



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE

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STATEMENT OF LEGAL AND FACTUAL BASIS

Hampton Roads Sanitation District – Army Base WWTP

401 Lagoon Road, Norfolk, Virginia

Permit No. TRO-60349

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Hampton Roads Sanitation District – Army Base WWTP has applied for a Title V Operating Permit for its 401 Lagoon Road, Norfolk, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Writer/Contact:

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Date: December 16, 2015

Regional Air Permits
Manager:

Date: December 16, 2015

Regional Director:

Maria R. Nold

Date: December 16, 2015

I. FACILITY INFORMATION

Permittee

Hampton Roads Sanitation District
PO Box 5911
Virginia Beach, Virginia 23471

Facility

Army Base WWTP
401 Lagoon Road
Norfolk, Virginia 23505

County-Plant Identification Number: 51-710-00196

A. SOURCE DESCRIPTION

NAICS Code: 221320 – Sewage Treatment Facilities

NAICS Code: 562219 – Non-Hazardous Waste Treatment and Disposal

NAICS Code: 562213 – Solid Waste Combustors or Incinerators, Nonhazardous

The Hampton Roads Sanitation District (HRSD) is a political subdivision of the Commonwealth of Virginia and was established as a governmental instrument to provide for the public health and welfare by abating water pollution in the Hampton Roads area through the interception of wastewater outfalls and providing wastewater treatment plants. All of the HRSD treatment plants are interconnected for diverting wastewater flow to alternate treatment locations as the area's daily amount of generated wastewater flow varies along with the operational capabilities of each plant. The Army Base WWTP provides both primary and secondary municipal wastewater treatment for the Hampton Roads area, serving mainly Norfolk clients. The Army Base WWTP is rated to treat a design maximum average dry weather flow rate of 18 million gallon per day (mgd). The facility process units are grouped into four main functions: liquids management, solids handling, sludge incineration, and electrical generators.

Liquids management--Liquids management consists of all of the unit processes that treat the received wastewater prior to discharge to the Elizabeth River. These unit processes include the septic tank truck unloading station, headworks (influent screening and pumping)/grit removal chamber, aerobic reactors, primary and secondary clarification, and disinfection contact basin.

Solids handling--Solids handling consists of unit processes that treat liquid treatment by-product streams before disposal. These unit processes include grit handling, raw and primary scum holding tank/concentrator, gravity belt thickener, primary and waste biosolids holding tank, biosolids day tank, dewatering centrifuges, biosolids screw conveyors, foreign biosolids storage and handling, biosolids belt conveyors (converting to screw conveyor), and ash storage/disposal.

Sludge incineration--Sludge incinerator units are comprised of two identical multi-hearth incinerators used to dispose of dewatered solids from the solids handling sections. Each incinerator has six hearths, a dedicated induced-draft fan, and air pollution control equipment for particulate matter consisting of a pre-cooler, venturi scrubber, and an impingement (tray) scrubber. The incinerators can fire either natural gas or distillate oil as supplemental fuel in the combustion process.

Electrical generators--Two diesel engine electrical generators firing distillate oil. The electrical generators are used mainly for occurrences of normal power lost, but can also, upon request, be used for emergency demand response requirements.

The facility is a Title V major source of SO₂, CO and NO_x. This source is located in an attainment area for all pollutants. The facility is currently permitted under Minor NSR Permits issued on 02/13/1973 and 06/18/2012.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

III. EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Incinerators							
I-1/I-2	2	Multi hearth sludge incinerators (natural gas or distillate oil as backup), 1973	9 burners rated at 2.7 MM BTU/hr each per incinerator. 36 dry tons/day (sludge) per incinerator	Turbosonic Venturi and Swemco Impingement Plate Wet Scrubbers. 2009/2010.	ISBR-1/ ISBR-2	PM/PM-10 (Odor)	02/13/73 (State Only)
Liquids Management							
L-1	3a 3b	Liquids Management, 1943 Preliminary Treatment Facility, 2015	18 mgd (dry) (wastewater)	Two stage packed tower scrubber (water plus NaOCl & NaOH). Daniel Mechanical. 2015	LSBR-1/ LSBR-2	(Odor – H ₂ S)	N/A (State Only)
Solids Handling							
S-1	4a 4b	Solids Handling, 1973	18 mgd (dry)	Two stage packed tower scrubber (water plus NaOCl and NaOH) Daniel Mechanical Inc, 1998.		(Odor – H ₂ S)	N/A (State Only)
Plant electrical generators							
D-2 D-3	1	Two (2) diesel-fired generators (Cummings Model QSK60-G6 NR2)	2000 kW Each	N/A	N/A	N/A	06/18/12
Gasoline Dispensing							
T-28		Gasoline UST	550 gallons	N/A	N/A	N/A	N/A

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

IV. EMISSIONS INVENTORY

A copy of the 2014 annual emission update is attached. Emissions are summarized in the following table.

2014 Criteria Pollutant Emission in Tons/Year					
Emission Unit	VOC	CO	SO₂	PM₁₀	NO_x
Incinerators	1.1	20.4	31.6	0.1	3.3
Liquids Management	3.6	0.0	0.0	0.0	0.0
Generators	0.02	0.1	0.0	0.02	0.6
Total	4.7	20.5	31.6	0.1	3.9

2014 Hazardous Air Pollutant Emissions in Tons/Year	
Pollutant	Tons/yr
Total HAPs	1.27

V. EMISSION UNIT APPLICABLE REQUIREMENTS – Incinerators (I-1 and I-2)

A. Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-80	Standards for Visible Emissions
9 VAC 5-60-70	Designation of Emission Standards (Mercury)
9 VAC 5-40-750	Standards for Particulate Matter (Incinerators)
9 VAC 5-40: Article 55	Emission Standards for Sewage Sludge Incineration Units

The following Federal Regulations that have specific emission requirements have been determined to be applicable:

40 CFR 61 Subpart E	NESHAP-Mercury
40 CFR 60 Subpart M	NSPS – Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units (as referenced by 9 VAC 5-40: Article 55)

See also NSR permit issued 02/13/1973.

The VA new source standards for opacity (9 VAC 5-50-80) were not promulgated until 08/09/75 – some two years after the 02/13/0973 permit was issued. The introduction to the new source standards (9 VAC 5-50-10) specify that the standards apply to all new source activity that has been conducted after March 17, 1972. The new source opacity standards, 20% with no more than one six-minute period not to exceed 30%, are the resultant values from the permit and Regulations that should be used for compliance.

The facility plans to comply with the Sewage Sludge Incinerator Unit requirements (9 VAC 5-40:Article 55) by way of annual stack tests and parametric monitoring.

The PM emission limit of 0.14 grains/dscf from the 1973 permit has been streamlined out of this permit. The 9 VAC Chapter 40, Article 55 PM limit of 80 mg/dscm, which is equivalent to 0.035 grains/dscf, coupled with the testing and monitoring requirements of Article 55, ensures that the 1973 permit limit cannot be exceeded.

B. Monitoring

The following Virginia Administrative Codes that have specific monitoring requirements have been determined to be applicable:

- 9 VAC 5-80-110 Permit Content
- 9 VAC 5-40: Article 55 Emission Standards for Sewage Sludge Incineration Units

The following Federal Regulations that have specific monitoring requirements have been determined to be applicable:

- 40 CFR 64 Compliance Assurance Monitoring
- 40 CFR 60 Subpart M NSPS – Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units (as referenced by 9 VAC 5-40: Article 55)

See also NSR permit issued 02/13/1973.

C. Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include fuel supplier certifications, sludge or stack test results for mercury emissions, PM stack test results with PM emission factors used, PM CAM records, VEE records, operating procedures, maintenance records, operator training records, and daily (monthly average) dry ton biosolids feed rate to active incinerator(s).

D. Testing

The following Virginia Administrative Codes that have specific testing requirements have been determined to be applicable:

- 9 VAC 5-80-110 Permit Content

The following Federal Regulations that have specific testing requirements have been determined to be applicable:

- 40 CFR 61 Subpart E NESHAP-Mercury

Subpart E, Para 61.53(d) and 61.54, only requires an annual test for Hg (by means of an incinerator stack test performed using Method 101A of 40 CFR 61, Appendix B; or the sludge be tested for mercury levels using Method 105 of 40 CFR 61, Appendix B) if mercury emissions exceed 1,600 grams per 24-hour period.

The source conducted Hg testing during first title V permit cycle (June 2000) and used Method 29 for 40 CFR 503 stack emissions compliance and emissions were 17 grams/day (near 1/200 of standard). During the second permit cycle, the source tested biosolids fed to the hearth furnaces using SW-846 Method 7471A. Hg emissions were determined using equivalent equations to those listed in 40 CFR 61.54. Results from those tests are as follows:

Year	Hg Emission Rate (gram/day)
2010	8
2011	8
2012	6

The source is required to test the sludge for Hg under 40 CFR 503 every 60 days. Since all Hg past test results have been very low and with the 40 CFR 503 requirement of a continuing Hg sludge test requirement of every 60 days, **no** additional 40 CFR 61, Subpart E Hg compliance testing was required for this title V cycle permit.

Recently, the facility began preliminary stack testing to demonstrate compliance with the requirements of 9 VAC 5-40: Article 55 (Emission Standards for Sewage Sludge Incineration Units) which incorporates 40 CFR 60 Subpart MMMM. According to 9 VAC 5-40-8280, sewage sludge incineration units shall achieve final compliance no later than March 16, 2016.

Previous TV permits have required stack testing for PM on an incinerator when it exceeds 25-dry tons/day feed rate. The second incinerator would be tested if results were above 0.11 grains/dscf. This was all in an effort to ensure compliance with the 1973 permitted emission limit of 0.14 grains/dscf for PM. With the 9 VAC Chapter 40, Article 55 applicability and a PM emission limit of 80 mg/dscm (0.035 grains/dscf), it is not likely that the 1973 permit limit would ever be exceeded. Article 55 requires annual stack testing, which can become less frequent with results that meet the requirements of 40 CFR 60.5204(a)(3). Any change in the process requires a new performance test, as per 40 CFR 60.5205(a)(2).

See also NSR permit issued 02/13/1973.

E. Reporting

The permit includes reporting requirements for protocols, testing dates and results of stack tests conducted for PM or mercury and notifications for proposed plant changes that would potentially increase mercury emissions above 1,600 grams/24-hour period.

VI. EMISSION UNIT APPLICABLE REQUIREMENTS - Electrical Generators (D-2 and D-3)

A. Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-260	Standards for Stationary Sources

See also NSR permit issued 06/12/2012.

B. Recordkeeping

The following Virginia Administrative Codes that have specific recordkeeping requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-50	Notification, Records and Reporting

See also NSR permit issued 06/12/2012.

C. Testing

The following Virginia Administrative Codes that have specific testing requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
9 VAC 5-50-30	Performance Testing

See also NSR permit issued 06/12/2012.

D. NSPS Subpart IIII

The following Virginia Administrative Codes that have specific testing requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
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The following Federal Regulations that have specific testing requirements have been determined to be applicable:
40 CFR 60 Subpart IIII NSPS – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

These generators (D-2 and D-3) were not considered as emergency under the state definition while drafting the minor NSR permit in 2012 due to the request for a combined operating limit of 2,000 hours/yr for the 2 units. However, the facility does operate them as emergency units under the federal definition as stated in 40 CFR 60 Subpart IIII. Permit condition 49h states that, should operation of the units no longer qualify as emergency (as defined in 40 CFR Subpart IIII), the facility must then meet all requirements of non-emergency engines.

E. MACT Subpart ZZZZ

The following Virginia Administrative Codes that have specific testing requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
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The following Federal Regulations that have specific testing requirements have been determined to be applicable:
40 CFR 63 Subpart ZZZZ MACT – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

VII. EMISSION UNIT APPLICABLE REQUIREMENTS – Gasoline Dispensing Facility (T-28)

A. MACT Subpart CCCCCC

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110	Permit Content
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The following Federal Regulations that have specific testing requirements have been determined to be applicable:
40 CFR 63 Subpart CCCCCC MACT – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

VIII. EMISSION UNIT APPLICABLE REQUIREMENTS - Liquids Management & Solids Handling

L-1/S-1 (Liquids Management/Solids Handling): No opacity check will be performed on these units. It only collects fugitive gases and uses the water scrubber to reduce gaseous odors. No particulates are expected for input nor is this designed as a particulate control system. No visible emissions are expected from this system. (The previous TV permit listed a VE limit which has been removed by this renewal action.)

IX. Streamlined Requirements

All conditions from the minor NSR permit dated March 29, 2005 have been streamlined out of the Title V permit. The 1800 kW diesel engine emergency generator (G-1) has been removed from the facility and the permit rescinded by letter dated July 27, 2015.

The following conditions in the 40 CFR 61, Subpart E have been streamlined out of the Title V permit:

- 61.63 (d)(2)(i) and 61.54(a)(2): Initial testing of existing source. Source conducted this testing as required in the 1970's.
- 61.55(a): Monitoring. Not required as source has no emissions at the specified level to require more testing.

The following conditions in the minor NSR permit of February 13, 1973, have been streamlined out of the Title V permit:

- Condition 1: Progress reports for construction of incinerators were submitted until operations began. No further reporting is required.
- Condition 2: Stack testing of new incinerators was accomplished after operations began.
- Condition 3: Notifications of proposed stack testing was accomplished
- Condition 4.i: Section IX of the Title V permit lists State-Only Enforcement issues. Odor is not only an issue for the incinerators but the entire facility (liquids management, solids handling, etc.). The source is complying with Article 5-2 for BACT on odor control for the incinerators by using the scrubber system to control PM on the incinerators. The CAM requirements for monitoring the incinerator scrubber system is a way to also monitor odor control for the incinerators. If PM emissions are minimized, odor is expected to be minimized.
- Condition 4.iii: The 9 VAC Chapter 40, Article 55 PM limit of 80 mg/dscm (equivalent to 0.35 grains/dscf) ensures that the 1973 permit limit of 0.14 grains/dscf cannot be exceeded.

The following requirements from 9 VAC 5-40: Article 55 (Emission Standards for Sewage Sludge Incineration Units) have been streamlined into the Title V permit:

- 9 VAC 5-40-8230 Standard for Visible Emissions – states the provisions of Article 1 (9 VAC 5-40-60 et. Seq.) apply. Article 1 has visible emission limits of 20%/60%. The Title V permit currently limits visible emissions to 20%/30%. The more stringent limitation will remain in the permit.
- 9 VAC 5-40-8240A Standard for Fugitive Dust/Emissions – 9 VAC 5-40-90 is covered by Title V General Condition 72.
- 9 VAC 5-40-8250 Standard for Odor – already covered in State-Only Enforceable Section of Title V permit.
- 9 VAC 5-40-8260 Standard for Toxic Pollutants – already covered in State-Only Enforceable Section of Title V permit.

The following conditions in the minor NSR permit of June 18, 2012, have been streamlined into the Title V permit:

- Condition 2: Title V condition II.
- Condition 10: Initial notifications for construction are complete.
- Condition 12: Title V condition 85.
- Condition 13: Title V condition 75.
- Condition 14: Title V condition 73.
- Condition 15: Title V condition 63.
- Condition 16: Title V condition 63.
- Condition 18: Title V conditions 79 and 80.
- Condition 19: Title V condition 77.

X. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

1. Comments on General Conditions

a. Conditions 52-57. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement No. 2-09”.

This general condition cite(s) the Article(s) that follow(s):

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Source.

This general condition cites the sections that follow:

- 9 VAC 5-80-80. Application
- 9 VAC 5-80-140. Permit Shield
- 9 VAC 5-80-150. Action on Permit Applications

b. Condition 63. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

- 9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
- 9 VAC 5-40-50. Notification, Records and Reporting
- 9 VAC 5-50-50. Notification, Records and Reporting

c. Condition 67. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

d. Conditions 82-84. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Conditions 82-84 and General Condition 63. For further explanation see the comments on general condition 63.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

e. Condition 88. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

XI. STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5-40-290	Existing Source Standards for Hydrogen Sulfide
9 VAC 5-60-220	Existing Source Standards for Toxics
9 VAC 5-40-140	Existing Source Standards for Odor
9 VAC 5-50-140	New Source Standards for Odor
9 VAC 5-60-320	New Source Standards for Toxics

XII. FUTURE APPLICABLE REQUIREMENTS

There are no future applicable requirements at this time.

XIII. INAPPLICABLE REQUIREMENTS

40 CFR 61, Subpart C: NESHAP for Beryllium. Subpart C was intended for a facility that uses beryllium or generates beryllium wastes and then disposes of it. Any beryllium found in the sludge is insignificant and incidental to the main purpose of the sludge incinerators.

40 CFR 60, Subpart O: NSPS for Sewage Treatment Plants. Subpart O was effective June 11, 1973 for new or modified sludge incinerators. This plant began construction before this date per the 02/13/1973 permit.

40 CFR 63, Subpart VVV: MACT for New and Reconstructed Major HAPs POTWs. This source is not a major source for HAPs.

40 CFR 60, Subpart Kb: NSPS for Volatile Organic Liquid Storage Vessels. This source does not store a VOC liquid product that is subject to the NSPS.

XIV. INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
ISU-CB-22	Solids Handling Emergency Generator	5-80-720 C.4	N/A	66 hp (80 kW)
ISU-T-25a/25b	Petroleum Liquid ASTs 25,000 gal each (installed prior to 1984)	5-80-720 B.2	VOC	N/A
ISU-T-27	Petroleum Liquid AST 20,000 gal (NSPS exempt) (installed after 1984)	5-80-720 B.2	VOC	N/A
ISU-T-26	Petroleum Liquid AST 300 gal	5-80-720 B.2	VOC	N/A
ISU-T-28	Gasoline UST 550 gal	5-80-720 B.2	VOC	N/A
Solids Handling	Unit processes for solid by-products sent to incinerators	5-80-720 B.2	VOC	18 MGD (dry)

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

XV. CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

XVI. PUBLIC PARTICIPATION

The proposed permit was placed on public notice in The Virginian-Pilot from **Sunday, September 20, 2015** to **Tuesday, October 20, 2015**.

Draft and proposed permit sent to affected state (NC) on **Friday, October 2, 2015**.

Draft and proposed permit sent to EPA on **Thursday, September 17, 2015**.

During the EPA comment period, the following comments were made and responded to.

A. Initial comments received from EPA dated November 3, 2015

General:

1. On page 2 of the Statement of Basis, the statement is made that “all of the HRSD treatment plants are interconnected for diverting wastewater flow to alternative treatment locations as the area’s daily amount of general wastewater flow varies along with the operational capabilities of each plant.” This facility seems to be classified as a minor source of Hazardous Air Pollutants (HAPs). Please confirm that even with the potential to obtain flows diverted from other catchments, the facility will remain a minor source of HAPs.

Permit:

2. NSPS Subpart M: Please be more specific in the permit as to what the facility must do to comply with NSPS Subpart M/ 9 VAC 5 Chapter 40 Article 55 (40 CFR §60.5000 through §60.5250). The facility’s requirements may include, but are not limited to:
 - f. Operating parameters:
 - (i) Establishment of operational limits, and continuous compliance demonstration of operating limits (detailed in §60.5190, §60.5210)
 - or-
 - (ii) Requirements for a continuous emissions monitoring system
 - g. Monitoring:
 - (iii) Feed rate and moisture content of sewage sludge feed to the sewage sludge incinerator. (§60.5170(f))
 - (iv) Combustion chamber temperature, fugitive emissions from ash handling, pressure drop across wet scrubber, scrubber liquid flow rate, scrubber liquid pH. (NSPS M, Table 4)
 - h. Initial compliance requirements (§60.5185)

B. Response from DEQ on November 6, 2015

1. While it is true that the facilities are interconnected, each facility has been evaluated based on its individual maximum design capacity. In other words, no flows can be re-directed to any of the facilities in excess of their individual design capacities. In the case of HRSD-VIP, its design capacity is rated to treat a design maximum average dry weather flow rate of 40 million gallons per day.

2. NSPS Subpart M MMM – specific emission limitations are outlined in Conditions 1 and 2. As the facility has opted out of a continuous emissions monitoring system, ongoing monitoring requirements have been established as part of CAM which establishes scrubber indicators of compliance including scrubber liquid flow rate. Conditions 3 and 20 have been updated to reflect the following language:

Condition 3 - Incinerator Requirements - (I-1 and I-2) - Limitations - Operating Requirements - 9 VAC 5 Chapter 40, Article 55 - The permittee shall meet, as applicable, the operating limits and requirements specified in 40 CFR 60.5170 and 40 CFR 60.5175. The permittee shall establish and meet operating limits and requirements for each wet scrubber. The operating parameters used to establish such limits shall include pressure drop across each wet scrubber, scrubber liquid flow rate, and scrubber liquid pH as outlined in Table 4 of 40 CFR 60 Subpart M MMM. Compliance shall be demonstrated as specified in 40 CFR 60.5185, 40 CFR 60.5190, 40 CFR 60.5195, 40 CFR 60.5200, 40 CFR 60.5205, 40 CFR 60.5210, and 40 CFR 60.5215.
(9 VAC 5-80-110 and 9 VAC 5-40-8290B)

Condition 20 - Incinerator Requirements – (I-1 and I-2) - Monitoring - 9 VAC 5 Chapter 40, Article 55 – The permittee shall conduct, as applicable, the monitoring requirements specified by 9 VAC 5-40-8310 and 40 CFR 60.5220 and 60.5225. The permittee shall monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator as specified in 40 CFR 60.5170(f). The permittee shall continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. Keep a record of the daily average feed rate, as specified in §60.5230(f)(3)(ii). The permittee shall take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If you take more than one grab sample in a day, calculate the daily average for the grab samples. Keep a record of the daily average moisture content, as specified in §60.5230(f)(3)(ii).
(9 VAC 5-80-110 and 9 VAC 5-40-8310)

C. EPA Response Dated November 17, 2015 to DEQ Comments

1. I understand that this plant has a maximum flow. My question has more to do with the composition of this influent rather than the quantity. If there is a change in locations from which the flow is coming, how is it ensured that the HAP concentration and therefore plant emissions of this redirected flow will not approach the major source threshold?
2. Have the ranges for the operating parameters been established? If so, please include these operating ranges in the permit. Additionally, please ensure all required monitoring parameters are included in the permit. For instance, combustion chamber temperature of the incinerator is required per NSPS M MMM, Table 4, but does not appear to be included in the response.

D. DEQ Response to Comments Dated December 8, 2015

1. Each HRSD plant meets the definition of a non-industrial Publicly Owned Treatment Works (POTW) as defined in MACT VVV. Their waste stream consists of 85% or greater from residential areas and each plant is rated at less than 50 million gallons per day. In 2000, HRSD hired CH2M Hill to do BASTE (Bay Area Sewage Treatment Emissions) modeling (to estimate emissions of VOCs) of the HAPs at each of the HRSD treatment facilities. This modeling demonstrated that each of the facilities were minor for HAPs. Since that time, the service area and industries in the area have not significantly changed. Annual testing of HAPs is done at each plant. For each renewal application, the highest value measured of each HAP from the last 5 years of available data is used to calculate the worst case actual and potential emissions of each HAP. HRSD has not had any HAP concentrations high enough to trigger major HAP status for an individual plant or via any flow diversions since the sampling began. Flow diversions that typically take place are in the 2-4 million gallons per day (MGD) range.

2. No ranges for the parameters have been established for this facility. We have added all the parameters that this facility will need to monitor by adding a table to this condition with the 40 CFR 60 Subpart M M M M Table 4 requirements. See changed Condition 3 below:

Condition 3 - Incinerator Requirements – (I-1 and I-2) - Limitations – Operating Requirements - 9VAC5 Chapter 40, Article 55 – The permittee shall meet, as applicable, the operating limits and requirements specified in 40 CFR 60.5170 and 40 CFR 60.5175. Compliance shall be demonstrated as specified in 40 CFR 60.5185, 40 CFR 60.5190, 40 CFR 60.5195, 40 CFR 60.5200, 40 CFR 60.5205, 40 CFR 60.5210, and 40 CFR 60.5215. The permittee shall establish and meet operating limits and requirements for each combustion chamber, the fugitive emissions from ash handling and the wet scrubbers as outlined below (see Table 4 of 40 CFR 60 Subpart M M M M):

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording ^a	Data averaging period for compliance
All sewage sludge incineration units				
Combustion chamber operating temperature (not required if afterburner temperature is monitored)	Minimum combustion chamber operating temperature or afterburner temperature	Continuous	Every 15 minutes	12-hour block.
Fugitive emissions from ash handling	Site-specific operating requirements	Not applicable	No applicable	Not applicable.
Scrubber				
Pressure drop across each wet scrubber	Minimum pressure drop	Continuous	Every 15 minutes	12-hour block.
Scrubber liquid flow rate	Minimum flow rate	Continuous	Every 15 minutes	12-hour block.
Scrubber liquid pH	Minimum pH	Continuous	Every 15 minutes	3-hour block.

^aThis recording time refers to the minimum frequency that the continuous monitor or other measuring device initially records data. For all data recorded every 15 minutes, you must calculate hourly arithmetic averages. For all parameters, you use hourly averages to calculate the 12-hour or 3-hour block average specified in this table for demonstrating compliance. You maintain records of 1-hour averages. (9VAC5-80-110 and 9VAC5-40-8290B)