

**NORTH CAROLINA  
DIVISION OF AIR QUALITY  
Air Permit Review**

**Region:** Wilmington Regional Office  
**County:** Duplin  
**NC Facility ID:** 3100116  
**Inspector's Name:** Bradley Newland  
**Date of Last Inspection:** 09/22/2009  
**Compliance Code:** 3 / Compliance - inspection

**Permit Issue Date:** xx

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> Coastal Carolina Clean Power LLC  <b>Facility Address:</b> Coastal Carolina Clean Power LLC 1838 NC Highway 11 North & Hwy 903 Kenansville, NC 28349  <b>SIC:</b> 4911 / Electric Services <b>NAICS:</b> 221112 / Fossil Fuel Electric Power Generation  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> <b>NSPS:</b> <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b>
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 3100116.09E <b>Date Received:</b> 10/08/2009 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-Significant <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 05492/T19 <b>Existing Permit Issue Date:</b> 11/23/2009 <b>Existing Permit Expiration Date:</b> 04/30/2011
Ralph Smith Plant Manager P. O. Box 809 Kenansville, NC 28349 (910) 296-1909	Ralph Smith Plant Manager P. O. Box 809 Kenansville, NC 28349 (910) 296-1909	Dale Lebsack 2705 Bee Caves Road Suite 340 Austin, TX 78746 (512) 314-8616	
<b>Review Engineer:</b> Rahul Thaker  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> June 25, 2010		<b>Comments / Recommendations:</b>	
		<b>Issue</b> 05492/T20 <b>Permit Issue Date:</b> <b>Permit Expiration Date:</b>	

**1. Purpose of Application**

Division of Air Quality (DAQ) issued an air permit 05492T18 on October 6, 2008, approving burning of adulterated wood fuels in the existing boilers, and installation of multi clones and modification to the existing baghouses associated with the these boilers. This permit was issued using the procedures in 2Q .0300 "Construction and Operation Permit". It required the Permittee to submit a permit application within 12 months of commencement of operation of the above equipment and changes using the procedures in 2Q .0500 "Title V Procedures".

Thus, Coastal Carolina Clean Power, LLC ("Coastal Carolina" or "Permittee") has submitted an application to satisfy the 2Q .0500 requirements for the above equipment and changes [Application No. 3100116.09E].

**2. Facility Description**

Coastal Carolina operates a 32 MW biomass-fueled cogeneration power plant in Kenansville, NC. It sells electric power to Progress Energy and steam to Guilford Mills East.

**3. Application Chronology**

Refer to “Comprehensive Application Report” under the “Events Update” screen for complete details.

#### 4. Statement of Compliance

As per the inspection report for the last visit of 8/21/07, the “facility appeared to be in compliance with the applicable regulations.

#### 5. Permit History

- Air permit 05492T18 was issued on October 6, 2008, in accordance with 2Q .0501(c)(2).
- Air permit 05492T19 was issued on November 23, 2009, in accordance with 2Q .0501(c)(2).

#### 6. Permit Modification/Changes

##### 6.1 Adulterated Wood Burning in Existing Boilers (ID Nos. ES-1A and ES-1B), Modified Bagfilters (ID Nos. CD-1A and CD-1B) and New Multiclones (ID Nos. CD-1A2 and CD-1B2)

With the prior approval, Coastal Carolina has initiated burning of adulterated wood (wood waste, railroad ties, and engineered wood) in the existing boilers, installed multi clones, and modified the existing baghouses.

These are identical traveling grate stoker fired boilers, each having a heat input rate of 215 million Btu/hr. In addition to the above wood fuels, the boilers are permitted to burn coal, No. 2 and No. 4 fuel oils, natural gas, tire-derived fuel (TDF), pelletized paper fuel, and flyash briquette. The Permittee has not burned TDF since 2002 and coal since 2004 in these boilers. The facility had stopped commercial operation in April 2007 and resumed operations in October 2008 solely using wood (biomass). The State of North Carolina Utilities Commission, Raleigh has issued an “Order Approving Application, Issuing Certificate, and Accepting Registration” on 6/13/08, thus registering the facility as “new renewable energy facility”.

The boilers are subject to the requirements in 2D .0503, .0504, .0516, .0521, .0524, .0501(e), .0530, .0530(u), .1100 and .2400, and 2Q .0317 and .0711.

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

Each boiler is subject to an emission limit of 0.23 lb/million Btu heat input when any non-wood fuel is burned in the boilers.

The actual filterable PM emission rate is 0.0038 lb/million Btu when non-wood fuel is burned, as per the February 2007 stack testing. Compliance is expected.

The current permit includes annual inspection and maintenance requirement for each multiclone and baghouse, and pressure drop monitoring for each baghouse. It also includes associated record keeping and reporting requirements. These requirements are adequate and meet the requirements in 2Q .0508(f). Hence, no change to the monitoring, record keeping, and reporting requirements will be made.

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

These boilers are subject to the allowable PM emission limit as per the following, when wood only is burned as a fuel:

$$E = 1.1698 * Q^{-0.2230}$$

where, E = allowable PM emission limit in lb/million Btu

Q = total maximum heat inputs of all wood firing indirect heat exchangers at the site in operation, under construction or permitted, million Btu/hr

$$\begin{aligned} &= (215 \times 2) \text{ million Btu/hr} \\ &= 430 \text{ million Btu/hr} \end{aligned}$$

Hence,  $E = 0.30$  lb/million Btu when burning wood only.

The actual filterable PM emission rate is 0.0090 lb/million Btu when wood only is burned, as per the March 2006 stack testing. Compliance is expected.

In addition, when the fuel burning equipment is burning wood in combination of other fuel(s), then PM allowable emission limit is calculated as follows:

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

where,  $E_c$  = the emission limit for combination or combined emission source(s) in lb/million Btu

$E_w$  = the plant site emission limit for wood only as determined by Rule .0504 of this Section in lb/million Btu

$E_o$  = the plant site emission limit for other fuels only as determined by Paragraphs (a), (b) and (c) of Rule .0503 in lb/million Btu

$Q_w$  = the actual wood heat input to the combination or combined emission source(s) in Btu/hr

$Q_o$  = the actual other fuels heat input to the combination or combined emission source(s) in Btu/hr

$Q_t = Q_w + Q_o$  and is the actual total heat input to combination or combined emission source(s) in Btu/hr

As per the current permit and also as shown above,  $E_w = 0.30$  lb/million Btu and  $E_o = 0.23$  lb/million Btu.

$$\text{Hence, } E_c = [(0.30)(Q_w) + (0.23)(Q_o)] / Q_t \text{ lb/million Btu}$$

The current permit includes annual inspection and maintenance requirement for each multiclone and baghouse, and pressure drop monitoring for each baghouse. It also includes associated record keeping and reporting requirements. These requirements are adequate and meet the requirements in 2Q .0508(f). Hence, no change to the monitoring, record keeping, and reporting requirements will be made.

#### 2D .0516 "Sulfur Dioxide Emissions from Combustion Sources"

Emission of sulfur dioxide from any source of combustion that is discharged from any vent, stack, or chimney shall not exceed 2.3 pounds of sulfur dioxide per million BTU input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. Sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall also be accounted for when determining compliance with this standard.

In addition, if the source is subject to an emission standard for sulfur dioxide in Rules .0524, .0527, .1110, .1111, .1205, .1206, .1210, or .1211, then the source shall meet the standard in that particular rule instead of the standard in 2D .0516.

The current permit includes coal sulfur content monitoring using fuel supplier certification. It also includes associated record keeping and reporting requirements. These requirements are adequate and meet the requirements in 2Q .0508(f). Hence, no change in monitoring, record keeping, and reporting requirements will be made.

2D .0521 “Control of Visible Emissions”

Each of these boilers is subject to 20 percent opacity limit. The current permit includes once a week visible emissions monitoring requirement. This monitoring requirement is adequate. The permit also includes record keeping and semi-annual reporting requirements. These requirements are adequate and comply with the provision in 2Q .0508(f). Hence, no change in monitoring, record keeping, and reporting requirements will be made.

2D .0524 “New Source Performance Standards”

The boilers are subject to the requirements in NSPS Subpart Db and the current permit includes all applicable emission standards, testing, monitoring, record keeping, and reporting requirements. These requirements have been discussed in detail in the air permit review for 05492T18, October 6, 2008. The following includes emission standards only.

Emission Standards

The boilers are subject to NOx emission standards only.

- The Permittee shall meet the following emission limits when burning only coal or oil or natural gas:

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO <sub>2</sub> ) heat input	
	ng/J	lb/MMBTU
(1) Natural gas and distillate oil, except duct burner used in a combined cycle system:		
(i) Low heat release rate	43	0.10
(ii) High heat release rate	86	0.20
(2) Residual oil:		
(i) Low heat release rate	130	0.30
(ii) High heat release rate	170	0.40
(3) Coal:		
(i) Mass-feed stoker	210	0.50
(ii) Spreader stoker and fluidized bed combustion	260	0.60
(iii) Pulverized coal	300	0.70
(iv) Lignite, except (v)	260	0.60
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340	0.80
(vi) Coal-derived synthetic fuels	210	0.50

- The Permittee shall meet the following emission limits when simultaneously burning mixtures of coal, oil, or natural gas:

$$E_x = \frac{(EL_o H_o) + (EL_c H_c) + (EL_n H_n)}{(H_o + H_c + H_n)}$$

Where:

$E_n$  = NO<sub>x</sub> emission limit (expressed as NO<sub>2</sub>), ng/J (lb/MMBtu)

$EL_{go}$  = Appropriate emission limit from paragraph (a)(1) of §60.44b for combustion of natural gas or distillate oil, ng/J (lb/MMBtu)

$H_{go}$  = Heat input from combustion of natural gas or distillate oil, J (MMBtu)

$EL_{ro}$  = Appropriate emission limit from paragraph (a)(2) of §60.44b for combustion of residual oil, ng/J (lb/MMBtu)

$H_{ro}$  = Heat input from combustion of residual oil, J (MMBtu)

$EL_c$  = Appropriate emission limit from paragraph (a)(3) of §60.44b for combustion of coal, ng/J (lb/MMBtu)

$H_c$  = Heat input from combustion of coal, J (MMBtu)

- If the Permittee is burning simultaneously coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel, then it shall meet the emission limit for the coal or oil, or mixtures of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of §60.44b, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.
- If the Permittee is burning simultaneously natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, then it shall meet the NO<sub>x</sub> emission limit of 130 ng/J (0.30 lb/MMBtu) unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.
- The above NO<sub>x</sub> emission standards shall apply at all times including periods of startup, shutdown or malfunction.

#### 2D .0501(e) "Compliance with Emission Standards"

The following limits have been established:

- Particulate matter emissions shall not exceed 6.02 pounds per hour per boiler.
- Sulfur dioxide emissions shall not exceed 322.5 pounds per hour per boiler.
- Nitrogen oxide emissions shall not exceed 141.9 pounds per hour per boiler.
- Carbon monoxide emissions shall not exceed 120.4 pounds per hour per boiler.

The permit also includes 1 percent by weight coal sulfur limit to comply with 2D .0501(e). DAQ believes that coal sulfur limit is not needed to comply with the above SO<sub>2</sub> limit. Hence, it will be removed from the permit.

The monitoring to comply with 2D .0501(e) is streamlined with the monitoring requirements in 2D .0503, .0504, and .0516 above.

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

The following limits have been established:

- Particulate matter emissions from each boiler shall not exceed 0.028 pounds per million Btu heat input.
- Sulfur dioxide emissions from each boiler shall not exceed 1.50 pounds per million Btu heat input.
- Nitrogen oxide emissions from each boiler shall not exceed 0.66 pounds per million Btu heat input.
- Carbon monoxide emissions from each boiler shall not exceed 0.56 pounds per million Btu heat input.

The permit also includes 1 percent by weight coal sulfur limit to comply with 2D .0530. DAQ believes that coal sulfur limit is not needed to comply with the above SO<sub>2</sub> limit. Hence, it will be removed from the permit.

The monitoring to comply with 2D .0530 is streamlined with the monitoring requirements in 2D .0503, .0504, and .0516 above.

### 2Q .0317 “Avoidance Conditions for Prevention of Significant Deterioration”

The following limits have been established:

- Facility wide nitrogen oxide and carbon monoxide emissions shall not exceed 788 tons per consecutive 12-month period and 204 tons per consecutive 12-month period, respectively.

Detailed discussion of this permit requirement has been included in the air permit review for 05492T19, November 23, 2009.

### 2Q .0317 “Avoidance Conditions for Maximum Achievable Control Technology”

The facility has become a “minor” source for HAP emissions by taking limits of less than 10 tons/yr (individual HAP) and 25 tons/yr (aggregate HAP).

The existing monitoring requirement in the current permit includes emissions calculations approach using mass balance for HAP-containing materials. DAQ believes that more accurate approach is to determine the emission rate of HCl using the fuel analysis procedures. Therefore, the existing mass balance approach will be replaced with the fuel analysis approach for determination of HCl emission rate in the revised permit. The emission rate of HCl for each fuel in lb/million Btu will be multiplied with the total heat input rate of each fuel burned in each boiler during the month for emissions calculations. Finally, calculations of the amount of HCl and total HAP emissions shall be recorded monthly in a logbook.

The fuel analysis procedure will be included in the revised air permit. Refer to the permit for complete details.

### 2D .0530(u) “Prevention of Significant Deterioration”

The Permittee had used projected actual emissions to avoid applicability of prevention of significant deterioration requirements for a project consisting of burning of wood waste, railroad ties, and engineered wood in boilers, installing multiclones, and modifying existing bagfilters.

The current permit requires maintaining records of actual emissions of NO<sub>x</sub> in tons per year on a calendar year basis for five years following the resumption of regular operations upon commencement of burning of wood waste, railroad ties, and engineered wood in boilers, installing multiclones, and modifying existing bagfilters.

The Permittee shall make the information documented and maintained, and made available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

The Permittee shall submit a report for NOx emissions to the Director within 60 days after the end of each calendar year during which the above records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

The reported actual emissions for each of the five calendar years for NOx will be compared to the respective projected actual emissions as included below:

<b>Pollutant</b>	Projected Actual Emissions Emission Factor	Projected Actual Emissions*
	<b>Lb/Million Btu</b>	<b>Tons per Year</b>
NOx	0.22 (wood waste, ES-1A and ES-1B) 0.207 (railroad ties, ES-1A and ES-1B) 1.29 (engineered wood, ES-1A and ES-1B)	392.9

\*The projected actual emissions and associated emissions factors are not enforceable limitations. If the reported actual emissions exceed the projected actual emissions, the Permittee shall include in its annual report an explanation as to why actual emissions exceeded the projected actual emissions.

No change to the current permit condition is required.

Additional details of this permit requirement can be found in the air permit review 05492T19, November 23, 2009.

2D .0614 “Compliance Assurance Monitoring”

The current permit includes a CAM plan for PM10 emissions controlled by multiclones and baghouses.

It includes opacity as an indicator parameter. Excursion is defined as any visible emissions above zero percent. If an excursion occurs, corrective action and preventative maintenance are performed on the fabric filter.

The record keeping and reporting requirements include summary information on the number, duration, and cause (or if the cause is unknown, a statement to that effect) of excursions or exceedances, as applicable, and the corrective actions taken.

2Q .0711 “Toxic Air Pollutant Procedures”

The current permit allows burning of various non-traditional fuels (such as wastewater basin/evaporation pit sludge, activated carbon filters, boiler cleaning solution, regenerated spent cation/anion resins, tire-derived fuel, pelletized paper, flyash briquettes, etc.), includes monitoring of each fuel (date of usage, feed rate, etc.) and the associated reporting. It is a state-only enforceable requirement.

No change to this permit condition is required.

2D .1100 “Control of Toxic Air Pollutants”

The permit includes approved emission limits for various pollutants for boilers: acrolein, formaldehyde, hydrogen chloride, chlorine, chromium VI (soluble chromate compounds, as chromium (VI) equivalent), manganese, mercury, nickel, arsenic, benzene, benzo (a) pyrene, beryllium, cadmium, hexachlorodibenzo-p-dioxin 1,2,3,6,7,8, and vinyl chloride, demonstrating compliance with the requirements in 2D .1100. The permit also includes monitoring requirement for adulterated wood. It is a state-only enforceable requirement.

No change to this permit condition is required.

2Q .0400 “Acid Rain Procedures”

The facility boilers are not affected units subject to this regulation.

Specifically, the facility is a "Qualifying Cogeneration Facility" within the meaning of Section 3(18)(B) of the Federal Power Act and thus a "Qualifying Facility" as defined in §72.2. It meets the exemption criteria included in §72.6(b)(5) and hence, it is not subject to the Acid Rain program.

The company has provided the following documents/information for DAQ review to reach the above conclusions: (i) The facility's most recent Notice of Self-Recertification as a Qualifying Cogeneration Facility (FERC Form 556) filed with FERC on June 19, 2006. (ii) The electric power purchase agreement between Cogentrix Leasing Corporation (predecessor of Coastal Carolina Clean Power LLC) and Carolina Power & Light (now d/b/a Progress Energy Carolinas) dated June 13, 1984 indicating that Cogentrix sold all of the facility's electrical output to CP&L. This agreement was in effect between the parties on November 15, 1990. (iii) The steam purchase contract between Cogentrix Leasing Corporation (predecessor of Coastal Carolina Clean Power LLC) and Guilford Mills, Inc. dated November 30, 1984 indicating that Cogentrix sold steam from the facility to Guilford. This agreement was in effect between the parties on November 15, 1990. (iv) As of today, Progress Energy is purchasing the facility's electrical output and Guilford Mills is purchasing steam from the facility.

## 7. NSPS, NESHAPS, Attainment Status, NSR, 112(r), and CAM

### NSPS

See Section 6.1 above.

### NESHAPS

As stated above, the facility is currently a "minor" source for HAP. The EPA website indicates that the agency is expected to issue "area" source MACT standard for "industrial boilers" by 12/16/10.

### Attainment Status and NSR

Duplin County is in attainment for all NAAQS. PSD program applies to all major sources and major modifications in this County. This application does not trigger any PSD review.

### 112(r)

The facility is not subject to the requirements of Section 112(r) of CAA.

### CAM

Refer to Section 6.1 above for more details.

## 8. Facility Wide Air Toxics

See Section 6.1 above.

## 9. Facility Emissions Review

The following Table includes facility wide emissions summary after this modification. Actual emissions have been taken from the 2008 emission inventory while potential (after control) emissions data are copied from the application.

<b>Pollutant</b>	<b>Actual Emissions</b>	<b>Potential Emissions</b>
	tons/year	tons/year
Particulate (TSP)	11.98	18.8
Particulate (PM-10)	4.42	> 4.42

Particulate (PM-2.5)	0.51	2
Carbon Monoxide	17.01	433
Nitrogen Oxides	45.97	371
Sulfur Dioxide	20.19	> 20.19
Volatile Organic Compounds	1.57	12
Single largest HAP (HCl)	< 10	< 10
Total HAP	< 25	< 25

## 10. Stipulation Review

The following changes were made to the Coastal Carolina Clean Power, LLC Air Permit No. 05492T19:

Old Page No. [Air Permit No. 05492T19]	New Page No. [Air Permit No. 05492T20]	Condition No.	Changes
4	4	Section 2.1 A. Table	Remove requirements of NOx emissions under 40 CFR 52 Subpart II and make the requirements in 2D .2405 both fed and state enforceable.  Include a label for 2Q .0317 (Avoidance for MACT).
13	-	Section 2.1 A.6.e. and Section 2.1 A.7.e.	Remove the restriction on coal sulfur content.
15	10	Section 2.1 A.8.d.	Include the NOx CEM requirement language using 40 CFR 75 Subpart H.
19	-	Section 2.1 A.12	Remove this requirement.
19	15	Section 2.1 A.13	make this required both fed and state enforceable and update it in accordance with 2D .02405.
20	14	Section 2.1 A.14	Make this Section 2.1 A.12.
24	19	Section 2.2 A.1.b., c. and d.	Combine them in Section 2.2 A.1.b. and c. Revise this monitoring language to include determination of HCl using fuel analysis procedures.
24	21	Section 2.2 A.1.e.	Change it to Section 2.2 A.1.d.
31 and 32	29 and 30	Section 3	Revise General Condition NN and add a new OO Condition. Revise the list of acronyms.

## 11. Public Notice / EPA and Affected States Review

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit will be published on the DAQ website providing for a 30-day comment period, with an opportunity for a public hearing. Copies of the draft (proposed) permit, review and public notice will be sent to EPA for their 45-day review, to persons on the Title V mailing list, and to the Permittee for review.

## 12. Conclusions, Comments, and Recommendations

- PE seal and review for any control devices are not required, because the Permittee is not proposing any new control device or a modification to any existing device.
- The requirement of a local zoning consistency is not applicable, because, the Permittee is not proposing a new facility or an expansion to an existing facility.

- The draft permit was e-mailed to Dean Carroll on May 5<sup>th</sup> for review and comment. Russell Morgan sent the comments on May 21<sup>st</sup> via Dean Carroll. Regional comments and DAQ response are included below in the same order:

Regional Comment 1:

“Unadulterated wood should be added to the list of permitted fuels in Section 1 and Section 2.1 A Tables.”

RCO Response:

Agreed. This change will be performed to the draft permit.

Regional Comment 2:

In Section 2.1 A.4.c., change the frequency of visible emissions evaluation from “weekly” to “daily”. As per regional office, “these changes (in Section 2.1 A.4.c.) were reviewed with CCCP and it was pointed out that most permits require this frequency. They also offered that they were pretty much doing this on a day to day basis and as such this requirement would not constitute a huge additional burden on them. Also, since norms have been established for this site, perhaps they should be written into the permit.”.

RCO Response:

Agreed. The weekly monitoring frequency for visible emissions for boilers under the requirements in 2D .0521 will be changed to daily. Established value for “normal” visible emissions of 10% will not be included in the permit. DAQ generally does not include a specific value for “normal” visible emissions in the permits.

Regional Comment 3:

In Section 2.1 A.11.c., “the wording should be clarified here. My interpretation of what was presented in the application is that the mass of adulterated wood consumed by this facility (sum of Boilers ES-1A and ES-1B) should not exceed any of the three individual quantities listed for woodwaste, railroad ties or engineered wood.”

RCO Response:

Disagreed. No change to the draft permit will be made.

To comply with the requirements in 2D .1100, the current permit includes operating restrictions on the amount of fuels to be burned as combined limits for both boilers, which are correctly included in the permit. These limits are 65,700 tons per year of wood waste AND 84,276 tons per year of railroad ties AND 42,900 tons per year of engineered wood.

It is not correct to say that the operating restrictions for the amounts of fuels are 65,700 tons per year of wood waste OR 84,276 tons per year of railroad ties OR 42,900 tons per year of engineered wood.

Please refer to page 11 of air permit review for 05492T18, October 6, 2008.

- The draft permit was also e-mailed to the company on May 5<sup>th</sup> for review and comments. The company (Ralph Smith via Dale Lebsack) submitted comments via email on May 19<sup>th</sup>.

Company Comment 1:

“Fuels Listed in Emission Source Descriptions in Section 1 and Condition 2.1.A In requesting authorization to combust adulterated wood fuel in 2008 (which was granted with the issuance of 05492T18), CCCP was not giving up its authorization to burn unadulterated wood fuel. While the authorization to combust unadulterated wood fuel can be seen as inherent in the authorization to combust adulterated wood fuel contained in the draft

permit, CCCP requests that the permit specifically list both unadulterated wood fuel and adulterated wood fuel in the *Emission Source Descriptions* in Section 1 and Condition 2.1.A so as to avoid any confusion on this point in the future.”

DAQ Response:

Agreed. Sections 1 and Section 2.1 A. Tables will be revised for source description for both boilers to include “unadulterated wood”.

This change will be performed.

Company Comment 2:

“Since resuming operation in October 2008 following the modifications authorized under permit revision T18, the facility has not combusted coal, oil or natural gas and has only combusted unadulterated and adulterated wood. Further, CCCP does not plan to combust coal, oil, or natural gas in the foreseeable future. When the provisions regarding the New Source Performance Standards (40 CFR Part 60) Subpart Db (“Subpart Db”) for NO<sub>x</sub> were added to the facility’s permit with the T18 revision, CCCP did not recognize that, by taking a federally enforceable permit requirement that limits the facility to an annual capacity factor of ten percent (10%) or less for coal, oil, and natural gas, the NO<sub>x</sub> standards of 60.44b and many of the related Subpart Db provisions would not apply to the facility. As CCCP now is aware of the limitations spelled out in 40 CFR 60.44b(c) and 60.44b(d) and given that the facility has not combusted coal, oil or natural gas since well before permit revision T18 was issued, CCCP requests that a federally enforceable permit requirement limiting each boiler (ES-1A and ES-1B) to an annual capacity factor of ten percent (10%) or less for coal, oil, and natural gas be inserted into the permit so as to avoid applicability of most Subpart Db requirements. By taking the federally enforceable capacity factor limit requested above, CCCP believes that many of the provisions of Subpart Db referenced in the permit will no longer apply and that the only applicable Subpart Db requirements will be 60.40b(a) for NO<sub>x</sub> only, 60.49b(a), 60.49b(d), and 60.49b(o). As such, many of the permit conditions in Section 2.1.A.5 will no longer apply either, including 2.1.A.5.b through 2.1.A.5.u, 2.1.A.5.w, and 2.1.A.5.x through 2.1.A.5.ee. Therefore, CCCP requests that the aforementioned permit conditions be deleted from the permit.

DAQ Response:

DAQ will include a permit condition to limit the capacity factor for coal, oil (No. 2 and No. 4), and natural gas each to 10 percent or less (i.e.,  $\leq 0.1$ ). In addition, DAQ will include an annual capacity factor for mixture of coal, No. 2 fuel oil, or No. 4 fuel oil with natural gas to 10 percent (0.10) or less. Thus, requirements in Sections 2.1.A.5.b through 2.1.A.5.u, 2.1.A.5.w, and 2.1.A.5.x through 2.1.A.5.ee., will be removed from the permit.

Company Comment 3:

“The particulate matter (“PM”) testing outlined in Conditions 2.1.A.5.o and 2.1.A.5.ff was completed in March 2009 and demonstrated that the modifications authorized by permit revision T18 did not result in a post-change filterable PM. Therefore, CCCP requests that these conditions be removed from the permit.”

DAQ Response:

Agreed.

The company conducted the required testing in March 2009. The, results were reviewed by SSCB and through a memo dated 12/11/09, it concluded, “the post-modification results were less than the pre-modification results. Therefore, the PM results confirm that the facility is not subject to 40 CFR 60 Subpart Db for PM”.

The PM stack testing requirement will be removed.

Company Comment 4:

“In September 2009, CCCP requested that NCDAQ reconsider the PSD Avoidance Limits for Oxides of Nitrogen (“NOx”) and Carbon Monoxide (“CO”) that were included in permit revision T18 by including demand growth in its PSD netting analysis. As a result of that request and subsequent submissions by CCCP, NCDAQ determined that, with demand growth included in the PSD netting analysis, the modifications to the facility authorized by permit revision T18 did not result in a significant increase in NOx for PSD purposes. Since a significant increase in NOx had not occurred as a result of the modifications authorized in T18, permit revision T19 was then issued to 1) revise the PSD Avoidance limit for NOx back to the 788 tons per 12-months limit expressed in permit revision T17 and 2) include an annual NOx emissions reporting requirement in Section 2.1.A.14 (2.1.A.13 in the draft permit, T20).

During the discussions with NCDAQ regarding reconsideration of the PSD netting analysis in late-2009, CCCP agreed to table its request that the agency reconsider its PSD netting analysis for CO so that the parties could focus on evaluating the PSD netting analysis for NOx. At this time, CCCP requests, for the same reasons and on the same basis as the revised PSD netting analysis for NOx, that NCDAQ reconsider the PSD netting analysis for CO conducted as part of permit revision T18 by including demand growth in the PSD netting analysis. Specifically, as the calculations for the CO PSD netting analysis including demand growth that are shown as Attachment 1 to this letter indicate, a significant increase for CO did not occur with the modifications authorized by permit revision T18. Therefore, CCCP requests that the PSD Avoidance Limit for CO be revised to the 488.8 tons per 12-months limit expressed for both boilers in Condition 2.1.A.7.c of permit revision T17.

The methodology used in the PSD netting analysis for CO shown in Attachment 1 is the same as that used for NOx in the submission made by CCCP on November 19, 2009, except that in the attached analysis fuel usage was assumed to be 42,705 tons per year (“tpy”) of wood waste, 84,276 tpy of railroad ties, and 21,450 tpy of engineered wood, as that is more representative of the fuel slate for the boilers. CCCP is happy to provide additional supporting information regarding its PSD netting analysis for CO as necessary.”

DAQ Response:

Disagreed.

On November 23, 2009, when the air permit 05492T19 was issued, the Permittee requested and DAQ agreed to use an amount of 65,700 tons per year for determining the projected actual emissions of NOx from burning of wood waste. At that time, the PSD avoidance condition for NOx was reestablished based upon the demand growth exclusion (“could have been accommodated” provision). For CO, at that time, the PSD avoidance limitation was judged to be the same as in previous permit (05492T18), in the absence of similar demand growth analysis. The projected actual emissions for CO were also calculated based upon the amount of 65,700 tons per year wood waste.

In this application, the company wants to revisit the CO PSD avoidance limit considering the demand growth clause but now it wants to use the wood waste amount of 42,705 tons/yr for estimating projected actual emissions. DAQ believes that projected actual emissions from wood waste burning must be based upon 65,700 tons/yr and not 42,705 tons/yr.

No change to the permit condition is required.

Company Comment 5:

“As noted above, to avoid future confusion CCCP would like the permit to specifically list both unadulterated and adulterated wood as fuels. As such, CCCP requests that the definitions for variable E1 and E2 used in the equation for calculating CO emissions showing in Section 2.1.A.8.d be revised to say “heat input rate of *unadulterated and adulterated wood*”.

DAQ Response:

Agreed. The definitions of E<sub>1</sub> and E<sub>2</sub> in Section 2.1 A.8.d. will be revised to explicitly state the “heat input rate of unadulterated and adulterated wood”.

Company Comment 6:

“The current permit revision, T19, reflects that the facility was subject to the NO<sub>x</sub> SIP Call program outlined in 40 CFR Part 96 and requires the facility to use a NO<sub>x</sub> continuous emissions monitoring system (“CEMS”) meeting the requirements of 40 CFR Part 75, Subpart H to measure NO<sub>x</sub> emissions during the Ozone Season (May-September). The NO<sub>x</sub> SIP Call program has been superseded by the Clean Air Interstate Rule (“CAIR”) NO<sub>x</sub> Ozone Season program, which also requires the use of a NO<sub>x</sub> CEMS meeting the requirements of 40 CFR Part 75, Subpart H during the Ozone Season. CCCP began participating in the CAIR NO<sub>x</sub> Ozone Season program with its inception in 2009, while the permit revision to reflect the program change was still pending. However, as questions regarding the nature of the CAIR applicability to CCCP have arisen (see comment below), the draft permit does not include any requirements around either the NO<sub>x</sub> SIP Call or the CAIR programs. Reflecting this fact, the language in Condition 2.1.A.8.d regarding the use of a NO<sub>x</sub> CEMS to measure compliance with the PSD Avoidance Limit for NO<sub>x</sub> has been revised to directly reference 40 CFR Part 75 Subpart H rather than through a cross reference to the CEMS requirement in the section of the permit dealing with the NO<sub>x</sub> SIP Call.

Whether Condition 2.1.A.d references 40 CFR Part 75, Subpart H directly or through a cross reference to another permit condition, CCCP believes that using a Part 75, Subpart H NO<sub>x</sub> CEMS to measure compliance with a NO<sub>x</sub> PSD Avoidance Limit is inappropriate for several reasons:

a. Part 75, Subpart H was specifically set up to apply Part 75 CEMS requirements to sources that must only comply with Part 75 during the Ozone Season (i.e. sources that are not part of the Acid Rain Program), and as such only requires CEMS operation during the Ozone Season. Use of a CEMS required to be run only during the Ozone Season is incompatible with measuring compliance against a year-round PSD Avoidance Limit.

b. With its assumption that CEMS operation will only occur during the Ozone Season, Part 75, Subpart H includes quality assurance requirements related to ensuring valid data collection only during the Ozone Season, rather than year round. Therefore, even if operated beyond the Ozone Season, in complying with Subpart H quality assurance requirements the CEMS may or may not provide valid, quality assured data beyond the Ozone Season.

c. Because of its use in various cap-and-trade programs, Part 75 requires that, when the CEMS does not collect valid hourly, quality assured data, various algorithms are run to produce substituted data to use in lieu of missing data (commonly referred to as “missing data substitution”). Depending on the nature of the missing data substitution algorithms being employed, the substituted data may not accurately reflect the facility’s actual emissions. In some case, it may even grossly overstate the facility’s emissions. USEPA has recognized this fact, and for that reason, precludes the use of substituted data when using a Part 75 CEMS to measure compliance with the NSPS. For the same reason, substituted data should not be used for measuring compliance with a PSD Avoidance Limit.

For the reasons outlined above, CCCP believes that the requirements for monitoring compliance with the PSD Avoidance Limit for NO<sub>x</sub> need to be changed to something more workable. However, as this issue is somewhat complex, CCCP is not suggesting specific changes at this time, but rather requests further discussion with NCDAQ on this topic to develop a better compliance monitoring approach.”

DAQ Response:

Disagreed. No change to the draft permit condition will be made. CEMs are required to assure compliance with the PSD avoidance limit in accordance with the periodic monitoring provision in 40 CFR 70.6(a)(3)(B).

Company Comment 7:

“The Indicator Range listed in the table shown in Condition 2.1.A.9.e for visible opacity emissions defines an excursion as any visible emissions above zero percent. However, the compliance limit shown in Condition 2.1.A.4.a is twenty percent (20%) opacity, and Condition 2.1.A.4.c requires the facility to take action when opacity is above normal. While CCCP generally expects that during normal operations there will be no visible opacity from its stack, occasional process transients can cause a slight opacity that are not indicative of any problem with either the multicyclones or the fabric filters. Therefore, CCCP requests that the Indicator Range be changed to define an excursion as any visible opacity emissions above ten percent (10%).

Condition 2.1.A.4.c requires the facility to observe the stack once per week whereas the Monitoring Frequency listed in the table shown in Condition 2.1.A.9.e for visible opacity indicates daily. CCCP requests that the Monitoring Frequency in Condition 2.1.A.9.e be changed to weekly to conform to the requirement in Condition 2.1.A.4.c.”

DAQ Response:

Disagreed. No change to the draft permit condition will be made. Opacity value of 0% is an indicator range to define “excursion”. Exceeding this value is not deemed a violation of the applicable requirement.

Company Comment 8:

“CCCP requests that Condition 2.1.A.10.a be deleted as it does not intend to combust those fuels in the future. CCCP requests that Condition 2.1.A.10.c be deleted as it does not intend to combust those fuels in the future.”

DAQ Response:

Agreed. Sections 2.1 A.10.a. and e. will be removed from the draft permit.

Company Comment 9:

“When CCCP requested that NCDAQ Permits Section defer action on its CAIR permit application pending resolution of the CAIR applicability issues with NCDAQ Planning Section, we made that request on the assumption that the facility’s permit would not be revised further until the CAIR applicability issues had been settled. As we are concerned about the implications of having an issued permit that includes neither the NOx SIP Call program nor the CAIR Ozone Season Program requirements, we would, for the record, like to voice our preference that the permit revision T20 not be issued until the CAIR applicability issues have been answered and a path forward agreed upon and incorporated into the permit. However, our concerns having been noted, we will not object if NCDAQ decides to issue permit revision T20 while the CAIR applicability issue is still pending.”

DAQ Response:

Agreed. Requirements of ozone season NOx in 2D .2405 will be included in the permit.

Company Comment 10:

“The draft permit includes revisions to the language around monitoring and recordkeeping for hazardous air pollutants (“HAPs”), and in particular lays out a methodology for measuring chlorine content of the facility’s fuel as a means to calculate hydrogen chloride (“HCl”) emissions. While CCCP agrees that the existing language needs to be changed, we believe that the use of emission factors based on heat input is a more accurate way to calculate the facility’s HAPs emissions, including HCl, than the methodology suggested in the draft permit. We believe that the use of emission factors is preferable to fuel sampling because not all constituents measured in the fuel will be emitted as HAPs post-combustion due to collection in the boiler ash, adherence to boiler surfaces, and/or oxidation during combustion, while conversely some HAPs will be created by combustion of the fuel that would not have been detected by fuel testing prior to combustion.

In March 2009, the facility conducted stack tests on each boiler to develop a site-specific emission factor for HCl while burning a mix of unadulterated and adulterated wood. The results of those tests were subsequently submitted to NCDAQ. CCCP believes that those HCl factors should be specified for use to calculate the facility's emissions of HCl when burning a mix of unadulterated and adulterated wood.

Additionally, this week the facility is conducting stack testing on one of its boilers to develop site-specific emission factors for Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene when burning a mix of unadulterated and adulterated wood. CCCP believes that those factors should be specified for use to calculate the facility's emissions of Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene when burning a mix of unadulterated and adulterated wood.

For emissions of HAPs other than HCl, Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene (such other HAPs collectively referred to hereinafter as "Untested HAPs") from adulterated wood combustion, CCCP would like the permit to specify the use of either site-specific emissions factors developed by stack testing or the emissions factors for the Untested HAPs that were included in its April 2008 permit application for railroad ties, engineered wood and wood waste, with CCCP having the option to choose whether or not to conduct stack testing to develop site-specific emissions factors.

For emissions of the Untested HAPs from unadulterated wood combustion, CCCP would like the permit to specify the use of either site-specific emissions factors developed by stack testing or the emissions factors for the Untested HAPs included in AP-42, with CCCP having the option to choose whether or not to conduct stack testing to develop site-specific emissions factors.

For emissions of HAPs from the combustion of non-wood fuels, CCCP would like the permit to specify the use of either site-specific emissions factors developed by stack testing for the non-wood fuel(s) being burned or the emissions factors for HAPs included in AP-42 for the non-wood fuel(s) being burned, with CCCP having the option to choose whether or not to conduct stack testing to develop site-specific emissions factors.

CCCP is aware that the NCDAQ Wilmington Regional Office will also be making comments regarding the HAPs emissions methodology outlined in the draft permit. For that reason and due to the complex nature of this issue, CCCP is not suggesting specific language for this Section at this time, but rather requests further discussion with NCDAQ Permits Section and NCDAQ Wilmington Regional Office on this topic to develop a better emissions calculation approach."

DAQ Response:

Disagreed. However, Section 2.2 A.1.b. will be revised to include an option to allow site-specific stack testing results to be used in calculations of HCl emissions.

Company Comment 11:

"As stated in the preamble to USEPA's final Greenhouse Gas Reporting Rule on pages 56287 and 56288 of the Federal Register Notice dated October 30, 2009, the Greenhouse Gas Reporting Rule is not an applicable requirement of 40 CFR 70.2 and 40 CFR 71.2, and therefore, this condition may not need to be included in the Title V permit."

DAQ Response:

Disagreed. No change to the General Condition OO will be made. It is a federal-only requirement. It applies only if the facility is subject to the "Mandatory Reporting of Greenhouse Gases" rule.

Company Comment 12:

"CCCP requests that the Insignificant Activities Attachment be updated to include emissions from the gravel road in the facility's fuel yard, which was discussed briefly in the CCCP's April 2008 application. We believe that this can be accomplished either by amending the description of ID No. IES-8 or by adding a new source."

DAQ Response:

Insignificant activity IES-8 will be revised to include “gravel road”.

- Finally, this engineer recommends issuing the final permit upon conclusion of public comment and EPA review periods.