NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review

Permit Issue Date:

Region: Wilmington Regional Office
County: New Hanover
NC Facility ID: 6500263
Inspector's Name: Lynette Bryan
Date of Last Inspection: 07/25/2007
Compliance Code: 3/In Compliance - Inspection

Facility Data

Applicant (Facility's Name): New Hanover County WASTEC

Facility Address:
New Hanover County WASTEC
3002 Highway 421 North
Wilmington, NC 28401

SIC: 4953 / Refuse Systems
NAICS: 562213 / Solid Waste Combustors and Incinerators

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP:
NSPS:
NESHAP:
PSD:
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
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Application Data

Application Number: 6500263.98A
Date Received: 12/01/1998
Application Type: Modification
Application Schedule: TV-1st Time

Existing Permit Data
Existing Permit Number: 05151/R16
Existing Permit Issue Date: 02/06/2007
Existing Permit Expiration Date: 09/01/2009

Review Engineer: Joseph Voelker

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 05151/T17
Permit Issue Date:
Permit Expiration Date:

I. Introduction

The U.S. Environmental Protection Agency (EPA) has given final approval to North Carolina's Title V operating permits program effective on October 1, 2001. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

This Initial Title V Air Permit application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the Title V operating permit.

New Hanover County WASTEC (WASTEC) submitted its initial TV application on December 01, 1998.

II. Chronology

Date	Description
December 1, 1998	Initial TV Permit application submitted to the DAQ

Date	Description
August 15, 2007	Application assigned to JMV

III. Regulatory Review

Two municipal waste combustors as described in the table below:

Emission Source I.D. No.	Emission Source Description	Control Device I.D. No.	Control Device Description
ES-1A	Natural gas/municipal waste massburn waterwall combustor (42 million Btu per hour heat input, 4.17 tons per hour charging capacity)	CD-1A-UI	Urea injection system (2-5 gallons per hour injection rate)
		CD-1A-CIS	Carbon injection system (2-50 pounds per hour injection rate)
		CD-1A-SD	spray-dry scrubber (144 gallons per hour maximum liquid injection rate)
		CD-1A-FF	fabric filter (11,445 square feet of filter area)
ES-2A	Natural gas/municipal waste massburn waterwall combustor (42 million Btu per hour heat input, 4.17 tons per hour charging capacity)	CD-2A-UI	Urea injection system (2-5 gallons per hour injection rate)
		CD-2A-CIS	Carbon injection system (2-50 pounds per hour injection rate)
		CD-2A-SD	spray-dry scrubber (144 gallons per hour maximum liquid injection rate)
		CD-2A-FF	fabric filter (11,445 square feet of filter area)

Units 1 and 2 were both installed and operated between 1982 and 1984. Each have the capacity to burn 100 tons of municipal waste per day at a maximum heat input of 42 million Btu per hour. Each is also equipped with a 15.7 mmBtu per hour natural gas burner for backup fuel only.

Since the date of the initial permit application (1998) submittal the regulatory applicability has changed. An explanation of the changes will be included.

Regulations addressed in current permit that are no longer applicable

15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation states:

> (b) A source subject to an emission standard for sulfur dioxide in Rules .0524, .0527, .1110, .1111, .1205, .1206, .1210, or .1211 of this Subchapter shall meet the standard in that particular rule instead of the standard in Paragraph (a) of this Rule.

2D .1205 has an emission standard for SO_2 that applies to these sources. As such this regulation no longer applies. It will be removed from the revised air permit.

15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

This regulation states:

> (b) Scope. This Rule shall apply to all fuel burning sources and to other processes that may have a visible emission.
>
> However, sources subject to a visible emission standard in Rules .0506, .0508, .0524, .0543, .0544, .1110, .1111, .1205, .1206, .1210, or .1211 of this Subchapter shall meet that standard instead of the standard contained in this Rule.

2D .1205 has a visible emission standard that applies to these sources. As such this regulation no longer applies. It will be removed from the revised air permit.

15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART E

This regulation states

> § 60.50 Applicability and designation of affected facility.
>
> (e) Any facility covered by subpart FFF or JJJ of part 62 of this title (Federal section 111(d)/129 plan implementing subpart Cb or BBBB of this part) is not covered by this subpart

Units 1 and 2 are covered by Subpart JJJ, As such, this rule does not apply. It will be removed from the revised air permit.

Current applicable regulations

40 CFR 62 Subpart JJJ - Federal Plan Requirements for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999

This regulation states:

> § 62.15000 What is the purpose of this subpart?
>
> (a) This subpart establishes emission requirements and compliance schedules for the control of emissions from existing small municipal waste combustion units that are not covered by an EPA approved and effective State plan. The pollutants addressed by these emission requirements are listed in tables 2, 3, 4, and 5 of this subpart. These emission requirements are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of 40 CFR part 60. (b) In this subpart, "you" means the owner or operator of a small municipal waste combustion unit.

Since units 1 and 2 are not covered by an EPA approved and effective State plan this federal plan applies. As this plan is federally enforceable only, the Title V permit will reference this regulation but not include detailed requirements by which to demonstrate compliance.

In practice most of the requirements are similar to those required by 2D .1205.

15A NCAC 2D .1205: Municipal Waste Combustors

Status of 2D .1205 with respect to federally approved state implementation plan (SIP)

Currently this regulation is not part of a federally approved state implementation plan (SIP). As such, the conditions to ensure compliance with the requirements of this regulation are state enforceable only.

Because this regulation is not part of a federally approved SIP, the federally enforceable only regulation, ***40 CFR 62 Subpart JJJ - Federal Plan Requirements for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999*** applies to Units 1 and 2 as well. In principle the state regulation (2D .1205) should meet or exceed the requirements of Subpart JJJ. In fact, the 2D .1205 regulation references the Model Rule in ***40 CFR 60 Subpart BBBB—Emission Guidelines and Compliance Times for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999*** which essentially has identical requirements as Subpart JJJ.

Subpart BBBB is applicable to …

> the Administrator of an air quality program in a State or United States protectorate with one or more existing small municipal waste combustion units that commenced construction on or before August 30, 1999, you must submit a State plan to the U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.

Thus Subpart BBBB has the requirements the administrator is supposed to include in the submitted plan, whereas Subpart JJJ has the requirements that apply to the facility if the SIP does not exist.

2D .1205 as currently written has proven to be a very confusing regulation since it references isolated portions of other regulations (including Subpart BBBB) which themselves reference other sections of the same regulation or others, and also applies requirements for large incinerators on small units. In the end, this has made for a somewhat confusing and inconsistent permit to date.

The DAQ is currently revising 2D .1205 by creating one regulation for small MWCs and one for large MWCs. These rules are in various stages of implementation and development. Although the regulations are not in effect, their language clarifies the intent of the original MWC rule.

During this review and subsequent issuance of the initial TV permit an attempt will be made to clarify the requirements of the 2D 1205 rule. Where possible and appropriate the proposed language in the to-be-revised rules will be used.

2D .1205 (13) requires compliance with 2D .1100 and 2D 1205 (14) has specific requirements for four individual TAPs. TAPs will be discussed in **multiple emissions sources** elsewhere in this review.

Discussion

This regulation applies to all three municipal combustors but has different requirements based on size. Units 1 and 2 are identical and based on size are classified as *Class 1 municipal combustors* which are defined in 15A NCAC 2D .1202 as

> "small municipal waste combustion units that are located at municipal waste combustion plants with an aggregate plant combustion capacity greater than 250 tons per day of municipal solid waste"

Small municipal waste combustor is defined in 2D .1202 as:

> each municipal waste combustor unit with a combustion capacity that is greater than 11 tons per day but not more than 250 tons per day of municipal solid waste.

In general this permit condition was substantially reworked to address the following:
- reflect current TV permit layout
- reflect the intent of the regulation
- clarify the applicable emission limitations
- clarify the monitoring recordkeeping and reporting requirements (M/R/R) necessary to demonstrate compliance
- remove extraneous conditions that do not require ongoing consideration for compliance

The attachment entitled **Table of Changes to 2D .1205 Conditions for Units 1 and 2** details the changes between the existing permit and the revised permit.

B. One municipal waste combustor as described in the table below:

Emission Source I.D. No.	Emission Source Description	Control Device I.D. No.	Control Device Description
ES-3A	one natural gas/municipal waste massburn waterwall combustor (113.3 million Btu per hour heat input, 12.52 tons per hour charging capacity)	CD-3A-UI	Urea injection system (2-5 gallons per hour injection rate)
		CD-3A-SD	Spray-dry scrubber (432 gallons per hour maximum liquid injection rate)
		CD-3A-CIS	Carbon injection system (2-50 pounds per hour injection rate)
		CD-3A-FF	Fabric filter (29,544 square feet of filter area)

The unit was manufactured in 1989 and placed in operation in 1990.

Regulations addressed in current permit that are no longer applicable

15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation states:

> (b) A source subject to an emission standard for sulfur dioxide in Rules .0524, .0527, .1110, .1111, .1205, .1206, .1210, or .1211 of this Subchapter shall meet the standard in that particular rule instead of the standard in Paragraph (a) of this Rule.

2D .1205 has an emission standard for SO_2 that applies to these sources. As such this regulation no longer applies. It will be removed from the revised air permit.

15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART Db
(Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units)

This regulation states:

§ 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).
(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:
(k) Any affected facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.

Since unit 3 is subject to **Subpart FFF—Federal Plan Requirements for Large Municipal Waste Combustors Constructed on or Before September 20, 1994** (discussed below) which implements subpart 40 CFR 60 Subpart Cb, Subpart Db does not apply. It will be removed from the revised air permit.

15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART E

This regulation states

§ 60.50 Applicability and designation of affected facility.

(e) Any facility covered by subpart FFF or JJJ of part 62 of this title (Federal section 111(d)/129 plan implementing subpart Cb or BBBB of this part) is not covered by this subpart

Unit 3 is covered by Subpart FFF. As such, this rule does not apply. It will be removed from the revised air permit.

Current applicable regulations

15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

The facility has avoidance conditions for NO_X, CO and SO_2 in the current permit. The facility is required to install CEM systems for these pollutants per 2D .1205. To comply with the annual emissions limitation the facility had also installed a flow monitor.

Contemporaneous with this review, the Compliance Branch of the DAQ was having communication problems with the facility regarding obtaining the data necessary to ensure the Continuous Emission Rate Monitoring System (CERMS) was meeting the requirements of the permit (e.g. compliance with the requirements of PS6).

In the end it was determined the facility was in compliance with the emission limitations. However, with respect to NOx, the controlling pollutant in 2D .0530 compliance, it was discovered that the facility's system was exhibiting bias, that is although the CERMS were meeting PS6, the data was always low, on the order of 15%. A review of the facility's recent emission data suggested if the data had been adjusted to account for bias, the margin of compliance with the 100 tpy threshold was very small. As a result the PSD avoidance was modified to include conditions for the Permittee to test the NOX CERMS for bias and adjust the data as necessary.

In addition the condition was reworked to remove any ambiguity on what was being required by the Permittee.

Subpart FFF—Federal Plan Requirements for Large Municipal Waste Combustors Constructed on or Before September 20, 1994

This regulation states:

§ 62.14100 Scope and delegation of authority.

> (a) This subpart contains emission requirements and compliance schedules for the control of pollutants from certain municipal waste combustors in accordance with section 111(d) and section 129 of the Clean Air Act and 40 CFR part 60, subparts B and Cb. This municipal waste combustor Federal plan applies to each affected facility as defined in §62.14102 that is not covered by an EPA approved and currently effective State or Tribal plan. This Federal plan, or portions thereof, also applies to each affected facility in any State whose approved State plan is subsequently vacated in whole or in part. This Federal plan, or portions thereof, also applies to each affected facility located in Indian country if the approved Tribal plan for that area is subsequently vacated in whole or in part.

Since unit 3 is not covered by an EPA approved and effective State plan, this federal plan applies. As this plan is federally enforceable only, the Title V permit will reference this regulation but not include detailed requirements by which to demonstrate compliance.

In practice most of the requirements are similar to those required by 2D .1205.

15A NCAC 2D .1205: MUNCIPAL WASTE COMBUSTORS

Status of 2D .1205 with respect to federally approved state implementation plan (SIP)

Currently this regulation is not part of a federally approved state implementation plan (SIP). As such, the conditions to ensure compliance with the requirements of this regulation are state enforceable only.

Because this regulation is not part of a federally approved SIP, the federally enforceable only regulation, 40 CFR 62 ***Subpart FFF—Federal Plan Requirements for Large Municipal Waste Combustors Constructed on or Before September 20, 1994*** applies to Unit 3 as well. In principle the state regulation (2D .1205) should meet or exceed the requirements of Subpart FFF. In fact, the 2D .1205 regulation references ***Subpart Cb—Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That are Constructed on or Before September 20, 1994*** which essentially has identical requirements as Subpart FFF.

Subpart Cb contains the requirements the administrator (state) is supposed to submit in the State plan required by 40 CFR 60 Subpart B.

Thus Subpart Cb has the requirements the administrator is supposed to include in the submitted plan, whereas Subpart FFF has the requirements that apply to the facility if the SIP does not exist.

2D .1205 as currently written has proven to be a very confusing regulation since it references isolated portions of other regulations (including Subparts Cb and Eb) which themselves reference other sections of the same regulation or others, and also applies requirements for large incinerators on small units. In the end, this has made for a somewhat confusing and inconsistent permit to date.

The DAQ is currently revising 2D .1205 by creating one regulation for small MWCs and one for large MWCs. These rules are in various stages of implementation and development. Although the regulations are not in effect, their language clarifies the intent of the original MWC rule.

During this review and subsequent issuance of the initial TV permit an attempt will be made to clarify the requirements of the 2D 1205 rule. Where possible and appropriate the proposed language in the to-be-revised rules will be used.

Discussion

In general this permit condition was substantially reworked to address the following:

- reflect current TV permit layout
- reflect the intent of the regulation
- clarify the applicable emission limitations
- clarify the monitoring recordkeeping and reporting requirements (M/R/R) necessary to demonstrate compliance
- remove extraneous conditions that do not require ongoing consideration for compliance

The attachment entitled **Table of Changes to 2D .1205 Conditions for Unit 3** details the changes between the existing permit and the revised permit.

C. One ash handling area (ID No. ES-3D)

The flyash produced by the incinerators is conveyed via closed drag conveyors and injected into the bottom ash sump. The residue is disposed of in the county landfill.

The following table provides a summary of limits and standards for the ash handling area:

Regulated Pollutant	Limits/Standards	Applicable Regulation
fugitive ash	5 percent of the observation period	15A NCAC 2D .1205

15A NCAC 2D .1205: Municipal Waste Combustors

This regulation states:

(12) Fugitive Ash.
(A) On or after the date on which the initial performance test is completed, no owner or operator of a municipal waste combustor shall cause to be discharged to the atmosphere visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of five percent of the observation period (i.e., nine minutes per three-hour block period), as determined by EPA Reference Method 22 observations as specified in 40 CFR 60.58b(k), except as provided in Part (B) of this Subparagraph.
(B) The emission limit specified in Part (A) of this Subparagraph covers visible emissions discharged to the atmosphere from buildings or enclosures, not the visible emissions discharged inside of the building or enclosures, of ash conveying systems.

This regulation specifies Method 22, which simply identifies if visible emissions are present or not. In the current permit the statement "in excess of five percent of the observation period" was misapplied and was incorporated into the air permit as a 5% opacity limit. This will be corrected in the revised permit.

Non-applicable Regulations

15A NCAC 2D .0521 Control of Visible Emissions has an exemption for sources subject to 2D .1205.

Since this source does not have emissions from any stack, vent, or outlet, 15 A NCAC 2D .0515 Particulates from Miscellaneous Industrial Processes, does not apply.

D. One lime storage silo (ID No. ES-3E) and associated bagfilter (ID Nos. CD-3E-BF)

Lime is stored in this silo for use in all three lime slurry scrubbers used to control acid gases (e.g. SO2 and HCl) Typical of storage silos, a bagfilter is used to control PM emissions during the pneumatic loading of the silo from trucks. The silo has been in operation since 1982. The silo has a 6,785 ft^3 storage capacity.

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	A function of process rate	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521

15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

The silo has a 6,785 ft^3 storage capacity. Assuming the lime has a bulk density of 212.3 lb/ft3 (per the application), the silo holds 720 tons of lime. In 2006, the facility only used 709 tons (per the 2006 EI).

Since the emission factors from the application were undocumented, emissions factors to estimate emissions from this operation were taken from Table 11.12-2 from AP-42 emission factors for concrete batching, since silo filling based on lime was not obtainable. These operations however are similar based on pneumatic loading to a silo (SCC 3-05-011-07).

Pollutant	Uncontrolled, lb/ton	Controlled, lb/ton	Implied control, %
PM	.72	.00099	99.9
PM10	.46	.00034	99.9

The bagfilter has only 8.1 square feet of filter area. Per the application the air flow used is 1176 acfm. Thus the unit has an air to cloth area of 1176/8.1 = 145.1 which is very large. 99.9% control would not be expected for a system such as this. However, since this an intermittent process, in fact based on the 2006 data, perhaps filled only annually, it may be able to handle the application.

For inventory purposes the facility claims 90% control. The analysis will proceed with this reduced removal efficiency.

Assuming the filling rate is greater than 30 tph (say, 31 tph), E=55.0(P)^0.11 - 40
Assuming the filling rate is less than or equal to than 30 tph , E= 4.1*(P)^0.67

Filling rate, tph	Allowable PM emission rate, lb/hr	Equivalent lb/ton allowable
66	47.2	0.715
40	42.53	1.06
31	40.2	1.298
30	40	1.33
10	19.2	1.92

Examining the data above it can be seen that lowering the filling rate allows for an increasing allowable emissions on a per ton basis, in all cases resulting in allowable emissions greater than would be predicted by the use of emission factors. For a violation to occur based on no control, the filling rate would have to be increased to 66 tph. If the effect of the bagfilter is considered, any performance at all will ensure compliance.

Based on this analysis it is expected that the silo will be in compliance with 2D .0515.

M/R/R requirements per 2Q .0508(f) will be added to the air permit to ensure compliance with 2D .0515.

15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

Given that the air to cloth ratio is so high visible emissions could occur. No violations have been noted for the silo. However, this could be the result of not witnessing the filling operation since it occurs rarely.

The M/R/R in the permit will be revised to be consistent with the requirements of TV facilities subject to this regulation per 2Q .0508(f).

2.2.A. Multiple Emission Sources Specific Limitations and Conditions

15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The facility has been subject to this rule and has had no violations. Continued compliance with this rule is expected. No significant changes to this **state enforceable only** permit condition will be made.

15A NCAC 2D .1100 CONTROL OF TOXIC AIR POLLUTANTS

This condition was revised in the last state permit revision. 2D .1205 has specific requirements for four individual TAPS (c)(14) and 2D .1100 (c)(13) in general. The review for its current configuration is provided in the previous review (R16) but is presented here with additional comments to clarify implications with the requirements of 2D .1205(c)(14).

2D .1205 requires periodic performance testing, monitoring, recordkeeping and reporting with respect to the emission limits imposed. As a similar SNCR system is already in operation on Unit 3, it is not expected that the addition of the SNCR systems to Units 1 and 2 would have a negative impact on the facility's ability to comply with this regulation. However two parts of this regulation need to be addressed specifically.

Paragraphs 13 and 14 of the regulation state:

> (13) Toxic Emissions. The owner or operator of a municipal waste combustor shall demonstrate compliance with Section .1100 of this Subchapter according to 15A NCAC 02Q .0700.
> (14) Ambient Standards.
> (A) In addition to the ambient air quality standards in Section .0400 of this Subchapter, the following ambient air quality standards, which are an annual average, in milligrams per cubic meter at 77 degrees F (25 degrees C) and 29.92 inches (760 mm) of mercury pressure, and which are increments above background concentrations, shall apply aggregately to all incinerators at a facility subject to this Rule:
> (i) arsenic and its compounds 2.3x10-7
> (ii) beryllium and its compounds 4.1x10-6
> (iii) cadmium and its compounds 5.5x10-6
> (iv) chromium (VI) and its compounds 8.3x10-8
> (B) The owner or operator of a facility with incinerators subject to this Rule shall demonstrate compliance with the ambient standards in Subparts (i) through (iv) of Part (A) of this Subparagraph by following the procedures set out in Rule .1106 of this Subchapter. Modeling demonstrations shall comply with the requirements of Rule .0533 of this Subchapter.
> (C) The emission rates computed or used under Part (B) of this Subparagraph that demonstrate compliance with the ambient standards under Part (A) of this Subparagraph shall be specified as a permit condition for the facility with incinerators as their allowable emission limits unless Rule .0524, .1110, or .1111 of this Subchapter requires more restrictive rates.

With respect to 2D .1205(c)(13), the applicable 2Q .0700 regulation is **15A NCAC 2Q .0705 EXISTING FACILITIES AND SIC CALLS,** specifically 2Q .0705(c) which requires

> "The permit application shall include an evaluation for all toxic air pollutants covered under 15A NCAC 2D .1104 for all sources at the facility, excluding sources exempt from evaluation in Rule .0702 of this Section."

The facility has submitted such an evaluation that was approved by the AQAB in a memo dated September 19, 2007. Note that the facility chose to demonstrate compliance on a facility-wide basis by back calculating the allowable emissions based on impacts reaching 99% of the appropriate AAL guideline.

With respect to 2D .1205(c)(14), four specific TAPs are addressed. The Permittee modeled these with all the other TAPs. These four TAPs, which are already present in the 2D .1100 stipulation will be revised. Note that the AAL guidelines in 2D .1100 are identical for the four TAPs AAL guidelines identified in 2D .1205(c)(14).

The following TAPs are "actually" emitted by the facility, that is, there is test data to support their presence. The modeling report includes the following emission rates (Attachment A, August 24, 2007 modeling report).

	Pollutant	lb/hr	lb/yr	ton/yr
TOTAL	Arsenic	2.93E-04	2.57E+00	1.28E-03
	Beryllium	7.39E-06	6.47E-02	3.24E-05
	Cadmium	1.94E-03	1.70E+01	8.50E-03
	Chromium	8.02E-04	7.03E+00	3.51E-03
	Mercury	8.20E-03	7.18E+01	3.59E-02
	Ammonia	2.25E+00	1.97E+04	9.84E+00
	Nickel	3.33E-03	2.92E+01	1.46E-02
	Sulfuric Acid	5.28E-02	4.62E+02	2.31E-01
	Hydrochloric Acid	1.16E+01	1.01E+05	5.07E+01
	Tetrachlorodibenzo-p-dioxin	6.49E-10	5.69E-06	2.84E-09
	Hexachlorodibenzo-p-dioxin	1.53E-09	1.34E-05	6.70E-09

The facility modeled for these TAPs and all TAPs with an AAL guideline with the exception of asbestos. Thus the facility modeled for most TAPs with unknown magnitudes of emissions. However comparing the documented emissions with the allowable emission rates below it can be reasonably assumed that their should be no special concern that the unknown quantities of TAPS are close to the allowable emission rates per 2D .1100.

Pollutant	actual emissions			allowable emissions	units		
	lb/hr	lb/day	lb/year				
Arsenic	2.93E-04	7.03E-03	2.57E+00	133.9	lb/yr		
Beryllium	7.39E-06	1.77E-04	6.47E-02	2386.4	lb/yr		
Cadmium	1.94E-03	4.66E-02	1.70E+01	3201.2	lb/yr		
Chromium	8.02E-04	1.92E-02	7.03E+00	48.3	lb/yr	117	lb/day
Mercury	8.20E-03	1.97E-01	7.18E+01	11.3	lb/day		
Ammonia	2.25E+00	5.40E+01	1.97E+04	7690.7	lb/hr		
Nickel	3.33E-03	7.99E-02	2.92E+01	1132.7	lb/day		
Sulfuric Acid	5.28E-02	1.27E+00	4.63E+02	2265.4	lb/day	284.8	lb/hr
Hydrochloric Acid	1.16E+01	2.78E+02	1.02E+05	1993.9	lb/hr		
Tetrachlorodibenzo-p-dioxin	6.49E-10	1.56E-08	5.69E-06	1.746	lb/year		
Hexachlorodibenzo-p-dioxin	1.53E-09	3.67E-08	1.34E-05	44.2	lb/year		

In most cases the actual emissions are at a few orders of magnitude less than the allowable emission rate. Thus with a high degree of confidence the facility should be able to demonstrate ongoing compliance with the AAL guidelines.

A stipulation addressing this compliance demonstration per 2Q .0705 will be placed into the air permit. The 2D .1100 stipulation will be revised to include listing the allowable emission rates.

Per 2D.1205(c)(14), the allowable emission rates for the four TAPs will be included as a condition in a 2D .1205 condition as well. See discussion below.

STATE-ENFORCEABLE ONLY

4. 15A NCAC 2D .1205: MUNICPAL WASTE COMBUSTORS

Since all the TAPs are emitted from a common stack for all three units, and the modeling analysis provided emission limits as such, the four TAP emission limits will be provided as a condition in the Multiple Sources Section of the permit. As with the 2D .1100 condition, the facility will need to keep records of its operations sufficient to demonstrate compliance with the emission limits.

IV. NSPS, NESHAPS, PSD, Attainment Status, 112(r), and CAM

NSPS applicability is addressed on a source-by-source basis in Section III.

NESHAPS does not apply to the subject facility.

New Hanover County is in attainment for all pollutants.

112(r) does not apply to the facility.

Units 1 and 2 are considered not to be Large pollutant-specific emissions units per 40 CFR 64 and as such do not need to submit a CAM plan until renewal of the TV permit. Unit 3 is also considered not to be a large pollutant-specific emissions unit per 40 CFR 64 because of the federally enforceable PSD avoidance condition and as such does not need to submit a CAM plan until renewal of the TV permit

V. Compliance History

Based on review of the most recent compliance inspection report (2007), and the ISTEPs database they facility has not received a Notice of Violation (NOV) or has any enforcement action since 2000.

VI. Permit History

Permit No.	Action
R16	The purpose of this modification application is to: 1. Install selective non-catalytic reduction (SNCR) control utilizing urea injection to combustors 1 and 2 to facilitate the control of nitrogen oxide (NOx) emissions. A similar system is already in operation on combustor ES-3A and experience with it has led to the decision to install it on units 1 and 2. 2.Because urea injection is expected to result in ammonia "slip" and subsequently an exceedance of the ammonia TPERs listed in 15A NCAC 2Q .0711 "Emission Rates Requiring an Air Permit," a compliance demonstration will be required to satisfy 15A NCAC 2D .1100 "Control of Toxic Air Pollutants."
R15	The Applicant identified errors in the emission limits for carbon monoxide and nitrogen oxides for the two small municipal waste combustors (ES-1A and ES-2A). In addition, the DAQ central office identified an error in the particulate emission limits for the same boilers.
R14	The Applicant identified errors in the emission limits for HCl, cadmium, and dioxin/furan for the two small municipal waste combustors (ES-1A and ES-2A). Administrative amendments have been made to Permit 05151R13 and incorporated into Permit 05151R14 and are listed below.
R13	Administrative amendments to Permit 05151R12 and incorporated into Permit 05151R13 are listed below….
R12	Application is made for the following: Adding activated carbon injection systems upstream of dry scrubber on natural gas/municipal waste massburn waterwall combustors ES-1A and ES-2A. The addition of the activated carbon injection systems is necessary for compliance with permitted emission limits for mercury and dioxins.

VII. Changes to existing air permit

Existing Condition No.	Changes
ALL	Changed Layout to current TV permit layout
ALL	Removed reference to PART I as TV permits will no longer contain a PART II. See below.
All Testing [15A NCAC 2D .0501 (c)(3), (4) and (8)] Conditions	For all Testing [15A NCAC 2D .0501 (c)(3), (4) and (8)] Conditions the regulatory citation was revised to 15A NCAC 2D .2601 to reflect recent rule changes
A.1	The 2D .0516 condition was removed. It is not applicable to sources subject to other sulfur dioxide emission standards (e.g. 2D .1205)

Existing Condition No.	Changes
A.2	The 2D .0521 condition was removed. It is not applicable to sources subject to other visible emission standards (e.g. 2D.1205)
A.3	Units 1 and 2 are covered by Subpart JJJ, As such, this rule NSPS Subpart E does not apply. It will be removed from the revised air permit.
A.4	The 2D .1205 stipulation was substantially reworked. See the attached table in the permit review for the full extent of the changes.
New	Added a 40 CFR 62 Subpart JJJ condition. As it is Federal enforceable only, the typical placeholder language was included.
B.1	The 2D .0516 condition was removed. It is not applicable to sources subject to other sulfur dioxide emission standards (e.g. 2D.1205)
B.2 and B.3	Since unit 3 is subject to Subpart FFF—Federal Plan Requirements for Large Municipal Waste Combustors Constructed on or Before September 20, 1994 which implements subpart 40 CFR 60 Subpart Cb, Subpart Db does not apply. These conditions will be removed from the revised air permit.
B.4	Unit 3 is covered by Subpart FFF. As such, NSPS Subpart E does not apply. It will be removed from the revised air permit
B.5	The PSD avoidance condition for Unit 3 was substantially reworked to make it more practically enforceable. Given the current performance of the NOX CERMs, conditions requiring bias testing and data adjustment were added to the condition.
B.6	The 2D .1205 stipulation was substantially reworked. See the attached table in the permit review for the full extent of the changes.
C.1	The 2D .1205 regulation does not have an opacity standard of 5% for fugitive ash sources. Previous permits misinterpreted the rule. Method 22 determines duration of visible emissions not opacity. The rule specifies visible emissions shall not exceed 5% of observation time, NOT 5% opacity. This was corrected in the revised condition. An initial performance test was done on May 23, 2001 and indicated an opacity of 3 %. Reporting condition was revamped to coincide with current language and submittal dates.
D.1	The 2D .0515 condition was revised to current DAQ shell standards. No substantive changes.
D.2	The 2D .0521 condition was revised to current DAQ shell standards. No substantive changes.
A.2.A.	The compliance schedule requirements of 2D .1205 were removed as they are no longer applicable. All the compliance dates have passed and the milestones have been met.
A.2.C	The 2D .0535 condition was removed. It is contained in all current TV permits as a General Condition.
2.2.A.4 (new)	A specific condition addressing 2D .1205(c)(14) TAPs was added.
General Conditions	Updated to version v.2.22.1, which includes the new conditions: • MM, which is for 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources", a state enforceable only condition and • NN, which addresses application guidance for modifications made pursuant to 15A NCAC 2Q .0501(c)(2), 15A NCAC 2Q .0501(d)(2), and 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C)

VIII. Public Notice/EPA and Affected State(s) Review

TBD

IX. Conclusions, Comments, and Recommendations

TBD

Changes to 2D 1205 condition for Units 1 and 2		
Current permit (R16)	**Proposed TV permit (T17)**	**Comments**
Not presented as such in current permit	**<u>Emission Standards</u>** [15A NCAC 2D .1205]	
a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, record keeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1205 "Municipal Waste Combustors". Units ES-1A and ES-2A shall comply with the compliance schedule in Section A.2.A.1.B(1). [15A NCAC 2D .1205]	a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, record keeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1205 "Municipal Waste Combustors".	Revised for clarity and simplicity.
b. Particulate emissions shall not exceed 27 mg/dscm @ 7% O_2 .[15A NCAC 1205(c)]	b. Particulate matter emissions from each combustor shall not exceed 27 milligrams per dry standard cubic meter (dscm) corrected to seven percent oxygen. [15A NCAC 2D .1205(c)(2)]	Revised regulatory reference.
c. Visible emissions shall not exceed 10% (six minute average) [15A NCAC 1205(c)]	c. Visible emissions (opacity) shall not exceed 10% (average of thirty six-minute averages) [15A NCAC 2D .1205(c)(3)]	Revised regulatory reference.
d. Sulfur dioxide emissions shall be reduced by 75% by weight or volume or to no more than 31 ppm_v @7% O_2 (dry basis), whichever is less stringent. Compliance with this limit is based on a 24-hr daily geometric mean. [15A NCAC 1205(c)] Compliance with this limit is based on a 24-hr daily block arithmetic average. [15A NCAC 2D .1205(c)(5)(A).	d. Sulfur dioxide emissions shall be reduced by 75% by weight or volume of potential sulfur dioxide emissions or to no more than 31 ppmv, corrected to seven percent oxygen (dry basis), whichever is less stringent. Compliance with this limit is based on a 24-hr block daily geometric mean. [15A NCAC 2D .1205(c)(4)(A)]	Revised regulatory reference.
e. Hydrogen chloride emissions shall be reduced by 95% by weight or volume or to no more than 31 ppm_v @7% O_2 (dry basis), whichever is less stringent. [15A NCAC 1205(c)]	f. Hydrogen chloride emissions shall be reduced by 95% by weight or volume of potential hydrogen chloride emissions or to no more than 31 ppm_v corrected to seven percent oxygen (dry basis), whichever is less stringent. [15A NCAC 2D .1205(c)(7)(A)]	Revised regulatory reference.
f. Mercury emissions shall be reduced by at least 85% by weight or volume or shall not exceed 0.08 mg/dscm @7% O_2. [15A NCAC 1205(c)]	g. Mercury emissions shall be reduced by at least 85% by weight of potential mercury emissions or shall not exceed 0.080 mg/dscm corrected to seven percent oxygen, whichever is less stringent. [15A NCAC 2D .1205(c)(8)]	Revised regulatory reference.
g. Lead emissions shall not exceed 0.49 mg/dscm @7% O_2.[15A NCAC 1205(c)]	h. Lead emissions shall not exceed 0.49 mg/dscm corrected to seven percent oxygen. [15A NCAC 2D .1205(c)(9)]	Revised regulatory reference.

h. Cadmium emissions shall not exceed 0.040 mg/dscm @7% O_2.[15A NCAC 1205(c)]	i. Cadmium emissions shall not exceed 0.040 mg/dscm corrected to seven percent oxygen. [15A NCAC 2D .1205(c)(10)]	Revised regulatory reference.
i. Dioxins and furans shall not exceed 30 ng/dscm (total mass) @7% O_2.[15A NCAC 1205(c)]	j. Dioxins and furans shall not exceed 30 ng/dscm (total mass) corrected to seven percent oxygen. [15A NCAC 2D .1205(c)(11)(B)]	Revised regulatory reference.
j. Arsenic and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]	n. The ambient air quality standards for arsenic and its compounds, beryllium and its compounds, cadmium and its compounds, and chromium (VI) and its compounds found in 15A NCAC 2D .1205(c)(14)(A) shall apply aggregately to all incinerators at the subject facility. [15A NCAC 2D .1205(c)(14)]	Combined for simplicity and revised regulatory reference.
k. Beryllium and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]		
l. Cadmium and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]		
m.Chromium (VI) and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]		
n. Carbon monoxide at the combustor outlet shall not exceed 100 ppm_v (corrected to 7% oxygen) using a 4-hour block arithmetic average required under 60.58b. [15A NCAC 2D .1205(d)]	Moved to operational standards	
o. Nitrogen Oxides shall not exceed 200 ppmv, dry basis corrected to 7% oxygen. Compliance with this limit is based on a 24-hr daily block arithmetic average. [15A NCAC 2D .1205(c)(5)(A).	e. Nitrogen oxides shall not exceed 200 ppmv, dry basis corrected to seven percent oxygen. Compliance with this limit is based on a 24-hr daily block arithmetic average. [15A NCAC 2D .1205(c)(5)(A), 40 CFR 60 Subpart BBBB, Table 3]	

Not included in current permit but required by regulation	k. The permittee shall comply with the fugitive ash limitations in 15A NCAC 2D .1205(c)(12). l. The facility shall comply with 15A NCAC 2D .1806 for the control of odorous emissions. [15A NCAC 2D .1205(c)(6)] m. The permittee shall demonstrate compliance with 15A NCAC 2D .1100 (Control of Toxic Air Pollutants) according to 15A NCAC 2Q .0700. [15A NCAC 2D .1205(c)(13)]	Not included in current permit but required by regulation
Not included in current permit	o. The emission standards in paragraphs b. through l. above shall apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction that last no more than three hours. [15A NCAC 2D .1205(c)(15)]	Not included in current permit but added to revised permit for clarity of intent. Note that o. does not apply to the TAPS (conditions m and n) per the rule.

Not presented in current permit as such	**Operational Standards** [15A NCAC 2D .1205]	The current permit did not have an operational standards section. These requirements were distributed throughout the current condition, resulting in a confusing condition. The permit was revised to include an operational standards section that mirrors the regulation more closely.
Not presented in current permit as such	p. The permittee shall comply with the following operational standards: [15A NCAC 2D .1205(d)]	Added for clarity and simplicity.
Previously condition n.	p. i. Carbon monoxide at the combustor outlet shall not exceed 100 ppmv (corrected to seven percent oxygen) using a 4-hour block arithmetic average. Compliance is determined by continuous emission monitoring system. [15A NCAC 2D .1205(d)(2)(A)(ii), 40 CFR 60 Subpart BBBB Table 5].	• Condition has been reworded and expanded for clarity. • Regulatory reference has been revised.
See condition u. for discussion	ii. The load level shall not exceed 110 percent of the maximum demonstrated municipal waste combustor unit load (four-hour block average). [15A NCAC 2D .1205(d)(2)(B)][40CFR60 .1690(a)]	See existing permit condition u. for discussion
See **Monitoring** condition v. for discussion.	p.iii. The temperature at which the combustor operates measured at the particulate matter control device inlet, shall not exceed 63 degrees F above the maximum demonstrated particulate matter control device temperature (four-hour block average) [15A NCAC 2D .1205(d)(2)(C)] [40CFR60 .1690(b)]	See existing **Monitoring** condition v. for discussion.

See **Recordkeeping** condition z.	p.iv.Meet the following carbon feed rate and other requirements: [15A NCAC 2D .1205(d)(2)(D)] [40CFR60 .1690(c) and (d)] (A) maintain an eight hour block average carbon feed rate at or above the highest average level established during the most recent dioxins and furans or mercury test, (B) Evaluate the total carbon usage for each quarter using the following equation from 40CFR60.1935(f): $C = f_i * h_i$ Equation p.iv.B Where: C = required quarterly carbon usage for the unit, i, in kilograms (or pounds). fi = required carbon feed rate for the municipal waste combustion unit, i, in kilograms (or pounds) per hour. That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate). hi = number of hours the municipal waste combustion unit, i, was in operation during the calendar quarter (hours). (C) The total amount of carbon purchased and delivered to the municipal waste combustors shall be at or above the required quarterly usage of carbon as calculated as specified in equation p.iv.B.	The current permit addresses carbon use only in recordkeeping condition z. 2D 12.05(d)(2)(D) reads "The owner or operator of a municipal waste combustor with activated carbon control system to control dioxins and furans or mercury emissions shall maintain an eight-hour block average carbon feed rate at or above the highest average level established during the most recent dioxins and furans or mercury test and shall evaluate total carbon usage for each calendar quarter. The total amount of carbon purchased and delivered to the municipal waste combustor shall be at or above the required quarterly usage of carbon and shall be calculated as specified in equation four or five in 40 CFR 60.1935(f)" 2D .1205(f)(D) reads: "monitor carbon feed rate if activated carbon is used to abate dioxins and furans or mercury emissions according to 40 CFR 60.1820" Carbon use requirements were clarified in the revised permit by separating the operating standards from the M/R/R requirements, correcting the regulatory reference, and explicitly presenting the calculations required.

Partially addressed in conditions u. and v.	p.v. The permittee shall, under certain situations, be exempted from limits on load level, temperature at the inlet of the particulate matter control device, and carbon feed rate in accordance with 15A NCAC 2D .1205(d)(2)(E).	Current permit did not address 2D .1205(d)(2)(E) with respect to carbon feed rate and was incomplete in reference to load level and control device inlet temperature. The current permit addresses these limit exemptions in layout similar to the regulation and in one condition.
See discussion for monitoring condition v.	p.vi.The permittee shall comply with the incinerator loading requirements in accordance with the requirements contained in 15A NCAC 2D .1205(d)(3).	See discussion for the existing monitoring condition v.
Not addressed in current permit	p.vii. The operational standards in 2.1A.1.(p)(i.-vi.) apply at all times except during periods of municipal waste combustor startup, shutdown, or malfunction that last no more that three hours. [15A NCAC 2D .1205(d)(4)]	Added for clarity
Not addressed in current permit	q. The municipal waste combustors shall comply with 15A NCAC 2D .0535, Excess Emissions Reporting and Malfunctions. [15A NCAC 2D .1205(g)]	Not addressed in current permit
Not addressed in current permit	r. The permittee shall comply with the Operator Training and Certification requirements in 15A NCAC 2D .1205(h) and 40 CFR 60.1645 through 60.1685.	Not addressed in current permit. 2D .1205 (h) has explicit and extensive requirements. These requirements are simply referenced in the revised permit.

<table>
<tr><th>Current permit (R16)</th><th>Proposed TV permit (T17)</th><th>Comments</th></tr>
<tr><td><u>Testing</u> [15A NCAC 2D .1205(e)]</td><td><u>Testing</u> [15A NCAC 2D .1205(e)]</td><td></td></tr>
<tr><td>Somewhat addressed in condition t.ii.</td><td>s. The test methods and procedures described in 15A NCAC 02D .2601, 40 CFR Part 60, Appendix A, 40 CFR Part 61, Appendix B and 40 CFR 60.1790 shall be used to determine compliance with the emission standards in Paragraphs b. through k. [15A NCAC 2D .1205(e)(1),(2)]</td><td>• 2D.0501 has been replaced with 2D .2601 with respect to the relevant content in this condition. The reference in 2D .1205 has not changed however. This is a function of a rulemaking glitch.
• Regulatory reference was changed from Subpart Eb to Subpart BBBB, which specifically addresses small MWCs. The differences are not substantial , the future small MWC rule will reference BBBB in this regard and it makes sense for consistency’s sake.</td></tr>
<tr><td>See discussion for condition p.</td><td>t. Method 29 of 40 CFR Part 60, Appendix A-8 shall be used to determine emission rates for metals for toxic evaluations except for chromium (VI). Method 29 shall be used only to collect samples and SW 846 Method 0060 shall be used to analyze the samples of chromium (VI).[15A NCAC 2D .1205(e)(1)]</td><td>See discussion for current condition p.</td></tr>
<tr><td>p. Performance testing for PM, opacity, cadmium, lead, mercury, dioxins/furans, sulfur dioxide, and hydrogen chloride shall be conducted prior to June 30, 2005 in accordance with 40 CFR 60.58b; the subsequent annual tests shall be performed between six and twelve months after the previous test. Compliance with the sulfur dioxide standard shall be determined using Performance Specification 2 in accordance with 40 CFR 60.58b(e)(12). Method 29 of 40 CFR shall be used to determine emission rates for metals. Compliance with the nitrogen oxides emission limit shall be determined in accordance with the procedures in 40 CFR 60, Subpart BBBB. However, Method 29 shall be used to sample for chromium (VI), and SW 846 Method 0060 shall be used for the analysis.</td><td>u. Conduct annual stack tests for the following pollutants: [40 CFR 60.1775]
<table>
<tr><td>Dioxins/Furans</td><td>Lead</td><td>Mercury</td><td>Opacity</td></tr>
<tr><td>Cadmium</td><td>Particulate matter</td><td>Hydrogen chloride</td><td>Fugitive ash</td></tr>
</table>
ii. Conduct each annual stack test no later than 13 months after the previous test. [40 CFR 60.1785(b)]
iii. Compliance with the carbon monoxide, nitrogen oxides, and sulfur dioxide emission limits shall be determined with the data obtained by the continuous emission monitoring systems required per paragraph v. ii. [40 CFR 60.1725]</td><td>▪ Removed some language as it is no longer applicable (pre June, 2005 requirements)
▪ Condition was streamlined in the revised permit to facilitate legibility and parallel the regulation more closely.
▪ The metals testing requirement was placed into its own condition (see revised permit condition t.)</td></tr>
</table>

q. Upon written approval by the Director, if three consecutive annual emissions tests indicate compliance for a particular pollutant, except dioxins/furans, then the annual performance test may be modified to a two year testing requirement for that particular pollutant. However, if noncompliance is indicated, the Permittee must resume annual testing.[2D .1205(e)(2)]	Not included in revised permit as it requires no action on behalf of Permittee and includes unnecessary detail for a permit condition.	2D .1205(e)(2) references 40 CR 60.58.b (compliance and performance testing). This regulation applies specifically to large incinerators but is applied to all MWCs in the current regulation. In the revised regulation (not in effect), this condition will reference 40 CFR 60.1795(b). In any case it only affects testing of dioxins/furans not the other regulated pollutants. Thus, its presence in the current permit is incorrect in the citation and intent. Since this condition (or concept) does not require any action on behalf of the Permittee, it will not be included in the revised permit
r. If both units achieve a dioxin/furan emission level less than or equal to 30 ng/dscm total mass @7% O_2, performance testing, the Permittee may elect to conduct annual performance tests for one unit per year, alternating each year between units. If an annual performance test indicates an emission level greater than 30 ng/dscm total mass @7% O_2, then thereafter performance testing shall be conducted on both units until and unless all annual performance tests for both units over a 2-year period indicate a dioxin/furan level less than 30 ng/dscm total mass @7% O_2. If this schedule is selected, the Permittee shall follow the procedures specified in 40 CFR 60.59b(g)(4) for reporting the selection of this schedule to the DAQ. [40 CFR 60.58b(g)(5)(iii)]	Not included in revised permit as it requires no action on behalf of Permittee and includes unnecessary detail for a permit condition.	Since this condition (or concept) does not require any action on behalf of the Permittee, it will not be included in the revised permit
s. A final report of the performance test results shall be submitted within 60 days following completion of the sampling portion of all performance tests required by Section A.1.A.4(o) with all supporting information including but not limited to operational/production data, sampling procedures, quality assurance procedures, field data sheets, analytical results, isokinetic run summaries, calibration data, sample calculations, and sampling results. [2D .1205(f) and 2D .0605(b)(3)]	See **Reporting** Section	Content in existing condition moved to the **Reporting** Section in the revised permit.

Monitoring [15A NCAC 2D .1205(f)]	**Monitoring Requirements** [15A NCAC 2D .1205(f), 15A NCAC 2D .0600]	
Not included in current permit.	v. The permittee shall comply with the monitoring requirements in 15A NCAC 2D .0600 [15A NCAC 2D .1205(f)(1).	Added for consistency with 2D .1205
t. The concentration of CO at the combustor outlet shall not exceed 100 ppm_v (corrected to 7% oxygen) using a 4-hour block arithmetic average. i	Is contained in revised permit as **Operational Standards** condition p.i.	
t.i. The Permittee shall install, operate and maintain continuous monitors for oxygen or for carbon monoxide or both as necessary to determine proper operation of the incinerator. [15A NCAC 2D .1205(d)]	See revised **Monitoring** condition x.iii. for CO. See revised **Monitoring** condition x.ii. for diluents	▪ A diluent monitor is necessary in all scenarios. Requirements for CO and diluents were separated in revised permit. ▪ See existing condition x. for additional details.
t.ii. The Permittee shall comply with the test procedures and test methods specified in 60.58b(b)(1)-(b)(7) and 60.58b(i).	See revised permit condition s.	This condition is in the revised permit in the **Testing** Section.
u. The load level shall not exceed 110 percent of the maximum demonstrated load, except during the annual dioxin/furan performance test and the two weeks preceding the test and/or for the purpose of evaluating system performance. [15A NCAC 2D .1205(d), 40 CFR 60.51b and 40 CFR 58b(i)] i. The Permittee shall install, operate, and maintain a steam flow meter or a feed water flow meter; measure steam (or feedwater) flow in kilograms per hour (or pounds per hour) on a continuous basis; and record the output of the monitor according to 60.58b(i)(6). ii. Steam (or feedwater) shall be calculated in 4-hour block arithmetic averages.	See condition p.ii for load level operational standard and p.v. for load level exceptions. see monitoring condition y.	Monitoring requirements for load level are presented in 2D .1205 (f)(3)(b) as "monitor load level of each class I municipal waste combustor according to 40 CFR 60.1810" It does not address 40 CFR51 or 40 CFR 58b; ▪ The load level monitoring requirement was reworded to address the correct regulatory reference (40 CFR 60.1810). ▪ The allowable exception is addressed in the revised permit as condition p.v. (**Operational Standards**)
v. The temperature at which the combustor operates measured at the particulate matter control device inlet, shall not exceed 63 degrees F above the maximum demonstrated particulate matter control device temperature, except during the annual dioxin/furan performance test and the two weeks preceding the test and/or for the purpose of evaluating system performance. Except during startup, waste material shall not be loaded into the units when the	For control device, see conditions: p.iii., for operational standard pv. , for temperature exceptions z. for monitoring requirements for combustion chamber, see condition: x.iv. for combustion chamber temperature monitoring requirements. For waste loading see condition: p.vi. for operational requirement	The existing condition combined combustion chamber requirements, inlet control device temperature requirements and exceptions, waste loading requirement. These requirements were separated in the revised permit for clarity and ease of determining compliance requirements.

temperature is below the minimum required temperature specified in the Site Specific Operating Manual. [15A NCAC 2D .1205(d), 40 CFR 60.51b and 40 CFR 60.58b(i)] i. The Permittee shall maintain and operate a continuous temperature monitor and recording device for the primary chamber and the secondary chamber. ii. The temperature shall be calculated in 4 hour block arithmetic averages.		
w. The Permittee shall install, operate, and maintain continuous monitoring equipment to measure the rate of alkaline injection for the dry scrubber systems. [15A NCAC 2D .1205(f)(2)]	w. The owner or operator of an incinerator that has installed air pollution abatement equipment to reduce emissions of hydrogen chloride shall install, operate, and maintain continuous monitoring equipment to measure the rate of alkaline injection for dry scrubber systems [15A NCAC 2D .1205(f)(2)]. To assure compliance, the Permittee shall perform inspections and maintenance recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement must include the following: [15A NCAC 2D .0605] i. a monthly external visual inspection of the alkaline injection system, and ii. the performance of any maintenance and repair when necessary to assure proper operation of the alkaline injection system. In addition, the Permittee shall: iii. during each stack test for hydrogen chloride emissions, determine the average alkaline injection rate in kilograms (or pounds) per hour; iv. maintain an eight-hour block average alkaline injection rate at or above the highest average level established during the most recent hydrogen chloride emissions test; v. continuously monitor the alkaline injection rate during all periods when the municipal waste combustion unit is operating and combusting waste and calculate the 8-hour block average alkaline injection rate in kilograms (or pounds) per hour. When calculating the 8-hour block average, do two things: (A) Exclude hours when the municipal waste combustion unit is not operating. (B) Include hours when the municipal waste combustion unit is operating but the lime slurry injection system is not working correctly. The Permittee shall maintain records of the 8-hour block average amounts of the alkaline usage for a period of five years	▪ This condition was expanded to include enforceable requirements by which to determine compliance with 2D .1205(f)(2) The language was modeled after ▪ typical 2D .0605 condition monitoring requirements; ▪ carbon injection requirements in 40 CFR 60.1820
x. The Permittee shall install, operate and maintain for both units continuous emissions monitors to determine the following: i. Opacity according to 40 CFR	x. The owner or operator shall install, calibrate, operate and maintain, for each municipal waste combustor, continuous emission monitors to determine the following: (i) opacity, according to 40 CFR 60.1760	This condition does not expound to the degree necessary for the information

60.58b(c). ii. Sulfur dioxide according to 40 CFR 60.58b(e). iii. Nitrogen oxides according to 40 CFR 50.58(h)	through 60.1770;[15A NCAC 2D .1205(f) (3) (A)(i), 15A NCAC 2D .0600], (ii) sulfur dioxide, nitrogen oxides, and oxygen (or carbon dioxide); according to 40 CFR 60.1720 through 60.1770; [15A NCAC 2D .1205(f) (3) (A)(ii., iii. and iv.), 15A NCAC 2D .0600], (iii) carbon monoxide, according to 40 CFR 60.1720 through 60.1770; and[15A NCAC 2D .1205(f) (1), 15A NCAC 2D .0600], 40 CFR 60 Subpart BBBB table 5] (iv. temperature level in the primary chamber, and , where there is a secondary chamber, in the secondary chamber according to the manufacturer's recommendations. [15A NCAC 2D .1205(f) (3) (A)(v), 15A NCAC 2D .0600].	contained in 2D .1205(f)(3). This condition was revised to: ▪ Include correct regulatory citations ▪ Provide better guidance for compliance with respect to the CO requirements. See the discussion below ▪ Provide monitoring guidance for the chamber temperature monitoring requirements by referring to manufacturers recommendations.
	See CO discussion below for revised condition x.	

2D .1205 is silent on monitoring requirements for CO. 2D 1205 (d)(2) requires for the small MWCs:

(A) The concentration of carbon monoxide at the municipal waste combustor outlet shall not exceed the concentration in:

5 of 40 CFR 60 Subpart BBBB. The municipal waste combustor technology named in this table is defined in 40 CFR 60.1940.

Table 5 of Subpart BBBB in addition to providing emission limits, provides the following footnotes that state:

a. All emission limits (except for opacity) are measured at 7 percent oxygen. Compliance is determined by continuous emission monitoring systems.

b. Block averages, arithmetic mean. See §60.1940 for definitions.

c24-hour block average, geometric mean.

Thus, compliance with the CO limit in BBBB requires a CO CEM.

Subpart BBBB in 40 CFR 60 .1715 through .1720 provide the monitoring requirements for (among other pollutants) CO.

However, 2D .1205 is silent on monitoring requirements for CO. It does however state in condition (f)(1):

(f) Monitoring, Recordkeeping, and Reporting.

(1) The owner or operator of an incinerator subject to the requirements of this Rule shall comply with the monitoring, recordkeeping, and reporting requirements in Section .0600 of this Subchapter.

2D .0600,or specifically, 2D .0611 states:

(c) If the Director finds that the records maintained under Paragraph (b) of this Rule are inadequate to determine compliance with the facility's permit and all applicable requirements, the Director may require the owner or operator to use monitoring instruments. If the Director determines that monitoring instruments are necessary to demonstrate compliance with rules in this Subchapter or Subchapter 2Q of this Chapter or with an emission standard or permit condition, the owner or operator of a source shall:

(1) install, calibrate, operate, and maintain, in accordance with applicable performance specifications in 40 CFR Part 60 Appendix B, process and control equipment monitoring instruments or procedures as necessary to demonstrate compliance with the emission standards of this Subchapter and Subchapter 2Q of this Chapter;

(2) comply with the requirements of Rule .0613 of this Section; and

(3) maintain, in writing, data and reports of any monitoring instruments or procedures necessary to comply with Subparagraph (1) of this Paragraph that will document the compliance status of the sources or control equipment.

Thus, since 2D .1205 requires compliance with the CO limits using a CEMS and the regulation does not provide adequate means to demonstrate compliance, 2D .0611 allows the director to impose the monitoring equipment and procedures necessary to demonstrate compliance. The most expedient way to do this is to require the Permittee to comply with the monitoring requirements as presented in Subpart BBBB.

Since the Permittee must comply with the Federal enforceable only requirements of 40 CFR 62 Subpart JJJ anyway and its monitoring requirements are identical to those found in Subpart BBBB, this will allow the Permittee to have one set of requirements and satisfy both regulations.

See discussion for condition v.	z. The owner or operator shall monitor the temperature of the flue gas at the inlet of the particulate control device according 40 CFR 1815. [15A NCAC 2D .1205(f)(3)(C)]	See discussion for existing condition v.
Not addressed in current permit. See condition z for discussion	aa. The owner or operator shall monitor the carbon feed rate as follows: [15A NCAC 2D .1205(f) (3) (D), 15A NCAC 2D .0600, 40 CFR 60.1820] (A) Select a carbon injection system operating parameter that can be used to calculate carbon feed rate (for example, screw feeder speed), (B) During each dioxins/furans and mercury stack test, determine the average carbon feed rate in kilograms (or pounds) per hour. Also, determine the average operating parameter level	The current permit addresses carbon use only in recordkeeping condition z.

	that correlates to the carbon feed rate. Establish a relationship between the operating parameter and the carbon feed rate in order to calculate the carbon feed rate based on the operating parameter level, (C) Continuously monitor the selected operating parameter during all periods when the municipal waste combustion unit is operating and combusting waste and calculate the 8-hour block average carbon feed rate in kilograms (or pounds) per hour, based on the selected operating parameter. When calculating the 8-hour block average, do two things: (1) Exclude hours when the municipal waste combustion unit is not operating. (2) Include hours when the municipal waste combustion unit is operating but the carbon feed system is not working correctly.	
Not included in current permit.	bb. Particulate emissions shall be controlled by a bagfilter. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following: i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and ii. an annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter's structural integrity.	The current permit had no monitoring requirements for the bagfilters. The bagfilter condition were based on templates found in the TV conditions template.
	cc. The Permittee shall install, operate, and maintain a pressure drop indicator on each bagfilter. The pressure drop across each bagfilter shall be maintained between 3 and 6 inches of water.	

Not included in current permit.	XYZ. As an indicator of good operation and maintenance (O&M), the Permittee shall calculate, on a quarterly basis, percent excess emissions (%EE) and percent monitor downtime (%MD) summaries for each COMS and CEMS operating at the facility using the following equations: $$\%EE = \frac{Total\ Excess\ Emissio}{(Total\ Source\ Operating\ Time - Total}$$ $$\%MD = \frac{Total\ Monitor\ Downtime}{(Total\ Source\ Operating\ Time)}\ x\ 10$$ Where: *Total Excess Emission Time* is the duration of actual excess emissions that occurred during a calendar quarter and includes emissions from startup/shutdown, control equipment problems, process problems, other known causes, and unknown causes; for opacity, use 6-minute averages; for gases, use hourly *averaging times as defined.* *Total Source Operating Time* is the duration of the actual process operating time during a calendar quarter; if a source operates less than 2200 hours during any quarter, the source may calculate the %EE and/or %MD using all operating data for the current quarter and the preceding quarters until 2200 hours of data are obtained. *Total Monitor Downtime* is the duration of monitor downtime that occurred during a calendar quarter and includes periods due to monitor equipment malfunctions, non-monitor equipment malfunctions, quality assurance procedures, other known causes, and unknown causes. Downtime occurs only when source is actually operating and the monitoring system is not; periods that occur when the source is shut down (off-line) are not included in the calculation. These sources shall be deemed to be properly operated and maintained if the percent excess emissions and/or percent monitor downtime does not exceed 6% for any single quarter or 3% for two consecutive quarters. [15A NCAC 2D .0611(d)]	This condition was included at the request of the compliance group. Although the first condition under the monitoring requirements states the Permittee must comply with 2D .0600, this condition clarifies what is required.

Not included in current permit.	ee. The Permittee shall develop and implement quality assurance procedures pursuant to 15A NCAC 2D .0613.	This condition was included at the request of the compliance group. Although the first condition under the monitoring requirements states the Permittee must comply with 2D .0600, this condition clarifies what is required.
Record keeping [15A NCAC 2D .1205(f)]	**Recordkeeping Requirements** [15A NCAC 2D .1205(f), 15A NCAC 2D .0600]	
y. The Permittee shall maintain records of information listed in 40 CFR 60.59b(d)(1) through (d)(15) as applicable for a period of at least five years.	ee. The owner or operator shall maintain records of the information listed in 40 CFR 60.1840 through 1855 for class I municipal waste combustors for a period of at least five years. [15A NCAC 2D .1205(f)(3)(E)]	Corrected regulatory reference.
z. The Permittee shall estimate the total carbon usage of the plant (kg or lb) for each calendar quarter by the following two independent methods: i. the weight of the carbon delivered to the plant, and ii. estimate the average carbon mass feed rate in kg/hr or lb/hr for each hour of operation for this unit based on the parameters specified in 60.58b(m)(1), and multiplied by the number of operating hours for each unit during the calendar quarter. The Permittee shall maintain records of the quarterly amounts of the carbon usage for a period of three years.	See conditions p.iv. for carbon operational standards; and aa. for carbon monitoring ff. for recordkeeping requirements hh through jj. For reporting requirements	Carbon feed rate requirements were revised in the current permit to reflect the regulatory requirements in layout. This should facilitate compliance with the requirements.
Not included in current permit.	dd. The permittee shall comply with the recordkeeping requirements in 15A NCAC 2D .0600. [15A NCAC 2D .1205(f)(1)]	Added for consistency with 2D .1205
Not included in current permit	ff. The results of the inspection and maintenance of the bagfilter shall be maintained in a logbook (written or electronic format) on-site and made available to a DAQ representative upon request. The logbook shall record the following: The date and time of each recorded action; The pressure drop once weekly at a minimum; The results of each inspection; a report of any maintenance performed on the bagfilter, and any variance from the manufacturer's recommendation, if any, and corrections made.	The current permit had no recordkeeping requirements for the bagfilters. The bagfilter condition was based on template found in the TV conditions template.
Reporting [15A NCAC 2D .1205(f)]	**Reporting Requirements** [15A NCAC 2D .1205(f), 15A NCAC 2D .0600]	
Not included in current permit	gg. The permittee shall comply with the reporting requirements in 15A NCAC 2D .0600 [15A NCAC 2D .1205(f)(1).	Added for consistency with 2D .1205

a. Following the initial compliance tests as required, the Permittee shall submit the information specified in 40 CFR 60.59b(f)(1) through (f)(6), in the initial performance test report.	No longer applicable	No longer applicable so not included in revised permit.
b. The Permittee shall submit a semiannual report that includes the information specified in 40 CFR 60.59b(h)(1) through (h)(5), for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified above according to the schedule specified in 40 CFR 60.59b(h)(6).	ii. The owner or operator shall submit a semiannual report specified in 40 CFR 60.1900 for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified in this Section, according to the schedule specified in 40 CFR 60.1895 [15A NCAC 2D .1205(f)(3)(H)].	No substantive changes
c. Following the first year of municipal combustor operation, the Permittee shall submit an annual report including the information specified in 40 CFR 60.59b(g)(1) through (g)(4), as applicable, no later than February 1 of each year following the calendar year in which data were collected. Once the unit is subject to Title V permitting requirements, the Permittee shall submit these reports semiannually.	hh. The owner or operator shall, following the first year of municipal combustor operation, submit an annual report specified in 40 CFR 60.1885, no later than February 1 of each year following the calendar year in which the data were collected. Once the unit is subject to permitting requirements under 15A NCAC 02Q .0500, Title V Procedures, the owner or operator of an affected facility shall submit these reports semiannually. [15A NCAC 2D .1205(f)(3)(G)]	Corrected regulatory reference. No other substantive changes.
Not included in current permit	jj. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of a written request by the DAQ. kk. The Permittee shall submit the results of any maintenance performed on the alkaline injection system within 30 days of a written request by the DAQ	Typical reporting requirements. Note that semiannual reporting not required since 2Q.0508(f) does not apply.

Not included in current permit	nn. The Permittee shall submit a report summarizing the quarterly percent excess emissions (%EE) and percent monitor downtime (%MD) as calculated in condition dd. The report shall clearly identify all instances of EE and MD. The reports shall be used as an indicator of good operation and maintenance (O&M) for all COMS and CEMS operating at the facility. If the percent excess emissions and/or percent monitor downtime <u>does not exceed 6% for any single quarter or 3% for two consecutive quarters</u>, the report shall be submitted as required in General Condition D, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. If the percent excess emissions and/or percent monitor downtime <u>exceeds 6% for any single quarter or 3% for two consecutive quarters</u>, the report shall be submitted as required in General Condition D, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September.	This is the “partner” reporting condition for the monitoring condition XYZ that was included at the request of the compliance group. Although the first condition under the monitoring requirements states the Permittee must comply with 2D .0600, this condition clarifies what is required.

Changes to 2D 1205 condition for Unit 3-A		
Current permit (R16)	**Proposed TV permit (T17)**	**Comments**
Not presented as such in current permit	**<u>Emission Standards</u>** [15A NCAC 2D .1205]	
a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, record keeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1205 "Municipal Waste Combustors". Unit ES-3A shall comply with the compliance schedule requirements given in Section A.2.A., except as noted below. [15A NCAC 1205]	a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, record keeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1205 "Municipal Waste Combustors".	• Revised for clarity and simplicity. • Removed compliance schedule reference, as it no longer applies.
b. Particulate emissions shall not exceed 27 mg/dscm @ 7% O_2 .[15A NCAC 1205(c)]	b. Emissions of particulate matter from the large municipal waste combustor shall not exceed 27 milligrams per dry standard cubic meter (dscm) corrected to seven percent oxygen. [15A NCAC 2D .1205(c)(2)]	• Revised for clarity. • Revised regulatory reference.
c. Visible emissions shall not exceed 10% (six minute average) [15A NCAC 1205(c)]	c. Visible emissions from the large municipal waste combustor shall not exceed 10% (average of thirty six-minute averages) [15A NCAC 2D .1205(c)(3)]	• Revised for clarity. • Revised regulatory reference.
d. Sulfur dioxide emissions shall be reduced by 75% by weight or volume or to no more than 31 ppmv @7% O2 (dry basis) whichever is less stringent and shall be reduced by 75% by weight or volume or to no more than 29 ppmv @7% O2 (dry basis) whichever is less stringent, by August 1, 2002. Compliance with this limit is based on a 24-hr daily geometric mean. [15A NCAC 1205(c)]	d. Sulfur dioxide emissions shall be reduced by 75% by weight or volume of potential sulfur dioxide emissions or to no more than 29 ppm_v corrected to seven percent oxygen (dry basis), whichever is less stringent. Compliance with this limit is based on a 24-hr block daily geometric mean. [15A NCAC 2D .1205(c)(4)(B)(ii)]	• Revised for clarity. • Revised regulatory reference.
e. Hydrogen chloride emissions shall be reduced by 95% by weight or volume or to no more than 31 ppm_v @7% O_2 (dry basis), whichever is less stringent and shall be reduced by 95% by weight or volume or to no more than 29 ppm_v @7% O_2 (dry basis) whichever is less stringent, by August 1, 2002. [15A NCAC 1205(c)]	g. Hydrogen chloride emissions shall be reduced by 95% by weight or volume of potential hydrogen chloride emissions or to no more than 29 ppm_v corrected to seven percent oxygen (dry basis), whichever is less stringent. [15A NCAC 2D .1205(c)(7)(B)(ii)]	• Revised for clarity. • Revised regulatory reference.
f. Mercury emissions shall be reduced by at least 85% by weight or volume or shall not exceed 0.08 mg/dscm @7% O_2. [15A NCAC 1205(c)]	h. Mercury emissions shall be reduced by at least 85% by weight of potential mercury emissions or shall not exceed 0.08 mg/dscm corrected to seven percent oxygen, whichever is less stringent. [15A NCAC 2D .1205(c)(8)]	• Revised regulatory reference.

g. Lead emissions shall not exceed 0.49 mg/dscm @7% O_2 and shall not exceed 0.44 mg/dscm @7% O_2 , by August 1, 2002.[15A NCAC 1205(c)]	i. Lead emissions shall not exceed 0.44 mg/dscm corrected to seven percent oxygen.[15A NCAC 2D .1205(c)(9)(B)]	• Revised regulatory reference.
h. Cadmium emissions shall not exceed 0.040 mg/dscm @7% O_2.[15A NCAC 1205(c)]	j. Cadmium emissions shall not exceed 0.040 mg/dscm corrected to seven percent oxygen.[15A NCAC 2D .1205(c)(10)]	• Revised regulatory reference.
i. Dioxin and furan emissions shall not exceed 30 ng/dscm (total mass) @7% O_2.[15A NCAC 1205(c)]	k. Dioxins and furans shall not exceed 30 ng/dscm (total mass) corrected to seven percent oxygen.[15A NCAC 2D .1205(c)(11)(B)]	• Revised regulatory reference.
k. Arsenic and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]	n. The ambient air quality standards for arsenic and its compounds, beryllium and its compounds, cadmium and its compounds, and chromium (VI) and its compounds found in 15A NCAC 2D .1205(c)(14)(A) shall apply aggregately to all incinerators at the subject facility. [15A NCAC 2D .1205(c)(14)]	• Combined for simplicity and revised regulatory reference.
l. Beryllium and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]		
m. Cadmium and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]		
n. Chromium (VI) and its compounds shall not exceed the emission limit given in Subsection 2.D. [15A NCAC 1205(c)]		
o. Carbon monoxide at the combustor outlet shall not exceed 100 ppm_v using a 4-hour block arithmetic average required under 60.58b. [15A NCAC 2D .1205(d)]	Moved to operational standards	• Moved to operational standards
j. Nitrogen oxide emissions shall not exceed 205 parts per million, corrected to 7% O_2 (dry basis).	e. Nitrogen Oxides shall not exceed 205 ppm_v, dry basis corrected to seven percent oxygen. Compliance with this limit is based on a 24-hr daily block arithmetic average. [15A NCAC 2D .1205(c)(5)(B), 40 CFR 60.33b(d), Table 1]	• Revised regulatory reference.

Not included in current permit but required by regulation	l. The permittee shall comply with the fugitive ash limitations in 15A NCAC 2D .1205(c)(12).	Not included in current permit but required by regulation
	f. The facility shall comply with 15A NCAC 2D .1806 for the control of odorous emissions. [15A NCAC 2D .1205(c)(6)]	
	m. The permittee shall demonstrate compliance with 15A NCAC 2D .1100 (Control of Toxic Air Pollutants) according to 15A NCAC 2Q .0700 [15A NCAC 2D .1205(c)(13)]	
Not included in current permit	o. The emission standards in paragraphs b. through l. above shall apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction that last no more than three hours. [15A NCAC 2D .1205(c)(15)]	Not included in current permit but added to revised permit for clarity of intent. Note that the rule excludes the TAPs (conditions m and n)

Not presented in current permit as such	**Operational Standards** [15A NCAC 2D .1205] p. The permittee shall comply with the following operational standards: [15A NCAC 2D .1205(d)]	This section was added to better follow the layout of the 2D .1205 rule.
Previously condition r.	p. i. Carbon monoxide at the combustor outlet shall not exceed 100 ppm_v (dry basis, corrected to seven percent oxygen) using a 4-hour block arithmetic average. Compliance is determined by continuous emission monitoring system. [15A NCAC 2D .1205(d)(2)(A)(i), 40 CFR 60.34b(a) Table 3].	
See **Monitoring** condition s. for discussion.	The load level shall not exceed 110 the maximum demonstrated municipal mbustor unit load (four-hour block [15A NCAC 2D .1205(d)(2)(B), .34b(b), 40CFR60.53b(b)]	Full discussion in **Monitoring** Section existing condition s. Added regulatory citations 40CFR60.34b(b), 40CFR60.53b(b)]
See **Monitoring** condition t. for discussion.	p.iii. The temperature at which the combustor operates measured at the particulate matter control device inlet, shall not exceed 63 degrees F above the maximum demonstrated particulate matter control device temperature (four-hour block average) [15A NCAC 2D .1205(d)(2)(C)] [40CFR60 .53b(c)]	

See **Recordkeeping** condition y.	p.iv. Meet the following carbon feed rate and other requirements: [15A NCAC 2D .1205(d)(2)(D)] (A) maintain an eight hour block average carbon feed rate at or above the highest average level established during the most recent dioxins and furans or mercury test, (B) Evaluate the total carbon usage for each quarter using the following equation from 40CFR60.1935(f): $C = f_i * h_i$ Equation p.iv.B. Where: C = required quarterly carbon usage for the unit, i, in kilograms (or pounds). fi = required carbon feed rate for the municipal waste combustion unit, i, in kilograms (or pounds) per hour. That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate). hi = number of hours the municipal waste combustion unit, i, was in operation during the calendar quarter (hours). (C) The total amount of carbon purchased and delivered to the municipal waste combustors shall be at or above the required quarterly usage of carbon as calculated as specified in equation p.iv.B.	The current permit addresses carbon use only in recordkeeping condition y. 2D 12.05(d)(2)(D) reads "The owner or operator of a municipal waste combustor with activated carbon control system to control dioxins and furans or mercury emissions shall maintain an eight-hour block average carbon feed rate at or above the highest average level established during the most recent dioxins and furans or mercury test and shall evaluate total carbon usage for each calendar quarter. The total amount of carbon purchased and delivered to the municipal waste combustor shall be at or above the required quarterly usage of carbon and shall be calculated as specified in equation four or five in 40 CFR 60.1935(f)."

Addressed piecemeal in various conditions.	p.v.The permittee shall, under certain situations, be exempted from limits on load level, temperature at the inlet of the particulate matter control device, and carbon feed rate in accordance with 15A NCAC 2D .1205(d)(2)(E).	Current permit did not address 2D .1205(d)(2)(E) with respect to carbon feed rate and was incomplete in reference to load level and control device inlet temperature. The current permit addresses these limit exemptions in layout similar to the regulation and in one condition.
See discussion for monitoring condition t.	p.vi. The permittee shall comply with the incinerator loading requirements in accordance with the requirements contained in 15A NCAC 2D .1205(d)(3).	See discussion for the existing monitoring condition t.
Not addressed in current permit	p.vii. The operational standards in 2.1A.1.(p)(i.-vi.) apply at all times except during periods of municipal waste combustor startup, shutdown, or malfunction that last no more that three hours. [15A NCAC 2D .1205(d)(4)(B)]	Not addressed in current permit
Not addressed in current permit	q. The municipal waste combustors shall comply with 15A NCAC 2D .0535, Excess Emissions Reporting and Malfunctions. [15A NCAC 2D .1205(g)]	Not addressed in current permit
Not addressed in current permit	r. The permittee shall comply with the Operator Training and Certification requirements in 15A NCAC 2D .1205(h) and 40 CFR 60.54b.	Not addressed in current permit. 2D .1205 (h) has explicit and extensive requirements. These requirements are simply referenced in the revised permit. Since the SIP will be based on Cb, with the OT&C requirements in 60.35b which references the OT&C requirements of Subpart Eb in 60.54b, a reference to 60.54 b is made in the condition.

<table>
<tr><th>Current permit (R16)</th><th>Proposed TV permit (T17)</th><th>Comments</th></tr>
<tr><td><u>Testing</u> [15A NCAC 2D .1205(e)]</td><td><u>Testing</u> [15A NCAC 2D .1205(e)]</td><td></td></tr>
<tr><td>Not addressed in current permit</td><td>s. The test methods and procedures described in 15A NCAC 02D .2601, 40 CFR Part 60, Appendix A, 40 CFR Part 61, Appendix B and 40 CFR 60.58b shall be used to determine compliance with the emission standards in Paragraphs b. through k. and n. [15A NCAC 2D .1205(e)(1),(2)]</td><td>▪ Added for clarification
▪ 2D .2601 replaced reference to 2D .0501
▪ 2D .2601 content is the former 2D .0501
▪ The effective 2D .1205 has not been revised to reflect this rule change.</td></tr>
<tr><td>Addressed incompletely in existing condition p.</td><td>t. Method 29 of 40 CFR Part 60, Appendix A-8 shall be used to determine emission rates for metals for toxic evaluations except for chromium (VI). Method 29 shall be used only to collect samples and SW 846 Method 0060 shall be used to analyze the samples of chromium (VI).[15A NCAC 2D .1205(e)(1)]</td><td>See discussion for current condition p.</td></tr>
<tr><td>p. Performance testing for PM, opacity, cadmium, lead, mercury, dioxins/furans, sulfur dioxide, nitrogen oxide, and hydrogen chloride shall be conducted prior to August 19, 2001 in accordance with 40 CFR 60.58b subsequent annual tests shall be performed between six and twelve months after the previous test. Compliance with the sulfur dioxide standard shall be determined using Performance Specification 2 in accordance with 40 CFR 60.58b(e)(12). Method 29 of 40 CFR shall be used to determine emission rates for metals. Method 29 of 40 CFR shall be used to determine emission rates for metals.</td><td>u. Conduct annual stack tests for the following pollutants: [40 CFR 60.58b]<table><tr><td>Dioxins/Furans</td><td>Lead</td><td>Mercury</td><td>Opacity</td></tr><tr><td>Cadmium</td><td>Particulate matter</td><td>Hydrogen chloride</td><td>Fugitive ash</td></tr></table>i. Conduct each annual stack test no later than 13 months after the previous test. [40 CFR 60.58(b)]
ii. Compliance with the carbon monoxide, nitrogen oxides, and sulfur dioxide emission limits shall be determined with the data obtained by the continuous emission monitoring systems required per paragraph v. ii. [40 CFR 60.58(b) and 60.34(b)]</td><td>▪ Removed some language as it is no longer applicable (pre August, 2001 requirements)
▪ Condition was streamlined in the revised permit to facilitate legibility and parallel the regulation more closely.
▪ The metals testing requirement was placed into its own condition (see revised permit condition t.)
▪ Condition i.</td></tr>
</table>

q. A final report of the performance test results shall be submitted within 60 days following completion of the sampling portion of all performance tests required by conditions A.1.A.4(o) with all supporting information including but not limited to operational/production data, sampling procedures, quality assurance procedures, field data sheets, analytical results, isokinetic run summaries, calibration data, sample calculations, and sampling results. [2D .1205(f) and 2D .0605(b)(3)]	See **Reporting** Section	Reporting requirements moved to the **Reporting** Section in the revised permit.
Monitoring [15A NCAC 2D .1205(f)]	**Monitoring Requirements** [15A NCAC 2D .1205(f), 15A NCAC 2D .0600]	
Not included in current permit.	v. The permittee shall comply with the monitoring requirements in 15A NCAC 2D .0600. [15A NCAC 2D .1205(f)(1)].	Added for consistency with 2D .1205
r. The concentration of CO at the combustor outlet shall not exceed 100 ppm_v using a 4-hour block arithmetic average.	Is contained in revised permit as **Operational Standards** condition p.i.	
r.i. The Permittee shall install, operate and maintain continuous monitors for oxygen or for carbon monoxide or both as necessary to determine proper operation of the incinerator. [15A NCAC 2D .1205(d)]	See revised **Monitoring** condition x.v. for CO. See revised **Monitoring** condition x.iv. for diluents.	▪ A diluent monitor is necessary in all scenarios. Requirements for CO and diluents were separated in revised permit.
r.ii. The Permittee shall comply with the test procedures and test methods specified in 60.58b(b)(1)-(b)(7) and 60.58b(i).	See revised **Testing** condition s and u. and **Monitoring** conditions x.v. and bb.iii. for CO. See revised **Monitoring** condition x.iv. for diluents.	▪ 60.58b(b) is for diluent monitors 60.58b(i) is for CO. ▪ These concepts were separated in the revised permit for clarity. ▪ To satisfy the requirements for the regulated pollutants the diluents will have to comply with the testing requirements in the revised Testing Section.

s. The load level shall not exceed 110 percent of the maximum demonstrated load, except during the annual dioxin/furan performance test and the two weeks preceding the test and/or for the purpose of evaluating system performance. [15A NCAC 2D .1205(d), 40 CFR 60.51b and 40 CFR 60.58b(i)] i. The Permittee shall install, operate, and maintain a steam flow meter or a feed water flow meter; measure steam (or feedwater) flow in kilograms per hour (or pounds per hour) on a continuous basis; and record the output of the monitor according to 60.58b(i). ii. Steam (or feedwater) shall be calculated in 4-hour block arithmetic averages.	see monitoring conditions y. and bb.ii. and b.iv. See condition p.ii for load level operational standard and p.v. for load level exceptions.	▪ 2D.1205 does not explicitly address monitoring load level for large MWC. However, the intent is that it should be. [40CFR60.51b(i)] ▪ The load level monitoring requirement was reworded to clarify correct regulatory reference (40 CFR 60.58b(i)(6). ▪ The load level requirement is included in the revised permit as **Operational Standards** condition p.ii. ▪ The allowable exception is addressed in the revised permit as **Operational Standards** condition p. v.

t. The temperature at which the combustor operates measured at the particulate matter control device inlet, shall not exceed 63 degrees F above the maximum demonstrated particulate matter control device temperature, except during the annual dioxin/furan performance test and the two weeks preceding the test and/or for the purpose of evaluating system performance. Except during startup, waste material shall not be loaded into the units when the temperature is below the minimum required temperature specified in the Site Specific Operating Manual. [15A NCAC 2D .1205(d), 40 CFR 60.51b and 40 CFR 60.58b(i)] i. The Permittee shall maintain and operate a continuous temperature monitor and recording device for the primary chamber and the secondary chamber. ii. The temperature shall be calculated in 4-hour block arithmetic averages.	For control device, see conditions: p.iii., for operational standard pv. For temperature exceptions z. and bb.iii. for monitoring requirements for combustion chamber, see condition: x.vi. for combustion chamber temperature monitoring requirements. For waste loading see condition: p.vi. for operational requirement	The existing condition combined combustion chamber requirements, inlet control device temperature requirements and exceptions, waste loading requirement. These requirements were separated in the revised permit for clarity and ease of determining compliance requirements.

u. The Permittee shall install, operate, and maintain continuous monitoring equipment to measure the rate of alkaline injection for the dry scrubber systems. [2D .1205(f)(2)]	w. The owner or operator of an incinerator that has installed air pollution abatement equipment to reduce emissions of hydrogen chloride shall install, operate, and maintain continuous monitoring equipment to measure the rate of alkaline injection for dry scrubber systems [15A NCAC 2D .1205(f)(2)]. To assure compliance, the Permittee shall perform inspections and maintenance recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement must include the following: [15A NCAC 2D .0605] (A) a monthly external visual inspection of the alkaline injection system, and (B) the performance of any maintenance and repair when necessary to assure proper operation of the alkaline injection system. In addition, the Permittee shall: (A) during each stack test for hydrogen chloride emissions, determine the average alkaline injection rate in kilograms (or pounds) per hour; (B) maintain an eight-hour block average alkaline injection rate at or above the highest average level established during the most recent hydrogen chloride emissions test; (C) continuously monitor the alkaline injection rate during all periods when the municipal waste combustion unit is operating and combusting waste and calculate the 8-hour block average alkaline injection rate in kilograms (or pounds) per hour. When calculating the 8-hour block average, do two things: (1) Exclude hours when the municipal waste combustion unit is not operating. (2) Include hours when the municipal waste combustion unit is operating but the lime slurry injection system is not working correctly. The Permittee shall maintain records of the 8-hour block average amounts of the alkaline usage for a period of five years.	▪ This condition was expanded to include enforceable requirements by which to determine compliance with 2D .1205(f)(2) ▪ The language was modeled after: o typical 2D .0605 condition monitoring requirements; o carbon injection requirements in 40 CFR 60.1820

v. The Permittee shall install, operate and maintain continuous emissions monitors to determine the following: i. Opacity according to 40 CFR 60.58b(c). ii. Sulfur dioxide according to 40 CFR 60.58b(e). iii. Nitrogen dioxide according to 40 CFR 60.68b(h).	x. The owner or operator shall: install, calibrate, operate, and maintain continuous emission monitors to determine the following: i. opacity according to 40 CFR 60.58b(c) [15A NCAC 2D .1205(f)(3)(A)(i)], ii sulfur dioxide according to 40 CFR 60.58b(e) [15A NCAC 2D .1205(f)(3)(A)(ii)], iii nitrogen oxides according to 40 CFR 60.58b(h) [15A NCAC 2D .1205(f)(3)(A)(iii)], iv. oxygen (or carbon dioxide) according to 40 CFR 60.58b(b) [15A NCAC 2D .1205(f)(3)(A)(iv)], v. carbon monoxide according to 40 CFR 60.58b(i)(1 through 5 and 10 through 12) {15A NCAC 2D .1205(f)(1), 15A NCAC 2D .0611], and vi. temperature level in the primary chamber, and , where there is a secondary chamber, in the secondary chamber according to the manufacturer's recommendations. [15A NCAC 2D .1205(f)(3)(A)(v), 15A NCAC 2D .0600].	▪ This condition does not expound to the degree necessary for the information contained in 2D .1205(f)(3). This condition was revised to: ▪ Include correct regulatory citations ▪ Provide better guidance for compliance with respect to the CO requirements See the discussion below ▪ Provide monitoring guidance for the chamber temperature monitoring requirements by referring to manufacturers recommendations.
	See CO discussion for revised condition x.	

2D .1205 is silent on monitoring requirements for CO. 2D .1205 (d)(2) requires for the large MWCs:

(A) The concentration of carbon monoxide at the municipal waste combustor outlet shall not exceed the concentration in:

(i) table 3 of 40 CFR 60.34b(a) for large municipal waste combustors. The municipal waste *combustor* technology named in this table is defined in 40 CFR 60.51b;

60.34b states:

ission guidelines for municipal waste combustor operating practices.

(a) For approval, a State plan shall include emission limits for carbon monoxide at least as protective as the emission limits for carbon monoxide listed in table 3 of this subpart. Table 3 provides emission limits for the carbon monoxide concentration level for each type of designated facility.

(b) For approval, a State plan shall include requirements for municipal waste combustor operating practices at least as protective as those requirements listed in §60.53b(b) and (c) of subpart Eb of this part.

Thus, the operating practices which include the measurement and limiting of CO must be as protective as those requirements in Subpart Eb specifically 60.53b(b) and (c). Note that although the emission limits in Table 3 of Subpart Cb are not identical to the CO emission limits in 60.53b(a), there are identical for mass burn waterwall systems, which unit 3 is. So for WASTEC, the CO emission limits are the same.

To comply with the CO emission limits in Table 1 of Subpart Eb, the Permittee must comply with 60.58b(i), which states:

(i) *The procedures specified in paragraphs (i)(1) through (i)(12) of this section shall be used for determining compliance with the operating requirements under §60.53b.*

(i)(1) through (i)(5) and (i)(10) through (i)(12) address CO monitoring requirements but specifically (i)(3) requires:

(3) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide at the combustor outlet and record the output of the system and shall follow the procedures and methods specified in paragraphs (i)(3)(i) through (i)(3)(iii) of this section.

Thus, compliance with the CO limit in Eb requires a CO CEM.

However, 2D .1205 is silent on monitoring requirements for CO. It does however state in condition (f)(1):

(f) Monitoring, Recordkeeping, and Reporting.

(1) The owner or operator of an incinerator subject to the requirements of this Rule shall comply with the monitoring, recordkeeping, and reporting requirements in Section .0600 of this Subchapter.

2D .0600,or specifically, 2D .0611 states:

(c) If the Director finds that the records maintained under Paragraph (b) of this Rule are inadequate to determine compliance with the facility's permit and all applicable requirements, the Director may require the owner or operator to use monitoring instruments. If the Director determines that monitoring instruments are necessary to demonstrate compliance with rules in this Subchapter or Subchapter 2Q of this Chapter or with an emission standard or permit condition, the owner or operator of a source shall:

(1) install, calibrate, operate, and maintain, in accordance with applicable performance specifications in 40 CFR Part 60 Appendix B, process and control equipment monitoring instruments or procedures as necessary to demonstrate compliance with the emission standards of this Subchapter and Subchapter 2Q of this Chapter;

(2) comply with the requirements of Rule .0613 of this Section; and

(3) maintain, in writing, data and reports of any monitoring instruments or procedures necessary to comply with Subparagraph (1) of this Paragraph that will document the compliance status of the sources or control equipment.

Thus, since 2D .1205 requires compliance with the CO limits using a CEMS and the regulation does not provide adequate means to demonstrate compliance, 2D .0611 allows the director to impose the monitoring equipment and procedures necessary to demonstrate compliance. The most expedient way to do this is to require the Permittee to comply with the monitoring requirements as presented in Subpart Eb.

Since the Permittee must comply with the Federal enforceable only requirements of 40 CFR 62 Subpart FFF anyway and its monitoring requirements are identical to those found in Subpart Eb, this will allow the Permittee to have one set of requirements and satisfy both regulations.

w. In controlling emission for mercury, the carbon injection system operating parameter(s) that are the primary indicator(s) of the carbon mass feed rate (e.g., screw feeder settings) must equal or exceed the level(s) documented during the most recent performance tests for mercury and dioxin/furan emissions. [60.58b(m)(1)]	See revised **Operational Standard** condition p.iv.	This requirement is covered in revised condition p.iv. See discussion for revised condition p.iv.
See recordkeeping condition z for further discussion.	aa. The owner or operator shall monitor the carbon feed rate as follows: [15A NCAC 2D .1205(f) (3) (D), 15A NCAC 2D .0600, 40 CFR 60.1820] (A) Select a carbon injection system operating parameter that can be used to calculate carbon feed rate (for example, screw feeder speed), (B) During each dioxins/furans and mercury stack test, determine the average carbon feed rate in kilograms (or pounds) per hour. Also, determine the average operating parameter level that correlates to the carbon feed rate. Establish a relationship between the operating parameter and the carbon feed rate in order to calculate the carbon feed rate based on the operating parameter level, (C) Continuously monitor the selected operating parameter during all periods when the municipal waste combustion unit is operating and combusting waste and calculate the 8-hour block average carbon feed rate in kilograms (or pounds) per hour, based on the selected operating parameter. When calculating the 8-hour block average, do two things: (1) Exclude hours when the municipal waste combustion unit is not operating. (2) Include hours when the municipal waste combustion unit is operating but the carbon feed system is not working correctly.	The current permit addresses carbon use only in recordkeeping condition z.
See condition s. discussion.	y. The owner or operator shall monitor the load level with a steam flowmeter according to 40 CFR 60.51b(i)(6).[15A NCAC 2D .1205(f)(3)(B)]	See existing condition s. discussion.
	z. The owner or operator shall monitor the temperature of the flue gas at the inlet of the particulate control device according 40 CFR 1815. [15A NCAC 2D .1205(f)(3)(C)]	***§ 60.1815 How do I monitor the temperature of flue gases at the inlet of my particulate matter control***

		device? *You must install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas stream at the inlet of each particulate matter control device.* Thus although 60.1815 is for small MWCS it does not create conflict for the large MWC.
	bb. Compliance with the operating requirements shall be demonstrated in accordance with the procedures in 40 CFR 60.58b(i): i. carbon monoxide in accordance with 60.58b(i)(1 through 5 and 10 through 12), ii. load level in accordance with 60.58b(i)(6), iii. particulate matter control device inlet temperature in accordance with 60.58b(i)(7) and 60.58b(i)(9), and iv. maximum demonstrated municipal waste combustor unit load during dioxin and furan testing in accordance with 60.58b(i)(8).	This condition was added to clarify compliance requirements. Discussions elsewhere in this table point to this condition.
Not included in current permit.	cc. Particulate emissions shall be controlled by a bagfilter. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following: i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and ii. an annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter's structural integrity.. dd. The Permittee shall install, operate, and maintain a pressure drop indicator on each bagfilter. The pressure drop across each bagfilter shall be maintained between 3 and 6 inches of water.	The current permit had no monitoring requirements for the bagfilters. The bagfilter condition was based on template found in the TV conditions template.

Not included in current permit	XYZ. As an indicator of good operation and maintenance (O&M), the Permittee shall calculate, on a quarterly basis, percent excess emissions (%EE) and percent monitor downtime (%MD) summaries for each COMS and CEMS operating at the facility using the following equations: $$\%EE = \frac{Total\ Excess\ Emissio}{(Total\ Source\ Operating\ Time - Tota}$$ $$\%MD = \frac{Total\ Monitor\ Downtime}{(Total\ Source\ Operating\ Time)}\ x\ 1$$ Where: *Total Excess Emission Time* is the duration of actual excess emissions that occurred during a calendar quarter and includes emissions from startup/shutdown, control equipment problems, process problems, other known causes, and unknown causes; for opacity, use 6-minute averages; for gases, use hourly *averaging times as defined.* *Total Source Operating Time* is the duration of the actual process operating time during a calendar quarter; if a source operates less than 2200 hours during any quarter, the source may calculate the %EE and/or %MD using all operating data for the current quarter and the preceding quarters until 2200 hours of data are obtained. *Total Monitor Downtime* is the duration of monitor downtime that occurred during a calendar quarter and includes periods due to monitor equipment malfunctions, non-monitor equipment malfunctions, quality assurance procedures, other known causes, and unknown causes. Downtime occurs only when source is actually operating and the monitoring system is not; periods that occur when the source is shut down (off-line) are not included in the calculation. These sources shall be deemed to be properly operated and maintained if the percent excess emissions and/or percent monitor downtime does not exceed 6% for any single quarter or 3% for two consecutive quarters. [15A NCAC 2D .0611(d)]	This condition was included at the request of the compliance group. Although the first condition under the monitoring requirements states the Permittee must comply with 2D .0600, this condition clarifies what is required.
Not included in current permit	ff. The Permittee shall develop and implement quality assurance procedures pursuant to 15A NCAC 2D .0613.	This condition was included at the request of the compliance group. Although the first condition under the monitoring requirements states the Permittee must comply with 2D .0600, this condition clarifies what is required.

Record keeping [15A NCAC 2D .1205(f)]	**Recordkeeping Requirements** [15A NCAC 2D .1205(f), 15A NCAC 2D .0600]	
Not included in current permit	ee. The results of the inspection and maintenance of the bagfilter shall be maintained in a logbook (written or electronic format) on-site and made available to a DAQ representative upon request. The logbook shall record the following: The date and time of each recorded action; i. The pressure drop once weekly at a minimum; ii. The results of each inspection; iii. a report of any maintenance performed on the bagfilter, and iv. Any variance from the manufacturer's recommendation, if any, and corrections made.	The current permit had no recordkeeping requirements for the bagfilters. The bagfilter condition was based on template found in the TV conditions template.
Not included in current permit.	ff. The permittee shall comply with the recordkeeping requirements in 15A NCAC 2D .0600. [15A NCAC 2D .1205(f)(1)]	Added for consistency with 2D .1205
x. The Permittee shall maintain records of information listed in 40 CFR 60.59b(d)(1) through (d)(15) as applicable for a period of at least five years.	gg..The Permittee shall maintain records of the information listed in 40 CFR 60.59b(d)(1) through (d)(15) for a period of at least five years. [15A NCAC 2D .1205(f)(3)(E)].	No significant change to condition.
y. The Permittee shall estimate the total carbon usage of the plant (kg or lb) for each calendar quarter by the following two independent methods: i. the weight of the carbon delivered to the plant, and ii. estimate the average carbon mass feed rate in kg/hr or lb/hr for each hour of operation for this unit based on the parameters specified in 60.58b(m)(1), and multiplied by the number of operating hours for each unit during the calendar quarter. The Permittee shall maintain records of the quarterly amounts of the carbon usage for a period of three years.	See conditions p.iv. for carbon operational standards; aa. for carbon monitoring ff. for recordkeeping requirements y through bb. For reporting requirements	Carbon feed rate requirements were revised in the current permit to reflect the regulatory requirements in layout. This should facilitate compliance with the requirements.

Reporting [15A NCAC 2D .1205(f)]	**Reporting Requirements** [15A NCAC 2D .1205(f), 15A NCAC 2D .0600]	
Not included in current permit	hh. The permittee shall comply with the reporting requirements in 15A NCAC 2D .0600 [15A NCAC 2D .1205(f)(1).	Added for consistency with 2D .1205
z. Following the initial compliance tests as required, the Permittee shall submit the information specified in 40 CFR 60.59b(f)(1) through (f)(6), in the initial performance test report.	Not included in revised permit	No longer applicable
aa. The Permittee shall submit a semiannual report that includes the information specified in 40 CFR 60.59b(h)(1) through (h)(5), for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified above according to the schedule specified in 40 CFR 60.59b(h)(6).	jj. The owner or operator shall submit a semiannual report specified in 40 CFR 60.59b(h) for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified in this Section, according to the schedule specified in 40 CFR 60.59b(h)(6). [15A NCAC 2D .1205(f)(3)(H)].	No substantive changes
bb. Following the first year of municipal combustor operation, the Permittee shall submit an annual report including the information specified in 40 CFR 60.59b(g)(1) through (g)(4), as applicable, no later than February 1 of each year following the calendar year in which data were collected. Once the unit is subject to Title V permitting requirements, the Permittee shall submit these reports semiannually.	ii. The owner or operator shall, following the first year of municipal combustor operation, submit an annual report specified in 40 CFR 60.59b(g), no later than February 1 of each year following the calendar year in which the data were collected. Once the unit is subject to permitting requirements under 15A NCAC 02Q .0500, Title V Procedures, the owner or operator of an affected facility shall submit these reports semiannually. [15A NCAC 2D .1205(f)(3)(G)]	No substantive changes
Not included in current permit	kk. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of a written request by the DAQ. ll. The Permittee shall submit the results of any maintenance performed on the alkaline injection system within 30 days of a written request by the DAQ	Typical reporting requirements. Note that semiannual reporting not required since 2Q.0508(f) does not apply.

Not included in current permit	oo. The Permittee shall submit a report summarizing the quarterly percent excess emissions (%EE) and percent monitor downtime (%MD) as calculated in condition XYZ. The report shall clearly identify all instances of EE and MD. The reports shall be used as an indicator of good operation and maintenance (O&M) for all COMS and CEMS operating at the facility. i. If the percent excess emissions and/or percent monitor downtime <u>does not exceed 6% for any single quarter or 3% for two consecutive quarters</u>, the report shall be submitted as required in General Condition D, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. If the percent excess emissions and/or percent monitor downtime <u>exceeds 6% for any single quarter or 3% for two consecutive quarters</u>, the report shall be submitted as required in General Condition D, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September.	This is the "partner" reporting condition for the monitoring condition XYZ that was included at the request of the compliance group. Although the first condition under the monitoring requirements states the Permittee must comply with 2D .0600, this condition clarifies what is required.