The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

September 8, 2021

Frederick McNeil
Chief Engineer
City of Manchester – Highway Department – EPD
300 Winston Street
Manchester, NH 03101

RE: Compliance Evaluation Report

Dear Mr. McNeil:

The New Hampshire Department of Environmental Services, Air Resources Division has completed a full compliance evaluation of the City of Manchester, Highway Department, Environmental Protection Division, located in Manchester, New Hampshire. The purpose of the evaluation was to determine the City of Manchester's compliance with Title V Permit to Operate No. TV-0066 and the N.H. Code Admin. Rules, Env-A 100 *et seq.* This is a copy of the compliance evaluation report for your review and records.

Please note that this compliance evaluation pertains only to N.H. Code Admin. Rules, Env-A 100 *et seq.* as they relate to your air permit. Any compliance determination made with respect to the air rules does not in any way imply compliance with any other applicable environmental rules or laws.

NHDES identified a deficiency during this compliance evaluation, as detailed in the report.

If you have any questions, please contact David Smith at (603) 271-1987 or by email at david.smith@des.nh.gov

Sincerely,

David Smith
Senior Compliance Assessment Engineer
Air Resources Division

ec: Mayor, City of Manchester, One City Hall Plaza, Manchester, NH 03101
Robert Robinson, City of Manchester, Highway Dept. – EPD, 300 Winston St, Manchester, NH 03103

Abbreviations and Acronyms

AAL	Ambient Air Limit
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
Btu	British thermal units
CAA	Clean Air Act
CAS	Chemical Abstracts Service
Cd	cadmium
CEMS	Continuous Emission Monitoring System
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CMS	Continuous Monitoring System
CO	Carbon Monoxide
dscm	dry standard cubic meter
Env-A	New Hampshire Code of Administrative Rules – Air Resources Division
ERT	USEPA's Electronic Reporting Tool
ft^3	cubic feet
gal	gallon
GFAAS	graphite furnace atomic absorption spectroscopy
HAP	Hazardous Air Pollutant (defined in Section 112 of the 1990 Clean Air Act Amendments)
HCl	hydrogen chloride
Hg	mercury
hp	horsepower
hr	hour
H_2S	hydrogen sulfide
ICP/MS	inductively coupled plasma mass spectrometry
kg	kilogram
kW	kilowatt
lb	pound
mg	milligram
MGD	million gallons per day
MM	million
ng	nanogram
NHDES	New Hampshire Department of Environmental Services (the Department)
NOx	Oxides of Nitrogen
Pb	lead
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter < 2.5 microns
PM_{10}	Particulate Matter < 10 microns
ppmvd	parts per million by volume, dry
PTC	performance test code
RSA	Revised Statues Annotated

RTAP	Regulated Toxic Air Pollutant
SCADA	supervisory control and data acquisition
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SPC	sorbent polymer composite
SSI	Sewage Sludge Incinerator
SSMP	Site-Specific Monitoring Plan
tpy	tons per consecutive 12-month period
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WWTP	wastewater treatment plant

I. Facility Description

NHDES conducted an on-site full compliance evaluation of the City of Manchester, Highway Department – EPD (MWWTP) located at 300 Winston St, Manchester, NH, and the results are presented herein. NHDES discussed the purpose of the inspection as well as the rules pertaining to claims of confidentiality and facility safety concerns. MWWTP agreed to the inspection and authorized access to the facility. Material provided and operations conducted by the facility at the time of the evaluation were not claimed as confidential. The evaluation covers the period August 17, 2017 through August 26, 2021.

Manchester Wastewater Treatment Plant is a regional wastewater treatment facility, owned by the City of Manchester, Highway Department, Environmental Protection Division, that treats wastewater prior to discharging treated effluent to the Merrimack River. The wastewater treatment plant currently receives flows from Manchester, as well as the towns of Londonderry, Bedford, and Goffstown. The WWTP currently treats an average of 34 million gallons per day (MGD) of wastewater and has a design capacity of 56 MGD. In addition, sewage sludge and septage (from the member communities listed and other surrounding communities) are treated at the WWTP.

Sources of air emissions at the facility that meet the permit applicability criteria of Env-A 607.01 include the fluidized bed sewage sludge incinerator (SSI), four emergency stationary combustion turbines, and two biofilters for control of hydrogen sulfide (H_2S) from the primary clarifiers and from the first basin in each of the four aeration treatment system trains.

The Facility is a synthetic minor source for nitrogen oxides (NOx) based on operational limitations in the permit to reduce permitted NOx levels below 50 tpy. The Facility is a true minor source for sulfur dioxide (SO_2), particulate matter less than 10 microns (PM_{10}), carbon monoxide (CO), and volatile organic compounds (VOCs). The Facility is an area source for hazardous air pollutants (HAPs). The Facility is required to obtain a Title V operating permit as a SSI subject to the federal plan requirements in 40 CFR 62, Subpart LLL.

It should be noted that MWWTP entered into a Consent Decree with the United States EPA in August of 2018 in order to bring the facility into compliance with 40 CFR Part 62, Subpart LLL. At the time of the Consent Decree, and in the time period following, the facility was operating under SP-0267 and TP-0248. Additionally, the facility was in the process of conducting multiple stack tests to determine operating limits, specifically sewage sludge feed rate and fluidized bed incinerator operating temperatures, that were achievable from both an operational and compliance standpoint. While those requirements and historical activities were reviewed for this inspection, the primary focus of the current evaluation was to determine compliance with the Title V operating permit, TV-0066, which was issued June 2, 2021. The Title V permit operating limits were determined from the last round of stack testing conducted in December of 2020.

Facility Name and Address	City of Manchester – Highway Department - EPD 300 Winston St Manchester, NH 03101
County	Hillsborough
Telephone	603-624-6421
AFS#	3301100089
Source Type	Title V
Inspection Date / Time	August 26, 2021 9:00 a.m.
Inspection Type	State On-Site Full Compliance Evaluation
Inspection Period	August 17, 2017 – August 26, 2021
Weather	93 degrees, sunny, mild wind from the northwest
Inspected by	David Smith, Senior Compliance Assessment Engineer
Source Contact(s)	Frederick McNeill, Chief Engineer Robert Robinson, Plant Superintendent David St Armand, Chief Operator
Last Inspection	August 16, 2017

Results from the last inspection are as follows:

1. The facility failed to record the oxygen content of the EU01 exhaust gas on multiple occasions.
2. The facility failed to track the natural gas used in the secondary preheat burner on EU01.
3. The facility's annual emission reports were missing several pieces of data.

NHDES provided the facility compliance assistance during the inspection and the facility demonstrated compliance with the identified deficiencies. On February 26, 2018 NHDES made the decision not to issue an enforcement action to the facility regarding those deficiencies identified in the inspection.

The table below lists the permitting timeline and the effective periods of each permit / application covering the evaluation period.

Permitting / Application Timeline			
Permit	TV-0066	Issued	June 2, 2021
		Expires	May 31, 2026
Permit	TP-0248	Issued	October 16, 2019
		Expired	April 30, 2021
Permit	SP-0267	Issued	December 30, 2013
		Expired	December 31, 2018

II. Emission Unit Identification

Table 1 lists the permitted emissions units for the facility from Title V Operating Permit TV-0066, as verified by NHDES.

Table 1 - Significant Activities			
Emission Unit ID	**Description of Emission Unit**	**Installation Date**	**Maximum Design/Permitted Capacity**
EU01	Fluidized Bed Sewage Sludge Incinerator Zimpro Model Fluidized Bed Incinerator	1994	3500 dry lbs/hr sludge and 110 dry lbs/hr scum (equivalent to 7.22 wet tons/hr) 4 Primary burners: 4.5 MMBtu/hr each, equivalent to 32 gal/hr of #2 fuel oil each. Secondary burner: 8 MMBtu/hr, equivalent to 57 gal/hr of #2 fuel oil or 131 ft^3/min of natural gas.
EU04	Emergency Generator #2 (G2) Solar (Harvester) Turbine GEI-SA-EM S428717	April 1976	12.6 MMBtu/hr (900 kW; 1,207 hp) #2 fuel oil – equivalent to 90 gal/hr
EU05	Emergency Generator #3 (G3) Solar (Harvester) Turbine GEI-SA-EM S428718	April 1976	12.6 MMBtu/hr (900 kW; 1,207 hp) #2 fuel oil – equivalent to 90 gal/hr
EU06	Emergency Generator #4 Crescent Road Pump Station (G4) Solar (Harvester) Turbine GSE-1000 S431098	April 1976	12.6 MMBtu/hr (900 kW; 1,207 hp) #2 fuel oil – equivalent to 90 gal/hr
EU07	Emergency Generator #5 Crescent Road Pump Station (G5) Solar (Harvester) Turbine GSE-1000 S431099	April 1976	12.6 MMBtu/hr (900 kW; 1,207 hp) #2 fuel oil – equivalent to 90 gal/hr
EU08	The first basin in each of 4 aeration treatment system trains (anoxic/anaerobic zones)	1976	42 MGD of wastewater
EU09	Primary Clarifiers	1976	72 MGD of wastewater

The table below lists the facility-wide reported emissions for the review period.

Year	Particulate Matter (tpy)	Sulfur Dioxide (tpy)	Nitrogen Oxides (tpy)	Carbon Monoxide (tpy)	NMVOCs (tpy)	Non-VOC HAPs/ RTAPs	Total Emissions (tpy)
Limits	---	---	**50**	---	---	---	N/A
2020	0.23	0.04	7.25	1.58	1.03	0.14	10.27
2019	0.15	0.03	5.86	0.26	1.02	0.29	7.62
2018	0.49	2.05	2.17	0.01	0.05	0.57	5.34
2017	0.67	3.44	3.38	0.23	0.06	0.67	8.46

III. Stack Criteria

Table 2 lists the stack associated with the permitted emission units from Title V Operating Permit TV-0066 and requires that the stack be vertical and unobstructed, as verified by NHDES during the inspection.

Table 2 – Stack Criteria

Stack #	Emission Unit ID	Minimum Height (feet above ground surface)	Maximum Exit Diameter (feet)
Stack 1	EU01	121.5	1.67

IV. Air Pollution Control Unit Identification

Table 3, taken from TV-0066 lists the air pollution control devices that shall be operated at all times when the associated device is operating in order to meet permit conditions, as verified by NHDES during the inspection.

Table 3 – Pollution Control Equipment Identification

Pollution Control Equipment ID	Description	Purpose	Emission Unit Controlled
PCE01	Biofilter 50' x 150' 22,000 cfm	Control of H_2S	EU08
PCE02	Biofilter 50' x 150' 22,000 cfm	Control of H_2S	EU09
PCE03	Venturi Scrubber	Control of particulate matter (PM), cadmium (Cd) and lead (Pb) emissions	EU01

Table 3 – Pollution Control Equipment Identification			
Pollution Control Equipment ID	**Description**	**Purpose**	**Emission Unit Controlled**
PCE04	Impingement Tray Scrubber	Control PM, Cd, Pb, SO_2 and hydrogen chloride (HCl) emissions	EU01
PCE05	Gore/ECI Sorbent Polymer Composite (SPC)	Control of mercury (Hg)	EU01

V. Compliance with Operating and Emission Limits

Table 4, below taken from permit TV-0066 lists the State-only Operating and Emission Limitations for the facility and any deficiencies noted during the evaluation.

Table 4 – State Requirement Enforceable Operational and Emission Limitations				
Item #	**Applicable Requirements**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
1.	***24-hour and Annual Ambient Air Limit*** The emissions of any Regulated Toxic Air Pollutant (RTAP) shall not cause an exceedance of its associated 24-hour or annual Ambient Air Limit (AAL) as set forth in Env-A 1450.01, *Table of All Regulated Toxic Air Pollutants.*	Facility wide	Env-A 1400	**Yes**
2.	***RTAP Operating Limitations*** Emissions of H_2S from wastewater treatment operations shall be controlled using biofilters as specified in Table 3 to maintain compliance with the associated 24-hour and annual AALs as set forth in Env-A 1450.01, *Table of All Regulated Toxic Air Pollutants.*	EU08 & EU09	Env-A 1400	**Yes**
3.	***Revisions of the List of RTAPs*** In accordance with RSA 125-I:5 IV, if the Department revises the list of RTAPs or their respective AALs or classifications in RSA 125 I:4, II and III, and as a result of such revision the Owner or Operator is required to obtain or modify the Permit under the provisions of RSA 125-I or RSA 125-C, the Owner or Operator shall have 90 days following publication of notice of such final revision in the New Hampshire Rulemaking Register to file a complete application for such Permit or Permit modification.	Facility wide	Env-A 1404.02	**Noted**
Finding: MWWTP demonstrated compliance using the January 5, 2018 revision to Env-A 1400 as a component of its Title V permit application. Therefore, it was not required to obtain a permit or modify the existing permit.				
4.	***Sulfur Limits of No. 2 Fuel Oil*** Sulfur content of the No. 2 oil shall not exceed 0.0015% by weight.	EU01, EU04-EU07	Env-A 1603.03	**Yes**

Table 5, below taken from permit TV-0066 lists the federally enforceable Operating and Emission Limitations for the facility and any deficiencies noted during the evaluation.

Table 5 – Federally Enforceable Operational and Emission Limitations				
Item #	**Applicable Requirement**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
1.	***Facility Wide NOx Emission Limitation*** The total NOx emissions from the Facility shall not exceed 50 tons during any consecutive 12-month period.	EU01 & EU04-EU09	TP-C-0084	**Yes**
2.	***Operating Limitations SSI – Maximum Allowable Sludge Feed Rate*** Incineration of sludge and scum combined shall be limited to the following: a. The sludge feed rate shall be limited to less than or equal to 6.2 wet tons per hour of sludge and scum combined; and b. 44,330 wet tons per 12-consecutive month period of sludge and scum combined; or c. If the most recent successful performance test, performed pursuant to 40 CFR Part 62.16015, was conducted at less than 85% of 6.2 wet tons per hour sludge and scum combined, then throughput will be limited to 110% of the average feed rate, in wet tons per hour measured during the test, from the time of the test until a following successful test is conducted.	EU01	TP-0248 & 40 CFR Part §62.16015	**Yes**
Findings: MWWTP demonstrates compliance using c. above. The most recent stack test conducted in December 2020 was performed at 4.42 wet tons per hour (wtph), which is less than 85% of 6.2 wtph. Therefore, the current throughput limit is set to 110% of 4.42 wtph, or 4.86 wtph. MWWTP is in compliance with this limit.				
3.	***Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970*** The average opacity from fuel burning devices installed after May 13, 1970 shall not exceed 20% for any continuous 6-minute period.	EU04-EU07	Env-A 2002.02 (formerly Env-A 1202 effective 12-27-90)	**Unknown**
Findings: EU04 – EU07 were not in operation during the inspection, therefore opacity could not be determined.				
4.	***Particulate Emission Standards for Fuel Burning Devices Installed After May 13, 1970, but before January 1, 1985*** The PM emissions from fuel burning devices installed after May 13, 1970, but before January 1, 1985 shall not exceed 0.57 lb/MMBtu.	EU04-EU07	Env-A 2003.02 (formerly Env-A 1202 effective 12-27-90)	**Yes**
Findings: Compliance with particulate emission standards is verified through stack testing, which has not been required for these devices, to date. However, at the time the permit was issued, NHDES had sufficient information to indicate that under normal operating conditions, these devices are capable of meeting the particulate matter standard.				
5.	***Visible Emission Standards***	EU08 and EU09	Env-A 2103.02	**Yes**

Table 5 – Federally Enforceable Operational and Emission Limitations

Item #	Applicable Requirement	Applicable Emission Unit	Regulatory Basis	Compliant
	The average opacity shall not exceed 20% for any continuous 6-minute period.			
6.	***Emergency Generator*** Each emergency generator shall be limited to 120 hours of operation during any consecutive 12-month period.	EU04 – EU07	FS-S-0240	**Yes**
7.	***40 CFR 60, Subpart O – Standards of Performance for Sewage Treatment Plants - Standard for Particulate Matter*** The sewage sludge incinerator shall be limited to: a. Particulate matter emissions of 0.65 g/kg dry sludge input (1.30 lb/ton dry sludge input); and b. Opacity shall not exceed 20 percent for any continuous 6-minute period.	EU01	40 CFR 60 Subpart O §60.152	**Yes**
Findings: Stack testing was most recently conducted on EU01 December 15 – 18, 2020. The results of the stack testing demonstrated compliance with the above limit.				
8.	***40 CFR 61, Subpart C - National Emission Standard for Beryllium*** Emissions from the sewage sludge incinerator shall not exceed 10 grams (0.022 lb) of beryllium over a 24-hour period.	EU01	40 CFR 61 Subpart C §61.32	**Yes**
9.	***40 CFR 61, Subpart E - National Emission Standard for Mercury*** Emissions from the sewage sludge incinerator shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.	EU01	40 CFR 61 Subpart E §61.52(b)	**Yes**
10.	***SSI Emission Limits*** The following emission limits must be met at all times the unit is operating including periods of startup, shutdown and malfunction. **Pollutant** / **Limit (Corrected to 7%O_2)** PM: 18 mg/dscm HCl: 0.51 ppmvd CO: 64 ppmvd Dioxins/Furans: 1.2 ng/dscm (total mass) or 0.10 ng/dscm (toxic equivalency) Hg: 0.037 mg/dscm NOx: 150 ppmvd SO_2: 15 ppmvd Cd: 0.0016 mg/dscm	EU01	40 CFR Part 62 Subpart LLL §62.15955 Table 2 & §62.15970	**Yes**

Table 5 – Federally Enforceable Operational and Emission Limitations				
Item #	**Applicable Requirement**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	Pb: 0.0074 mg/dscm Visible emissions from ash handling: <5% of any compliance test hourly observation period			
Findings: Stack testing was most recently conducted on EU01 December 15 – 18 2020. The results of the stack testing demonstrated compliance with the above limit.				
11.	***Operating Limits for SSI Controls*** a. The following operating limits and requirements, as established during the most recent compliant *Performance Test*, must be met at all times sewage sludge is in the combustion chamber: 1. Minimum SSI freeboard temperature; 2. Maximum SSI freeboard temperature; 3. Minimum pressure drop across venturi scrubber; 4. Minimum pressure drop across the tray scrubber; 5. Minimum total venturi scrubber liquid flow rate; 6. Minimum total tray scrubber liquid flow rate; and 7. Minimum scrubber liquid pH, upper and lower tray; b. The following operating limits and requirements from the *Site-Specific Monitoring Plan* (*SSMP*) must be met at all times sewage sludge is in the combustion chamber: 1. The inlet temperature to the mercury control system is no greater than 180 °F on a 12-hour block average (calendar day); 2. The pressure drop across the mercury control system is no greater than 4 inches of water column on a 12-hour block average (calendar day); 3. As measured on a quarterly basis, the mercury removal across the mercury control system is no less than 70% when the outlet concentration of mercury is greater than 0.03 mg/m3. c. The following requirement from the *SSMP* must be met at all times: 1. Ash from the SSI will be maintained in a totally enclosed and/or wet handling system.	EU01	40 CFR Part 62 Subpart LLL §62.15960	**No**
Findings: MWWTP submitted a single deviation of the minimum SSI freeboard temperature which occurred on June 19, 2021. See section IX. Permit Deviations for further information.				

Table 5 – Federally Enforceable Operational and Emission Limitations				
Item #	**Applicable Requirement**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
12.	***Continuous Monitoring System (CMS)*** The Owner or Operator shall: a. Install, operate, calibrate and maintain the CMS according to the *SSMP;* b. Collect data at all times the SSI is operating and at the intervals specified in the monitoring plan except for periods of monitoring malfunctions, repairs to address malfunctions or required quality assurance or quality control activities; c. Report any deviations from monitoring requirements for periods when data is not collected, other than during a monitoring system malfunction, in a deviation report; and d. Omit data recorded during malfunctions, associated repairs, and required quality assurance and control activities from calculations used to report emissions or operating levels.	EU01, PCE03-PCE05	40 CFR Part 62 Subpart LLL §62.16020	**Yes**
13.	***Operator Training and Qualification*** a. The SSI unit must be operated by a fully trained and qualified SSI unit operator or someone supervised by a trained operator. A trained operator must be at the Facility or able to reach the Facility within 1 hour; b. Operator training must be obtained through a state-approved program or a course that includes the following; 1. Training on the 10 subjects below: i. Environmental concerns including types of emissions; ii. Basic combustion principles, including products of combustion; iii. Operation of the specific type of incinerator in use, including proper startup, sewage sludge feeding and shutdown procedures; iv. Combustion controls and monitoring; v. Operation of air pollution controls and factors affecting performance; vi. Inspection and maintenance of the incinerator and air pollution control devices; vii. Actions to prevent malfunctions or to prevent conditions leading to malfunctions; viii. Bottom and fly ash characteristics and handling procedures; ix. Applicable federal, state and local regulations including OSHA workplace standards; and x. Pollution prevention.	EU01	40 CFR Part 62 Subpart LLL §62.15920, §62.15925, §62.15935 & §62.15940	**Yes**

Table 5 – Federally Enforceable Operational and Emission Limitations				
Item #	**Applicable Requirement**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	2. An examination on the topics above designed and administered by the state-approved program or instructor administering the training; 3. Written material covering the training topics that may serve as reference materials after course completion. c. Operator training must be completed by the final compliance date or within 6 months after the employee assumes responsibilities to operate or supervise SSI operation, whichever is later; d. Operators must complete an annual review or refresher course including, at a minimum, the following topics: 1. Update of regulations; 2. Incinerator operation, including startup and shutdown procedures, sewage sludge feeding and ash handling; 3. Inspection and maintenance; 4. Prevention of malfunctions or conditions that may lead to malfunction; and 5. Discussion of operating problems encountered by attendees. e. Lapsed operator qualifications may be renewed by: 1. Completing a standard annual refresher for a lapse less than 3 years; or 2. Repeating the initial operator training for a lapse over 3 years.			
14.	***Temporary Non-accessibility of Qualified Operators*** a. If a qualified operator cannot be at the Facility within 1 hour, the SSI unit may be operated for less than 2 weeks by other plant personnel who are familiar with SSI operation and have completed an annual review of training information when a qualified operator is not accessible for more than 8 hours. A record must be made of the period of non-accessibility of a qualified operator and reported as a deviation in the Annual Compliance Report; b. In cases where a qualified operator is not accessible for 2 weeks or more, follow *Qualified Operator Deviation* reporting requirements in Table 8.	EU01	40 CFR Part 62 Subpart LLL §62.15945	**Noted**
Findings: During the evaluation period there were no cases where a qualified operator was not onsite.				

Table 5 – Federally Enforceable Operational and Emission Limitations				
Item #	**Applicable Requirement**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
15.	***Permit Deviations*** In the event of a permit deviation, the Owner or Operator of the affected device, process, or air pollution control equipment shall investigate and take corrective action immediately upon discovery of the permit deviation to restore the affected device, process, or air pollution control equipment to within allowable permit levels.	EU01, EU08-EU09	Env-A 911.03	**Yes**

VI. Compliance with Monitoring and Testing Requirements

Table 6, below taken from permit TV-0066 lists the Monitoring and Testing Requirements for the facility and any deficiencies noted during the evaluation.

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
1.	To Be Determined	When conditions warrant, the Department may require the Owner or Operator to conduct stack testing in accordance with USEPA or other Department approved methods.	Upon request by the Department	Facility wide	RSA 125-C:6, XI	**Yes**
2.	Sulfur Content of Liquid Fuels	Conduct testing in accordance with appropriate ASTM test methods or retain documentation in accordance with Table 7, Item 5 in order to demonstrate compliance with the sulfur content limitation provisions specified in this permit for liquid fuels.	For each delivery of fuel oil to the Facility	Facility wide	Env-A 806.02 and Env-A 806.05	**Yes**
3.	Monitoring of Air Pollution Control Equipment	The control equipment shall be maintained in good working order and, at a minimum, the Owner or Operator shall maintain, monitor and operate the biofilters as described in the site-specific *Air Pollution Control Monitoring Plan* submitted with permit application 14-0141 and updated in accordance with Table 8, Item 17.	As noted	PCE01, PCE02	40 CFR 70.6(a)(3)	**Yes**

Table 6 – Monitoring and Test Requirements

Item #	Parameter	Method of Compliance	Frequency of Method	Applicable Emission Unit	Regulatory Basis	Compliant
4.	Performance Test Methods	Conduct a *Performance Test* to demonstrate compliance with *SSI Emission Limits* using the averaging methods, sampling volumes, and methods below, or any alternative method approved by the Department in accordance with Env-A 809. Major alternatives to test methods must be approved by USEPA Region 1.	11-13 months after previous test or no more than 37 months after previous test if using criteria in Table 6, Item 9; or to establish new operating limits; or 60 days after process change	EU01	40 CFR Part 62 Subpart LLL §62.15980 & §62.15985	**Yes**

Pollutant	Averaging/ Sample volumes	Test Methods
Particulate Matter	3-run average Minimum (Min) volume of 1 dscm/run	5, 26A or 29
Hydrogen Chloride	3-run average Min volume of 1 dscm/run	26A
CO	3-run average Min volume of 1 dscm/run	10, 10A or 10B
Dioxins/ Furans	3-run average Min volume of 1 dscm/run	23
Hg	3-run average Method 29: Min volume of 1 dscm/run	29, 30B or ASTM D6784-02

Table 6 – Monitoring and Test Requirements

Item #	Parameter	Method of Compliance	Frequency of Method	Applicable Emission Unit	Regulatory Basis	Compliant
		<table><tr><td></td><td>Method 30B: refer to 40 CFR Part 60 App A-8</td><td></td></tr><tr><td>NOx</td><td>3-run average 1 hr Min</td><td>7 or 7E</td></tr><tr><td>SO_2</td><td>3-run average Method 6: Min volume of 60 L/run Method 6C: 1 hr/run</td><td>6 or 6C or ANSI/ ASME PTC-9.10-1981</td></tr><tr><td>Cd</td><td>3-run average Min volume of 1 dscm/run</td><td rowspan="2">29 + GFAAS or ICP/MS for analytical finish</td></tr><tr><td>Pb</td><td>3-run average Min volume of 1 dscm/run</td></tr><tr><td>Visible Emissions from ash handling</td><td>Three, 1-hr observation periods</td><td>22</td></tr></table>				
Findings: The Facility conducted an initial stack test after installation of mercury controls on August 21st and 22nd of 2019 and a subsequent test on December 15-18, 2020.						
5.	Establishing Operating Limits	During the most recent compliant *Performance Test*, establish site-specific operating limits for the following using the recording frequencies and data averaging periods specified under *SSI Controls Monitoring*: a. Minimum SSI freeboard temperature equal to the lowest 4-hour average measured; b. Maximum SSI freeboard temperature equal to the highest 4-hour average measured; c. Minimum pressure drop across the venturi scrubber equal to the lowest 4-hour average measured;	Most recent compliant performance test	EU01, PCE03-PCE05	40 CFR Part 62 Subpart LLL §62.15980 & §62.15985	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		d. Minimum pressure drop across the tray scrubber equal to the lowest 4-hour average measured; e. Minimum total venturi scrubber liquid flow rates equal to the lowest 4-hour average measured; f. Minimum total tray scrubber liquid flow rates equal to the lowest 4-hour average measured; and g. Minimum scrubber liquid pH, both upper and lower tray, equal to the lowest 1-hour average measured.				
6.	Performance Test Notifications	Compliance testing shall be planned and carried out in accordance with the following: a. The Facility must notify the Department at least 30 days prior to conducting a *Performance Test;* b. A pre-test protocol shall be submitted to the Department at least 30 days prior to the commencement of testing; c. The Owner or Operator and any contractor retained by the Owner or Operator to conduct the test shall meet with a Department representative at least 15 days prior to the test date to finalize the details of the testing; d. A pre-test meeting may be held less than 15 days prior to the test so long as the Department staff are available and implementation of any testing or operation changes resulting from the meeting can be carried out prior to scheduled test date and scheduled test integrity is not jeopardized; e. Notify the Department as soon as possible, but no later than 7 days, and obtain approval from the Department	30 days prior to performance testing **or** as specified	EU04	40 CFR Part 62 Subpart LLL §62.16015 & §61.16000 & Env-A 802	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		prior to any proposed changes in the testing schedule for a compliance stack test; f. The Owner or Operator shall obtain prior approval from the Department, which shall be based on staff availability, of any new date for a compliance stack test; and g. If a force majeure that may cause or causes a delay in testing occurs or has occurred, the Owner or Operator must notify the Department in writing as soon as practicable. Provide a description of the event, reason for delay, actions to minimize delay, and identify date for proposed performance tests.				
7.	Performance Test	Each performance test shall conform to the procedures specified below: a. The general requirements of 40 CFR §60.8; b. All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations and at least 85% of maximum permitted capacity; c. Documentation of dry sludge burned during the performance test must include: 1. Continuous monitoring and records of the hourly rate of sewage sludge fed to the incinerator; and 2. A log of moisture content of the sewage sludge burned during the	Each Performance Test	EU01	40 CFR Part 62 Subpart LLL §62.16015	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		test by taking a grab sample for each 8-hour period that testing is conducted; d. All performance tests must be conducted using methods, sampling volumes and observation periods according to 40 CFR Part 62 Subpart LLL; e. Sample location and traverse points must be selected using Method 1 in 40 CFR Part 60, Appendix A at locations representative of actual operating emissions; f. Gas composition and oxygen concentrations must be measured using Method 3A or 3B in 40 CFR Part 60, Appendix A-2 simultaneously with each method; g. All pollutant concentrations must be adjusted to 7% oxygen using the following equation: $$C_{adj} = C_{meas} \times \frac{(20.9-7)}{(20.9-\%O_2)}$$ Where: C_{adj} = pollutant concentration adjusted to 7% O_2 C_{meas} = pollutant concentration measured on a dry basis (20.9 - 7) = 20.9% O_2 – 7% O_2 (defined oxygen correction basis) 20.9 = O_2 concentration in air, percent; and $\%O_2$ = oxygen concentration measured on a dry basis, percent				
8.	Performance Test Data and Alternative Methods	a. The Owner or Operator shall provide calibration data for any sampling equipment used during the compliance stack testing to the Department upon request during the day of testing;	Each Performance Test	EU01	Env-A 802	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		b. The Owner or Operator shall provide copies of all calibration and field test data taken during the testing, including failed runs, to the Department upon request; c. The Department shall approve minor deviations from the agreed-upon test method or pre-test protocol only if the following criteria are met: 1. The Owner or Operator informs Department personnel assigned to the stack test of the following: i. The deviation from the testing method or planned operational mode of the source; ii. The reason(s) for the deviation; and iii. The implications of such a deviation; 2. The Owner or Operator provides technical justification showing that allowance of such deviation will not affect the accuracy of the compliance stack emissions test.				
9.	Performance Test Frequency Reduction	Performance test frequency for a particular pollutant may be reduced to no more than 37 months after the previous test if: a. Emissions for the pollutant are at or below 75% of the emission limit specified in SSI Emission Limits for at least 2 consecutive years and there are no process changes that may increase emissions; b. A performance test shows emissions exceed 75% of the emission limit for a pollutant, then annual testing must be conducted for that pollutant until	As specified	EU01	40 CFR Part 62 Subpart LLL §62.16000	**Noted**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		all tests over 2 consecutive years show compliance.				
Findings: MWWTP is aware of this option.						
10.	Site-Specific Monitoring Plan	Develop and submit to the Department for approval a *SSMP*, which will also serve as the Air Pollution Control Equipment Monitoring Plan required by Env-A 810, for each CMS. The plan must address: a. Installation of the continuous monitoring system sampling probe or other interface such that the measurement is representative of the exhaust emissions after controls; b. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems; c. For flow monitoring systems, requirements include: 1. Installation of the flow sensor in a position that provides representative flow; 2. Use of a flow sensor with a measurement sensitivity no greater than 2% of the expected process flow rate; 3. Minimization of upstream and downstream disturbances; and 4. Performance evaluation of the flow monitoring system at each *Performance Test* or at least annually.	After any changes in monitoring procedures or operating processes	EU01, PCE03-PCE05	40 CFR Part 62 Subpart LLL §62.15995 & Env-A 810.01	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		d. For pressure monitoring systems, requirements include: 1. Installation of the pressure sensor in a position that provides representative measurement; 2. Minimization of pulsating pressure, vibration, and internal and external corrosion; 3. Use of a pressure sensor with a minimum tolerance of 1.27 cm of water or 1% of the pressure monitoring system operating range, whichever is less; 4. Daily operating day checks to ensure pressure measurements are not obstructed; and 5. Performance evaluation of the pressure monitoring system at each performance test or at least annually. If measured pressure exceeds manufacturer's maximum pressure range, conduct a performance evaluation or replace the pressure sensor as needed. e. For pH monitoring systems, requirements include: 1. Installation of a pH sensor in a position that provides representative flow; 2. Ensure the sample is properly mixed and representative of fluid to be measured;				

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		3. Performance evaluation of the pH monitoring system at least once each operating day; and 4. Performance evaluation, including 2-point calibration, of the pH monitoring system for each performance test and no less than quarterly. f. For temperature measurement devices, requirements include: 1. Installation of the temperature sensor in a position that provides a representative temperature; 2. Use of a temperature sensor with a minimum tolerance of 5°F or 1% of the temperature value, whichever is larger for a noncryogenic temperature range; and 3. Performance evaluation of the temperature measurement device for each performance test and no less than annually. g. Ash handling system operating procedures to ensure fugitive emission limits are met.				
Findings: Revision 5 of the SSMP was submitted in August 2019.						
11.	SSI Controls Monitoring	Collect data continuously at all times the SSI unit is operating and: a. Record the combustion chamber operating temperature at least once every 15 minutes and reduce to 12-hr block average;	As approved in the *SSMP*	EU01, PCE03-PCE05	40 CFR Part 62 Subpart LLL §62.15960, §62.16005, §62.16020 Env-A 810.01	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		b. Record a daily average sewage sludge feed rate for all operating hours over each 24-hour period and a daily average moisture content using at least one grab sample per day; c. Record the pressure drop across each scrubber at least every 15 minutes to calculate an hourly average and then a 12-hour block average; d. Record scrubber liquid flow rate at least every 15 minutes to calculate an hourly average and then a 12-hour block average; e. Record scrubber liquid pH at least every 15 minutes to calculate an hourly average and then a 3-hour block average; f. Record the mercury SPC inlet temperature at least once every 15 minutes and reduce to 12-hour block averages; g. Record the SPC pressure drop across the control device at least every 15 minutes and reduce to 12-hour block averages; and h. On a quarterly basis, measure mercury removal across the mercury control system and document the results in accordance with the standard operating procedure described in the approved *SSMP*.				
12.	Monitoring of Incinerator Operations	***40 CFR 60, Subpart O – Standards of Performance for Sewage Treatment Plants - Monitoring of Operations***	As noted	EU01	40 CFR 60, Subpart O §60.153	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		The Owner or Operator of any sludge incinerator subject to 40 CFR 60, Subpart O shall: a. Provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained; b. Install, calibrate, maintain and operate a monitoring device that continuously measures and records the pressure drop of the gas flow through the wet scrubbing device. The device used to monitor scrubber pressure drop shall be certified by the manufacturer to be accurate within ±250 Pascal (±1 inch water gauge) and shall be calibrated on an annual basis in accordance with the manufacturer's instructions; and c. Install, calibrate, maintain and operate a monitoring device that continuously measures and records the oxygen content of the incinerator exhaust gas. The oxygen monitor shall be located upstream of any rabble shaft cooling air inlet into the incinerator exhaust gas stream, fan, ambient air recirculation damper, or any other source of dilution air. The oxygen monitoring device shall be certified by the manufacturer to have a relative accuracy of ±5 percent over its operating range and shall be calibrated according to method(s) prescribed by the manufacturer at least once each 24-hour operating period.				
13.	Additional Monitoring of Incinerator Operations	***Additional Monitoring Requirements*** The Owner or Operator shall maintain, calibrate, and operate the following monitoring equipment on the incinerator:	As noted	EU01	40 CFR 60, Subpart O §60.153	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		a. A flow measuring device used to determine either the mass flow rate or volumetric flow rate of sludge charged into the incinerator. This device shall be certified by the manufacturer to have an accuracy of ±5% over its entire operating range; b. Temperature measuring devices shall be located in the fluidized bed freeboard and at the outlet of the fluidized bed. Each temperature measuring device shall be certified by the manufacturer to have an accuracy of ±5% over its operating range; c. A device for measuring the auxiliary fuel flow to the incinerator. The fuel flow measuring device shall be certified by the manufacturer to have an accuracy of ±5% over its operating range; and d. Continuous sampling systems shall complete a minimum of one cycle of operation which shall include sampling, analyzing, and data recording for each successive 15 minute period except for the oxygen sampling system which shall complete a minimum of one cycle of operation for each successive 5 minute period.				
14.	Pollution Control Device Inspection	The Owner or Operator shall: a. Conduct inspection of air pollution control devices. b. Any repairs must be completed within 10 days of inspection unless written approval is obtained from the Department.	Annually – no later than 12 months from previous inspection	PCE03-PCE05	40 CFR Part 62 Subpart LLL §62.16010	**Yes**
15.	Fugitive Ash Handling	Inspections for visible emissions will be conducted and documented in the following areas:	Daily	EU01	40 CFR Part 62 Subpart LLL	**Yes**

Table 6 – Monitoring and Test Requirements						
Item #	**Parameter**	**Method of Compliance**	**Frequency of Method**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
		a. Scrubber Blowdown Tank; b. Ash Slurry pumps; c. Pincher Valve; d. Ash Transfer Piping within the Incinerator Area; e. Ash Transfer Piping within the Tunnel; f. Ash Recirculation Piping and Transfer Point to Underground Piping; g. Point at which the Ash Transfer Piping Surfaces; and h. Lagoons.			§62.15995	

VII. Compliance with Recordkeeping Requirements

Table 7, below taken from permit TV-0066 lists the required recordkeeping for the facility and any deficiencies noted during the evaluation.

Table 7 – Applicable Recordkeeping Requirements					
Item #	**Applicable Recordkeeping Requirement**	**Records Retention/ Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
1.	***Record Retention and Availability*** The Owner or Operator shall retain records of all required monitoring data, recordkeeping and reporting requirements, and support information for a period of at least 5 years from the date of origination.	Retain for a minimum of 5 years	Facility wide	40 CFR 70.6 (a)(3)(ii)(B)	**Yes**
2.	***Additional Recordkeeping Requirements: Facility Wide Emission Limitations*** Maintain a 12 month running total of Facility wide emissions of NOx, calculated pursuant to Env-A 705.03, which shall include emissions from non-permitted devices, for the purpose of demonstrating that the total emissions of this pollutant are below the limit in Table 5, Item 1.	Monthly	Facility wide	Env-906 and Env-A 604.02(a)(3)	**Yes**
3.	***Additional Recordkeeping Requirements*** The Owner or Operator shall maintain records of monitoring requirements as specified in Table 6 of this Permit including:	Maintain on a continuous basis	EU01, PCE01-PCE05	40 CFR 70.6 (a)(3)	**Yes**

Table 7 – Applicable Recordkeeping Requirements					
Item #	**Applicable Recordkeeping Requirement**	**Records Retention/ Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	a. Summary of maintenance and repair records for pollution control equipment listed in Table 3; b. Summary of maintenance, calibration, and repair records of the fuel oil metering devices;				
4.	***General Recordkeeping Requirements for Combustion Devices*** For each fuel burning device at the Facility, the Owner or Operator shall keep records of fuel utilization in accordance with the following: a. Type (e.g. #2 fuel oil, natural gas) and amount of fuel burned in each device, or type and amount of fuel burned in multiple devices and hours of operation of each device to be used to apportion fuel use between the multiple devices; and b. Hours of operation of each device.	Monthly	EU01, EU04-EU07	Env-A 903.03	**Yes**
5.	***Liquid Fuel Oil Recordkeeping Requirements*** In lieu of sulfur testing pursuant to Table 6, Item 2, the Owner or Operator may maintain a written statement from the fuel supplier that the sulfur content of the fuel as delivered does not exceed state or federal standards for that fuel.	Whenever there is a change in fuel supplier but at least annually	EU01, EU04-EU07	Env-A 806.05	**Yes**
6.	***General Recordkeeping Requirements for Process Operations*** Maintain the following records for process operations: a. Hours of operation of the incinerator; and b. Amount of sludge and scum burned in the incinerator to verify the production limit in Table 5, Item 2.	Monthly	EU01	Env-A 903.02	**Yes**
7.	***General NOx Recordkeeping Requirements*** If the actual annual NOx emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then record the following information: a. Identification of each fuel burning device; b. Operating schedule during the high ozone season (June 1 through August 31) for each fuel burning device identified in Table 7, Item 7a. above, including: 1. Typical hours of operation per day;	Maintain Data for Annual Report	EU01, EU04- EU07	Env-A 905.02	**Noted**

Table 7 – Applicable Recordkeeping Requirements					
Item #	**Applicable Recordkeeping Requirement**	**Records Retention/ Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	2. Typical days of operation per month; 3. Type and amount of each fuel burned; 4. Design heat input rate in MMBtu/hr; 5. The following NOx emission data: i. Actual NOx emissions per month; ii. Typical high ozone season day NOx emissions, in pounds per day; and iii. Emission factors and the origin of the emission factors used to calculate the NOx emissions.				
Findings: NHDES reviewed emission statements which document that NOx emission were less than 10 tpy during this evaluation period.					
8.	***Regulated Toxic Air Pollutants*** Maintain records documenting compliance with Env-A 1400. Compliance was demonstrated at the time of Permit issuance as described in the Department's Application Review Summary for application #14-0141. The source must update the compliance demonstration using one of the methods provided in Env-A 1405 if: a. There is a revision to the list of RTAPs lowering the AAL or de minimis value for any RTAP emitted from the Facility; b. The amount of any RTAP emitted is greater than the amount that was evaluated in the Application Review Summary (e.g., use of a coating will increase); c. An RTAP that was not evaluated in the Application Review Summary will be emitted (e.g., a new coating will be used); or d. Stack conditions (e.g., air flow rate) change.	Update prior to process changes and within 90 days of each revision of Env-A 1400	Facility wide	Env-A 902.01 State requirement	**Yes**
9.	***40 CFR 60, Subpart O – Standards of Performance for Sewage Treatment Plants - Recordkeeping*** The Owner or Operator of any fluidized bed incinerator subject to 40 CFR 60, Subpart O shall retain the following information and make it available for inspection by the Administrator for a minimum of 5 years:	As noted	EU01	40 CFR 60, Subpart O §60.153(c) and 40 CFR 70.6 (a)(3)(ii)(B)	**Yes**

Table 7 – Applicable Recordkeeping Requirements					
Item #	**Applicable Recordkeeping Requirement**	**Records Retention/ Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	a. For incinerators equipped with a wet scrubbing device, a record of the measured pressure drop of the gas flow through the wet scrubbing device, as required in Table 6, Item 12.b.; and b. A record of the measured oxygen content of the incinerator exhaust gas, as required in Table 6, Item 12.c .				
10.	***General Recordkeeping Requirements for SSIs*** The Owner or Operator of a SSI shall maintain the following records for at least 5 years: a. Final control plan and any additional notifications; b. Operator training procedures, training records, and documentation of periods of Operator non-accessibility; c. Air pollution control device inspections and associated repair records; d. Performance test reports with sludge feed rates and sludge moisture content during each test; e. Continuous monitoring data, including 1-hour average concentrations from continuous emission monitoring systems (CEMS) and 1-hour average values from CMS parameters listed in *SSI Controls Monitoring*; f. Deviation reports; g. Equipment specifications and operation and maintenance requirements; h. Inspection, calibrations and validation checks of monitoring devices; i. Monitoring plan and performance evaluations for continuous monitoring systems; and j. Records of emissions below 75% of applicable emission limits, if extending frequency of emission testing beyond annually.	Maintain on-site or electronically for at least 5 years	EU01, PCE03-PCE05	40 CFR Part 62 Subpart LLL §62.16025 & §62.15950 & Env-A 906	**Yes**
11.	***Recordkeeping of Petition for Alternate Emission Controls*** The Owner or Operator shall maintain records of the Petition for Alternate Emission Controls submitted pursuant to 40 CFR Part 62 Subpart LLL §62.15965.	Maintain on-site or electronically for at least 5 years	EU01, PCE05	Env-A 906	**Yes**

Table 7 – Applicable Recordkeeping Requirements					
Item #	**Applicable Recordkeeping Requirement**	**Records Retention/ Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
12.	***Permit Deviation Recordkeeping*** Recordkeeping of deviations from Permit requirements shall be conducted in accordance with Condition XXVII of this Permit.	Maintain Up-to-date- Data	Facility wide	Env-A 911	**Yes**

VIII. Compliance with Reporting Requirements

Table 8, below taken from permit TV-0066 lists the reporting requirements for the Facility and any deficiencies noted during the evaluation.

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
1.	***General Reporting Requirements*** a. Each report shall be separately and clearly labeled with: 1. The name, mailing address and physical address of the source covered by the report; 2. The operating period covered by the report; 3. The permit number and condition or item number that requires the report submittal; 4. The type of report, using the name of the report as specified in the reporting condition in the permit, that is being submitted; and 5. The date the report was prepared; b. An Owner or Operator who submits a report that is a revision to a previously-submitted report shall clearly identify the revised report with the information specified in Table 8, Item 1.a. above, and indicate which portions of the report have been revised;	For each report submitted to the Department	Facility wide	Env-A 907.01 State Requirement	**Yes**

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	c. The Owner or Operator may submit more than one report with a single cover, provided the Owner or Operator clearly identifies each report being submitted using the information required in Table 8, Items 1.a. and 1.b. above, if applicable, for each report; and d. The Owner or Operator shall submit reports as paper documents or by electronic means.				
2.	***Certification of Accuracy Statement*** Any report submitted to the Department and/or USEPA shall include the certification of accuracy statement in Condition XXI.B. of this Permit and shall be signed by the responsible official.	As specified in Condition XXI.B.	Facility wide	40 CFR §70.6(c)(1)	**Yes**
3.	***Annual Compliance Certification*** Annual compliance certification shall be submitted in accordance with Condition XXI of this Permit.	Annually (received by the Department no later than April 15th of the following calendar year)	Facility wide	40 CFR §70.6(c)(1)	**Yes**
4.	***Annual Emissions Report*** The Owner or Operator shall submit an annual emissions report which shall include the following information: a. Actual calendar year emissions from the incinerator of NOx, CO, SO_2, VOCs, HAPs (speciated by individual HAP or CAS number), CO2e, filterable and condensable PM, filterable PM10, filterable PM2.5, ammonia, lead and RTAPs (speciated by individual RTAP); b. Actual calendar year emissions from each turbine of NOx, CO, SO2, VOCs, HAPs (speciated by individual HAP or CAS number), CO2e, filterable and condensable PM, filterable PM10, filterable PM2.5, ammonia, lead and RTAPs (speciated by individual RTAP) ; c. Actual calendar year emissions of hydrogen sulfide from the primary clarifiers and aeration tanks;	Annually (received by the Department no later than April 15th of the following year)	EU01, EU04-EU09	Env-A 907.02	**Yes**

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	d. The methods used in calculating such emissions in accordance with Env-A 705.03, *Determination of Actual Emissions for Use in Calculating Emission-Based Fees*; and e. All information recorded in accordance with Table 7, Items 4 and 6.				
5.	***Semiannual Permit Deviation and Monitoring Report*** The Owner or Operator shall submit a semiannual Permit deviation and monitoring report, which contains: a. Summaries of all monitoring and testing requirements contained in this Permit; and b. A summary of all Permit deviations and excursions that have occurred during the reporting period.	Semiannually received by the Department no later than July 31st and January 31st of each calendar year.	Facility wide	Env-A 911 and 40 CFR §70.6(a)(3)(iii)(A)	**Yes**
6.	***Permit Deviation Reporting Requirements*** Report permit deviations that cause excess emissions or continue for longer than 9 consecutive days, or monitoring parameter excursions lasting 48 hours or more in accordance with Condition XXVII.B.	As specified	EU01, EU04-EU09	Env-A 911.04 (a), (b) and (d)	**Noted**
Findings: MWWTP is aware of this requirement.					
7.	***Monitoring Parameter Excursion*** In the event of an excursion of any monitored parameter indicative of the performance of air pollution control equipment in Table 6 Item 11, lasting more than 48 hours in duration: a. Notify the Department of the Permit deviation and excess emissions by telephone (603-271-1370), fax (603-271-7053), or email (pdeviations@des.nh.gov), within 24 hours of discovery of the Permit deviation, unless it is a Saturday, Sunday, or state legal holiday, in which event, the Department shall be notified on the next day which is not a Saturday, Sunday, or state legal holiday; b. Submit a written report of the deviation on paper or by electronic means to the Department within 10 days of discovery of the Permit	As specified	EU01, PCE03-PCE05	Env-A 911.04(d)	**Noted**

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	deviation reported above. The report shall include all of the following information: 1. Facility name; 2. Facility address; 3. Name of the responsible official; 4. Facility telephone number; 5. A description of the Permit deviation, including the applicable Permit number and Permit condition(s); 6. The probable cause of the Permit deviation; 7. The date and time of the discovery of the Permit deviation; 8. The actual date(s) and time(s) of the Permit deviation; 9. The duration of the Permit deviation, including the data and time that the device, process or air pollution control equipment returned to operation in compliance with an enforceable emission limitation or operating condition; 10. The specific device, process or air pollution control equipment that contributed to the Permit deviation; 11. Any corrective measures taken to address the Permit deviation;				
Findings: MWWTP is aware of this requirement.					
8.	***NOx Reporting Requirements*** If the actual annual NOx emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report: a. A breakdown of NOx emissions reported pursuant to Table 8, Item 4 by month; and b. All data recorded in accordance with Table 7, Item 7.	Annually (received by the Department no later than April 15th of the following year)	EU01, EU04-EU07	Env-A 909	**Noted**
Findings: NHDES reviewed emission statements which document that NOx emission were less than 10 tpy during this evaluation period.					

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
9.	***Annual Emission Fee*** Pay annual emission fee in accordance with Condition XXIII of this Permit.	Annually (received by the Department no later than May 15th of the following year)	EU01, EU04-EU09	Env-A 705	**Yes**
10.	***Performance Test Reporting Requirements*** a. The Owner or Operator shall submit a report to the Department and USEPA Region 1 documenting the results of the Performance Test no more than 60 days after completion of the testing. The test report shall contain the following information: 1. All the information required for the pre-test protocol as described in Env-A 802.04 and *Performance Test Notifications*; 2. All test data; 3. All calibration data; 4. Process data agreed by the Department and the Owner or Operator to be collected; 5. All test results; and 6. A description of any discrepancies or problems that occurred during testing or sample analysis. b. The Owner or Operator shall submit the report as follows: 1. The *Performance Test* results must be submitted electronically to USEPA's Electronic Reporting Tool (ERT) by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through https://cdx.epa.gov/. Test data must be submitted in the file format generated through the ERT Web site: http://www.epa.gov/ttn/chief/ert/index.html *2.* A paper copy of *Performance Test* results must be submitted to the Department.	No more than 60 days after completion of testing	EU01	40 CFR Part 62 Subpart LLL §62.16030 (h) & Env-A 802.11	**Yes**

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
11.	***Annual SSI Compliance Report*** Submit an annual compliance report to the Department and USEPA Region 1 containing the following information: a. Company name, physical address and mailing address; b. Responsible official name, title, signature, and certification of accuracy; c. Date of report and beginning and ending dates of the reporting period; d. Results of any performance testing conducted during the reporting period; e. Values for each operating limit, and calculations and methods used to establish operating limits for any limits established during the *Performance Test*; f. Results of operating limits approved in the SSMP; g. The highest and lowest 24-hour average values of parameters measured via CEMS; h. The highest and lowest 12-hour average values of all parameters measured via CMS except pH; i. The highest and lowest 3-hour average values for scrubber liquid pH; j. If there were no emission limit, emission standard, or operating limit deviations during the reporting period, a statement there were no deviations; k. Results of any performance evaluations conducted on CMS; l. If performance tests are conducted less frequently than annually, then include: 1. Dates of last two performance tests 2. Results demonstrating emissions under 75% of emission limits. 3. Statement whether there have been process changes and subsequent increases to emissions;	12 months following submission of last report	EU01	40 CFR Part 62 Subpart LLL §62.16030	**Yes**

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	m. Documentation of periods when qualified SSI operators were unavailable for more than 8 hours, but less than 2 weeks; n. Results of annual air pollution control device inspections; o. If there were no periods when continuous monitoring malfunctioned or were out of control, include a statement that there were no periods when continuous monitoring was interrupted; p. If there were no operating training deviations, include a statement that there were no such deviations; q. If the SSMP was revised, include a copy of the revised plan. If there were no revisions, then include a statement that no revisions were made; and r. If any malfunctions occurred that caused or may have caused an emission limit exceedance, include the number, duration and description of each malfunction. Include actions taken to minimize emissions and correct malfunctions.				
12.	***Semi-Annual Deviation Reports*** a. The Owner or Operator shall submit a deviation report to the Department and USEPA Region 1 if: 1. Any recorded operating parameter level, based on the averaging time specified in *SSI Controls Monitoring*, is above the maximum operating limit or below the minimum operating limit. 2. Continuous monitoring parameters recorded on a 24-hour block average exceed an emission limit; 3. Visible emissions of combustion ash from the conveying system are more than 5% of any compliance test hourly observation period.	By February 1 for the reporting period of July 1 to December 31 and August 1 for the reporting period of January 1 to June 30	EU01, PCE03-PCE05	40 CFR Part 62 Subpart LLL §62.16030	**Yes**

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	4. Performance test results deviated from SSI Emission Limits; or 5. A continuous monitoring system was out of control or had a malfunction that caused or may have caused an emission limit exceedance. b. For each deviation associated with a parameter measured by a continuous monitoring system, report the following items: 1. Company name, physical address and mailing address; 2. Responsible official name, title, signature, and certification of accuracy; 3. Calendar date and times the unit deviation from emission limits, emission standards or operating limits; 4. The averaged and recorded data for those dates; 5. Duration and cause of each deviation from emission limits, emission standards, operating limits, bypass events and corrective actions; 6. Dates, times and causes for monitor downtime incidents; and 7. A copy of the operating parameter monitoring data during each deviation and any test report that documents emission levels. c. For periods when the continuous monitoring system malfunctioned or was out of control include: 1. The date and time that each malfunction or period out of control started and stopped and type of system interruption; 2. The date, time and duration the system was inoperative; 3. The date, time and duration that each system was out of control, including start				

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	and end dates and hours and descriptions of corrective actions; 4. The date and time that each deviation started and stopped; 5. Total duration of the deviation and total duration as a percentage of total source operating time during the reporting period; 6. Total duration of monitoring system downtime during the reporting period and total duration as a percentage of total source operating time during the reporting period; 7. Identification of each parameter and pollutant monitored at the SSI; 8. Brief description of the SSI unit; 9. Brief description of continuous monitoring system; 10. The date of the latest continuous monitoring system certification or audit; and 11. A description of any changes in the continuous monitoring system, processes, or controls since the last reporting period. d. For each deviation, associated with a parameter not measured with continuous monitoring include: 1. Company name, physical address and mailing address; 2. Responsible official name, title, signature, and certification of accuracy; 3. Total operating time of each affected source during reporting period; 4. Calendar dates and times of deviation from emission limits, emission standards or operating limits; 5. The averaged and recorded data for the deviation(s); and				

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	6. Duration and cause of each deviation and corrective actions.				
13.	***Qualified Operator Deviation*** If all qualified operators are not accessible for 2 weeks or more the Owner or Operator must submit a notification to the Department and USEPA Region 1 of deviation including: a. A statement of what caused the deviation; b. A description of actions taken to ensure a qualified operator is accessible; c. The expected date when a qualified operator will be available; and d. A status report to the Department including actions to ensure a qualified operator is accessible, when qualified operator will be accessible and request to continue operating. 1. If request to continue operating is denied, then operations must cease after 30 days; and *2.* Once a qualified operator is accessible, notify the Department within 5 days.	Within 10 days of discovery of deviation and every 4 weeks after	EU01	40 CFR Part 62 Subpart LLL §62.16030	**Noted**
Findings: MWWTP is aware of this requirement.					
14.	***40 CFR 60, Subpart O – Standards of Performance for Sewage Treatment Plants*** The Owner or Operator shall submit to the Department and USEPA Region 1 semi-annually, a report containing the information described below: a. The average scrubber pressure drop for each period of 15 minutes or more during which the pressure drop was less than the rate described below: 1. For incinerators that measured an average of less than or equal to 0.75 lbs PM/ton dry sludge input during the most recent performance test, report pressure drop reduction of more than 30% from the average scrubber pressure drop recorded during the most recent performance test.	Semi-annually submit no later than July 31st and January 31st of each calendar year	EU01	40 CFR Part 60 Subpart O §60.155(a)	**Yes**

Table 8 – Applicable Reporting Requirements					
Item #	**Reporting Requirement**	**Frequency**	**Applicable Emission Unit**	**Regulatory Basis**	**Compliant**
	2. For incinerators that measured an average of greater than 0.75 lbs PM/ton dry sludge input during the most recent performance test, report pressure drop greater than the result of this calculation: $P = -111E + 72.15$ where P = % reduction in pressure drop, and E = average PM emissions (kg/Megagram) b. The average oxygen content in the incinerator exhaust gas for each period of 1-hour duration or more where the average oxygen content measured during the most recent performance test is exceeded by more than 3%.				
15.	***Other Notifications and Reports*** Notify the Department before starting or stopping use of a continuous monitoring system for determining compliance with any emission limit.	1 month before starting or stopping continuous monitoring	EU01	40 CFR Part 62 Subpart LLL §62.16030	**Noted**
16.	***Site-Specific Monitoring Plan*** If the Owner or Operator determines that the information and procedures documented in the SSMP, which will also serve as the Air Pollution Control Equipment Monitoring Plan required by Env-A 810, need to be changed at any time to accurately represent changes in monitoring procedures or activities performed to maintain the control equipment, the Owner or Operator shall submit a revised monitoring plan, as applicable, to the Department in writing.	Submit to the Department within 30 days of any change	PCE03-PCE05	40 CFR Part 61 Subpart LLL 62.15995(h) & Env-A 810.01	**Noted**
17.	***Air Pollution Control Equipment Monitoring Plan*** If the Owner or Operator determines that the information and procedures documented in the air pollution control equipment monitoring plan submitted with Application 14-0141 need to be changed at any time to accurately represent the activities performed to maintain the control equipment, the Owner or Operator shall submit a revised monitoring or management plan, as applicable, to the Department in writing.	Submit to the Department within 30 days of any change to the plan	PCE01 and PCE02	Env-A 810.01(e)	**Noted**

IX. Permit Deviations

MWWTP is aware of the requirements to track and report deviations. The facility reported in its Subpart LLL Compliance Report a single deviation of the minimum average FBI freeboard temperature which occurred on June 19, 2021. The minimum freeboard operating temperature is 1,440 degrees F, the average operating temperature for the 12-hour block on June 19 was 1,420 degrees F. The deviation was the result of sludge being introduced at 8:55 a.m. with only three hours remaining in the midnight to noon 12-hour block, combined with the system starting up after a three day shut down.

X. Other Findings

The facility has scheduled to replace the two biofilters with new media, potentially in the early fall of 2021, as per the biofliter PCE maintenance plan.

XI. Enforcement History and Status

On February 21, 2018 NHDES filed a no action taken memo regarding several deficiencies including failure to install an oxygen monitor for the SSI, failure to track amount of natural gas in the secondary combustion zone of the incinerator, and failure to include hours of operation by device for the 2015 and 2016 emissions statements.

XII. Compliance Assistance, Recommendations and Corrective Actions

During the inspection the single permit deviation regarding a low freeboard temperature was discussed and the facility discussed strategies for reducing these issues in the future, including managing the time period which sewage sludge is introduced to the incinerator.

NHDES recommends that MWWTP explore the Energy Efficiency Incentive Program at www.nhsaves.com. For major renovations and end of life replacement of electrical devices, up to 75% of the incremental cost to install high efficient equipment is covered. The retrofit program offers incentives up to 50% of the installed cost to replace older equipment with new, energy efficient equipment.

In addition, the Facility can receive email notifications of rule changes by subscribing to E-News found at the following link: Rule Changes

Report Prepared By: David Smith
Title: Senior Compliance Assessment Engineer
Signed: David Smith