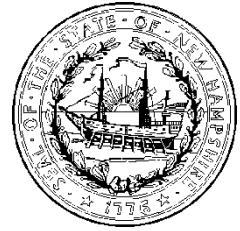


State of New Hampshire
Department of Environmental Services
Air Resources Division



TEMPORARY PERMIT

Permit No: TP-0268
Date Issued: December 10, 2020

This certifies that:

Waste Management of New Hampshire, Inc. (WMNH)
4 Liberty Lane
Hampton, NH 03842

has been granted a Temporary Permit for:

TLR-III Phases 15-17 at the following facility and location:

Turnkey Recycling and Environmental Enterprises (TREE)
176 Rochester Neck Road
Rochester, NH 03839

Facility ID No: 3301700003
Application No: 19-0248, received December 31, 2019

which includes devices that emit air pollutants into the ambient air as set forth in the permit application referenced above, which was filed with the New Hampshire Department of Environmental Services, Air Resources Division (department) in accordance with RSA 125-C of the New Hampshire Laws. Request for permit renewal must be received by the department at least 90 days prior to expiration of this permit and must be accompanied by the appropriate permit application forms.

This permit is valid upon issuance and expires on **June 30, 2022**.

Craig Wright
COPY

Director
Air Resources Division

ABBREVIATIONS

Btu	British thermal units
CAS	Chemical Abstracts Service
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
Env-A	New Hampshire Code of Administrative Rules – Air Resources Division
ft	foot or feet
ft ³	cubic feet
gal	gallon
HAP	Hazardous Air Pollutant
hr	hour
lb	pound
LFG	Landfill Gas
MM	million
GCCS	Gas Collection and Control System
MSW	Municipal Solid Waste
NHDES	New Hampshire Department of Environmental Services (department)
NMOC	Non-Methane Organic Compound
NO _x	Oxides of Nitrogen
NSPS	New Source Performance Standard
NNSR	Nonattainment New Source Review
PM ₁₀	Particulate Matter < 10 microns
ppm	parts per million
PSD	Prevention of Significant Deterioration
RSA	Revised Statutes Annotated
scf	standard cubic foot
SCFM	Standard Cubic Foot Per Minute
SO ₂	Sulfur Dioxide
TSP	Total Suspended Particulate
tpy	tons per consecutive 12-month period
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
XML	Extensible Markup Language

I. Facility Description

Turnkey Recycling and Environmental Enterprises (TREE), a subsidiary of Waste Management of New Hampshire, Inc. (WMNH), is an integrated solid waste management facility (the Facility) located on Rochester Neck Road, in Rochester, New Hampshire. The Facility has three landfills: TLR-I and TLR-II which are closed landfills; and TLR-III which commenced operation in December 1995 and continues as an active landfill. The Facility collects landfill gas (LFG) from all three landfills and operates several combustion and electrical generating devices to control, and produce energy from, the collected gas. TREE is required to obtain a Title V permit because it is a major source for NO_x, CO and SO₂. The facility is also required to obtain a Title V permit pursuant to 40 CFR 60 Subpart WWW.

The facility is currently operating under the following air permits:

- 1.) Title V Operating Permit TV-0062; this will expire on January 31, 2025.
- 2.) Temporary Permit TP-0250 (expires May 31, 2021).

II. Project Description

TREE submitted this application for a Temporary Permit to modify the existing TLR-III Phases 1-14 by constructing three additional phases of landfill development designated as Phases 15 – 17. The proposed modification will provide an additional 15.9 million cubic yards (equivalent to 15.2 Million Mg) of disposal capacity, bringing the total capacity of TLR-III to 49.7 Million Mg, and is projected to extend the site life of TLR-III by at least another 10 years until 2034. Upon commencement of construction of Phases 15 – 17, the three landfills (TLR-I, TLR-II and TLR-III) will become subject to 40 CFR 60 Subpart XXX, *Standards of Performance for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification after July 17, 2014*.

TREE is an existing synthetic minor source under Env-A 619, *Prevention of Significant Deterioration (PSD)*.

TREE is an existing major source under Env-A 618, *Nonattainment New Source Review (NNSR)* as potential NO_x emissions for the facility are greater than 100 tpy. TREE is required to maintain the device specific NO_x emission caps established under previous temporary permits and included in TV-0062. Facility-wide non-fugitive emissions of VOCs are limited to less than 49.9 tpy. Therefore, TREE is a synthetic minor source of VOC emissions under NNSR (i.e. fugitive VOC emissions do not count towards major source threshold because the facility does not belong to one of the stationary source categories listed in 40 CFR 51.165(a)(iv)(C)). This project is not a major modification under the NNSR program because emissions increases from the project are below the NNSR significance thresholds.

This Temporary Permit, TP-XXXX, includes new conditions associated with the project. Upon issuance of this permit, TREE shall comply with all unchanged terms and conditions of TV-0062, TP-0250 and all terms and conditions of this permit.

III. Emission Unit Identification

This permit covers the devices identified in Table 1:

Table 1 – Emission Unit Identification			
Emission Unit ID	Device or Area Source Name	Year Installed	Maximum Permitted Capacity/ Permitted Fuel Type(s)/Nominal Heat Input or Fuel Rate¹
EU22	TLR-I	1979	2.52 million Mg (Closed)
EU23	TLR-II	1990	3.48 million Mg (Closed)
EU24	TLR-III	1995	49.7 million Mg (Active)

IV. Pollution Control Equipment Identification

Air pollution control equipment listed in Table 2 shall be operated at all times when the collected landfill gas is routed to the device.

Table 2 - Pollution Control Equipment Identification			
Pollution Control Equipment ID	Description	Purpose	Emission Unit Controlled
PCE01	Flare No. 2 (EU02)	For control of NMOC and HAPs	EU22, EU23 and EU24
PCE02	Flare No. 3 (EU15)	For control of NMOC and HAPs	EU22, EU23 and EU24
PCE03	Flare No. 5 (EU19)	For control of NMOC and HAPs	EU22, EU23 and EU24
PCE04	Engine LFG Treatment System	For control of NMOC and HAPs	EU22, EU23 and EU24
PCE12	Turbine LFG Treatment System	For control of NMOC and HAPs	EU22, EU23 and EU24

¹ Maximum permitted capacity is stated in units of *scfm* for flares and units of *MMBtu/hr* for all other devices. Nominal heat input or fuel flow rate values are calculated on the basis of assumed higher heating values (HHV) of 550 Btu/scf for landfill gas.

V. Operational and Emission Limitations

The Owner or Operator shall be subject to the operating and emission limitations identified in Table 3 below:

Table 3 - Operating and Emission Limitations			
Item #	Applicable Requirements	Applicable Emission Unit	Regulatory Citation
1.	<p><u>Landfill Gas Collection System Requirements</u></p> <p>Within 30 months of submitting the <i>NMOC Emission Rate Report</i> required in Table 6, Item 2, install and start up a collection and control system, in accordance with the <i>Collection and Control System Design Plan</i> submitted pursuant to Table 6, Item 3, that captures the gas generated within the landfill.</p>	EU22 – EU24	40 CFR 60.762(b)(2)(ii) Subpart XXX
2.	<p><u>Landfill Gas Control System Requirements</u></p> <p>a. Upon startup of the landfill gas collection system required in Table 3, Item 1, route all the collected gas to a control system that complies with one of the following:</p> <ul style="list-style-type: none"> i. Open flares shall be designed and operated in accordance with §60.18 except as noted in §60.764(e); or ii. The enclosed combustion device shall either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen; or iii. Route the collected gas to a treatment system² that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel or production of high-Btu gas for pipeline injection. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to Table 3, Items 2.a.i or 2.a.ii. <p>b. The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment.</p>	EU22 – EU24	40 CFR 60.762(b)(2)(iii) and 60.769(c) Subpart XXX

² Treatment system means a system that filters, dewateres and compresses landfill gas.

VI. Monitoring and Testing Requirements

The Owner or Operator is subject to the monitoring and testing requirements as contained in Table 4 below:

Table 4 - Monitoring/Testing Requirements

Item #	Parameter	Method of Compliance	Frequency of Method	Applicable Emission Unit	Regulatory Citation
1.	NMOC Emission Rate	<p><u>Tier 1 NMOC Emission Rate</u></p> <p>Calculate the NMOC emission rate using the following equation³:</p> $M_{NMOC} = \sum_{i=1}^i (2kL_oM_i)e^{-kt}C_{NMOC}(3.6 \times 10^{-9})$ <p>Where:</p> <p>M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year.</p> <p>k = 0.05 yr⁻¹, methane generation constant.</p> <p>L_o = 170 cubic meters per megagram, methane generation potential.</p> <p>M_i = Mass of solid waste in the ith section, megagrams.⁴</p> <p>t_i = Age of the ith section, years.</p> <p>C_{NMOC} = 4,000 ppmv as hexane, concentration of NMOC by volume as hexane.</p> <p>3.6×10^{-9} = Conversion factor.</p>	Pursuant to Table 6, Item 2 and as required	EU22 – EU24	40 CFR 60.764(a)(1) (Subpart XXX)
2.	Landfill Gas Treatment	Maintain and operate all monitoring systems associated with the treatment system in accordance with the <i>Site-Specific Treatment System Monitoring Plan</i> , included in the Collection and Control System Design Plan, as required in Table 5, Item 1.	As specified in the <i>Site-Specific Treatment System Monitoring Plan</i>	EU22 – EU24	40 CFR 60.766(g) (Subpart XXX)

³ This equation is used for the limited purposes of determining the applicability of certain requirements under 40 CFR 60, Sub part XXX.

⁴ The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if documentation of the nature and amount of such wastes is maintained.

VII. Recordkeeping Requirements

The Owner or Operator shall be subject to the recordkeeping requirements identified in Table 5 below:

Table 5 - Applicable Recordkeeping Requirements				
Item #	Applicable Recordkeeping Requirement	Records Retention/ Frequency	Applicable Emission Unit	Regulatory Citation
1.	<p><u>Site-Specific Treatment Monitoring Plan⁵ that is contained in the Collection and Control System Design Plan</u></p> <p>The owner or operator shall develop a site-specific treatment monitoring plan to include the following:</p> <ul style="list-style-type: none"> a. Monitoring records of parameters that are identified in the plan that ensure the treatment system is operating properly for each intended end use of the gas. At a minimum, the records should include records of filtration, de-watering, and compression parameters. b. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer’s recommendations or engineering analysis for each intended use of the treated landfill gas. c. Documentation of the monitoring methods and ranges, along with justification for their use. d. Identify who is responsible (by job title) for data collection. e. Processes and methods used to collect the necessary data. f. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems. 	Submit with the Collection and Control System Design Plan required in Table 6, Item 3	EU22 – EU24	40 CFR 60.768(b)(5)(ii) (Subpart XXX)

⁵ The plan shall address treatment activities conducted at the engine and turbine plants (PCE04 and PCE12) and the Landfill Gas to Energy facility operated by the University of New Hampshire (AFS# 3301700009).

Table 5 - Applicable Recordkeeping Requirements				
Item #	Applicable Recordkeeping Requirement	Records Retention/ Frequency	Applicable Emission Unit	Regulatory Citation
2.	<p><u>Reasonable Possibility Recordkeeping</u></p> <p>a. Before beginning actual construction of the project, maintain a record of the following information:</p> <p>i. A description of the project;</p> <p>ii. Identification of the emission units whose emissions of NOx could be affected by the project; and</p> <p>iii. A description of the applicability test used to determine that the project is not a major modification, including the baseline actual emissions, and the projected actual emissions.</p> <p>b. Monitor NOx emissions emitted by the emissions units identified in Table 5, Item 2.a.ii. and calculate and maintain a record of the annual emissions, in tons per year, on a calendar year basis, for a period of 5 years following resumption of regular operations after the change.</p>	As specified	Any emission units identified in Table 5, Item 2a.ii	Env-A 618 40 CFR 51.165(a)(6)(i) and (iii) (Subpart I)

VIII. Reporting Requirements

- A. Pursuant to Env-C 203.02(b), *Date of Issuance or Filing*, written documents shall be deemed to have been filed with or received by the department on the actual date of receipt by the department, as evidenced by a date stamp placed on the document by the department in the normal course of business.
- B. All emissions data submitted to the department shall be available to the public. Claims of confidentiality for any other information required to be submitted to the department pursuant to this permit shall be made at the time of submission in accordance with Env-C 208.04, *Initial Claim of Confidentiality*.
- C. The owner or operator shall be subject to the reporting requirements identified in Table 6 below.

Table 6 - Reporting Requirements				
Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
1.	<p><u>Initial Design Capacity Report</u></p> <p>Submit to the USEPA and the department an Initial Design Capacity Report⁶.</p>	Within 90 days of commencement of construction of Phases 15 - 17	EU22 – EU24	40 CFR 60.767(a) (Subpart XXX)

⁶ The Initial Design Capacity Report fulfills the requirements of the notification of the date construction is commenced as required by §60.7(a)(1).

Table 6 - Reporting Requirements

Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
2.	<u>NMOC Emission Rate Report</u> Submit to the USEPA and the department an NMOC Emission Rate Report, following the procedure specified in Table 6, Item 6.	Within 90 days of commencement of construction of Phases 15 – 17 and annually thereafter ⁷	EU22 – EU24	40 CFR 60.767(b) (Subpart XXX)
3.	<u>Collection and Control System Design Plan</u> Submit to the USEPA and the department for review and approval a Collection and Control System Design Plan, which includes a <i>Site-Specific Treatment Monitoring Plan</i> .	Within 1 year following submission of the NMOC Emission Rate Report required in Table 6, Item 2	EU22 – EU24	40 CFR 60.767(c) (Subpart XXX)
4.	<u>Liquids Addition Reporting</u> The owner or operator of an affected landfill that has employed leachate recirculation or added liquids within the last 10 years must submit, annually, following the procedure specified in Table 6, Item 6, the following information: a. Volume of leachate recirculated (gallons per year); b. Total volume of all other liquids added (gallons per year); c. Surface area (acres) over which the leachate is recirculated (or otherwise applied); d. Surface area (acres) over which any other liquids are applied; e. The total waste disposed (megagrams) in the areas with recirculated leachate and/or added liquids based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates; f. The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate and/or added liquids, based on on-site records to the extent data are available, or engineering estimates; g. The initial report must contain the information in Table 6, Item 4 a. through f. for the initial annual reporting period as well as for each of the previous 10 years, to the extent historical data is available.	Annually, the first report shall be due no later than 13 months after commencement of construction of Phases 15 - 17	EU22 – EU24	40 CFR 60.767(k) (Subpart XXX)

⁷ In accordance with §60.767(b)(3), each owner or operator is exempt from the requirement to submit an NMOC emission rate report after installing and operating a collection and control system that complies with §§60.762(b)(2), 60.763 and 60.765.

Table 6 - Reporting Requirements				
Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
	h. Subsequent annual reports must contain the information specified in Table 6, Item 4a. through f. for the 365-day period following the 365-day period included in the previous annual report. The report must be submitted no later than 365 days after the date the previous report was submitted.			
5.	<p><u>Reasonable Possibility Reporting</u> Submit a report to the department if the annual NOx emissions recorded in Table 5, Item 2.b exceed the baseline actual emissions by a significant amount⁸, and if NOx emissions differ from the preconstruction projection documented in Table 5, Item 2.a.iii. The report shall include the following information:</p> <ul style="list-style-type: none"> a. The name, address and telephone number of the Facility; b. The annual emissions as calculated pursuant to Table 5, Item 2.b; c. Any other information that the owner or operator wishes to include in the report (e.g. an explanation as to why the emissions differ from the preconstruction projection). 	Submit the department within 60 days after the end of such year	Emission units identified in Table 5, Item 2a.ii	Env-A 618 40 CFR 51.165(a)(6)(v)

⁸ Pursuant to §51.165(a)(1)(x), a significant amount for NOx is 40 tpy.

Table 6 - Reporting Requirements

Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
6.	<p><u><i>Electronic Reporting</i></u> The owner or operator must submit reports, when specified, to the USEPA via the CEDRI. (CEDRI can be accessed through the USEPA's CDX.) The owner or operator must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI Web site (https://www3.epa.gov/ttn/chief/cedri/index.html). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the owner or operator must submit the report to the USEPA and the department at the following addresses:</p> <p style="padding-left: 40px;">Director, Enforcement and Compliance Assurance Division U.S. EPA Region 1 5 Post Office Square Suite 100 (04-2) Boston, MA 02109-3912 Attn: Air Compliance Clerk</p> <p style="padding-left: 40px;">NHDES Air Resources Division 29 Hazen Drive P.O. Box 95 Concord, NH 03302-0095 Attn: Compliance Measurement and Data Programs</p> <p>Once the form has been available in CEDRI for 90 calendar days, the owner or operator must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this permit, regardless of the method in which the reports are submitted.</p>	As specified	EU22 – EU24	40 CFR 60.767(i)(2) (Subpart XXX)