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Facility Name: **City of Canton-Water Pollution Cntrl Ctr**

Application Number: **15-1283**

Date: **Draft PTI (Date will be entered upon final issuance)**

### **GENERAL PERMIT CONDITIONS**

#### **TERMINATION OF PERMIT TO INSTALL**

Substantial construction for installation must take place within 18 months of the effective date of this permit. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

#### **NOTICE OF INSPECTION**

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

#### **CONSTRUCTION OF NEW SOURCES**

The proposed source(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed source(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of Ohio Administrative Code (OAC) Rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations.

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Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet applicable standards.

#### **PERMIT TO INSTALL FEE**

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

#### **PUBLIC DISCLOSURE**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC Rule 3745-49-03.

#### **APPLICABILITY**

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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**BEST AVAILABLE TECHNOLOGY**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**PERMIT TO OPERATE APPLICATION**

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be filed no later than thirty days after commencement of operation.

**SOURCE OPERATION AFTER COMPLETION OF CONSTRUCTION**

This facility is permitted to operate each source described by this permit to install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws and regulations.

Facility Name: **City of Canton-Water Pollution Cntrl Ctr**Application Number: **15-1283**Date: **Draft PTI (Date will be entered upon final issuance)**AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **City of Canton-Water Pollution Cntrl Ctr** located in **Stark** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source Number	Source Identification Description	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
N001	2,160 pounds- per-hour of dry sludge feed, multiple hearth incinerator for sewage sludge with venturi and impingement tray scrubbers Modification	Use of a wet scrubbing system that includes a precooler, a 3-stage impingement tray scrubber, six venturi stages, and a demister.	40 CFR 61 Subpart C	10 grams Be/24 hour period and 0.004 TPY Be
			40 CFR 61 Subpart E	3,200 grams Hg/24 hour period and 1.29 TPY Hg
			40 CFR Part 503	See Additional Special Terms and Conditions Section A
	*		40 CFR Part 60 Subpart O	1.3 pounds PM/ton dry sludge and 6.15 TPY PM;
				Stack emissions, of any gases, discharged into the atmosphere shall not exhibit 20 percent opacity or greater
			3745-17-07	NSPS is more restrictive

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal &amp; OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
N001 Cont'd			3745-17-09	NSPS is more restrictive
			3745-31-05 (BAT)**	1.28 pounds VOC/hour and 5.61 TPY VOC;  0.4 pound SO <sub>2</sub> /hour and 1.8 TPY SO <sub>2</sub> ;  1.3 pounds NO <sub>x</sub> /hour and 5.7 TPY NO <sub>x</sub> ;  49.5 pounds CO/hour and 217 TPY CO;  1.23 pounds Cr/hour and 5.4 TPY Cr;  0.27 pound Pb/hour and 1.2 TPY Pb;  0.3 pound Ni/hour and 1.31 TPY Ni
N002	2,160 pounds-per-hour of dry sludge feed, multiple hearth incinerator for sewage sludge with venturi and impingement tray scrubbers	Use of a wet scrubbing system that includes a precooler, a 3-stage impingement tray scrubber, six venturi stages, and a demister.	40 CFR 61 Subpart C  40 CFR 61 Subpart E  40 CFR Part 503	10 grams Be/24 hour period and 0.004 TPY Be  3,200 grams Hg/24 hour period and 1.29 TPY Hg  See Additional Special Terms and Conditions

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal &amp; OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
N002 Cont'd	Modification  *			Section A
			40 CFR Part 60 Subpart O	1.3 pounds PM/ton dry sludge and 6.15 TPY PM;
				Stack emissions, of any gases, discharged into the atmosphere shall not exhibit 20 percent opacity or greater
			3745-17-07	NSPS is more restrictive
			3745-17-09	NSPS is more restrictive
			3745-31-05 (BAT)**	1.28 pounds VOC/hour and 5.61 TPY VOC;
				0.4 pound SO <sub>2</sub> /hour and 1.8 TPY SO <sub>2</sub> ;
				1.3 pounds NO <sub>x</sub> /hour and 5.7 TPY NO <sub>x</sub> ;
				49.5 pounds CO/hour and 217 TPY CO;
				1.23 pounds Cr/hour and 5.4 TPY Cr;

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal &amp; OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
N002 Cont'd				0.27 pound Pb/hour and 1.2 TPY Pb;  0.3 pound Ni/hour and 1.31 TPY Ni

\*Note: This Permit to Install is for the upgrade of existing incinerators N001 and N002. These incinerators were upgraded to ensure compliance with 40 CFR Part 503. The physical changes included: new refractory, new rabble arms and rabble teeth, new burners on Hearth 3, new post combustion burner, modification to existing burners, and upgrade of the scrubbing system.

\*\* Emission limitations for pollutants other than mercury and beryllium have been established in accordance with Ohio EPA's BAT requirement.

\*\*\*SUMMARY

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
PM	6.15
VOC	5.61
SO <sub>2</sub>	1.8
NO <sub>x</sub>	5.7
CO	217.0
Be	0.004
Mercury	1.29
Chromium	5.4
Lead	1.2
Nickel	1.31

\*\*\* The allowable emissions information contained under this Summary section is for informational purposes only and is not enforceable.

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Note: This facility operates two identical incinerators, N001 and N002. Only one of these two incinerators shall be allowed to operated at any one time, except during the switchover from one incinerator to the other. Consequently the annual allowable emissions reflect the operation of just one incinerator.

**NESHAP REQUIREMENTS**

The following source(s) are subject to the applicable provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAP) as promulgated by the United States Environmental Protection Agency under 40 CFR Part 61.

<b><u>Source Number</u></b>	<b><u>Source Description</u></b>	<b><u>NESHAP Regulation (Subpart)</u></b>
N001 and N002	Sludge incinerator	C and E

The application and enforcement of these standards are delegated to Ohio EPA. The requirements of 40 CFR Part 61 are also federally enforceable.

Pursuant to the NESHAP, the source owner/operator is required to report the following milestones:

- a. date of commencement of construction ( no later than 30 days after such date);
- b. anticipated date of initial start-up (not more than 60 days or less than 30 days prior to such date);
- c. actual date of initial start-up (within 15 days after such date); and,
- d. date of performance testing (at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency  
DAPC - Permit Management Unit  
P.O. Box 163669  
Columbus, OH 43216-3669

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and **Canton Air Pollution Control**

**420 Market Avenue North**

**Canton, OH 44702-1544**

#### **RECORD(S) RETENTION AND AVAILABILITY**

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

#### **REPORTING REQUIREMENTS**

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Canton Air Pollution Control, 420 Market Avenue North, Canton, OH 44702-1544.**

#### **WASTE DISPOSAL**

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

#### **MAINTENANCE OF EQUIPMENT**

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

#### **MALFUNCTION/ABATEMENT**

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Canton Air Pollution Control, 420 Market Avenue North, Canton, OH 44702-1544.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

**AIR POLLUTION NUISANCES PROHIBITED**

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

**ADDITIONAL SPECIAL TERMS AND CONDITIONS**

**I. Incinerator No. 1 (N001)**

**A. Operational Restrictions (N001)**

1. This emissions unit is subject to all applicable provisions of the final Standards for the Use or Disposal of Sewage Sludge as promulgated by the United States Environmental Protection Agency under 40 CFR, Part 503, Subpart E, which applies to facilities that incinerate sewage sludge.
2. The owner/operator shall provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained. The permittee shall collect a representative grab sample of the sludge fed to the incinerator once per day. The facility shall analyze the sample for volatile solids content and dry sludge content once per day.
3. If a subsequent performance test shows PM emissions exceed 0.75 pound per ton of dry sludge, the formulation established in 40 CFR 60.155(a)(1)(i) shall be used to determine the allowable pressure drop range. An exceedance of the pressure drop operating level is considered to have occurred when the pressure drop across the scrubber is less than the minimum acceptable level for a duration of 15 minutes or more in an hour and measured only when the sludge is being charged to the incinerator (i.e., excluding downtime, start-up, and shut-down periods).
4. Except as noted, the average oxygen content of the incinerator exhaust gas for each one-hour incinerator operating period shall not exceed the oxygen content measured during the most recent performance test by more than 3 percent. During the performance test conducted on 10/9/96 the average oxygen concentration was 3.3 percent; so, the limit until another performance test is done is 6.3 percent. If the last previous satisfactory performance test showed a particulate matter emission rate of less than 0.75 lb/ton charged, the oxygen content does not have to be maintained below the designated threshold.

5. Except as noted, every hearth shall be maintained at a temperature to be determined during a performance test in which compliance is demonstrated. The operation of the sewage sludge incinerator shall not exceed the maximum or minimum combustion temperatures (averaged over each one-hour incinerator operating period) as determined during the performance test of the sludge incinerator. If the last previous satisfactory performance test showed a particulate matter emission rate of less than 0.75 lb/ton charged, the temperature does not have to be monitored and these minimum and maximum limits will not have to be met.
6. This facility operates two identical incinerators, N001 and N002. The permittee shall only operate one of these two incinerators at any one time, except during the switchover from one incinerator to the other.

**B. Monitoring and/or Recordkeeping Requirements (N001)**

1. Beryllium and mercury shall be monitored as specified under 40 CFR 61 Subparts C and E, respectively.
2. This facility shall install, calibrate, maintain, and operate the following monitoring devices:
  - a. a flow measuring device which can be used to continuously determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall be certified by the manufacturer to have an accuracy of plus/minus 5 percent over its operating range. The amount of sludge shall be recorded during all periods of operation;
  - b. a monitoring device that continuously measures and records the pressure drop of the gas flow through the wet scrubbing device. Where a combination of wet scrubbers is used in series, the pressure drop of the gas flow through the combined system shall be continuously monitored. The device used to monitor the scrubber pressure drop shall be certified by the manufacturer to be accurate within plus/minus 1 inch water gauge and shall be calibrated on an annual basis in accordance with the manufacturer's instructions;
  - c. 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 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 plus/minus 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;
- d. a monitoring device that monitors the water flow rate through the scrubber so that proper operation of the scrubber can be verified;
  - e. a temperature measuring device at every hearth. A minimum of one thermocouple shall be installed in each hearth in the cooling and drying zones, and a minimum of two thermocouples shall be installed in each hearth in the combustion zone; and,
  - f. a continuous measuring device for measuring fuel flow to the incinerator. Each fuel flow measuring device shall be certified by the manufacturer to have an accuracy of plus/minus 5 percent over its operating range.
3. If the particulate matter emission rate measured during the most recent performance test is less than 0.75 lb/ton, this facility shall not be required to operate continuous monitoring devices for the mass or volume of sludge charged to the incinerator (Condition B.2.a), temperature of the hearths (Condition B.2.e), and the fuel flow to the incinerator (Condition B.2.f).
  4. If exempt from continuous monitoring of the mass or volume of sludge per Condition B.3, then the facility shall maintain daily records of the amount of sludge charged.
  5. The permittee shall collect a representative grab sample of the sludge fed to the incinerator once per day. The facility shall analyze the sample for volatile solids content and dry sludge content once per day.
  6. Unless the permittee is exempt from monitoring fuel flow, temperature, and rate of sludge as noted in Condition B.3, the following quality assurance/quality control requirements shall apply:

- a. fuel flow continuous monitoring - quarterly calibration error checks;
  - b. temperature continuous monitoring - quarterly calibration error checks; and,
  - c. rate of sludge charged to the incinerator continuous monitoring - quarterly calibration error checks.
7. The permittee shall maintain the following monitoring records and retain the following information in its files for a period of not less than five (5) years:
- a. a continuous or daily record of the pressure drop of the gas flow through the scrubber and the 15-minute average of the pressure drop;
  - b. a continuous or daily record of the rate of sludge charged to the incinerator according to additional term and condition B.2.a;
  - c. \* a daily record of the sludge sampling, dry sludge content, and the volatile solids content of the sludge charged to the incinerator;
  - d. \* a continuous record of the fuel flow to the incinerator;
  - e. \* a continuous record of the temperatures in every hearth of the multiple hearth incinerator;
  - f. a continuous record of the oxygen content of the exhaust gas;
  - g. records of any information that indicate that the requirements of 40 CFR 61 Parts C and E have been met;
  - h. daily records identifying the maximum and minimum value of each operating parameter (e.g. temperature of each hearth in the cooling and drying zones and the combustion zone, combined scrubber pressure drop, scrubber liquid flow range, oxygen content of the incinerator exhaust gas) that is not to be exceeded. These levels are based on the results of the performance test during which compliance was demonstrated; and,
  - i. records of monitoring equipment calibration checks.

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The information shall be made available to the Director or any authorized representative of the Director, for review during normal business hours.

\* A record and report of the fuel flow, total solids and volatile solids content of the sludge charged to the incinerator, and incinerator bed temperature is not required if emissions tests of the incinerator demonstrate that particulate matter (PM) emissions are less than 0.75 pound PM per ton of dry sludge input.

8. Records of emission test results and other data needed to determine total emissions from N001 and N002 of all pollutants listed in this permit shall be retained at the facility and shall be made available for inspection by the Director or a representative of the Ohio EPA for a minimum of five years.
9. The permittee shall maintain daily records of the time periods during which N001 and N002 are in operation.

**C. Reporting Requirements (N001)**

1. If the average particulate matter emission rate measured during the most recent compliance test exceeds 0.75 lb/ton of dry sludge input, the permittee shall submit to the Canton Local Air Agency semi annually a report in writing which contains the following:
  - a. a record of average scrubber pressure drop measurements for each period of 15 minutes duration or more during which the pressure drop of the scrubber was less than, by a percentage specified below, the average scrubber pressure drop measured during the most recent performance test. The percent reduction in scrubber pressure drop for which a report is required shall be determined as follows:
    - i. a percent reduction in pressure drop greater than that calculated according to the following equation shall be reported

$$P = -111E+72.15$$

where P = Percent reduction in pressure drop,  
and

E = Average particulate matter emissions  
(kg/megagram)

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- b. a record of average oxygen content in the incinerator exhaust gas for each period of 1-hour duration or more that the oxygen content of the incinerator exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent; and,
    - c. a record of when the incinerator combustion zone temperature falls below a minimum temperature, to be determined during a compliance test in which compliance was demonstrated.
  2. If the average particulate matter emission rate measured during the most recent compliance test exceeds 0.75 lb/ton of dry sludge input, the permittee shall include in the semi annual exceedance report (described in term C.1 above) for each calendar day that an increase in oxygen content of exhaust gas is reported a record of the following:
    - a. the scrubber pressure drop average over each one-hour incinerator operating period;
    - b. the oxygen content in the incinerator exhaust over each one-hour incinerator operating period;
    - c. the temperature of the incinerator, averaged over each one-hour incinerator operating period;
    - d. the rate of sludge charged to the incinerator, averaged over each one-hour incinerator operating period;
    - e. the incinerator fuel use averaged over each eight-hour incinerator operating period; and,
    - f. the moisture and volatile solids content of the daily grab sample of sludge charged to the incinerator.

These semi-annual reports shall be submitted by January 30 and July 30 of each year and shall cover the previous six calendar months (January through June and July through December, respectively).

3. The permittee shall submit exceedance reports for each day during which incinerators N001 and N002 were in continuous operation simultaneously (except during

periods of switchover). The report shall include the reasons for the excursion and any actions which were taken to correct the operational infraction.

**D. Testing Requirements and Compliance Methods (N001)**

1. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation

- 1.3 pounds of particulate matter per ton of dry sludge feed

- Applicable Compliance Method

- Compliance shall be determined using the test methods and equations specified in 40 CFR 60.154.

- b. Emission Limitation

- 10 grams of beryllium over a 24-hour period

- Applicable Compliance Method

- USEPA Methods 103 or 104 (40 CFR Part 61, Appendix B) and as described in 40 CFR 61.33. USEPA Method 29 may also be used to determine maximum emissions over a 24-hour period. Or an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61 (same as for mercury sampling).

- c. Emission Limitation

- 3,200 grams of mercury over a 24-hour period

- Applicable Compliance Method

- USEPA Method 101A (40 CFR Part 61, Appendix B) and paragraph 61.54 of 40 CFR 61. USEPA Method 29 may also be used to determine maximum emissions over a 24-hour period. Or an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61.

- d. Emission Limitation

- 1.28 lbs VOC/hr

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Applicable Compliance Method

If required, USEPA Method 25A (40 CFR Part 60, Appendix A).

e. Emission Limitation

0.4 lb SO<sub>2</sub>/hr

Applicable Compliance Method

If required, USEPA Method 6 (40 CFR Part 60, Appendix A).

f. Emission Limitation

1.3 lbs NO<sub>x</sub>/hr

Applicable Compliance Method

If required, USEPA Method 7 (40 CFR Part 60, Appendix A).

g. Emission Limitation

49.5 lbs CO/hr

Applicable Compliance Method

If required, USEPA Method 10 (40 CFR Part 60, Appendix A).

h. Emission Limitation

1.23 lbs chromium/hr

Applicable Compliance Method

If required, USEPA Method 29 (40 CFR Part 60, Appendix A).

i. Emission Limitation

0.27 lb lead/hr

Applicable Compliance Method

If required, USEPA Method 29 (40 CFR Part 60, Appendix A).

j. Emission Limitation

0.3 lb nickel/hr

Applicable Compliance Method

If required, USEPA Method 29 (40 CFR Part 60, Appendix A).

k. Emission Limitation

6.15 tons/year of particulate matter

Applicable Compliance Method

Multiply the NSPS emission limit of 1.3 pounds of PM per ton of dry sludge feed by the actual amount of dry sludge processed per year and, and divide by 2000 lbs/ton.

l. Emission Limitation

0.004 ton/year of beryllium

Applicable Compliance Method

Multiply the NESHAP emission limit of 10 grams of beryllium per 24-hour period by  $2.205 \times 10^{-3}$  lb/gram, then multiply by 365 days per year, and divide by 2000 lbs/ton. Provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations based on 8760 hours/year of operation.

m. Emission Limitation

1.29 tons/year of mercury

Applicable Compliance Method

Multiply the NESHAP emission limit of 3200 grams of mercury per 24-hour period by  $2.205 \times 10^{-3}$  lb/gram, then multiply by 365 days per year, and divide by 2000 lbs/ton. Provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations based on 8760 hours/year of operation.

n. Emission Limitation

5.61 tons/year of VOC  
1.8 tons/year of sulfur dioxide  
5.7 tons/year of nitrogen oxide  
217.0 tons/year of carbon monoxide  
5.4 tons/year of chromium  
1.2 tons/year of lead  
1.31 tons/year of nickel

Applicable Compliance Method

The ton per year limitations were developed by multiplying the lb/hr limitations by the maximum operating schedule of 8760 hrs/yr, and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

o. Visible Emission Limitation

Stack emissions, of any gases, discharged into the atmosphere shall not exhibit 20 percent opacity or greater.

Applicable Compliance Method

USEPA Method 9 (40 CFR Part 60, Appendix A).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements by no later than December 1, 1999:

a. Beryllium Testing - NESHAPs

The permittee shall test emissions from this incinerator for beryllium to comply with 40 CFR 61, Subpart C by conducting:

- i. a stack test using either Method 103 or Method 104 of Appendix B of 40 CFR 61; or
- ii. an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61 (same method as used for mercury sampling); or
- iii. upon USEPA approval, testing may be performed using sludge analysis methods.

Samples shall be taken over such a period as necessary to determine accurately the maximum emissions which will occur in a 24-hour period. Samples shall be analyzed and emissions determined within 30 days after the emissions unit performance or stack test.

b. Mercury Testing - NESHAPs

The permittee shall test emissions from this incinerator for mercury to comply with 40 CFR 61, Subpart E by conducting:

- i. a stack test using Method 101A in Appendix B and paragraph 61.54 of 40 CFR 61 or Method 29; or
- ii. an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61; or
- iii. upon EPA approval, testing may be performed using sludge analysis methods.

Samples shall be taken over such a period as necessary to determine accurately the maximum emissions which will occur in a 24-hour period. Samples shall be analyzed and emissions determined within 30 days after the emissions unit performance or stack test.

If test results show that mercury emissions do not exceed 1,600 grams per 24-hour period after two years of testing, further testing for mercury emissions shall be done at the time of renewal for the operating permit for this emissions unit.

c. Particulate matter testing

Testing for particulate matter shall be performed as outlined in 40 CFR 60.154 and 40 CFR 60.8.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

e. The test(s) shall be conducted to determine compliance with the mercury, beryllium, and

particulate matter standards only in order to satisfy both the NSPS and NESHAP requirements. However, the Canton Local Air Agency reserves the right to require performance testing for each of the other pollutants listed in this permit if it is determined that the emissions unit is either the cause of a nuisance condition and/or is necessary to verify the compliance status with the emissions limitations of this permit.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton Air Pollution Control. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton Air Pollution Control's refusal to accept the results of the emission test(s).

Personnel from the Canton Air Pollution Control's shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton Air Pollution Control's within 30 days following completion of the test(s).

**E. Miscellaneous Requirements (N001)**

None.

**II. Incinerator No. 2 (N002)**

**A. Operational Restrictions (N002)**

1. This emissions unit is subject to all applicable provisions of the final Standards for the Use or Disposal of Sewage Sludge as promulgated by the United States Environmental Protection Agency under 40 CFR, Part 503, Subpart E, which applies to facilities that incinerate sewage sludge.

2. The owner/operator shall provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained. The permittee shall collect a representative grab sample of the sludge fed to the incinerator once per day. The facility shall analyze the sample for volatile solids content and dry sludge content once per day.
3. If a subsequent performance test shows PM emissions exceed 0.75 pound per ton of dry sludge, the formulation established in 40 CFR 60.155(a)(1)(i) shall be used to determine the allowable pressure drop range. An exceedance of the pressure drop operating level is considered to have occurred when the pressure drop across the scrubber is less than the minimum acceptable level for a duration of 15 minutes or more in an hour and measured only when the sludge is being charged to the incinerator (i.e., excluding downtime, start-up, and shut-down periods).
4. Except as noted, the average oxygen content of the incinerator exhaust gas for each one-hour incinerator operating period shall not exceed the oxygen content measured during the most recent performance test by more than 3 percent. During the performance test conducted on 10/9/96 the average oxygen concentration was 3.3 percent; so, the limit until another performance test is done is 6.3 percent. If the last previous satisfactory performance test showed a particulate matter emission rate of less than 0.75 lb/ton charged, the average oxygen content does not have to be maintained below the designated threshold.
5. Except as noted, every hearth shall be maintained at a temperature to be determined during a performance test in which compliance is demonstrated. The operation of the sewage sludge incinerator shall not exceed the maximum or minimum combustion temperatures (averaged over each one-hour incinerator operating period) as determined during the performance test of the sludge incinerator. If the last previous satisfactory performance test showed a particulate matter emission rate of less than 0.75 lb/ton charged, the temperature does not have to be monitored and these minimum and maximum limits will not have to be met.
6. This facility operates two identical incinerators, N001 and N002. Only one of these two incinerators shall be allowed to operate at any one time, except during the switchover from one incinerator to the other.

**B. Monitoring and/or Recordkeeping Requirements (N002)**

1. Beryllium and mercury shall be monitored as specified under 40 CFR 61 Subparts C and E, respectively.
2. This facility shall install, calibrate, maintain, and operate the following monitoring devices:
  - a. a flow measuring device which can be used to continuously determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall be certified by the manufacturer to have an accuracy of plus/minus 5 percent over its operating range. The amount of sludge shall be recorded during all periods of operation;
  - b. a monitoring device that continuously measures and records the pressure drop of the gas flow through the wet scrubbing device. Where a combination of wet scrubbers is used in series, the pressure drop of the gas flow through the combined system shall be continuously monitored. The device used to monitor the scrubber pressure drop shall be certified by the manufacturer to be accurate within plus/minus 1 inch water gauge and shall be calibrated on an annual basis in accordance with the manufacturer's instructions;
  - c. 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 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 plus/minus 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;
  - d. a monitoring device that monitors the water flow rate through the scrubber so that proper operation of the scrubber can be verified;
  - e. a temperature measuring device at every hearth. A minimum of one thermocouple shall be installed in

each hearth in the cooling and drying zones, and a minimum of two thermocouples shall be installed in each hearth in the combustion zone; and,

- f. a continuous measuring device for measuring fuel flow to the incinerator. Each fuel flow measuring device shall be certified by the manufacturer to have an accuracy of plus/minus 5 percent over its operating range
3. If the particulate matter emission rate measured during the most recent performance test is less than 0.75 lb/ton, this facility shall not be required to operate continuous monitoring devices for the mass or volume of sludge charged to the incinerator (Condition B.2.a), temperature of the hearths (Condition B.2.e), and the fuel flow to the incinerator (Condition B.2.f).
  4. If exempt from continuous monitoring of the mass or volume of sludge per Condition B.3, then the facility shall maintain daily records of the amount of sludge charged.
  5. The permittee shall collect a representative grab sample of the sludge fed to the incinerator once per day. The facility shall analyze the sample for volatile solids content and dry sludge content once per day.
  6. Unless the permittee is exempt from monitoring fuel flow, temperature, and rate of sludge as noted in Condition B.3, the following quality assurance/quality control requirements shall apply:
    - a. fuel flow continuous monitoring - quarterly calibration error checks;
    - b. temperature continuous monitoring - quarterly calibration error checks; and,
    - c. rate of sludge charged to the incinerator continuous monitoring - quarterly calibration error checks.
  7. The permittee shall maintain the following monitoring records and retain the following information in its files for a period of not less than five (5) years:
    - a. a continuous or daily record of the pressure drop of the gas flow through the scrubber and the 15-minute average of the pressure drop;

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- b. a continuous or daily record of the rate of sludge charged to the incinerator according to Additional Special Term and Condition B.2.a;
- c. \* a daily record of the sludge sampling, dry sludge content, and the volatile solids content of the sludge charged to the incinerator;
- d. \*a continuous record of the fuel flow to the incinerator;
- e. \*a continuous record of the temperatures in every hearth of the multiple hearth incinerator;
- f. a continuous record of the oxygen content of the exhaust gas;
- g. records of any information that indicate that the requirements of 40 CFR 61 Parts C and E have been met;
- h. daily records identifying the maximum and minimum value of each operating parameter (e.g. temperature of each hearth in the cooling and drying zones and the combustion zone, combined scrubber pressure drop, scrubber liquid flow range, oxygen content of the incinerator exhaust gas) that is not to be exceeded. These levels are based on the results of the performance test during which compliance was demonstrated; and,
- i. records of monitoring equipment calibration checks.

The information shall be made available to the Director or any authorized representative of the Director, for review during normal business hours.

- \* A record and report of the fuel flow, total solids and volatile solids content of the sludge charged to the incinerator, and incinerator bed temperature is not required if emissions tests of the incinerator demonstrate that particulate matter (PM) emissions are less than 0.75 pound PM per ton of dry sludge input.

- 8. Records of emission test results and other data needed to determine total emissions from N001 and N002 of all pollutants listed in this permit shall be retained at the

facility and shall be made available for inspection by the Director or a representative of the Ohio EPA for a minimum of five years.

9. The permittee shall maintain daily records of the time periods during which N001 and N002 are in operation.

**C. Reporting Requirements (N002)**

1. If the average particulate matter emission rate measured during the most recent compliance test exceeds 0.75 lb/ton of dry sludge input, the permittee shall submit to the Canton Local Air Agency semi annually a report in writing which contains the following:
  - a. a record of average scrubber pressure drop measurements for each period of 15 minutes duration or more during which the pressure drop of the scrubber was less than, by a percentage specified below, the average scrubber pressure drop measured during the most recent performance test. The percent reduction in scrubber pressure drop for which a report is required shall be determined as follows:
    - i. a percent reduction in pressure drop greater than that calculated according to the following equation shall be reported
$$P = -111E+72.15$$
where P = Percent reduction in pressure drop, and  
E = Average particulate matter emissions (kg/megagram)
  - b. a record of average oxygen content in the incinerator exhaust gas for each period of 1-hour duration or more that the oxygen content of the incinerator exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent; and,
  - c. a record of when the incinerator combustion zone temperature falls below a minimum temperature, to be determined during a compliance test in which compliance was demonstrated.
2. If the average particulate matter emission rate measured during the most recent compliance test exceeds 0.75 lb/ton of dry sludge input, the permittee shall include in the semi annual exceedance report (described in term C.1 above) for each calendar day that an increase in

oxygen content of exhaust gas is reported a record of the following:

- a. the scrubber pressure drop average over each one-hour incinerator operating period;
- b. the oxygen content in the incinerator exhaust over each one-hour incinerator operating period;
- c. the temperature of the incinerator, averaged over each one-hour incinerator operating period;
- d. the rate of sludge charged to the incinerator, averaged over each one-hour incinerator operating period;
- e. the incinerator fuel use averaged over each eight-hour incinerator operating period; and,
- f. the moisture and volatile solids content of the daily grab sample of sludge charged to the incinerator.

These semi-annual reports shall be submitted by January 30 and July 30 of each year and shall cover the previous six calendar months (January through June and July through December, respectively).

3. The permittee shall submit exceedance reports for each day during which incinerators N001 and N002 were in continuous operation simultaneously (except during periods of switchover). The report shall include the reasons for the excursion and any actions which were taken to correct the operational infraction.

**D. Testing Requirements and Compliance Methods (N002)**

1. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

a. Emission Limitation

1.3 pounds of particulate matter per ton of dry sludge feed

Applicable Compliance Method

Compliance shall be determined using the test methods and equations specified in 40 CFR 60.154.

b. Emission Limitation

10 grams of beryllium over a 24-hour period

Applicable Compliance Method

USEPA Methods 103 or 104 (40 CFR Part 61, Appendix B) and as described in 40 CFR 61.33. USEPA Method 29 may also be used to determine maximum emissions over a 24-hour period. Or an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61 (same as for mercury sampling).

c. Emission Limitation

3,200 grams of mercury over a 24-hour period.

Applicable Compliance Method

USEPA Method 101A (40 CFR Part 61, Appendix B) and paragraph 61.54 of 40 CFR 61. USEPA Method 29 may also be used to determine maximum emissions over a 24-hour period. Or an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61.

d. Emission Limitation

1.28 lbs VOC/hr

Applicable Compliance Method

If required, USEPA Method 25A (40 CFR Part 60, Appendix A).

e. Emission Limitation

0.4 lb SO<sub>2</sub>/hr

Applicable Compliance Method

If required, USEPA Method 6 (40 CFR Part 60, Appendix A).

f. Emission Limitation

1.3 lbs No<sub>x</sub>/hr

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Applicable Compliance Method

If required, USEPA Method 7 (40 CFR Part 60, Appendix A).

g. Emission Limitation

49.5 lbs CO/hr

Applicable Compliance Method

If required, USEPA Method 10 (40 CFR Part 60, Appendix A).

h. Emission Limitation

1.23 lbs chromium/hr

Applicable Compliance Method

If required, USEPA Method 29 (40 CFR Part 60, Appendix A).

i. Emission Limitation

0.27 lb lead/hr

Applicable Compliance Method

If required, USEPA Method 29 (40 CFR Part 60, Appendix A).

j. Emission Limitation

0.3 lb nickel/hr

Applicable Compliance Method

If required, USEPA Method 29 (40 CFR Part 60, Appendix A).

k. Emission Limitation

6.15 tons/year of particulate matter

Applicable Compliance Method

Multiply the NSPS emission limit of 1.3 pounds of PM per ton of dry sludge feed by the actual amount

of dry sludge processed per year and, and divide by 2000 lbs/ton.

1. Emission Limitation

0.004 ton/year of beryllium

Applicable Compliance Method

Multiply the NESHAP emission limit of 10 grams of beryllium per 24-hour period by 2.205 E-03 lb/gram, then multiply by 365 days per year, and divide by 2000 lbs/ton. Provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations based on 8760 hours/year of operation.

m. Emission Limitation

1.29 tons/year of mercury

Applicable Compliance Method

Multiply the NESHAP emission limit of 3200 grams of mercury per 24-hour period by 2.205 E-03 lb/gram, then multiply by 365 days per year, and divide by 2000 lbs/ton. Provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations based on 8760 hours/year of operation.

n. Emission Limitation

5.61 tons/year of VOC  
1.8 tons/year of sulfur dioxide  
5.7 tons/year of nitrogen oxide  
217.0 tons/year of carbon monoxide  
5.4 tons/year of chromium  
1.2 tons/year of lead  
1.31 tons/year of nickel

Applicable Compliance Method

The ton per year limitations were developed by multiplying the lb/hr limitations by the maximum operating schedule of 8760 hrs/yr, and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

o. Visible Emission Limitation

Stack emissions, of any gases, discharged into the atmosphere shall not exhibit 20% opacity or greater.

Applicable Compliance Method

USEPA Method 9 (40 CFR Part 60, Appendix A).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements by no later than December 1, 1999:

a. Beryllium Testing - NESHAPs

The permittee shall test emissions from this incinerator for beryllium to comply with 40 CFR 61, Subpart C by conducting:

- i. a stack test using either Method 103 or Method 104 of Appendix B of 40 CFR 61; or
- ii. an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61 (same as for mercury sampling); or
- iii. upon USEPA approval, testing may be performed using sludge analysis methods.

Samples shall be taken over such a period as necessary to determine accurately the maximum emissions which will occur in a 24-hour period. Samples shall be analyzed and emissions determined within 30 days after the emissions unit performance or stack test.

b. Mercury Testing - NESHAPs

The permittee shall test emissions from this incinerator for mercury to comply with 40 CFR 61, Subpart E by conducting:

- i. a stack test using Method 101A in Appendix B and paragraph 61.54 of 40 CFR 61 or Method 29; or
- ii. an annual sludge sampling test using Method 105 in Appendix B and paragraph 61.54 of 40 CFR 61; or

iii. upon USEPA approval, testing may be performed using sludge analysis methods.

Samples shall be taken over such a period as necessary to determine accurately the maximum emissions which will occur in a 24-hour period. Samples shall be analyzed and emissions determined within 30 days after the emissions unit performance or stack test.

If test results show that mercury emissions do not exceed 1,600 grams per 24-hour period after two years of testing, further testing for mercury emissions shall be done at the time of renewal for the operating permit for this emissions unit.

c. Particulate matter testing

Testing for particulate matter shall be performed as outlined in 40 CFR 60.154 and 40 CFR 60.8.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

e. The test(s) shall be conducted to determine compliance with the mercury, beryllium, and particulate matter standards only in order to satisfy both the NESHAP and NSPS requirements. However, the Canton Local Air Agency reserves the right to require performance testing for each of the other pollutants listed in this permit if it is determined that the emissions unit is either the cause of a nuisance condition and/or is necessary to verify the compliance status with the emissions limitations of this permit.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton Air Pollution Control . The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton Air Pollution Control's refusal to accept the results of the emission test(s).

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Personnel from the Canton Air Pollution Control shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton Air Pollution Control within 30 days following completion of the test(s).

**E. Miscellaneous Requirements (N002)**

None.