

## Air Permit Review

Permit Issue Date: **January 22, 2010**

**Region:** Washington Regional Office  
**County:** Craven  
**NC Facility ID:** 2500158  
**Inspector's Name:** Mike Smithwick  
**Date of Last Inspection:** 10/08/2009  
**Compliance Code:** 3 / Compliance – insp.

<b>Facility Data</b>			<b>Permit Applicability</b>		
<b>Applicant (Facility's Name):</b> Craven County Wood Energy 201 Executive Parkway New Bern, NC 28562  <b>SIC:</b> 4911 / Electric Services <b>NAICS:</b> 221119 / Other Electric Power Generation  <b>Facility Classification:</b> <b>Before:</b> Title V <b>After:</b> Title V <b>Fee Classification:</b> <b>Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> 2D .0503, .0504, .0515, .0516, .0519, .0521, and 2D .0530 <b>NSPS:</b> Subpart Db <b>NESHAP:</b> Subpart ZZZZ <b>PSD:</b> 2D .0530 <b>PSD Avoid.:</b> Not applicable <b>NC Toxics:</b> 2D .1100 <b>112(r):</b> Not applicable <b>Other:</b> 2D .1806 and 2Q .0400		
<b>Contact Data</b>			<b>Application Data</b>		
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 2500158.07A <b>Date Received:</b> 08/07/2007 <b>Application Type:</b> Renewal <b>Application Schedule:</b> TV-Renewal <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 06419/T19 <b>Existing Permit Issue Date:</b> 10/15/2007 <b>Existing Permit Expiration Date:</b> 09/30/2008		
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<b>Review Engineer:</b> David Putney  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____			<b>Comments / Recommendations:</b>		
			Issue 06419/T20 <b>Permit Issue Date:</b> <b>January 22, 2009</b> <b>Permit Expiration Date:</b> <b>December 31, 2014</b>		

### I Reason for Application:

**Facility Description:** Craven County Wood Energy, L.P. operates a boiler to generate steam which in turn operates a turbine/generator to produce electricity for sale to PJM (a regional wholesale electricity transmission organization) in New Bern, North Carolina, under Permit No. 06419T19.

**Permit Modification:** The Permittee submitted application 2500158.07A to renew (without any equipment modifications) Permit No. 06419T19. Note that applications 2500158.09B (reduction of boiler ES5A testing frequency – see Section II B.i, below), 2500158.09A (addition of CAIR requirements to the permit – see Section II B.x, below) and 2500158.06A (addition of Acid Rain requirements to the permit – see Section II B.xi, below) were consolidated into this renewal.

### II Regulatory review for rules that apply to emissions from individual source categories:

#### A. Bottom ash handling system (ID No. F6A-1);

#### Fly ash handling system (ID No. F6A-2); and

#### Wood handling and storage operations (ID No. FA) consisting of a hammer mill, wood unloading from a truck dumper, a wood reclaim conveyor, wood unloading onto wood storage pile, traffic on the wood storage pile, and wind erosion from the wood storage pile

The bottom ash handling system transports bottom ash from the boiler grates to a submerged storage vessel. The fly ash handling system transports fly ash collected in the multicyclone and electrostatic precipitator (ESP) hoppers to a storage vessel. Wood handling and storage operations involve the receiving, processing, and storage of the woodwaste materials that are subsequently fired in the boiler. These sources first operated on 10/16/1990.

**i. 2D .0515 “Particulates from Miscellaneous Industrial Processes”**

Paragraph 2D .0515(a) indicates that 2D .0515 does not apply to sources that are subject to another emission control standard. Although these sources are subject to BACT pursuant to 2D .0530, the prescribed BACT requirements in Permit No. 06419T19 for the bottom ash handling system, the fly ash handling system, and the wood handling and storage operations (ID Nos. F6A-1, F6A-2, and FA, respectively) do not include PM emission limits. Therefore, this rule is applied to these sources and limits their allowable PM emissions (E) as follows:

$$E \leq 55.0(P)^{0.11} - 40 \quad \text{If } P > 30 \text{ (ton/hr); and}$$

$$E \leq 4.1(P)^{0.67} \quad \text{If } P \leq 30 \text{ (ton/hr); and}$$

Where: P = process weight rate (ton/hr), and  
E = allowable emissions (lb PM/hr)

The process weight rates and allowable emissions data presented in the table below are the maximum values over the CY2006 – CY2008 period and were obtained from the Permittee via a letter dated 07/23/09. The actual PM emissions from these sources are believed to be well below the allowable limits due to the BACT requirements applied to these sources.

Emission Source		P (ton/hr)	E (lb PM/hr)
ID No.	Description		
F6A-1	Bottom ash handling	1.78	6.03
F6A-2	Fly ash handling	3.79	10.01
FA	Wood handling and storage	131.63	54.08

For 2D .0515 (as applicable to these sources), Permit No. 06419T20 will include the standard language for the emission limits of, and the methods of testing for compliance (if/when required by DAQ) with this rule. In addition Permit No. 06419T20 maintains the following control practices/requirements from Permit No. 06419T19:

- Bottom ash and fly ash must be conveyed in the associated ash handling systems;
- Wood waste must be conveyed from the hammer mill to the associated storage areas via enclosed systems; and
- The Permittee must use water quenching of bottom ash, enclosed dust collectors and water dust suppression for fly ash, and partially enclosed conveyors and enclosed transfer points (towers) for the wood reclaim conveyor as dust suppression techniques.

Permit No. 06419T20 will also maintain the following monitoring, recordkeeping, and reporting (MRR) requirements included in current Permit No. 06419T19 for these sources, pursuant to 2D .0515:

- Monthly external inspections of the enclosed work area around the hammer mill, enclosed conveyors, and transfer towers;
- Monthly external inspections of the bottom ash system for structural integrity;
- Monthly external inspections of the water spray dust suppression system on the fly ash handling system;
- Recordkeeping of the monthly external inspections;
- Semiannual summary reports of the MRR activities; and
- Reports of any maintenance performed on the bottom ash handling system, the fly ash handling system, the hammer mill, and/or the wood reclaim conveyor within 30 days of a written request by DAQ.

**ii. 2D .0521 “Control of Visible Emissions”**

The bottom ash handling system, the fly ash handling system, and the wood handling and storage operations were manufactured after 07/01/71. Therefore, except for those visible emissions (VEs) occurring during startup, shutdown and malfunctions that are regulated under 2D .0535, paragraph (d) of this rule requires that the 6-minute average VEs from these sources be less than or equal to 20% opacity with the following exceptions:

- One six-minute average VE per hour may exceed 20% opacity as long as that VE does not also exceed 87% opacity; and
- Up to four six-minute average VEs per 24-hour period may exceed 20% opacity as long as those VEs do not also exceed 87% opacity.

For 2D .0521 (as applicable to these sources), Permit No. 06419T20 will include the standard language for the emission limits of, and the methods of testing for compliance (if/when required by DAQ) with this rule.

Permit No. 06419T20 will also include the following MRR requirements for these sources, pursuant to 2D .0521:

- Weekly monitoring and recordkeeping of visible emissions; and
- Semiannual summary reports of the MRR activities.

**iii. 2D .0530 “Prevention of Significant Deterioration”**

DAQ conducted a PSD review for this facility under a previous permit application. That review resulted in work practice and equipment design requirements for the wood handling and storage operations and opacity limitations for the bottom ash handling system and the fly ash handling system which are included in current Permit No. 06419T19. The associated conditions are maintained in Permit No. 06419T20 and are summarized below:

- Wood deliveries must be via covered truck and discharged into dumpers that are equipped with sidewall curtains;
- The wood reclaim conveyor must be covered and all transfer points enclosed;
- Wood unloaded onto storage pile must be delivered via a telescoping chute that is as close to the receiving pile as possible;
- High moisture content wood and coarse wood shall be used as cover to minimize fugitive emissions from the storage pile due to traffic and wind erosion; and
- The opacity of visible emissions (VE) from the bottom ash handling system and the fly ash handling system shall not exceed 0 percent opacity. Note that current Permit No. 06419T19 does not specify the method or averaging period of the required VE readings. Permit No. 06419T20 specifies that the Permittee use a Method 22 procedure to verify compliance with the opacity standard.

Permit No. 06419T20 will maintain the following MRR requirements included in current Permit No. 06419T19 for these sources, pursuant to 2D .0530:

- A reference to the 2D .0515 MRR requirements for the wood handling and storage operations (see discussion in Section II A.i, above);
- Weekly monitoring and recordkeeping of visible emissions from the bottom ash handling system and the fly ash handling system; and
- Semiannual summary reports of the MRR activities.

**B. One multicyclone (330 nine inch tubes; ID No. CD5A-1) in series with one electrostatic precipitator (122,000 square feet of collection plate area; ID No. CD5A-2) installed on one boiler (666 million Btu per hour maximum heat input rate; ID No. ES5A) burning:**

- **Woodwaste (comprised of clean wood, railroad ties, plywood trimmings, particle board, Weyerhaeuser sludge, Brooder house poultry waste, and/or Cotton waste);**
- **Natural gas (startup fuel only);**
- **Propane (startup fuel only); and**
- **Used oil (onsite generation of waste No. 4 equivalent oil only)**

The Permittee burns the listed fuels in this spreader-stoker type boiler to produce steam to operate a Mitsubishi Heavy Industries turbine/generator. The turbine generator can produce up to 51.5 MW of power of which 3.5 MW is utilized to run this facility – leaving up to 48 MW of power for sale at the busbar. This source was first operational on 10/16/1990.

**i. 2D .0503 “Particulates from Fuel Burning Indirect Heat Exchangers”**

Current Permit No. 06419T19 applies this rule to boiler ES5A – but only while burning natural gas and/or propane. However, the current permit writer believes that, in accordance with paragraph (d) of this rule, this rule should also apply whenever this boiler is burning No. 4 waste oil (i.e. any combination of fuels which does not include wood). Paragraph (c) of this rule limits the allowable PM emissions (E) from this boiler, while burning the listed fuels, to those described in the following equations:

$$E = \begin{matrix} 0.10 & \text{If } Q \geq 10,000, \\ 0.60 & \text{If } Q \leq 10, \text{ and} \\ 1.090(Q)^{-0.2594} & \text{If } Q \text{ is any other value} \end{matrix}$$

Where: E = allowable emissions (lb PM/10<sup>6</sup> Btu), and  
Q = maximum heat input (10<sup>6</sup> Btu/hr)

For boiler ES5A, Q is equal to 666 (10<sup>6</sup> Btu/hr) and E is equal to 0.202 (lb PM/10<sup>6</sup> Btu).

Tables 1.3-1, 1.3-2, 1.4-2, and 1.5-1 of the current AP-42 document predict total PM emissions of 8.5 (lb/10<sup>3</sup> gallons), 7.6 (lb/10<sup>6</sup> ft<sup>3</sup>), and 0.6 (lb/10<sup>3</sup> gallons) from combustion of No. 4 waste oil, natural gas, and propane, respectively, in an industrial boiler. If we assume standard heat values of 150,000 (Btu/gallon), 1,020 (Btu/ft<sup>3</sup>), and 90,500 (Btu/gallon) for No. 4 waste oil, natural gas, and propane, respectively, then we can estimate PM emissions from this boiler while burning these fuels as follows:

$$\begin{aligned} \text{No. 4 oil:} & \quad [8.5 \text{ (lb/10}^3 \text{ gallons)}] / [150 \text{ (10}^6 \text{ Btu/10}^3 \text{ gallons)}] = 0.0567 \text{ (lb PM/10}^6 \text{ Btu)} \\ \text{Natural gas:} & \quad [7.6 \text{ (lb PM/10}^6 \text{ ft}^3)] / [1,020 \text{ (Btu/ft}^3)] = 0.0075 \text{ (lb PM/10}^6 \text{ Btu)} \\ \text{Propane:} & \quad [0.6 \text{ (lb/10}^3 \text{ gallons)}] / [90.5 \text{ (10}^6 \text{ Btu/10}^3 \text{ gallons)}] = 0.0066 \text{ (lb PM/10}^6 \text{ Btu)} \end{aligned}$$

Permit No. 06419T20 will include the standard language for the emission limits of and the methods of testing for compliance (if/when required by DAQ) with 2D .0503. However, since No. 4 oil, natural gas, and/or propane are inherently compliant (see discussion above), the permit will not require testing or include any MRR requirements pursuant to 2D .0503.

Permit No. 06419T20 will also require (as does current Permit No. 06419T19) the Permittee to maintain an alternate operating scenario log for this boiler.

**ii. 2D .0504 “Particulates from Wood Burning Indirect Heat Exchangers”**

This rule applies to boiler ES5A while burning wood only (Weyerhaeuser sludge, brooder house poultry waste, and cotton waste all qualify as wood for the purposes of this rule) or wood in combination with other fuels (i.e. No. 4 waste oil, natural gas, propane). Paragraph

(c) of this rule limits the allowable PM emissions (E) from this boiler, while burning wood exclusively, to those described in the following equations:

$$E = \begin{cases} 0.15 & \text{If } Q \geq 10,000, \\ 0.70 & \text{If } Q \leq 10, \text{ and} \\ 1.1698(Q)^{-0.2230} & \text{If } Q \text{ is any other value} \end{cases}$$

Where: E = allowable emissions (lb PM/10<sup>6</sup> Btu); and  
Q = maximum heat input (10<sup>6</sup> Btu/hr)

For boiler ES5A, Q is equal to 666 (10<sup>6</sup> Btu/hr) and E is equal to 0.274 (lb PM/10<sup>6</sup> Btu), while burning wood exclusively. Table 1.6-1 of the current AP-42 document predicts total PM emissions of 0.417 (lb/10<sup>6</sup> Btu) from dry wood combustion, suggesting that a PM control efficiency of at least 52.2% [i.e. (0.417 – 0.274)/0.274] is required for compliance.

If the Permittee burns wood in combination with other fuels in ES5A, then 2D .0504(f) limits the allowable emissions to those described in 2D .0503(f) and repeated below:

$$E_c = [(E_w)(Q_w) + (E_o)(Q_o)]/Q_t$$

Where: E<sub>c</sub> = the emission limit while burning the combined fuels, in lb PM/10<sup>6</sup> Btu  
E<sub>w</sub> = the emission limit while burning wood only, in lb PM/10<sup>6</sup> Btu  
Q<sub>w</sub> = the actual heat input from wood combustion, in Btu/hr  
E<sub>o</sub> = the emission limit while burning non-wood fuels, in lb PM/10<sup>6</sup> Btu  
Q<sub>o</sub> = the actual heat input from non-wood combustion, in Btu/hr  
Q<sub>t</sub> = Q<sub>w</sub> + Q<sub>o</sub>

The table below shows a summary of the results of recent stack testing conducted on boiler ES5A. The results indicate consistent compliance with the associated PM emission limits by a comfortable margin. Therefore, the required testing frequency for boiler ES5A will be reduced from once per year to once per permit term (as requested via application 2500158.09B) in Permit No. 06419T20 (WaRO agrees – see memo dated 01/26/09).

Test Date	Emission Rate (lb PM/10 <sup>6</sup> Btu)	Emission limit at maximum heat input (lb PM/10 <sup>6</sup> Btu)		% of 2D .0530 limit (the most restrictive limit)
		Rule	Limit	
05/28/09 <sup>1</sup>	0.0095	2D .0503 2D .0504 2D .0524 2D .0530	0.202	23.2
05/30/08	0.0045		0.274	11.0
07/11/07	0.0187		0.1	45.6
03/27/06	0.0287		0.041	70.0

<sup>1</sup> This testing has not yet been reviewed and approved by SSCB.

Permit No. 06419T20 will include the 2D .0504 emission limits and language requiring testing to demonstrate compliance. The testing condition will state that the Permittee may use the same test to demonstrate compliance with rules 2D .0503, 2D .0504, 2D .0524, and 2D .0530. Permit No. 06419T20 will not require combustion of No. 4 oil, natural gas, and/or propane during testing since those fuels are inherently compliant (see discussion above).

Permit No. 06419T20 will require the Permittee to control PM emissions from ES5A via the multicyclone (ID No. CD5A-1) and the electrostatic precipitator (ESP – ID No. CD5A-2) and perform the following 2D .0504 MRR requirements:

- Weekly inspections of any equipment associated with the ESP that does not generate an alarm when turned off;
- Monthly external inspections of the multicyclone and ESP;
- Annual internal inspections of the multicyclone;
- Maintenance of records of the required inspections;
- Submittal of reports of any maintenance performed on the multicyclone and ESP within 30 days of a written request by DAQ; and
- Submittal of semiannual summary reports of the MRR activities.

**iii. 2D .0516 “Sulfur Dioxide Emissions from Combustion Sources”**

Note that paragraph 2D .0516(b) exempts sources that are subject to an emission standard for sulfur dioxide pursuant to a NSPS or a MACT from the sulfur dioxide limits in 2D .0516. Although boiler ES5A is subject to NSPS, Subpart Db (refer to the discussion of 2D .0524 below), that NSPS does not include a sulfur dioxide emission limit for this source. Therefore, 2D .0516 does apply to boiler ES5A and limits the SO<sub>2</sub> emissions from this combustion device to 2.3 (lb/10<sup>6</sup> Btu).

Tables 1.3-1, 1.4-2, 1.5-1, and 1.6-2 of the current AP-42 document predict SO<sub>2</sub> emissions of 150\*S (lb/10<sup>3</sup> gallons) [where S = sulfur content of oil (wt%)], 0.6 (lb/10<sup>6</sup> ft<sup>3</sup>), 0.1\*S (lb/10<sup>3</sup> gallon) [where S = propane sulfur concentration (gr/100 ft<sup>3</sup>)], and 0.025 (lb/10<sup>6</sup> Btu) from combustion of No. 4 fuel oil, natural gas, propane, and wood, respectively, in an industrial boiler. If we assume: heat values of 150,000 (Btu/gallon), 1,020 (Btu/ft<sup>3</sup>), and 90,500 (Btu/gallon) for No. 4 fuel oil, natural gas, and propane, respectively; a No. 4 fuel oil sulfur content of 2.1%; and a propane sulfur concentration of 0.1 (gr/100 ft<sup>3</sup>) then we can estimate SO<sub>2</sub> emissions from this boiler while burning these fuels as follows:

$$\begin{aligned}
 \text{No.4 oil :} & \quad \left[ \frac{(150)(2.1)(lb SO_2)}{1,000 (gallons)} \right] \left[ \frac{1,000 (gallons)}{150 \times 10^6 (Btu)} \right] = 2.1 \left( \frac{lb SO_2}{10^6 Btu} \right) \\
 \text{Natural gas :} & \quad \left[ \frac{0.6 (lb SO_2)}{10^6 (ft^3)} \right] \left[ \frac{ft^3}{1,020 (Btu)} \right] = 0.0006 \left( \frac{lb SO_2}{10^6 Btu} \right) \\
 \text{Pr opane :} & \quad \left[ \frac{(0.1)(0.1)(lb SO_2)}{1,000 (gallons)} \right] \left[ \frac{1,000 (gallons)}{90.5 \times 10^6 (Btu)} \right] = 0.0001 \left( \frac{lb SO_2}{10^6 Btu} \right) \\
 \text{Wood :} & \quad = 0.025 \left( \frac{lb SO_2}{10^6 Btu} \right)
 \end{aligned}$$

The permit writer is not aware of any accepted SO<sub>2</sub> emission factors for Weyerhaeuser sludge, brooder house poultry waste, and/or cotton waste. However, since SO<sub>2</sub> emission are proportional to the sulfur content of a fuel and since these fuels are essentially wood, the permit writer does not believe combustion of these fuels results in significant SO<sub>2</sub> emissions.

Permit No. 06419T20 will include the standard shell language for the emission limits and testing to demonstrate compliance with 2D .0516 if/when required by DAQ. No. 4 oil is the only fuel which is considered to have the potential to violate 2D .0516 (i.e. if the sulfur content exceeds 2.3% by weight – see equation above). Therefore, the MRR requirements associated with 2D .0516 for this boiler in Permit No. 06419T20 include a reference to the annual No. 4 oil testing and MRR requirements of 2D .1100 (see Section II B.ix, below).

#### iv. 2D .0519 “Control of Nitrogen Dioxide and Nitrogen Oxides Emissions”

Note that paragraph 2D .0519(d) exempts sources that are subject to an emission standard for nitrogen oxides pursuant to a NSPS or 2D .1418 from the nitrogen oxides limits in 2D .0519. Although boiler ES5A is subject to NSPS Subpart Db (refer to the discussion of 2D .0524 below), the Permittee has opted for a natural gas capacity factor limit instead of the nitrogen oxides emission limit for this source, as is allowed under NSPS Subpart Db. Therefore, rule 2D .0519 does apply to boiler ES5A and limits the NO<sub>x</sub> emissions from this boiler to no more than 0.8 (lb/10<sup>6</sup> Btu) while burning natural gas, propane, and/or No. 4 oil.

Tables 1.3-1, 1.4-1, and 1.5-1 of the current AP-42 document predict NO<sub>x</sub> emissions of 47 (lb/10<sup>3</sup> gallons), 190 (lb/10<sup>6</sup> ft<sup>3</sup>), and 19 (lb/10<sup>3</sup> gallons) from combustion of No. 4 fuel oil, natural gas, and propane, respectively, in an industrial boiler. If we assume standard heat values of 150,000 (Btu/gallon), 1,020 (Btu/ft<sup>3</sup>), and 90,500 (Btu/gallon) for No. 4 fuel oil, natural gas, and propane, respectively, then we can estimate PM emissions from this boiler while burning these fuels as follows:

No. 4 oil:  $[47 \text{ (lb/10}^3 \text{ gallons)}] / [150 \text{ (10}^6 \text{ Btu/10}^3 \text{ gallons)}] = 0.31 \text{ (lb PM/10}^6 \text{ Btu)}$

Natural gas:  $[190 \text{ (lb PM/10}^6 \text{ ft}^3)] / [1,020 \text{ (Btu/ft}^3)] = 0.19 \text{ (lb PM/10}^6 \text{ Btu)}$

Propane:  $[19 \text{ (lb/10}^3 \text{ gallons)}] / [90.5 \text{ (10}^6 \text{ Btu/10}^3 \text{ gallons)}] = 0.21 \text{ (lb PM/10}^6 \text{ Btu)}$

Permit No. 06419T20 will include the standard shell language for the emission limits and testing to demonstrate compliance with 2D .0519 if/when required by DAQ. However, since the permitted fuels are inherently compliant, Permit No. 06419T20 will not include any MRR requirements for boiler ES5A to demonstrate compliance with 2D .0519.

#### v. 2D .0521 “Control of Visible Emissions”

Paragraph 2D .0521(b) exempts sources that are subject to an opacity limit pursuant to a NSPS or a MACT from the opacity limits in 2D .0521. Boiler ES5A is subject to an opacity limit under NSPS Subpart Db (see discussion of 2D .0524 below). Therefore, although included in current Permit No. 06419T19, the applicability of 2D .0521 to boiler ES5A is removed in Permit No. 06419T20.

#### vi. 2D .0524 “New Source Performance Standards”

**Applicability:** Boiler ES5A was first operational on 10/16/1990 (according to the Title IV (acid rain) permit application for this facility) and could potentially be subject to several NSPS subparts. The applicability of those NSPS subparts is discussed briefly below. The several NSPS subparts for municipal solid waste incineration are not discussed since the Permittee does not burn municipal solid waste.

- **Subpart Da** - NSPS for “Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978”: Boiler ES5A is **not subject** to this regulation. Although this source was constructed after the applicability date of Subpart Da that regulation only applies to sources capable of burning more than 250 million Btu per hour of fossil fuel. Boiler ES5A only burns limited amounts of fossil fuels (i.e. No. 4 waste oil, natural gas, and propane) as startup fuels.
- **Subpart Db** – NSPS for “Industrial-Commercial-Institutional Steam Generation Units”: Boiler ES5A **is subject** to this regulation. This regulation applies to sources that commence construction, modification, or reconstruction after 06/19/84 and have heat input capacity greater than 29 MW (i.e. 100 million Btu per hour). The associated requirements are discussed in detail below.

- **Subpart CCCC** – NSPS for “Commercial and Industrial Solid Waste Incineration Units for Which Construction is Commenced After November 30, 1999 or for Which Modification or Reconstruction is Commenced on or After June 1, 2001”: Boiler ES5A is **not subject** to this regulation. Boiler ES5A predates this regulation and is not considered a “new incineration unit” [see 40 CFR §60.2010(a) and §60.2015(a)].

### **Emission Standards:**

**SO<sub>2</sub>:** The sulfur dioxide (SO<sub>2</sub>) emission limits of Subpart Db are found in section §60.42b. NSPS Subpart Db **does not include a SO<sub>2</sub> emission limit** applicable to boiler ES5A.

Although the Permittee does burn oil in boiler ES5A, that oil is a waste generated on-site as a by-product of their operations (i.e. it is used crank case oil – refer to the letter from the Permittee dated 07/23/09). Therefore the SO<sub>2</sub> emission limits for fuel oils in Subpart Db do not apply.

**PM:** The particulate matter (PM) emission limits of Subpart Db are found in section §60.43b. In accordance with paragraph §60.43b(c), emissions of PM from boiler ES5A shall not exceed 0.1 pounds per million Btu heat input. This limit applies as long as the boiler has an annual capacity factor for wood of 30% or more.

In addition, paragraph §60.43b(f) limits visible emissions (VE) from boiler ES5A to no more than 20% opacity (6-minute average), with an allowance for one 6-minute period per hour of no more than 27% opacity.

In accordance with paragraphs §60.43b(g) and §60.46b(a), the PM emission and VE opacity limits apply at all times, **except** periods of SSM.

**NO<sub>x</sub>:** The emission limits for nitrogen oxides (NO<sub>x</sub>) of Subpart Db are found in section §60.44b. As allowed under paragraphs §60.44b(d) and (e), in lieu of a NO<sub>x</sub> emission limit for boiler ES5A, the Permittee has opted to restrict that boiler to an annual capacity factor for natural gas of 10% or less.

If the annual capacity factor of natural gas in boiler ES5A exceeds 0.10 then the emission limit of 0.3 pounds of NO<sub>x</sub> per million Btu heat input found in paragraph §60.44b(d) applies to boiler ES5A. In accordance with paragraphs §60.44b(h) and (i) and §60.46b(a), the NO<sub>x</sub> emission limits apply at all times, **including** periods of SSM and compliance must be determined on a 30-day rolling average basis.

### **Monitoring Requirements:**

**SO<sub>2</sub>:** The SO<sub>2</sub> monitoring requirements of Subpart Db are found in section §60.47b. However, as noted under Emission Standards above, NSPS Subpart Db does not include a SO<sub>2</sub> emission standard applicable to boiler ES5A and, therefore no SO<sub>2</sub> monitoring is necessary.

**PM:** The PM monitoring requirements of Subpart Db are found in section §60.48b. In accordance with paragraph §60.48b(a), the Permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) on boiler ES5A and record that COMS output. Paragraph §60.48b(e)(1) further requires that the span value of the COMS must be between 60 and 80%.

**NO<sub>x</sub>:** The NO<sub>x</sub> monitoring requirements of Subpart Db are found in section §60.48b. However, as noted under Emission Standards above, the Permittee has opted to restrict boiler ES5A to an annual capacity factor for natural gas of 10% or less in lieu of a NO<sub>x</sub> emission limit. Therefore, Permit No. 06419T20 will require the Permittee to monitor the usage of each fuel and calculate the annual natural gas capacity factor of boiler ES5A on a monthly basis.

**Recordkeeping Requirements:** The recordkeeping requirements of Subpart Db are found in section §60.49b. Those requirements are discussed briefly below:

As noted under Emission Standards above, boiler ES5A is not subject to the SO<sub>2</sub> emission standards and, therefore, the SO<sub>2</sub> recordkeeping requirements do not apply to boiler ES5A.

As noted under Emission Standards above, the Permittee has opted to restrict boiler ES5A to an annual capacity factor for natural gas of 10% or less in lieu of a NO<sub>x</sub> emission limit. Therefore, the NO<sub>x</sub> emissions recordkeeping requirements do not apply to boiler ES5A.

Paragraph §60.49b(d)(1) requires the Permittee to record and maintain records of the amounts of each fuel combusted in boiler ES5A each day. The Permittee is also required to calculate the annual capacity factor for each individual fuel (on a 12-month rolling average basis) at the end of each calendar month.

Paragraph §60.49b(f) requires the Permittee to maintain records of the opacity of visible emissions from boiler ES5A.

**Reporting Requirements:** The reporting requirements of Subpart Db are found in section §60.49b. Those requirements are discussed briefly below:

As noted under Emission Standards above, boiler ES5A is not subject to the SO<sub>2</sub> emission standards and, therefore, the SO<sub>2</sub> reporting requirements do not apply to boiler ES5A.

As noted under Emission Standards above, the Permittee has opted to restrict boiler ES5A to an annual capacity factor for natural gas of 10% or less in lieu of a NO<sub>x</sub> emission limit. Therefore, the NO<sub>x</sub> emissions reporting requirements do not apply to boiler ES5A.

Paragraph §60.49b(h) requires the Permittee to submit excess emission reports for any excess emissions that occurred during the reporting period. In the case of the Permittee this applies to visible emissions opacity monitoring and excess emissions are defined as all 6-minute periods during which the average opacity exceeds the limits of paragraph §60.43b(f) [i.e. 20% opacity (6-minute average), with an allowance for one 6-minute period per hour of no more than 27% opacity].

Paragraph §60.49b(o) requires the Permittee to maintain the required records for a period of at least two years following the date of such record.

#### **vii. 2D .0530 “Prevention of Significant Deterioration”**

DAQ conducted a PSD review for this facility under a previous permit application. That review resulted in emission limits for PM/PM<sub>10</sub>, VOC, CO, and NO<sub>x</sub> emissions from boiler ES5A which are included in current Permit No. 06419T19. The associated limits are maintained in Permit No. 06419T20 and are listed below:

- PM/PM<sub>10</sub> emissions must be less than or equal to 0.041 pounds per million Btu;
- VOC emissions must be less than or equal to 0.077 pounds per million Btu;
- CO emissions must be less than or equal to 0.66 pounds per million Btu; and
- NO<sub>x</sub> emissions must be less than or equal to 0.35 pounds per million Btu.

Permit No. 06419T20 will maintain the following MRR requirements included in current Permit No. 06419T19 for boiler ES5A, pursuant to 2D .0530:

- A reference to the 2D .0504 monitoring and recordkeeping requirements for boiler ES5A (see the discussion in Section II B.ii, above); and
- Semiannual summary reports of the monitoring and recordkeeping activities.

**viii. 2D .0614 “Compliance Assurance Monitoring”**

Although boiler ES5A does use control devices (i.e. CD5A-1 and CD5A-2) to control emissions of a regulated pollutant (i.e. PM/PM10) with before-control potential emissions in excess of the threshold for being considered major for Title V, **this source is not subject to CAM (i.e. 2D .0614)** because of the exemption from the CAM requirements provided under 2D .0614(b)(1)(F). That is, CAM does not apply due to the specification of a continuous compliance method (i.e. COMS pursuant to 2D .0524 – see discussion in Section II B.vi, above) in a Title V permit.

**ix. 2D .1100 “Control of Toxic Air Pollutants”**

The Permittee (via a previous permit application) has conducted modeling for this facility to demonstrate compliance with 2D .1100 and the associated emission and fuel limits and MRR requirements are included in Section 2.2 A.1 of current Permit No. 06419T19. The requirements are maintained in Permit No. 06419T20 except that (1) they are reformatted and reworded for clarity, (2) monitoring requirements are specified, and (3) specifications for unadulterated No. 4 oil equivalency are added.

**x. 2D .2400 “Clean Air Interstate Rules”**

Note that, although the Permittee has indicated that they do not believe that CAIR applies to this facility (see the phone log dated 06/23/09), the Permittee did submit application 2500158.09A (which has been consolidated into application 2500158.07A – this renewal) to comply with the CAIR rules. The Permittee has expressed their preference to have “shield” language associated with CAIR in their permit objection while awaiting the final EPA decision on its applicability (see the email dated 06/23/09). Although the federal CAIR rules have been remanded, the Craven County Wood Energy facility in New Bern is included in the tables of subject sources in the NC CAIR rules. Further, the EPA has approved the NC SIP that includes CAIR. Therefore, CAIR will be included in Permit No. 06419T20 with language indicating that, if EPA decides CAIR does not apply to the Permittee, then the Permittee need not comply with the associated CAIR requirements in the permit.

This facility is subject to the MRR requirements of 40 CFR Part 96 “NO<sub>x</sub> Budget Trading Program and CAIR NO<sub>x</sub> and SO<sub>2</sub> Trading Programs for State Implementation Plans” pursuant to 2D .2403(c), 2D .2405(e) and 2D .2407.

The annual NO<sub>x</sub> allocations for the Permittee are found in 2D .2403(a) (i.e. 498 tons per year for 2009 – 2014 and 424 tons per year for 2015 and later). Rule 2D .2404 indicates that the SO<sub>2</sub> allocations would be found in 40 CFR 73.10. However, 40 CFR 73.10 does not include any SO<sub>2</sub> allocations for the Permittee. The ozone season [defined in 2D .2405(b) as 05/01 through 09/30] NO<sub>x</sub> allocations for the Permittee are found in 2D .2405 (i.e. 211 tons per ozone season for 2009 – 2014 and 179 tons per ozone season for 2015 and later).

**xi. 2Q .0400 “Acid Rain Procedures”**

The Permittee submitted an Acid Rain application (i.e. application 2500158.06A) for this facility. However, the Permittee indicated that they do not believe that Acid Rain Procedures applies to this facility, arguing that boiler ES5A is a “qualifying facility” under 40 CFR §72.6(b)(5) and is exempt from the acid rain program pursuant to 40 CFR §72.6(a)(3)(v) (see the 06/23/09 phone log and 10/15/07 letter), and is awaiting the final EPA decision on these matters (see the email dated 06/23/09). Sam Napolitano of EPA sent a letter to the Permittee, dated 10/23/09 (see Attachment A), indicating that the final EPA decision in these matters is that this facility is subject to the Acid Rain program. Therefore, the Acid Rain program requirements will be included in Permit No. 06419T20.

**C. Diesel-fired emergency fire pump (250 horsepower maximum rated power output; ID No. ES-11); and**

**Diesel-fired emergency generator (175 kW maximum rated power output; ID No. ES-12)**

The Permittee utilizes the diesel-fired emergency fire pump in the event of a fire to provide water for combating the fire. The Permittee utilizes the diesel-fired emergency generator to provide electric power in case of a disruption in the electric power distribution grid. These sources were installed when the facility was constructed in 1990. The emergency fire pump was rebuilt in 2008 (see letter from the Permittee dated 07/23/09).

**i. 2D .0516 “Sulfur Dioxide Emissions from Combustion Sources”**

Paragraph 2D .0516(b) exempts sources that are subject to an emission standard for sulfur dioxide pursuant to a NSPS or a MACT from the sulfur dioxide limits in 2D .0516. Although this fire pump and generator are both subject to a MACT (refer to discussion of 2D .1111 below), that rule does not include a sulfur dioxide emission standard for these sources. Therefore, 2D .0516 does apply to these sources and limits the SO<sub>2</sub> emissions from these combustion devices to 2.3 (lb/10<sup>6</sup> Btu).

Table 3.3-1 of the current AP-42 document predicts SO<sub>x</sub> emissions from diesel fuel combustion in small industrial engines (i.e. those with less than 600 hp maximum rated power output) of 0.29 (lb/MMBtu).

For 2D .0516 (as applicable to these sources), Permit No. 06419T20 will include the standard language for the emission limits of, and the methods of testing for compliance (if/when required by DAQ) with, this rule. However, since the permitted fuel is inherently compliant, no MRR requirements for 2D .0516 will appear in the permit for these sources.

**ii. 2D .0521 “Control of Visible Emissions”**

Paragraph 2D .0521(b) exempts sources that are subject to an opacity standard pursuant to a NSPS or a MACT from the opacity limits in 2D .0521. Although this emergency fire pump and emergency generator are subject to a MACT (refer to discussion of 2D .1111 below), that rule does not include opacity standards for these sources. Therefore, 2D .0521 does apply to these sources.

These sources were manufactured after 07/1/71. Therefore, except for those visible emissions (VEs) occurring during startup, shutdown and malfunctions that are regulated under 2D .0535, paragraph (d) of this rule requires that the 6-minute average VEs from these sources be less than or equal to 20% opacity with the following exceptions:

- One six-minute average VE per hour may exceed 20% opacity as long as that VE does not also exceed 87% opacity; and
- Up to four six-minute average VEs per 24-hour period may exceed 20% opacity as long as those VEs do not also exceed 87% opacity.

For 2D .0521 (as applicable to these sources), Permit No. 06419T20 will include the standard language for the emission limits of, and the methods of testing for compliance (if/when required by DAQ) with, this rule. However, since operation of emergency devices is limited and since non-compliance with this rule is considered unlikely for these diesel-fired sources, no MRR requirements for 2D .0521 will appear in the permit for these sources.

**iii. 2D .0524 “New Source Performance Standards”**

**Applicability:** The new source performance standards for this source category [i.e. NSPS Subpart IIII for compression ignition internal combustion engines (CI ICE)] applies to stationary CI ICE that: [refer to 40 CFR §60.4200(a)]

- Commence construction after 07/11/05 where the stationary CI ICE are:
  - Manufactured after 04/01/06 and are not fire pump engines; or
  - Manufactured as a certified NFPA fire pump engine after 07/01/06.
- Modify or reconstruct their stationary CI ICE after 07/11/05.

**Emergency Fire Pump (ID No. ES-11):** The emergency fire pump pre-dates this rule but the Permittee has indicated that this source was rebuilt in 2008 (refer to the letter dated 07/23/09). The Permittee indicated that the rebuild of ES-11 cost about \$40,000 whereas a comparable new fire pump would have cost \$87,500 (see quote from Tencarva Machinery Company, dated 10/30/09). Therefore, in accordance with 40 CFR §60.15(b), this source has not been reconstructed (i.e. since the cost of the new components was less than 50% of the cost of a comparable entirely new facility) and **is not subject** to the NSPS requirements.

**Emergency Generator (ID No. ES-12):** The emergency generator pre-dates this rule and the Permittee has indicated that this source has not been modified or reconstructed since 07/11/05 (refer to the letter dated 07/23/09). Therefore, in accordance with 40 CFR §60.4200(a)(3), this source **is not subject** to the NSPS requirements.

#### iv. 2D .1111 “Maximum Achievable Control Technology”

**Applicability:** The emergency generator and emergency fire pump are subject to 2D .1111 due to the applicability of 40 CFR Part 63, Subpart ZZZZ (i.e. the MACT for reciprocating internal combustion engines - RICE). [refer to 40 CFR §63.6585]

**Emergency Fire Pump (ID No. ES-11):** The Permittee has indicated that the emergency fire pump was rebuilt in 2008 (refer to the letter dated 07/23/09). The Permittee indicated that the rebuild of ES-11 cost about \$40,000 whereas a comparable new fire pump would have cost \$87,500 (see quote from Tencarva Machinery Company, dated 10/30/09). Therefore, in accordance with 40 CFR §63.6590(a)(1)(iii) and 40 CFR §63.2, this source is considered an existing affected source and, in accordance with §63.6590(b)(3), is not subject to the requirements of 40 CFR Part 63, Subpart A or ZZZZ.

**Emergency Generator (ID No. ES-12):** The Permittee has indicated that the emergency generator has not been modified or reconstructed since 06/12/06 (refer to the letter dated 07/23/09). Therefore, in accordance with 40 CFR §63.6590(a)(1)(iii), this source is considered an existing affected source and, in accordance with §63.6590(b)(3), is not subject to the requirements of 40 CFR Part 63, Subpart A or ZZZZ.

### III Regulatory review for rules that apply to aggregate emissions from multiple source categories:

#### A. 2D .1806 “Control and Prohibition of Odorous Emissions”

This rule applies to all sources at the facility and requires the Permittee to prevent odorous emissions from the facility from causing or contributing to objectionable odors [as defined in paragraph 2D .1801(9)] beyond the facility’s boundary. The Permittee conducts operations that would reasonably be expected to create objectionable odors but does not have a history of violations of this rule. Therefore, the standard shell language for this rule is maintained in Permit No. 06419T20.

### IV NSPS/NESHAP/PSD/Toxics/112(r)/CAM/RACT Applicability:

**NSPS:** The New Source Performance Standards (NSPS) that are potentially-applicable to sources at this facility pursuant to 2D .0524 and 40 CFR Part 60 are discussed briefly below:

- Subpart Da - Boiler ES5A is **not subject** to this NSPS since fossil fuels are only utilized for startup purposes (i.e. see discussion in Section II B.vi, above).

- Subpart Db - Boiler ES5A **is subject** to this NSPS (see discussion in Section II B.vi, above).
- NSPS Kb – The storage tanks at this facility (ID Nos. I1 through I9) are **not subject** to this NSPS because their storage capacities are below the associated applicability threshold [i.e. 75 cubic meters (approximately 19,814 gallons)].
- Subpart CCCC - Boiler ES5A is **not subject** to this NSPS since it pre-dates this regulation (see discussion in Section II B.vi, above).
- Subpart IIII - The emergency fire pump (ID No. ES-11) and emergency generator (ID No. ES-12) at this facility pre-date this NSPS and are therefore **not subject** to this regulation (see discussion in Section II C.iii, above).

**NESHAP:** The emergency fire pump (ID No. ES-11) and emergency generator (ID No. ES-12) at this facility **are both subject** to National Emission Standards for Hazardous Air Pollutants (NESHAP) pursuant to 2D .1111 and 40 CFR Part 63, Subpart ZZZZ. There are no applicable requirements for the generator whereas the fire pump complies with MACT Subpart ZZZZ by complying with NSPS Subpart IIII (see discussion of 2D .1111 in Section II C.iv, above).

**PSD:** This facility falls into one of the PSD categories listed at 40 CFR §51.166(b)(1)(i)(a) with a 100 tons per year threshold and qualifies as a major stationary source for PSD purposes since it has the potential to emit SO<sub>2</sub>, NO<sub>x</sub> and CO at rates in excess of 100 tons of per consecutive 12-month period. BACT limits were applied to the boiler, the wood handling and storage operations, the bottom ash handling system, and the fly ash handling system at this facility via a previous permit application (see discussions of 2D .0530 in Sections II A.iii, and II B.vii, above).

Application 2500158.07A is a permit renewal without equipment modification and does not trigger a PSD review. The applications that have been consolidated into 2500158.07A (i.e. 2500158.06A to add the acid rain requirements to the permit, 2500158.09B to reduce the testing frequency of boiler ES5A, and 2500158.09A to add the CAIR requirements to the permit) do not trigger a PSD review.

**Toxics:** The Permittee has (via a previous permit application) demonstrated compliance with the NC toxics program. The associated permit condition includes requirements that apply to boiler ES5A (see discussion of 2D .1100 in Section II B.ix, above). Note that the emergency generator and the emergency fire pump fall under the definition of “combustion sources” found in 2Q .0703(6) and are therefore currently exempted from the requirement to demonstrate compliance with the NC toxics program pursuant to 2Q .0702(a)(18).

**112(r):** The Permittee has previously indicated that this facility does not use, handle, or store any regulated materials onsite in quantities in excess of the associated thresholds (except for the propane boiler fuel and the diesel fuel for the emergency RICE, both of which are exempt under 40 CFR §68.126) and is therefore not subject to the requirements of this regulation except for General Duty.

**RACT:** This facility is not subject to the existing source RACT requirements of Section 2D .1400 due to (1) location [i.e. it is not located in one of the areas listed in 2D .0902(e) or 2D .1402(d)], (2) fuel (i.e. the boiler is not fossil fuel-fired), and/or (3) size/capacity (i.e. the internal combustion engines are below the applicability thresholds).

**CAM:** This facility is not subject to CAM requirements. Boiler ES5A does utilize control devices to control a pollutant to meet an emission standard. However, that boiler is not subject to CAM due to the use of a continuous opacity monitoring systems (COMS) to comply with NSPS Subpart Db (see the discussion in Section II B.viii, above, and Attachment B of this document, below).

## V Permit Modifications/Changes:

The following table summarizes the changes made in Permit No. 06419T20 resulting from Permit Application No. 2500158.07A:

Old Page(s)	New Page(s)	Condition/Item	Description of Change(s)
Global	Global	N/A	<ul style="list-style-type: none"> <li>• Change the issuance/effective dates of the permit and the permit revision number to T20;</li> <li>• Update reporting requirement permit conditions to allow for hand delivery of reports;</li> <li>• Update regulatory basis for testing to 2D .2601; and</li> <li>• Update current permit shell (remove Part II)</li> </ul>
3	3	Equipment List	<ul style="list-style-type: none"> <li>• Add sources ES-11 and ES-12 to the equipment list and show applicability of MACT to ES-11 and ES-12; and</li> <li>• Modify description of ES5A to remove the weight % limits on firing rates of railroad ties, brooder house poultry waste, and cotton waste (these limits are applied pursuant to 2D .1100 and are not equipment limits)</li> </ul>
4 – 11	4 - 6	2.1 A	Remove boiler ES5A and the associated emission limits, control requirements, and monitoring/recordkeeping/reporting (MRR) requirements from this permit section
5	4 - 5	2.1 A.1	Replace alternate operating scenario (AOS) requirements with the 2D .0515 requirements (found in section 2.1 A.4 of current Permit 06419T19) after (1) updating to require records of I&M times, results, and variance from the manufacturer’s recommendations, and (2) splitting the reporting requirements into two permit conditions.
5	5 - 6	2.1 A.2	Replace 2D .0503 requirements with those of 2D .0521 (found in section 2.1 A.7 of Permit 06419T19) after updating the monitoring requirements to the current shell language and removing requirement to establish “normal.”
5 - 6	6	2.1 A.3	Replace 2D .0504 requirements with those of 2D .0530 for F6A-1, F6A-2, and FA (found in sections 2.1 A.9.a and 2.1 A.9.e – i of current Permit 06419T19) after (1) updating to require records of I&M times, and (2) specifying use of Method 22 for VE observations
5 - 10	7 - 11	2.1 B	Add this section to the permit and include the emission limits, control requirements, and MRR requirements associated with ES5A to this permit section
5	7	2.1 B.1	Include the AOS requirements (found in section 2.1 A.1 of current Permit 06419T19) in this section and correct the regulatory citation of this requirement
5	8	2.1 B.2	Include the 2D .0503 requirements (found in section 2.1 A.2 of current Permit 06419T19) in this section after modifying to show expanded applicability (i.e. while burning propane, natural gas, and/or No. 4 fuel oil)
5 - 6	8 - 9	2.1 B.3	Include the 2D .0504 requirements (found in section 2.1 A.3 of Permit 06419T19) in this section after making the testing requirement a reference to testing under 2D .0524 and modifying the MRR requirements to (1) specify the timing of annual multicyclone inspections, (2) require records of I&M times, results, and variance from the manufacturer’s recommendations, and (3) split the reporting requirements into two permit conditions

Old Page(s)	New Page(s)	Condition/Item	Description of Change(s)
7	9	2.1 B.4	Include the 2D .0516 requirements (found in section 2.1 A.5 of current Permit 06419T19) in this section after adding MRR requirements for used oil combustion.
7 - 8	9	2.1 B.5	Include the 2D .0519 requirements (found in section 2.1 A.6 of current Permit 06419T19) in this section after modifying to show applicability while burning used oil
8 - 9	9 – 10	2.1 B.6	Include the 2D .0524 requirements (found in section 2.1 A.8 of current Permit 06419T19) in this section after (1) rewording/expanding for clarity and completeness, (2) reducing testing frequency to once per permit term, and (3) modifying the MRR requirements to require records of I&M times, results, and variance from recommendations
10	11	2.1 B.7	Include the 2D .0530 requirements for ES5A (sections 2.1 A.9.a – d and 2.1 A.9.i of Permit 06419T19) in this section after making the particulate testing requirement a reference to testing under 2D .0524 and the MRR requirements a reference to MRR requirements under 2D .0504
N/A	12	2.1 C	Add this section to the permit to include the emission limits, control requirements, and MRR requirements associated with ES-11 and ES-12 to this section
12 - 14	13 - 15	2.2 A	Expand 2D .1100 conditions for clarity and to include MRR requirements (including the specifications for unadulterated No. 4 oil equivalency)
14	16	2.3	Replace Acid Rain program “shield” language with the associated program requirements
NA	16 - 18	2.4	Add this section to the permit to include the Clean Air Interstate Rules requirements for boiler ES5A
15 - 22	19 - 26	Section 3	Update to current shell (i.e. version 3.0)

Note: Condition/Item numbers are those as they appear on Permit No. 06419T20.

## VI Title V Permit History:

The following table provides a very brief summary of Title V permit revisions for this facility:

Permit No.	Issuance	Description of Revision
06419T16	10/29/03	Issuance of initial Title V permit (effective date of 01/01/04)
06419T17	12/15/04	Modification to allow combustion of cotton waste; add a permit shield for Title IV (acid rain); remove the cooling tower from the permit; and modify the BACT requirements for the cooling tower and the wood handling/storage
06419T18	11/28/05	Administrative amendment to change due date of the annual compliance certification from January 31 to March 1
06419T19	10/15/07	Administrative amendment to indicate that combustion of cotton waste is limited to 50% by weight
06419T20	01/22/10	Renewal of the Title V permit and addition of Sections 2D .2400 (CAIR) and 2Q .0400 (Acid Rain) to the permit

## **VII Application Fee/Zoning Consistency:**

No fee or zoning consistency determination is required for the addition of Acid Rain requirements, renewal (without modification), the addition of CAIR requirements, and the reduction in testing requested via permit applications 2500158.06A, .07A, .09A, and .09B, respectively.

## **VIII Compliance Status:**

The facility was most recently inspected on 10/08/09 (see report of that date) by Mike Smithwick of WaRO and appeared to be operating in compliance with the applicable air quality regulations and current Permit No. 06419T19 during that inspection.

## **IX Miscellaneous:**

**Equipment List/Insignificant Activities:** The diesel-fired emergency fire pump and diesel-fired emergency generator at this facility have been moved from the insignificant activities (IA) list to the equipment list of Permit No. 06419T20 (see discussion in Section II C, above). Also, the descriptions of several sources included in the list of IA attached to Permit No. 06419T20 have been modified in accordance with information provided by the Permittee in a letter dated 07/23/09.

**Certification by Responsible Official:** In accordance with 2Q .0520, Paul Garrett (i.e. the responsible official for the Craven County Wood Energy, L.P. facility) provided the required certification on Form AA of application 2500158.07A.

## **X Permit Review:**

**Draft Permit:** A draft version of Permit No. 06419T20 and the associated technical review were sent to the Permittee and the WaRO for a review and comment period on 08/31/09. Those comments were addressed in Proposed Permit No. 06419T20.

**Public Participation:** In accordance with 2Q .0521, NC DAQ must provide the opportunity for public participation during the renewal of a Title V permits (such as that represented by application 2500158.07A). NC DAQ met this obligation with the public notice posted in “a newspaper of general circulation in the area where the facility is located” and “mailed to persons who are on the Division’s mailing list for air quality permit notices” on 11/30/09.

**EPA & Affected States Review:** In accordance with 2Q .0522, NC DAQ must provide EPA and Affected States [as defined at 2Q .0503(1)] staff the opportunity to review a proposed renewal of this Title V permit. NC DAQ met this obligation by sending those agencies a copy of Proposed Permit No. 06419T20 on 11/30/09.

## **XI Recommendation:**

The Title V Permit renewal application for the Craven County Wood Energy, L.P. facility in New Bern, Craven County, North Carolina has been reviewed by NC DAQ personnel to determine compliance with all applicable procedures and requirements. NC DAQ personnel have determined that this facility is complying or will achieve compliance with all applicable requirements as specified in Permit No. 06419T20.

Issuance of Permit No. 06419T20 is recommended.

**Attachment A: Letter (9 pages) from Sam Napolitano, Director of the Clean Air Markets Division of the EPA, dated October 23, 2009.**

Proposed

RE: Applicability of the Acid Rain program to the Craven County Wood Energy, L.P. facility in New Bern, Craven County, NC

**Attachment B: CAM Applicability Summary Table**

<b>Emission Source(s)</b>	<b>Control Device(s)</b>	<b>Controlled TV Pollutant(s)</b>	<b>Pre-Control PTE of Controlled TV Pollutant(s) (tons per year)</b>	<b>CAM Disqualifications/Exemption(s)</b>	<b>CAM Applicable?</b>
F6A-1 (Bottom ash handling system)	N/A	N/A	< 100	Does not meet criteria of 15A NCAC 2D .0614(a) [No control device and not a Title V major source]	No
F6A-2 (Fly ash handling system)	N/A	N/A	< 100	Does not meet criteria of 15A NCAC 2D .0614(a) [No control device and not a Title V major source]	No
FA (Wood handling and storage)	N/A	N/A	< 100	Does not meet criteria of 15A NCAC 2D .0614(a) [No control device and not a Title V major source]	No
ES5A (Boiler)	CD5A-1/CD5A-2 (multicyclone & ESP)	PM <sub>10</sub>	> 100	Does not meet criteria of 15A NCAC 2D .0614(a) [The PM emissions from this boiler are monitored by COMS pursuant to a post-11/15/1990 NSPS]	No
ES-11 (Fire water pump)	N/A	N/A	< 100	Does not meet criteria of 15A NCAC 2D .0614(a) [No control device and not a Title V major source]	No
ES-12 (Emergency generator)	N/A	N/A	< 100	Does not meet criteria of 15A NCAC 2D .0614(a) [No control device and not a Title V major source]	No