

Asheville-Buncombe Air Quality Agency APPLICATION REVIEW SUMMARY

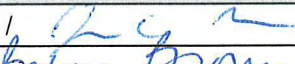
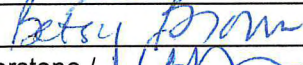
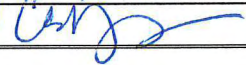
SECTION A: FACILITY INFORMATION			
Company Name:	Milkco, Inc.		
Site Name:	Milkco, Inc.		
Mailing Address:	220 Deaverview Road, Asheville, NC 28806		
Site Address:	220 Deaverview Road, Asheville, NC 28806		
General Description of Business:	Dairy Products Processing Plant		
Facility Classification:	Synthetic Minor	Site Status:	Existing

SECTION B: APPLICATION INFORMATION			
Date of Application:	January 10, 2024	Application Tracking No.:	NA
Date Complete Application Received:	January 22, 2024	Board Meeting Date:	March 14, 2024
Confidentiality Requested?	No	Board Agenda Type:	Modification
Application Results:	The purpose of this review is to lend approval for AB Air Quality to modify the permit and to reclassify the facility as a small source.		
Permit No. Issued by Application:	11-587-23A / March 14, 2024		
Permit No. Voided by Application:	11-587-23 / January 12, 2023		

SECTION C: REGULATORY INFORMATION	
AB Air Quality Regulations:	4.0503, 4.0516, 4.0521, 4.0524, 4.1111, 4.1806, 17.0700

SECTION D: FACILITY-WIDE EMISSIONS INFORMATION			
Pollutants Reviewed as a Result of this Application or AB Air Quality Action:	Actual 2022 Emissions (tons/yr)	Potential Emissions (tons/yr)	
		Prior Without Limit	Current Without Limit
CO	2.36	70.96	17.81
NO _x	2.91	280.01	48.07
PM	0.22	11.20	4.44
PM ₁₀	0.22	10.03	3.26
PM _{2.5}	0.21	9.14	2.38
SO ₂	0.02	83.76	83.65
VOC	0.16	7.98	1.77
Greenhouse Gases, CO _{2e}	3,289	39,052	28,022
All Hazardous Air Pollutants (HAPs)	0.05	0.60	0.49
List all HAPs >10TPY of potential emissions	None		

Emission numbers denoted with an () reflect "controlled" emissions (i.e. emissions reduced by a pollution control device).

RECOMMENDATION FOR APPROVAL			
Prepared By:	James C. Raiford / 	Date Completed:	2/27/24
Reviewed By:	Betsy Brown / 	Date Reviewed:	3/1/2024
Director:	Ashley J. Featherstone / 	Date Reviewed:	3/5/2024

SECTION A DETAILS

FACILITY INFORMATION [Detailed discussion of any items in Section A]

Milkco is a wholly-owned subsidiary of Ingles Markets, Inc., which purchased the facility from Sealtest in 1982. Milkco is a milk processing and packaging plant providing most of the fluid milk needs of the Ingles stores, as well as providing dairy, citrus, tea, orange juice, ice cream mix, and bottled water to food service distributors, grocery warehouses, and independent specialty retailers in over 10 states.

Process steam is supplied by three 12.55 million BTU per hour natural gas / No. 2 fuel oil-fired boilers. There is a 1,600-kilowatt (kW) / 2,340 horsepower (hp) diesel-fired generator that provides electricity for the facility during power outages through an arrangement with Duke Energy Progress. The generator also provides power when the utility curtails electricity to the facility (i.e., peak shaving). A second diesel-fired generator was added in 2012. This 2,000 kW / 2,937 hp generator is for emergency use only (and not for peak shaving). The boilers and generators are the only permitted sources at this facility. Ultra-low sulfur diesel (ULSD) fuel is used in both the generators and in the boilers when burning fuel oil. The pollutants of concern are the result of fuel combustion, and include carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM, PM₁₀), sulfur dioxide (SO₂), volatile organic compounds (VOCs), and various hazardous air pollutants (HAPs).

For this permit renewal, the facility requested that the G-1 generator be reclassified as an emergency use generator since they have severed their financial agreement with Duke Energy to operate in times of curtailment. Because the engine will now be considered an emergency generator, the hours of operation used to determine their emissions calculations were changed from 8,760 hours to 500 hours. With the reduction of the calculated emissions, this also means that the facility is now below Title V thresholds for NO_x without needing to have a limit placed in their permit. This changes the classification of the facility from Synthetic Minor to Small, and the fuel oil limit will be removed. Emissions are not expected to change with this modification, since the generator never operated more than 100 hours a year and the boilers will continue to use natural gas unless there is an emergency that requires the use of fuel oil.

Specific changes to this permit modification include:

- Updating Permit Condition 8 to remove the previous requirements and add new maintenance practices for G-1. Appendix C was removed because it listed the previous requirements for G-1.
- Removing previous Permit Conditions 11 and 12 which contained Synthetic Minor and PSD Limitations
- Updating Permit Condition 10 and Appendix B to reflect that G-1 is limited to 500 hours of operation
- Updating Condition 11 (previously 14) to remove notification and reporting requirements that no longer apply to G-1.

SECTION B DETAILS

APPLICATION INFORMATION

[List all emission sources (permitted and exempt) reviewed as a result of this application, their associated control devices and pollutants. Provide a detailed discussion of any other items in Section B at bottom under "Application Notes"]

Emission Source ID	Emission Source Description 1. Type, manufacturer, capacity 2. Control device with ID (if any)	Pollutant(s) Emitted	Miscellaneous Notes
ES-1	One (1) 12.55 million BTU per hour natural gas / No. 2 fuel oil-fired boiler	CO, NO _x , PM, PM ₁₀ , PM _{2.5} , SO ₂ , VOCs, HAPs, CO _{2e}	Boiler 1: Superior Boiler Works Model No. E4-5-1500-S150-GP-GP2, Boiler NB No. 15883
ES-2	One (1) 12.55 million BTU per hour natural gas / No. 2 fuel oil-fired boiler	CO, NO _x , PM, PM ₁₀ , PM _{2.5} , SO ₂ , VOCs, HAPs, CO _{2e}	Boiler 2: Superior Boiler Works Model No. E4-5-1500-S150-GP-GP2, Boiler NB No. 15882
ES-3	One (1) 12.55 million BTU per hour natural gas / No. 2 fuel oil-fired boiler	CO, NO _x , PM, PM ₁₀ , PM _{2.5} , SO ₂ , VOCs, HAPs, CO _{2e}	Boiler 3: Superior Boiler Works Model No. E4-5-1500-S150-GP-GP2, Boiler NB No. 15881
G-1	One (1) 1,600 kilowatt ULSD-fired generator	CO, NO _x , PM, PM ₁₀ , PM _{2.5} , SO ₂ , VOCs, HAPs, CO _{2e}	Spectrum / Detroit Diesel Model No. 1600DS60, 2,340 horsepower
G-2	One (1) 2,000 kilowatt ULSD-fired emergency use generator	CO, NO _x , PM, PM ₁₀ , PM _{2.5} , SO ₂ , VOCs, HAP, CO _{2e}	Caterpillar Model No. 3516D, 2,937 horsepower
NA	One (1) 10,000-gallon aboveground No. 2 fuel oil / diesel storage tank	NA	This is the fuel tank for the boilers and generator G-1. This tank is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(D)(i).
NA	One (1) 2,500-gallon aboveground diesel storage tank	NA	This is the sub-base fuel tank for generator G-2. This tank is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(D)(i).
NA	One (1) ammonia refrigeration unit	NA	This equipment is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(viii).
NA	Eight (8) bottle coding lines	NA	These pieces of equipment are exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(2)(E)(i).
NA	Seven (7) box gluing lines	NA	These pieces of equipment are exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(x).
NA	One (1) label gluing line	NA	Referred to as the No. 8 PET Line, this equipment is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(x).
NA	One (1) sandblasting machine	NA	This machine is exempt from permitting requirements per the AB Air Quality Code 17.0102 (c)(1)(L)(ix).

APPLICATION NOTES

SECTION C DETAILS

REGULATORY INFORMATION

(Identify the AB Air Quality Regulations reviewed because of this application. At a minimum, the regulations already listed should be reviewed and reason given for applicability or non-applicability. If a regulation has a standard, list the standard and indicate how the source is in compliance.)

AB Air Quality Regulation Number / Title	Emission Source ID No(s). Subject	Notes On Regulation (Compliance demonstration, applicability, etc.)
17.0500 – Title V Procedures and 17.0315 – Synthetic Minor Facilities	Entire facility	With the reclassification of G-1 to be an emergency engine, emissions calculations were updated from 8760 hours to 500 hours. This means that the facility is not subject to Title V permitting procedures because potential emissions are now less than 100 tons per year for NO _x . The facility previously elected to take avoidance limitations to keep their potential emissions under 100 tons. The facility's potential to emit HAPs is less than the 10-ton per year applicability threshold for individual HAPs and the 25-ton per year applicability threshold for combined HAPs. Previous permit conditions 11 and 12 were removed to reflect this change.
17.0700 – Toxic Air Pollutant Procedures	NA	The addition of emergency generator G-2 (via Permit No. 11-587-10A) triggered a toxics review under the toxic air pollutant (TAP) procedures. The non-emergency use of generator G-1 (via Permit No. 11-587-10B) resulted in a reevaluation of the toxics review (see notes below).
4.0524 – New Source Performance Standards (40 CFR Part 60, Subpart Dc)	ES-1, ES-2, ES-3	The facility's boilers are subject to 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. To maintain compliance with the SO ₂ requirements of this regulation, the facility monitors the sulfur content of the No. 2 fuel oil (actually ULSD) combusted in the boilers to ensure that it does not exceed 0.5% by weight. The facility reports the results of the monitoring to this Agency on a semi-annual basis.
4.0524 – New Source Performance Standards (40 CFR Part 60, Subpart IIII)	G-2	The emergency use generator is subject to the requirements of 40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, which requires the manufacturer to certify that the generator meets Tier 2 emission limits and requires the use of ULSD fuel. The generator must be equipped with a non-resettable hour meter prior to startup, and non-emergency use (e.g., testing) is limited to 100 hours per year (unless prior arrangements are made).

4.0530 – Prevention of Significant Deterioration	NA	In the previous permit, the non-emergency use of generator G-1 resulted in the facility having potential NO _x emissions above the PSD major source applicability threshold and an avoidance limit was included in the permit. Since potential emissions are now below PSD thresholds, this permit condition has been removed.
4.1111 – MACT (40 CFR 63, Subpart JJJJJJ)	NA	The boilers are not subject to 40 CFR Part 63, Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers. The rule applies to solid- and liquid-fired boilers, but boilers that are also gas-fired and burn liquid fuel only during periods of gas curtailment, gas supply emergencies, or for periodic testing not to exceed 48 hours during any calendar year are not subject to this subpart. Milkco has submitted an Initial Notification form indicating that its boilers will burn fuel oil only during such periods, so the boilers are not subject to this subpart. However, relevant requirements of this subpart are included in a permit condition in case the facility decides to operate the boilers on fuel oil in the future.
4.1111 – MACT (40 CFR 63, Subpart ZZZZ)	G-1, G-2	Both generators are subject to 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines. For G-2, compliance with Subpart ZZZZ is achieved by compliance with NESHAPS Subpart IIII. For G-1, the reclassification of the engine as an emergency generator means that the installation of an oxidation catalyst and a continuous parameter monitoring system (CPMS) is no longer required. Permit Condition 8 was update to reflect the new required management practices including changing the oil and filter, and inspecting the air cleaner and hoses, as well as required recordkeeping. Appendix C which listed previous requirements has been removed.
4.0503 – Particulates from Fuel Burning Indirect Heat Exchangers	ES-1, ES-2, ES-3	This regulation limits PM emissions from each boiler to 0.42 pounds per million BTU heat input. AP-42 PM emission factor for these boilers is only 0.021 lb/MMBtu when burning No. 2 fuel oil, and even less when burning natural gas (see notes below). Thus, the facility is in compliance.

4.0516 – Sulfur Dioxide Emissions from Combustion Sources	ES-1, ES-2, ES-3, G-1, G-2	This regulation limits SO ₂ emissions from these sources to 2.3 lb/MMBtu. The AP-42 SO ₂ emission factor for natural gas combustion for each boiler (ES-1, ES-2, and ES-3) is 0.00058 lb/MMBtu. The boilers are subject to the SO ₂ emission limit of NSPS Subpart Dc when burning No. 2 fuel oil. The AP-42 SO ₂ emission factor for each generator (G-1 and G-2) using ULSD is 0.0015 lb/MMBtu (see notes below). Thus, the facility is in compliance.
4.0521 – Control of Visible Emissions	ES-1, ES-2, ES-3, G-1, G-2	This regulation limits visible emissions from each boiler to no more than 20% opacity due to their post-1971 manufacture date. Compliance with this regulation will be determined through facility self-monitoring and Agency inspections (see notes below).
4.1806 – Control and Prohibition of Odorous Emissions	Entire Facility	This regulation requires that the facility prevent odorous emissions from causing or contributing to objectionable odors beyond their property line. Compliance with this regulation will be determined through Agency inspections.

REGULATORY NOTES

17.0315 – Synthetic Minor Facilities. In the previous permit, the use of generator G-1 as a non-emergency engine resulted in potential NO_x emissions exceeding the Title V permitting threshold. Since the engine will now be classified as an emergency engine, potential NO_x emissions no longer exceed Title V permitting thresholds. The facility had previously accepted a limit of 1,000,000 gal of No. 2 fuel oil per year for the boilers and a limit of 2,500 operating hours per year for G-1. These limits will be removed from the permit. Emergency engine rules prohibit the operation of G-1 to no more than 100 hours of non-emergency use. Additionally, the boilers use natural gas and only burn fuel oil in times of natural gas curtailment. Previous permit conditions 11 and 12 were removed from the permit to reflect these changes.

4.0503 – Particulates from Fuel Burning Indirect Heat Exchangers. The allowable emission limit for each boiler was calculated according to the following equation:

$$\text{Allowable PM Emission Limit} = (1.090) \times (37.65)^{-0.2594} = 0.42 \text{ lb/MMBtu heat input,}$$

where 37.65 is the total maximum heat input capacity of all three boilers (3 x 12.55 MMBtu/hr).

4.0516 – Sulfur Dioxide Emissions from Combustion Sources. This regulation states that if an emission source is subject to AB Air Quality Code 4.0524 – New Source Performance Standards or to AB Air Quality Code 4.1111 – Maximum Achievable Control Technology, then it shall meet the standard in that particular rule instead of the standard in 4.0516(a). The boilers are subject to NSPS Subpart Dc, which does have an SO₂ emissions limit for boilers combusting oil, but does not have an SO₂ emissions limit for boiler combusting natural gas. The emergency generator (G-2) is subject to NSPS Subpart IIII and both emergency generators are subject to MACT Subpart ZZZZ. Neither of these regulations has an SO₂ emissions standard.

4.0521 – Control of Visible Emissions. This regulation states that if an emission source is subject to AB Air Quality Code 4.0524 – New Source Performance Standards or to AB Air Quality Code 4.1111 – Maximum Achievable Control Technology, then it shall meet the standard in that particular rule instead of the standard in 4.0521(c) or 4.0521(d). The boilers are subject to NSPS Subpart Dc, which does not have a visible emission (opacity) standard for boilers with a heat input capacity under 30 MMBtu/hr. The emergency generator (G-2) is subject to NSPS Subpart IIII, and both generators are subject to MACT Subpart ZZZZ. Neither of these regulations has a visible emissions standard.

17.0700 – Toxic Air Pollutant Procedures. A toxics review was performed in July of 2014 to account for the non-emergency use of generator G-1, which is subject to GACT requirements. The agency chose to

conduct the review in order to ensure that the modification would not result in an unacceptable risk to human health or a potential exceedance of the AALs. Sources included the two generators, but the three boilers were determined to be exempt from toxics per 17.0702(a)(18). With the 2,500 hour per year operating limit for G-1 (and 500 hours per year assumed for G-2), potential emissions of arsenic and benzene were over the TPERs. A dispersion modeling analysis using the AERSCREEN showed predicted arsenic and benzene concentrations were below the AALs. The results are summarized in Appendix B of the permit. With the reclassification of G-1 as an emergency engine, the 2,500 hour per year operating limit has been removed, and 500 hours would be the assumed worst case for operating this engine. Since this is lower than the previous limit, no changes to the toxics review are required. Permit Condition 10 and Appendix B of the permit were updated to reflect that G-1 will operate no more than 500 hours.

SECTION D DETAILS				
EMISSION INFORMATION				
Calculation Method Codes (List all that apply)	1 = Stack test result 2 = Material (mass) balance 3 = EPA approved information (AP-42, CTG, etc.) 4 = Other (specify in table below)			
Calculation Rejection Codes (List all that apply)	1 = Calculation error 2 = Wrong emission factor(s) used 3 = Control efficiency(ies) not accepted 4 = Other (specify in table below)			
Emission Source (ID No.)	Calculation Method Code	Accept or Reject?	Calculation Rejection Code	AB Air Quality Calculations Attached?
ES-1, ES-2, ES-3, G-1, G-2	3	NA	NA	Yes

EMISSION NOTES

AB Air Quality calculated potential boiler and generator emissions based on AP-42, and manufacturer specific emissions factors for G-2. VOC emissions from coding ink printing and box and label gluing are based on usage data previously provided by Milkco for the last permit renewal. Emissions for these sources are well below permitting thresholds. Potential emissions from the three boilers were determined for operation on both No. 2 fuel oil (0.5% sulfur) and natural gas, with the higher emissions of each pollutant (between oil and gas) being selected for the facility-wide totals. Potential SO₂ emissions from the two generators were based on ULSD (0.0015% sulfur), as this fuel is required for both generators. The boilers actually use ULSD also, as a single 10,000-gallon fuel tank supplies the boilers and the older generator (G-1). Emissions calculations for G-1 were updated in this review from the previous limit of 2500 hours to 500 hours since it has been reclassified as an emergency generator. Emissions in the table listed in Section D on page 1 show the previous uncontrolled potential emissions as well as the new uncontrolled potential emissions.

SECTION E
SUPPORTING DOCUMENTATION (Provide brief description of any attachments)

1. Permit modification application
2. Emission calculations performed by AB Air Quality
3. Draft permit
4. Draft permit cover letter
5. Draft invoice