Asheville-Buncombe Air Quality Agency
APPLICATION REVIEW SUMMARY

SECTION A: FACILITY INFORMATION			
Company Name:	Buncombe County Government		
Site Name:	Buncombe County Landfill II		
Mailing Address:	81 Panther Branch Road, Alexander, NC 28701		
Site Address:	81 Panther Branch Road, Alexander, NC 28701		
General Description of Business:	Municipal Solid Waste Landfill		
Facility Classification:	Title V	**Site Status:**	Existing

SECTION B: APPLICATION INFORMATION			
Date Of Application:	December 15, 2022	**Application Tracking No.:**	N/A
Date Complete Application Received:	December 19, 2022	**Board Meeting Date:**	March 12, 2026
Confidentiality Requested?	No	**Board Agenda Type:**	Modification
Application Results:	Buncombe County Landfill II is requesting that their permit be modified because they are now subject to NSPS Part 60 Subpart XXX.		
Permit No. / Date Issued by Application:	11-542-22A / March 12, 2026		
Permit No. / Date Voided by Application:	11-542-22A / January 11, 2022		

SECTION C: REGULATORY INFORMATION	
AB Air Quality Regulations:	4.0516, 4.0521, 4.0524, 4.0540, 4.1111, 4.1806, 17.0705, 17.0500

SECTION D: FACILITY-WIDE EMISSIONS INFORMATION		
Pollutants Reviewed as a Result of this Application or AB Air Quality Action:	**2024 Actual Emissions (TONS/YR)**	**Potential Emissions (TONS/YR)**
CO	28.26	218.59
NO_X	6.77	65.09
PM	1.65	10.21
$PM_{10}/PM_{2.5}$	1.65	10.21
SO_2	0.48	14.33
VOC	2.66	23.88
All Hazardous Air Pollutants (HAPs)	9.04	16.03
List all HAPs >10TPY of potential emissions	None	

IN COMPLIANCE WITH EMISSION STANDARDS / RECOMMEND APPROVAL			
Prepared By:	James C. Raiford /	**Date Completed:**	1/13/2026
Reviewed By:	Ashley J. Featherstone /	**Date Approved:**	1/16/2026
Director:	Ashley J. Featherstone /	**Date Approved:**	1/16/2026

SECTION A DETAILS

FACILITY INFORMATION

[Detailed discussion of any items in Section A]

The Buncombe County Solid Waste Department (BCSW) operates the Buncombe County Landfill II, a municipal solid waste (MSW) landfill. In addition to operating the RCRA (40 CFR 258) Subtitle D landfill, the Buncombe County Solid Waste Management Facility operates a construction and demolition (C&D) landfill, wood waste mulching facility, convenience center for residential solid waste drop-off, a household hazardous waste (HHW) facility, and a white goods and tires holding facility at this location. Construction of the landfill began in 1993 and waste acceptance began in October 1997. The facility has a design capacity of approximately 6.17 million megagrams (Mg) and 3.16 million cubic meters (m^3) of refuse and is estimated to provide 35 years of operation. As the design capacity is in excess of 2.5 million Mg and 2.5 million m^3 of refuse, the landfill is regulated as a Title V source per applicable requirement in 40 CFR Part 60, Subpart WWW – "Standards of Performance for Municipal Solid Waste Landfills," Section 60.752(b). The facility has also installed a landfill gas collection and control system that is controlled by a 45 MMBtu/hr landfill gas fired candle-stick type flare.

The facility operates one landfill gas-fired engine/generator set (1,466 kW capacity) which is subject to NSPS Subpart JJJJ and MACT Subpart ZZZZ. The engine generator set produces electricity to be sold to the electric grid an operates around the clock unless there are problems.

This facility originally had a Title V Operating Permit with this Agency, but in 2014, it was proposed that the Director of the WNC Regional Air Quality Agency (WNCRAQA) would also be serving as the Director of the Buncombe County Solid Waste Department, which was seen as a conflict of interest. The North Carolina Department of Environmental Quality (DEQ) issued a Title V Permit on for the facility on December 5, 2014. Since then, the Director of WNCRAQA is no longer working for Solid Waste, so there is no conflict of interest in being the regulatory agency for this facility. On August 24, 2021, this Agency issued a 60 day notice of intent to reopen the Title V Permit to Buncombe County Landfill II with the intention of resuming the permitting and enforcement duties for the facility. This permit was issued on January 11, 2022.

When the permit was issued in 2022, the facility was subject to 40 CFR Part 62, Subpart OOO – "Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014" which was promulgated on May 21, 2021, and replaced requirements that were initially stated in 40 CFR Part 60, Subpart WWW – "Standards of Performance for Municipal Solid Waste Landfills". Due to a disposal expansion that began in 2022, the landfill is now subject to 40 CFR Part 60, Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014". The requirements of this rule are nearly identical to 40 CFR Part 62, Subpart OOO. The permit was modified to include references to the new rule. Additionally, the general conditions in the permit were updated.

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
C1	Municipal Solid Waste Landfill, consisting of a 121-acre dump area.	NMOC, HAPs/TAPs	The emissions are controlled by a gas collection and control system, including a two stage LFG Specialties candlestick-type flare rated at 45 MMBtu/hr. Model # CF1238110. The two stage flare has minimum and maximum inlet air flow rates of 300 and 3,000 acfm, respectively. The gas duct for the smaller flare is attached to the duct of the larger flare and both flare burners are in the same wind enclosure. The flares are referred to as Flare 1 and 2 and can not operate at the same time. Flare 1 is the smaller flare and Flare 2 is the larger flare.
G1	One GE/Jenbacher electrical generator set, Model JGS 420, fired by landfill gas, with a maximum rated heat input capacity of 17 MMBtu/hr (engine output capacity 1,966 HP).	PM, PM-10, PM-2.5, NOx, CO, SO2, VOCs, HAPs/TAPs	Engine generator or genset produces electricity (1,466 kW or 1.466 MW) to be sold to the electric grid. Engine was manufactured in 2011. The engine was replaced in 2016 as a like for like replacement.
TG1	One Morbark Tub Grinder, Model 1200XL, fired by diesel fuel, with a maximum rated capacity of 750 HP	PM, PM-10, PM-2.5, NOx, CO, SO2, VOCs, HAPs/TAPs	
	One 1.0 million-gallon capacity leachate pond with a surface area of 30,000 ft^2	VOCs, HAPs/TAPs	This equipment meets the definition of insignificant activity pursuant to the AB Air Quality Code 17.0503 – "Definitions."

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	C1	As the design capacity is in excess of 2.5 million Mg and 2.5 million m^3 of refuse, the landfill is regulated as a Title V source per applicable requirement in to 40 CFR Part 60, Subpart XXX – "Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014" Section 60.762(c).
17.0700 – Toxic Air Pollutant Procedures	NA	The facility has not triggered a toxics review.
4.0524 – New Source Performance Standards	C1	Since the facility is expanding their disposal area, the facility is subject to 40 CFR Part 60, Subpart XXX – "Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014". The landfill was previously subject to 40 CFR Part 62, Subpart OOO – "Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014." The rules are nearly identical. Just like Subpart OOO, Subpart XXX stipulates that the landfill shall install and operate a gas collection and control system (GCCS) after NMOC emission rate equals or exceeds 34 Mg per year. Tier 2 testing is required by the Subpart at least every 5 years to determine when a GCCS is required. Tier 2 testing was last conducted on September 19, 2025. Based on the average NMOC concentration obtained from the Tier 2 testing, the revised NMOC emission rate was calculated to be 13.9 Mg/yr. This is below the threshold for installing a gas collection and control system per 40 CFR Part 60, Subpart XXX.

4.0524 – New Source Performance Standards	G1	The generator is subject to 40 CFR Part 60 Subpart JJJJ – "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines." The emission standards are specified in §60.4233(e), which states that for engines manufactured after 7/1/2010, the g/HP-hr standards are 2.0, 5.0, and 1.0 for NOx, CO, and VOC, respectively. This engine was replaced in 2016 with an identical rebuilt engine per DEQ inspection reports. The engine was tested within 60 days of replacement as required by the NSPS. Owners and operators that purchase an engine with an output rating of > 500 HP that has not been voluntarily certified by the manufacturer to meet applicable emissions limits as specified in the subpart (which is the case for G1) are required to conduct an initial performance test and subsequent performance testing every 3 years or 8,760 hours, whichever comes first. Owners and operators of these engines must also keep a maintenance plan and records of conducted maintenance, and must maintain and operate the engine in a manner consistent with good air pollution control practices for minimizing emissions. Compliance testing is conducted annually and was last conducted on February 18, 2025, and the source is meeting the standards.
4.0530 – Prevention of Significant Deterioration	NA	The facility does not have potential emissions above the applicability threshold of 250 tons per year for any criteria pollutant, nor is it one of the 28 source categories that has an applicability threshold of 100 tons per year for any criteria pollutant.
4.1110 – National Emission Standards for Hazardous Pollutants (40 CFR 61)	C1	The facility is subject to 40 CFR Part 61 Subpart M – National Emission Standard for Asbestos. These regulations include waste and management practices for this disposal of asbestos. A condition with these work practices was added to the permit.

4.1111 – MACT (40 CFR 63)	C1	At this time, the landfill is not subject to the municipal landfill MACT standard (40 CFR Part 63, Subpart AAAA: National Emission Standards for Hazardous Air Pollutants from Municipal Solid Waste Landfills) because it is not currently a major source of HAPs (greater than 10 tons per year (tpy) of a single HAP or 25 tpy of multiple HAPs), and the NMOC emission rate from the landfill does not exceed 50 Mg/yr. Furthermore, the leachate recirculation project at the landfill does not meet the definition of a bioreactor in the standard, because the landfill only recirculates leachate—no other liquids are added to accelerate and enhance the anaerobic biodegradation of the waste.
4.1111 – MACT (40 CFR 63)	G1	The generator is subject to 40 CFR Part 63, Subpart ZZZZ – "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines." NESHAPS Subpart ZZZZ is related to NSPS Subpart JJJJ and compliance with Subpart ZZZZ is achieved by compliance with Subpart JJJJ.
4.1111 – MACT (40 CFR 63)	TG-1	The tub grinder (TG1) is defined in 40 CFR 1068.30 as a nonroad engine since it is used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function. Therefore it is not subject to 40 CFR Part 63, Subpart ZZZZ – "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines."
4.0516 – Sulfur Dioxide Emissions from Combustion Sources	C1 and G1	Sulfur dioxide emissions shall be less than 2.3 MMBtu/hr from the flare and generator.
4.0521 – Control of Visible Emissions	C1 and G1	Visible emissions shall be less than 20% opacity from the flare and generator.
4.1806 – Control and Prohibition of Odorous Emissions	Entire Facility	The facility shall take adequate precautions to prevent odorous emissions from leaving the property boundaries.
4.0540 – Particulates from Fugitive Nonprocess Dust Emission Sources	Entire Facility	The facility shall be operated such that reasonable precautions are taken to prevent particulate matter from becoming airborne.
General Statue §62-133.8 (g) - Senate Bill 3 – Session Law 2007-397	G1	G1, a biomass combustion process that is otherwise not subject to the Best Available Control Technology (BACT) requirements of the PSD program, meets the definition of a "new renewable energy facility" and is required to meet state BACT. More details of the BACT analysis and determination are below in the notes section.

REGULATORY NOTES

In a previous permit modification, the permit was opened to incorporate the requirements of NC Senate Bill 3 – Session Law 2007-397 [General Statue §62-133.8 (g)], which includes a requirement for any

biomass combustion process that is otherwise not subject to the Best Available Control Technology (BACT) requirements of the PSD program and that is determined to be a "new renewable energy facility" to meet BACT. The BACT limits in the permit were modified by NC DAQ in 2016 to match the requirements of NSPS Subpart JJJJ. The pollutants covered under SB3 State BACT analysis are Carbon Monoxide (CO), Nitrogen Oxides (NOx), Particulate Matter (PM10/PM2.5), Volatile Organic Compounds (VOCs), Sulfur Dioxide (SO2), Lead (Pb), and Mercury (Hg). SB3 BACT shall be applied to emissions resulting from biomass combustion on a per pollutant basis. There is no significance level or lesser quantity cutoff at which SB3 would not be triggered.

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?**
C1, G1, TG1	2,3	Accept	NA	No

EMISSION NOTES

Actual emissions are based on the 2024 Air Emissions Inventory submitted by Buncombe County Landfill. Potential emissions were updated based on the application submittal. Actual and potential emissions were reviewed by AB Air Quality staff.

SECTION E

SUPPORTING DOCUMENTATION

(Provide brief description of any attachments)

1. Permit Application from BCSW
2. Draft Permit
3. Draft Permit Cover Letter