp-hr or as a concentration limit) vary based on engine class, engine power rating, lean-burn or rich-burn, fuel type, duty (emergency or non-emergency), and numerous manufacture dates. Engine manufacturers are required to certify certain engines to meet the emission standards and may voluntarily certify other engines.

The following engine is subject to this subpart.

Emergency Engine

EU	HP	Serial #	Mfg. Date
200	656	TBD	TBD

Requirements	Compliance Demonstration		
Emission Limits	Per NSPS Subpart JJJJ Table 1 for Emergency Engine ≥ 130 HP		
	NO _x	CO	VOC
	g/hp-hr	g/hp-hr	g/hp-hr
	2.00	4.00	1.00
Monitoring	Per §60.4237, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.		
Operating	Per §60.4243, owner/operator an emergency stationary ICE must operate the emergency stationary ICE according to the requirements in paragraphs (d)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (d)(1) through (3), is prohibited. If owner/operator do not operate the engine according to the requirements in paragraphs (d)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.		
Notification/ Reporting/ Recordkeeping	Per §60.4245(b), For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation,		

Requirements	Compliance Demonstration
	including what classified the operation as emergency and how many hours are spent for non-emergency operation. Per §60.4245(c), owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in § 60.4231 must submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are no emissions of any of the regulated pollutants: arsenic, asbestos, beryllium, benzene, coke oven emissions, mercury, radionuclides or vinyl chloride except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, concerns only process streams that contain more than 10% benzene by weight. Analysis of Oklahoma natural gas indicates a maximum benzene content of less than 1%.

NESHAP, 40 CFR Part 63

[Subpart ZZZZ Applicable]

Subpart EEE, National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors. The provisions of this subpart apply to all hazardous waste combustors: hazardous waste incinerators, hazardous waste cement kilns, hazardous waste lightweight aggregate kilns, hazardous waste solid fuel boilers, hazardous waste liquid fuel boilers, and hazardous waste hydrochloric acid production furnaces. The batteries are not hazardous waste when pre-processed to remove hazardous characteristics prior to thermal treatment and the thermal processing equipment would not meet the definition of incinerator under 40 CFR 260.10. Therefore, this subpart does not apply.

Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006. Owners and operators of new engines and reconstructed engines at area sources meet the requirements of Subpart ZZZZ by complying with either 40 CFR Part 60 Subpart IIII (for CI engines) or 40 CFR Part 60 Subpart JJJJ (for SI engines).

This facility is an area source of HAP. EU 200 is manufactured after June 12, 2006, and so, this engine is considered a new engine. Per §63.6590(c), engine that demonstrates compliance with Subpart JJJJ is complying to this subpart. No further requirements apply for this engine under this subpart.

SECTION VII. COMPLIANCE

Tier Classification

This application has been classified as **Tier I** based on the request for construction of a minor source permit under the Traditional NSR Process.

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 had 30 days to comment on the draft permit. Permits available for public review and comment are found at Air Quality section of the DEQ Web page: www.deq.ok.gov.

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.

Landowner Affidavit

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 had notified the landowners through certified mail.

Enforcement Case/Violation

There is no enforcement case for this facility.

Testing

No testing is required at this time.

Inspection

An initial inspection is not required for construction permits.

Fee Paid

A fee of \$2,000 was paid for a minor source construction permit on November 22, 2023.

SECTION VIII. SUMMARY

The facility has demonstrated the ability to comply with all applicable Air Quality rules and regulations. There is no active enforcement case concerning this facility. Issuance of the construction permit is recommended, contingent on public review.

**PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS**

**Blue Whale Materials LLC
Blue Whale Materials LLC**

Permit No. 2023-0899-C

The permittee is authorized to construct in conformity with the specifications submitted to the Air Quality Division on November 20, 2023. The Evaluation Memorandum dated April 8, 2024, 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's Equipment and Points of Emissions:

EUG	Emission Point	Description	Capacity	Mfg./ Const. Date
1	1-07-ST	LiB Sorting/Disassembly	Confidential	TBD
2	12-17-ST	Pre-Thermal/Thermal Processing	Confidential	TBD
3	11-05-ST	Product Stream Separation & Packaging	Confidential	TBD
4	1-07-ST 12-17-ST 11-05-ST	Control Devices for EUGs #1, 2, and 3	Confidential	TBD
5	200	Emergency Generator	656-HP	TBD
6	100	South Building Space Heaters	Total 3.40-MMBTUH	TBD
	101	North Building Space Heaters	Total 1.60-MMBTUH	TBD
	102	Laboratory Building Space Heating Units	Total 1.60-MMBTUH	TBD

- 2. Facility-Wide Emission Limits:** NO_x, CO, VOC, PM₁₀/PM_{2.5}, and HAP emissions from the facility shall be based on material usage, material throughput, performance testing, emission factors, and hours of operation, and shall be limited to the emission limits shown in the table below. Compliance with the emission limits for NO_x, CO, VOC, PM₁₀/PM_{2.5}, and HAP from the facility shall be determined monthly, and be based on a 12-month rolling total.

Facility-Wide Emission Limits

Pollutant	Limits⁽¹⁾, TPY
NO _x	42.00
CO	42.00
VOC	90.00

Pollutant	Limits ⁽¹⁾ , TPY
PM _{10/2.5}	18.00
Single HAP	<9.99
Total HAPs	<24.99

⁽¹⁾ Emission limits are based on controlled PTE with 20% safety factor for operational flexibility.

- a. **EUG 1 – LiB Sorting/Disassembly:** Emissions from this operation shall be limited by (and will contribute to) the facility-wide cap on PM_{10/2.5} emissions identified in Specific Condition No. 2.
 - i. Each calendar month the permittee shall record the emissions of this operation using manufacturer data, emission factors referenced in the permit application, or the latest emission factors from testing. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
 - ii. During operation, the emissions from this operation shall be routed to the baghouse (Feedstock Packaging Dust Collector) or equivalent control device having 99% control efficiency or maximum exhaust concentration of 0.005 gr/acf for PM_{10/2.5} prior to discharge to the atmosphere.
- b. **EUG 2 – Pre-Thermal/Thermal Processing:** Emissions from this operation shall be limited by (and will contribute to) the facility-wide cap on NO_x, CO, VOC, PM_{10/2.5}, and HAP emissions identified in Specific Condition No. 2.
 - i. Each calendar month the permittee shall record the emissions of this operation using manufacturer data, emission factors referenced in the permit application or the latest emission factors from testing. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
 - ii. During operation, the emissions from this operation shall be routed to the Air Quality Control System, which consists of thermal oxidizer, acid scrubber, and baghouse, or equivalent control device having 99% control efficiency (VOC, CO, PM_{10/2.5}) or maximum exhaust concentration of 0.003 gr/acf for PM_{10/2.5} or 20 ppmv VOC/CO prior to discharge to the atmosphere.
- c. **EUG 3 – Product Stream Separation & Packaging:** Emissions from this operation shall be limited by (and will contribute to) the facility-wide cap on PM_{10/2.5} and HAP emissions identified in Specific Condition No. 2.
 - i. Each calendar month the permittee shall record the emissions of this operation using manufacturer data, emission factors referenced in the permit application, or the latest emission factors from testing. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
 - ii. During operation, the emissions from this operation shall be routed to the baghouse (Product Dust Collector) or equivalent control device having 99% control efficiency or maximum exhaust concentration of 0.003 gr/acf for PM_{10/2.5} prior to discharge to the atmosphere.
- d. **EUG 4 – Control Devices:** Emissions from control devices shall be limited by (and will contribute to) the facility-wide cap on NO_x, CO, VOC, PM_{10/2.5}, and HAP emissions

identified in Specific Condition No. 2. The process emissions treated by these control devices are accounted for under EUGs 1, 2, and 3 emissions.

i. Control Devices

Emission Point	Description	Control Efficiency
1-07-ST	EUG 1's Baghouse	99%, or maximum exhaust concentration of 0.005 gr/acf for PM _{10/2.5}
12-17-ST	EUG 2's Baghouse	99%, or maximum exhaust concentration of 0.003 gr/acf for PM _{10/2.5}
	EUG 2's Thermal Oxidizer	99% or maximum exhaust concentration of 20 ppmv for VOC/CO
	EUG 2's Acid Scrubber	99.5% for HF
11-05-ST	EUG 3's Baghouse	99%, or maximum exhaust concentration of 0.003 gr/acf for PM _{10/2.5}

- ii. The pressure difference across the baghouse filters shall be maintained according to the manufacturer's recommendation or range established in latest performance testing and shall be recorded daily.
- iii. Facility shall operate acid scrubber within the operating limits as recommended by manufacturers, scrubber inlet liquid flow rate or recirculating flow rate and the effluent pH range of the scrubber. The inlet liquid flow rate, the recirculating flow rate, and effluent pH range will be established based on performance test for each scrubber system. Facility shall keep following records for each scrubber system.
 - (A) Records of daily average scrubber inlet liquid or recirculating liquid flow rate, as appropriate.
 - (B) Records of the daily average scrubber effluent pH.
 - (C) Records of the differential pressure of the scrubber.
- iv. Each calendar month the permittee shall record the emissions of these control devices using emission factors referenced in the permit application. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
- v. Facility shall maintain the 3-hour block average operating temperature of the thermal oxidizer at or above the operating temperature as recommended by manufacturer or as established from performance testing. The average operating temperature of the combustion zone of the thermal oxidizer shall be continuously monitored. Facility shall record the 15-minute block average operating temperature of the thermal oxidizer (3-hour block period) and records should also include any period when the average temperature in any 3-hour block period falls below the manufacturer recommended or performance test average operating temperature with a brief explanation of the cause of the excursion and the corrective action taken.

- e. **EUG 5 – Emergency Generator:** Emissions from this operation shall be limited by (and will contribute to) the facility-wide cap on NO_x, CO, VOC, PM_{10/2.5}, and HAP emissions identified in Specific Condition No. 2.
 - i. Each calendar month the permittee shall record the quantity of fuel used or actual hours of usage (monthly and 12-month rolling total), and shall compute the emissions of NO_x, CO, and VOC using manufacturer data or the latest factors from NSPS Subpart JJJJ, PM₁₀, SO₂, and HAPs emission factors from AP-42 (08/00) Section 3.2-2. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
 - ii. This engine shall be fueled with pipeline natural gas. Pipeline natural gas is subject (under Part 72) to a limit of 0.5 grains sulfur/100 scf. Compliance can be shown by a current gas company bill or supplier conformance statement/tariff. Compliance shall be demonstrated at least once every calendar year.
 - iii. This engine shall have a permanent identification plate attached.
 - iv. This engine shall be equipped with a non-resettable hour-meter.
 - v. The permittee shall keep records of operating hours (emergency and non-emergency hours) for the engine, monthly and 12-month rolling total.
 - f. **EUG 6 – Heaters:** Emissions from this operation shall be limited by (and will contribute to) the facility-wide cap on NO_x, CO, VOC, PM_{10/2.5}, and HAP emissions identified in Specific Condition No. 2.
 - i. Each calendar month the permittee shall record the quantity of fuel used or actual hours of usage (monthly and 12-month rolling total) or utilize maximum potential fuel usage, and shall compute the emissions of NO_x, CO, VOC, PM₁₀, SO₂, and HAPs using the latest factors from AP-42 Section 1.4 tables or manufacturer's emission factors. These emissions shall be summed with other emissions for determining compliance with the facility-wide cap.
 - ii. The fuel-burning equipment shall be fueled only with pipeline natural gas. Pipeline natural gas is subject (under Part 72) to a limit of 0.5 grains sulfur/100 scf. Compliance can be shown by a current gas company bill or supplier conformance statement/tariff. Compliance shall be demonstrated at least once every calendar year.
- 3. At least once per month, the permittee shall visually inspect the venting, ductwork, and other conveyance systems to the scrubber systems and the thermal oxidizer(s) from the various emissions units required to be vented to these control devices. Results of the inspection shall be recorded following each monthly inspection.
 - 4. The emergency generator (EU 200) is subject to NSPS, Subpart JJJJ, and shall comply with all applicable standards for owners or operators of stationary spark ignition internal combustion engines, including but not limit to:
 - a. §60.4230: Am I subject to this subpart?
 - b. §60.4231: What emission standards must I meet if I am a manufacturer of stationary SI internal combustion engines?

- c. §60.4232: How long must my engines meet the emissions standards if I am a manufacturer of stationary SI internal combustion engines?
 - d. §60.4233: What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?
 - e. §60.4234: How long must I meet the emissions standards if I am an owner or operator of a stationary SI internal combustion engine?
 - f. §60.4235: What fuel requirements must I meet if I am an owner or operator of a stationary SI internal combustion engine?
 - g. §60.4236: What is the deadline for importing or installing stationary SI ICE produced in the previous model year?
 - h. §60.4237: What are the monitoring requirements if I am an owner or operator of a stationary SI internal combustion engine?
 - i. §60.4238: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines ≤ 19 KW (25 HP).
 - j. §60.4239: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines ≥ 19 KW (25 HP) that use gasoline?
 - k. §60.4240: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines ≥ 19 KW (25 HP) that use LPG?
 - l. §60.4241: What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program?
 - m. §60.4242: What other requirement must I meet if I am a manufacturer of stationary SI internal combustion engines?
 - n. §60.4243: What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?
 - o. §60.4244: What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?
 - p. §60.4245: What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?
 - q. §60.4246: What parts of the General Provisions apply to me?
 - r. §60.4247: What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines?
 - s. §60.4248: What definitions apply to this subpart?
5. The permittee shall comply with all applicable standards and requirements of 40 CFR Part 63, NESHAP Subpart ZZZZ, National Emissions Standards for Hazardous air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), including, but not limited 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 must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

- f. §63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB with a site rating of greater or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?
 - g. §63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal or less than 500 brake HP located at an area source of HAP emissions?
 - h. §63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
 - i. §63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?
 - j. §63.6605 What are my general requirements for complying with this subpart?
 - k. §63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operating a stationary RICE with a site rating of more than 500 brake HP located at an area source of HAP emissions?
 - l. §63.6611 By wat date must I conduct the initial performance tests or other initial compliance demonstration if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions?
 - m. §63.6612 By wat date must I conduct the initial performance tests or other initial compliance demonstration if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?
 - n. §63.6615 When must I conduct subsequent performance tests?
 - o. §63.6620 What performance tests and other procedures must I use?
 - p. §63.6625 What are my monitoring, installation, operation, and maintenance requirements?
 - q. §63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
 - r. §63.6635 How do I monitor and collect data to demonstrate continuous compliance?
 - s. §63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
 - t. §63.6645 What notifications must I submit and when?
 - u. §63.6650 What reports must I submit and when?
 - v. §63.6655 What records must I keep?
 - w. §63.6660 In what form and how long must I keep my records?
 - x. §63.6665 What parts of the General Provisions apply to me?
 - y. §63.6670 Who implements and enforces this subpart?
 - z. §63.6675 What definitions apply to this subpart?
6. Within 180 days of start-up of normal operation of the facility, the permittee shall conduct the performance tests in the following list or stack test for each Emission Point to demonstrate compliance with emission limits listed under Specific Condition No. 2 and to verify the control efficiencies listed under Specific Condition No. 2(d)(i).
 - a. The permittee shall use the following approved test methods for performance testing:

Emission Point	Pollutant	Test Method
1-07-ST	PM ₁₀	Method 5 [A-H]: Determination of PM ₁₀ Emissions from Stationary Sources or equivalent.

Emission Point	Pollutant	Test Method
12-17-ST	NO _x	Method 7 [A-E]: Determination of NO _x Emissions from Stationary Sources or equivalent.
	CO	Method 10 [A-B]: Determination of CO Emissions from Stationary Sources or equivalent.
	VOC	Method 18: Volatile Organic Compounds – Gas Chromatography or equivalent or Method 25A: Volatile Organic Compounds Emissions or equivalent.
	PM ₁₀	Method 5 [A-H]: Determination of PM ₁₀ Emissions from Stationary Sources or equivalent.
	HF	Method 26: Determination of Hydrogen Halide and Hydrogen Emissions from Stationary Sources Non-Isokinetic Method or equivalent. Method 26A: Determination of Hydrogen Halide and Hydrogen Emissions from Stationary Sources Isokinetic Method or equivalent.
11-05-ST	PM ₁₀	Method 5 [A-H]: Determination of PM ₁₀ Emissions from Stationary Sources or equivalent.

- b. Performance testing and/or stack test shall be conducted while the units are operating under representative conditions.
 - c. A protocol describing the testing plan shall be submitted to the Air Quality Division at least 30 days prior to the testing.
 - d. A written report documenting the results of emissions testing shall be submitted within 60 days of completion of on-site testing.
7. 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.
8. The permittee shall maintain records of operations as listed below. These records shall be maintained on-site for at least five years after the date of recording and shall be provided to regulatory personnel upon request.
 - a. Records of monthly emissions and 12-month rolling totals per Specific Condition No. 2.
 - b. Records of baghouse's daily differential pressure per Specific Condition No. 2(d)(ii).
 - c. Records of fuel throughput and company bill per Specific Condition No. 2(e)(ii) and 2(f)(ii).
 - d. Records of operating hours for emergency generator per Specific Condition No. 2(e)(v).
 - e. Records of thermal oxidizer's operating temperature per Specific Condition No. 2(d)(v).
 - f. Records of monthly inspection of conveyance systems of VOC to the control devices per Specific Condition No. 3.
 - g. Records of performance tests per Specific Condition No. 6.
 - h. Records required by NSPS Subpart JJJJ.
 - i. Records required by NESHAP Subpart ZZZZ.

9. Within 180 days of commencement of normal operation of the emission unit groups authorized by this construction permit, the owner/operator shall submit an administratively complete operating permit application.

**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]



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. 2023-0899-C

Blue Whale Materials LLC,

having complied with the requirements of the law, is hereby granted permission to construct and operate the Blue Whale Materials, located in Section 14, Township 26N, Range 13E, Washington County, Oklahoma, subject to 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 issuance date, except as authorized under Section B of the Standard Conditions.

DRAFT

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

Date Issued

David Fauvre
dfauvre@bluewhalematerials.com
Blue Whale Materials LLC
1629 K Street NW, Suite 300
Washington DC 20006

Subject: Construction Permit No. **2023-0899-C**
Blue Whale Materials LLC (Fac. ID: 23890)
Section 14, Township 26N, Range 13E, Washington County

Dear Mr. Fauvre:

Enclosed is the permit authorizing construction at the referenced facility. 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 emission inventory for this facility. An emission inventory must be completed through DEQ's electronic reporting system by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emission 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 the permit writer at (918) 293-1615, or by e-mail at jennie.doan@deq.ok.gov. Air Quality personnel is located in the Regional Office at Tulsa, 9933 E. 16th Street, Tulsa, OK, 74128.

Sincerely,

DRAFT

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

Enclosure

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

Subject: Construction Permit No. **2023-0899-C**
Blue Whale Materials LLC (Fac. ID: 23890)
Section 14, Township 26N, Range 13E, Washington County
Date Received: November 20, 2023

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.

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

Department of Environmental Quality (DEQ)
Air Quality Division (AQD)
Acronym List

9-10-21

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

NMHC	Non-methane Hydrocarbon	SCFM	Standard Cubic Feet per Minute
NGL	Natural Gas Liquids	SCR	Selective Catalytic Reduction
NO₂	Nitrogen Dioxide	SER	Significant Emission Rate
NO_x	Nitrogen Oxides	SI	Spark Ignition
NOI	Notice of Intent	SIC	Standard Industrial Classification
NSCR	Non-Selective Catalytic Reduction	SIP	State Implementation Plan
NSPS	New Source Performance Standards	SNCR	Selective Non-Catalytic Reduction
NSR	New Source Review	SO₂	Sulfur Dioxide
O₃	Ozone	SO_x	Sulfur Oxides
O&G	Oil and Gas	SOP	Standard Operating Procedure
O&M	Operation and Maintenance	SRU	Sulfur Recovery Unit
O&NG	Oil and Natural Gas	T	Tons
OAC	Oklahoma Administrative Code	TAC	Toxic Air Contaminant
OC	Oxidation Catalyst	TEG	Triethylene Glycol
PAH	Polycyclic Aromatic Hydrocarbons	THC	Total Hydrocarbons
PAE	Projected Actual Emissions	TPY	Tons per Year
PAL	Plant-wide Applicability Limit	TRS	Total Reduced Sulfur
Pb	Lead	TSP	Total Suspended Particulates
PBR	Permit by Rule	TV	Title V of the Federal Clean Air Act
PCB	Polychlorinated Biphenyls	µg/m³	Micrograms per Cubic Meter
PCE	Partial Compliance Evaluation	US EPA	U. S. Environmental Protection Agency
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
POM	Particulate Organic Matter or Polycyclic Organic Matter	VRU	Vapor Recovery Unit
ppb	Parts per Billion	YR	Year
ppm	Parts per Million	2SLB	2-Stroke Lean Burn
ppmv	Parts per Million Volume	4SLB	4-Stroke Lean Burn
ppmvd	Parts per Million Dry Volume	4SRB	4-Stroke Rich Burn
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		