

West Virginia Department of Environmental Protection
Division of Air Quality



Title V Operating Permit Revision

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

For Administrative Amendment Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Action Number: AA03 **SIC:** 2821
Name of Permittee: The Chemours Company FC, LLC
Facility Name/Location: Washington Works
County: Wood
Facility Address: P.O. Box 1217, Washington, WV 26181-1217

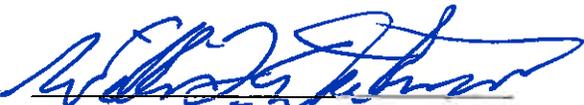
Description of Permit Revision: Changed Facility Name from "E. I. du Pont de Nemours and Company" to "The Chemours Company FC, LLC" throughout the Permit. Changed Facility ID from "R30-10700001" to "R30-10700182" throughout the Permit. References to NSR Permit R13-2617 were already changed to R13-3223 in R30-10700001-2012 AA02 (Part 10 of 14). Updated the 2/2A and 10/10A Plans to remove references and Conditions for Unit ID's DOM, Z11-15, and Z23 which remain with DuPont Washington Works. Removed references to #1 Boiler which has been shut down.

Initial Title V Permit Information:

Permit Number: R30-10700182-2012 (Part 10 of 14)
Effective Date: May 1, 2012
Expiration Date: April 17, 2017

Directions To Facility: Route 68 west from Parkersburg to intersection of Route 892. Continue west on Route 892 with the plant being on the north side about one mile from the intersection of Routes 68 and 892.

THIS PERMIT REVISION IS ISSUED IN ACCORDANCE WITH THE WEST VIRGINIA AIR POLLUTION CONTROL ACT (W.VA. CODE §§ 22-5-1 ET SEQ.) AND 45CSR30 - "REQUIREMENTS FOR OPERATING PERMITS." THE PERMITTEE IDENTIFIED AT THE FACILITY ABOVE IS AUTHORIZED TO OPERATE THE STATIONARY SOURCES OF AIR POLLUTANTS IDENTIFIED HEREIN IN ACCORDANCE WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.


William F. Durham
Director

May 26, 2015
Date Issued

Permit Number: **R30-10700001182-2012**

Permittee: ~~E. I. du Pont de Nemours and Company~~ The Chemours Company FC, LLC

Facility Name: **Washington Works**

Business Unit: **Power and Service Support (Part 10 of 14)**

Mailing Address: **P.O. Box 1217, Washington, WV 26181-1217**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Washington, Wood County, West Virginia
Mailing Address:	P. O. Box 1217, Washington, WV 26181-1217
Telephone Number:	(304) 863-4240
Type of Business Entity:	Corporation
Facility Description:	Boilers for steam production and water and wastewater treatment facilities.
SIC Codes:	2821
UTM Coordinates:	422.27 km Easting • 4,346.57 km Northing • Zone 17

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

- v. 40 C.F.R. 63, Subpart T – “National Emission Standards for Halogenated Solvent Cleaning.” The Power and Service Support Area does not operate any solvent cleaning machines containing the halogenated cleaning solvents specified in 40 C.F.R. §63.460(a).
- w. 40 C.F.R. 63, Subpart DD – “National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations.” This subpart applies to units that receive waste/wastewater from off-site operations for treatment or recovery and the off-site waste contains hazardous air pollutants. This subpart does not apply to the Wastewater Treatment Plant at ~~DuPont~~ Chemours Washington Works because the treatment of off-site wastewater is not the predominate activity performed at the Washington Works facility as required in 40 C.F.R. §63.680(a)(2)(iii)(B).
- x. 40 C.F.R. 63, Subpart EEE – “National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors.” The Power and Service Support Area does not operate any equipment meeting the definition of a hazardous waste combustor as specified in 40 C.F.R. §63.1201(a).
- y. 40 C.F.R. 63, Subpart JJJ - “National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins.” The Power and Service Support Area does not produce the materials listed in 40 C.F.R. §63.1310.
- z. 40 C.F.R. 63, Subpart EEEE – “National Emission Standards for Hazardous Air Pollutants: Organic Liquid Distribution (Non-Gasoline).” The Power and Service Support Area does not operate an organic liquids distribution (OLD) operation or does not handle material organic liquids as defined in §63.2406.
- aa. 40 C.F.R. 82, Subpart B - “Protection of Stratospheric Ozone.” This subpart requires recycling of Chlorofluorocarbons (CFCs) from motor vehicles and that technicians servicing the equipment need to be licensed. The Power and Service Support Area does not conduct motor vehicle maintenance involving CFCs on site.
- bb. 40 C.F.R. 82, Subpart C – “Protection of Stratospheric Ozone.” This subpart bans non-essential products containing Class I substances and bans non-essential products containing or manufactured with Class II substances. The Power and Service Support Area does not use, manufacture, nor distribute these materials.
- cc. 45CSR5 – “To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants, Coal Handling Operations and Coal Refuse Disposal Areas. The Power and Service Support Area operates the coal storage and handling facilities under the requirements of 45CSR2 and does not operate a separate coal preparation plant or a coal refuse disposal area that would be subject to 45CSR5.

exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. §64.7(e); 45CSR§30-5.1.c, Equipment ID (P01, P02, P03)]

4.2.8 Quality Improvement Plan (QIP)

a. Based on the results of a determination made under permit condition 4.2.5 the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, it shall be developed, implemented, and modified as required according to 40 C.F.R. §§64.8(b) through (e). Refer to permit condition 4.5.3(b)(iii) for the reporting required when a QIP is implemented.

b. If five (5) percent or greater of the total days operated, is documented as an excursion during a 6-month, semiannual period, the permittee shall develop and implement a QIP. The Director may waive this QIP requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require testing to be conducted at any time.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c, Equipment ID (P01, P02, P03)]

4.3 Testing Requirements

4.3.1. The permittee shall periodically conduct or have conducted weight emission tests to determine compliance of each fuel stack with the weight emissions standards set forth in 4.1.2 for emission points 476 and 477. Weight emission tests shall be conducted in accordance with 45CSR2 Appendix “Compliance Test Procedures for 45CSR2” or other equivalent EPA approved method approved by the Director. The results of the baseline compliance tests established the weight emission testing cycle to be used for subsequent testing. Subsequent weight emission tests shall be conducted at a frequency established in the following tables:

Baseline Weight Emission Test Results	Resulting Testing Cycle
≤ 50% of weight emission standard	Cycle 3
Between 50% and 80% of weight emission standard	Cycle 2
≥ 80% of weight emission standard	Cycle 1

Testing Cycle	Test Results	Retesting Cycle
Cycle 1	After three successive tests indicate mass emission rates ≤ 50% of weight emission standard	Cycle 3
	After two successive tests indicate mass emission rates <80% of weight emission standard	Cycle 2
	Any test indicates a mass emission rate ≥ 80% of weight emission standard	Cycle 1

reported test results and the conditions under which they were obtained. [45CSR§§2-8.1.b and 8.1.b.1]

- 4.3.3. The permittee shall conduct or have conducted, weight emission tests to determine the compliance of emission points 475, 476 and 477 with the weight emission standards set forth in 4.1.5 at a frequency established in the following table. Weight emission tests shall be conducted in accordance with 40 C.F.R. 60, Appendix A, Method 6 or other equivalent EPA testing method approved by the Director.

% of Factor	Testing Frequency
≤ 50% of Factor	No stack testing required
Between 50% and 90% of Factor	Once/5 years
≥ 90% of Factor	Once/year

The Director, or his or her duly authorized representative, may at his or her option witness or conduct such tests. Should the Director exercise his or her option to conduct such tests, the operator will provide all necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment, and the required safety equipment such as scaffolding, railings, and ladders to comply with generally accepted good safety practices.

The dates for the most recent weight emission tests conducted for emission points 475, 476, and 477 and resulting testing frequencies are as follows:

Emission Point	Emission Unit	Last Test Date	Testing Frequency
475	No. 2 Boiler	2/26/2013	Once/year
476	No. 3 Boiler	2/27/2013	Once/year
	No. 4 Boiler	4/10/2013	Once/year
477	No. 5 Boiler	4/2/2012	Once/year
	No. 6 Boiler	4/9/2013	Once/year

[45CSR§10-8.1.a; 45CSR§10A-5.1.a]

- 4.3.4. The Director, or his duly authorized representative, may conduct such other tests as he or she may deem necessary to evaluate air pollution emissions other than those noted in 4.1.2 or 4.1.5. [45CSR§2-8.1.c; 45CSR§10-8.1.b]

CAM Testing Requirements:

- 4.3.5. DuPont Chemours will perform periodic weight emission testing on P02 and P03 on a frequency based upon the initial testing with the subsequent testing frequency as follows; greater than or equal to 80% of the emission standard (as defined within the 45CSR2/45CSR2A Monitoring Plan) will require annual testing; greater than 50% but less than 80% of the emission standard will require testing within 2 years of the previous test; less than or equal to 50% of the emission standard will require testing within 3 years of the previous test. The site will notify and obtain concurrence with WVDAQ

5.0. No. 8 Boiler Requirements

5.1. Limits and Standards

- 5.1.1. The following table provides information on the boiler authorized to operate by this permit at the DuPont Chemours Washington Works facility. In accordance with the information filed in Permit Application R14-14, and any amendments or revisions thereto, the boiler shall not exceed the specified Maximum Design Heat Input (MDHI), shall combust only the specified fuel, and shall utilize the specified control devices.

ID No.	Manufacturer	Model No.	MDHI (MMBtu/Hr)	Fuel	Control Device(s)
No. 8	Babcock & Wilcox	FM-120-97	181.00	Natural Gas	Coen Low-NO _x Burners and Flue Gas Recirculation

[45CSR14, R14-14, A.1]

- 5.1.2. In accordance with the information filed in Permit Application R14-14, and any amendments or revisions thereto, the boiler identified under 5.1.1 above shall be monitored and operated according to the following conditions:
- Coen Low-NO_x burners shall be installed, maintained, and operated so as to reduce the formation of NO_x from the combustion of natural gas.
 - A flue gas recirculation rate shall be utilized that is consistent with good engineering practices, manufacturer's recommendations, and data developed during the required stack test so as to guarantee the optimum reduction in the formation of NO_x. The permittee shall, at all times the boiler number 8 is in operation, utilize flue gas recirculation.
 - Combustion Controls, which includes, but is not limited to, the use of low-excess air shall be used to reduce the formation of NO_x from the combustion of natural gas.
 - The permittee shall develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance performed on boiler number 8 and its associated control technologies. These records need not include maintenance tasks that have no potential effect on emissions performance.

[45CSR14, R14-14, A.2]

- 5.1.3. The emission of Nitrogen Oxides (NO_x) into the atmosphere from the operation from No. 8 Boiler shall not exceed 0.10 pounds/MMBtu of heat input. Compliance with this emission limit shall be determined on a 30-day rolling average basis. The 30-day rolling average shall be calculated each day as the average of all hourly emissions data recorded by the monitoring system for the preceding 30 steam generating unit operating days.

Appendix A

45CSR2/2A Monitoring and Recordkeeping Plan

Revised: ~~December 20, 2012~~

May 4, 2015

Approved: ~~July 24, 2013~~

May 26, 2015

DuPont Chemours – Washington Works
Source: Power House Area (Boilers)

45 CSR 2/2A Monitoring and Recordkeeping Plan (Non-COMS) Revised December 20, 2012 May 4, 2015

1. Facility Information

Facility Name: DuPont Chemours Washington Works

Mailing Address:

Post Office Box 1217

Washington, WV 26181-1217

Shipping Address:

8480 DuPont Road

Washington, WV 26181

Facility Contact:

David F. Altman, Sr. Environmental Control Consultant – (304) 863-4271

2. Facility Description

At the Washington Works site, DuPont Chemours manufactures plastics including nylon, polyvinyl butyral sheeting, acrylic and polyacetal resins, and fluorocarbon polymers. Other manufacturing activities at the site include plastics compounding and production of nylon fibers and monofilament, formaldehyde, and fluorocarbon monomers and telomers. acrylic plastics, fluorocarbon polymers, and fluorocarbon monomers and telomers.

Using five coal-fired boilers and one natural gas-fired boiler, the Power & Services unit at Washington Works supports the Chemours' manufacturing operations and those of any tenants by producing steam for process and building heating. No electricity is generated for sale as a result of these operations. The design heat input (DHI) and fuel type for each boiler is:

Boiler #2	64.2 MM Btu/hr.	coal-fired stoker
Boiler #3	94.0 MM Btu/hr.	coal-fired stoker
Boiler #4	125.0 MM Btu/hr.	coal-fired stoker
Boiler #5	181.0 MM Btu/hr.	coal-fired stoker
Boiler #6	241.0 MM Btu/hr.	coal-fired stoker
Boiler #8	181.0 MM Btu/hr.	natural gas-fired

The five coal-fired stoker steam boilers fit the 45 CSR 2, 2.10.c definition of a Type 'c' fuel burning unit (any hand-fired or stoker-fired fuel burning unit not classified as a Type 'a' unit). Boilers #1 (removed from service) and #2 share a common vents through sStack #1 (Stack #1, Source ID #475). Similarly, Boilers #3 and #4 share Stack #2 (Source ID # 476). Boilers #5 and #6 share Stack #3 (Source ID # 477).

The five coal-fired boilers receive coal from a common supply. DuPont Chemours currently receives coal by truck from its suppliers. The coal is unloaded at either the ground level coal feeders or at the field storage pile along the west side of the Power House (B-301). Coal stored in the yard and needed for consumption is moved to the ground level feeder hopper using the bucket end loader. From the feeder hopper, the coal travels up an inclined conveyer belt to the bucket elevators, and tripper floor transfer belt to reach the six coal bunkers.

A mechanical dust collector serves each coal-fired boiler. Boilers #2, #3, #4, #5, #6 each have single-stage mechanical dust collectors.

Additionally, Boilers #2, #3, #4, #5, and #6 have bag houses. Boiler #2 has a single 5-compartment bag house. Boiler #3 has a double 3-compartment bag house. Boiler #4 has a single 4-compartment bag house. Boiler #5 has a double 3-compartment bag house. Boiler #6 has a double 4-compartment bag house.

The Boiler #8 utilizes only natural gas as a fuel. Combustion gases from this unit vent through Stack #4 (Source ID #479). Boiler #8 fits the 45 CSR 2, 2.20.b definition of a Type 'b' fuel burning unit (any fuel burning unit not classified as a Type 'a' or Type 'c' unit such as industrial pulverized fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units).

3. Regulatory Applicability

45 CSR 2A, 3.1.b states that the owner or operator of a fuel burning unit(s) with a DHI of less than 100 mm BTU/hr. shall be exempt from the periodic testing requirements of section 5 and the monitoring requirements of section 6. Boilers #2, and #3 have design heat inputs of 64.2 and 94 mm BTU/hr., respectively, and are thereby exempt from the Reg. 2A Section 5 (visible and weight emission testing) and Section 6 (visible emission monitoring plan requirements) provisions. However, the operation of Boilers #2, and #3 is subject to the record keeping requirements of 45 CSR 2A 7.1.a, as described in Section 6 of this plan. Boilers #2 and #3 were included in the baseline testing to demonstrate performance compared with the individual stack limits requested in Section 4.

Boiler #8 is exempt from Reg. 2A Section 5 (visible and weight emission testing) and Section 6 (visible emission monitoring plan requirements) per 45 CSR 2A, 3.1.a which exempts fuel burning unit(s) which combust only natural gas. The operation of Boiler #8 is subject to the record keeping requirements of 45 CSR 2A 7.1.a.4, as described in Section 6 of this plan.

4. Allowable Emission Rates for Individual Stacks

Per 45 CSR 2, 4.1.b, Type 'b' fuel burning units are limited to particulate emissions of 0.09 lb./mm BTU while Type 'c' fuel burning units are limited to particulate emissions per Table 45-2.

Per 45 CSR 2, 4.2, allowable emission rates for individual stacks shall be determined by the owner and/or operator and registered with the Director. Attachment 1 provides details of the emission calculations and the registered stack emission rates. Table 1 provides a listing of each boiler source, fuel type used, design heat input, stack discharge source, the calculated allowable stack particulate emissions and the registered allocated stack particulate emissions limits. The registered allocated stack particulate emissions limits reflect baseline emission testing that was conducted during 2001-02 and approved by the WV DAQ on December 13, 2002.

In addition to the individual stack particulate emissions limits, per 45 CSR 2, 3.1, the opacity attributable to smoke and/or particulate is limited to 10% based on a 6-minute block average per EPA Method 9 measurement.

5. Monitoring Plan

In accordance with 45 CSR 2 and 2A, DuPont Chemours Washington Works proposes the following plan that includes visible emission testing, periodic weight emission testing, monitoring, record keeping and reporting. Baseline weight emission testing for these units has been previously conducted as noted below.

5.a Visual Emission Testing

Per the provisions of 45 CSR 2A, 6.3.a.1, EPA Method 9 readings must be made at least once per month for each stack. As noted earlier, Boilers #2, and #3 are exempted from this requirement per 45 CSR 2A, 3.1.b. Since Boiler #3 shares a stack with Boiler #4, its operation is captured under the visual monitoring for Stack #2.

Based on the date and time of the opacity reading, information from log sheets or the process control computer system is available to review the corresponding steam production, bypass valve position, bag house pressure drop, and other selected operating variables if an excursion is noted.

5.b Baseline Weight Emission Testing (45 CSR 2A, 5.2)

Using a contract testing firm, DuPont performed baseline particulate weight emission testing on the coal-fired boilers (Boilers #1, #2, #3, #4, #5, and #6) within 12 months of the effective

date for 45 CSR 2A. Testing was completed in 2002. The test protocol followed the methods described in 45 CSR 2 Appendix "Compliance Test Procedures for 45CSR2" or other equivalent EPA-approved methods. The test protocol for baseline testing on all six boilers was submitted to DAQ in November 2001 and verbally approved by Laura Crowder, WVDAQ, on December 10, 2001.

The boiler discharges were sampled following EPA Methods 1-5 to determine the mass emission rate of particulate. The Method 5 particulate train was modified to conduct the SO₂ analysis simultaneously with the particulate analysis by replacing the impinger water with a 3% peroxide solution. An outside laboratory analyzed the impinger solution for particulate and SO₂ content.

In conjunction with the baseline weight emission testing, the coal was characterized for its heat, sulfur, volatile, fixed carbon, ash, and moisture contents. The selected operating variables for each boiler (i.e., steam flow, over fire air header flow, flue gas oxygen content, and flue gas temperature) were recorded on the process control computer system and correlated to each specific test period. During testing, each boiler was operated at a rate greater than or equal to 80% of its design heat input, which satisfied the requirements of 45 CSR 2, 5.1, that all compliance test runs, which are to be included in the test result for a unit or a specified number of units, shall be conducted while the unit or group of units is operated at or above the normal maximum operating load for the specified unit or group of units; while fuel or combinations of fuel representative of normal operation are being burned.

Based on the results of the baseline emission testing, DuPont Washington Works revised the original registered stack emission limits for the Power House boilers; these registered stack limits were approved by WV DAQ on December 13, 2002. Attachment No. 1 – Table 4, Registration of Alternative Stack Emission Rates, indicates the approved registered stack limits, minus the contribution attributable to Boiler No. 1. Additional detail of the results of the baseline testing is also referenced in Table 1 of this plan.

5.c Periodic Weight Emission Testing

DuPont Chemours performs periodic weight emission testing on Boilers #4, #5, and #6 in accordance with the testing cycles specified in 45 CSR 2A Section 5.2. The site will notify and obtain concurrence with WVDAQ regarding the testing frequency and the basis for this interpretation prior to the implementation of a testing schedule. A test protocol document will be provided for WV DAQ review and approval as per the requirements specified in 45 CSR 2 Appendix.

5.d Control of Fugitive Particulate Matter

Stockpiling Coal – Coal is received in covered trucks from various suppliers. In most instances, the coal is deposited directly on the outside feed grate for transport into the coal bunker. Coal may also be unloaded at the outdoor coal pile. Water is sprayed on the coal pile as needed to control dusting. A street sweeper is utilized as needed to control the dust tracked onto site roads and driveways as a result of coal and ash transfer operations.

Transport of Coal – Coal is transferred from the feed grate to the coal bunkers on an enclosed conveying system, which includes an inclined conveyor belt, bucket elevators, and tripper floor transfer belt.

Stockpiling Ash – Ash is not stockpiled outdoors. Bottom ash and fly ash each have dedicated silos for storage.

Transport of Ash in Conveying Systems – Bottom ash is pneumatically conveyed from the ash crusher after boiler grates via covered conveying lines to the bottom ash silo. The fly ash is pneumatically conveyed from dust collectors, decant hoppers, and bag houses in covered conveying lines to the fly ash storage silo.

Transport of Ash in Vehicles – Ash is transported from the fly ash and bottom ash silos via covered trailers to an approved off-site disposal location. During loading, water is mixed with the ash and run through a conditioner (paddle mixer) to minimize dusting.

5.e Start-Ups, Shutdowns, and Malfunctions

The visible emission standards per 45 CSR 2 applies at all times except during start-ups, shutdowns, and malfunctions. Operating records document the occurrence of these events. In addition, per 45 CSR 2, 9.1, DuPont Chemours Washington Works is required to maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

For all boilers, if excess particulate emissions or excess opacity result due to a malfunction, the following notification requirements are in effect:

- Excess opacity greater than 40% or any excess opacity period exceeding 30 minutes in any 24-hour period must be reported to the Director by telephone, FAX, or e-mail by the end of the next business day after becoming aware of the condition.

- In addition, a report must be submitted to the Director within 30 days. The report must provide:
 - a detailed explanation of the factors involved in or causes of the malfunction,
 - starting and ending times of the period of excess emissions,
 - an estimate of the mass discharged during the malfunction,
 - the maximum opacity measured or observed during the malfunction,
 - immediate remedial actions taken to correct or mitigate the effects of the malfunction, and
 - a schedule for implementing corrective actions that will prevent a recurrence of the malfunction

- for excess opacity less than 40% or any excess opacity period less than 30 minutes in any 24-hour period, these events are reported on a quarterly basis to the Director.

5.f Operating Parameters

Per 45 CSR 2A, 6.3.a.2, for affected units (Boilers #4, #5, and #6), covered by the non-COM based monitoring plan, the bag house bypass valve position and the bag house pressure drop are the operating parameters which are most relevant to the control of particulate emissions. These parameters were chosen due to the high filter efficiency of the bag houses and their ability to remove particulate emissions regardless of any variation of all other boiler operating variables. The bypass valve position and the bag house pressure drop are continuously monitored during normal boiler and bag house operation. The bypass valve is normally in the closed position during boiler operation. Bag house pressure drop is typically operated between 2" and 5" of water column. There is an alarm that is activated prior to the bag house pressure reaching 6". A pressure drop below 1" water column activates an alarm that requires the operator to investigate for abnormal conditions around the bag house creating the low pressure drop and follow-up with the appropriate actions. A low pressure drop across the bag house may be an indication that the bag house has failed filter bags; the bypass valve may not be completely closed, or failed instrumentation. The Power & Services boiler and bag house operating procedures address actions that the boiler operators take to address these alarm conditions. An excursion of the operating parameter in this case is defined as a bag house bypass valve open to any position other than closed or a pressure drop reading below 1" water column while the boiler is in operation.

5.g Response Plans

Per 45 CSR 2A, 6.3.a.8 addressing affected units covered by a non-COM based monitoring plan, Power & Services boiler operating procedures address proper boiler and bag house filter operation, normal shutdown sequence, response to abnormal operating conditions, and emergency shutdown sequences.

For excursions exceeding one (1) hour per 45 CSR 2A, 6.3.a.8A, the operations group performs EPA Method 9 readings for a minimum of six minutes for each hour of the excursion. The hourly readings are suspended upon achieving four consecutive satisfactory 6-minute readings in one hour and the operating parameter(s) are back in limits or when light conditions fail. If the excursion is due to an hourly average pressure drop reading of less than 1" water column, and the investigation shows no abnormal conditions with the boiler or baghouse, and if the initial EPA Method 9 reading show compliance with 45 CSR 2 section 3, then the operations group shall document the boiler steam rate and the time at which the low pressure condition clears. The event shall be reported as an excursion, but shall not be considered to be an exceedance.

5.h Variances

Per 45 CSR 2, 10.1, if there is an unavoidable shortage of fuel having the characteristics or specifications needed to comply with the visible emissions standards, or if there is an emergency situation or condition that creates a threat to public safety or welfare, the Director may grant an exception to the visible emission standards for a period not to exceed 15 days. The exception will limit visible emissions to a six-minute maximum of not more than 30% opacity. The operator will also have to demonstrate compliance with the particulate weight emission standards even though the opacity limits have been relaxed for the period of the variance. If this situation arises, ~~DuPont~~ Chemours will contact the Director to request a variance to the Reg. 2/2A provisions.

6. Recordkeeping

Record keeping requirements for fuel burning units are specified in 45CSR2A Section 7. As such, records are maintained for the following fuels used in the Power and Services boilers:

Boilers #2, #3, #4, #5, and #6 (per section 7.1.a.4) –

Coal – date and time of startup and shutdown of each boiler, hours of operation, calculated fuel consumed on a daily basis, ash and BTU content for each coal shipment.

Boiler #8 (per Section 7.1.a.1) –

Natural Gas – date and time of startup and shutdown, hours of operation, and quantity of fuel burned each month.

As per Section 7.1.b, records of relevant monitoring data and support information are maintained on-site for at least five years. Records to be retained include calibration and maintenance records, data recordings for continuous monitoring instrumentation, shift logs, emission observation forms, opacity excursion reports, and copies of all state-submitted reports. In addition, electronic process monitoring data is immediately available for the past two years. Data generated prior to the two year window can be retrieved from storage in a reasonable amount of time.

7. Reporting

Per 45 CSR 2A, 7.2.c addressing affected units covered by a non-COM based monitoring plan, the following reporting plan is utilized:

- quarterly preparation of a "Monitoring Summary Report" and
- quarterly preparation of an "Excursion and Monitoring Plan Performance Report"

Routine reports required to be submitted to the Director must be postmarked by the 30th day following the end of each calendar quarter.

Per 45 CSR 2A, 7.2.c.1, if the total number of excursion hours for the reporting period is less than one percent (1%) of the total number of hours for the reporting period and the number of readings missing for the reporting period is less than five percent (5%) of the total number of readings agreed upon in this plan, the Monitoring Summary Report is submitted to the Director for that quarter; the Excursion and Monitoring Plan Performance Report is retained on site and shall be submitted to the Director upon request.

Per 45 CSR 2A, 7.2.c.2, if the number of excursion hours for the reporting period is one percent (1%) or greater of the total number of hours for the reporting period or the number of readings missing for the reporting period is five percent (5%) or greater of the total number of readings agreed upon in this plan, the Monitoring Summary Report and the Excursion and Monitoring Plan Performance Report shall both be submitted to the Director for that quarter.

A quarterly Monitoring Summary Report is prepared for Boilers #4, #5, and #6 and includes:

- total number of hours operated
- ~~total time in startup and shutdown~~ duration of excess emissions during startup and shutdown
- duration of excess emissions due to other causes

The Excursion and Monitoring Plan Performance Report includes:

- the magnitude of each excursion
- date and time of each excursion including starting and ending times
- specific identification of each excursion that occurs during startup, shutdowns, or malfunctions
- cause of any excursion
- corrective actions taken
- preventative measures adopted
- when data is unavailable, the date and time for each period, reason for the unavailability, and corrective actions taken

Power and Services Boilers

Calculations of Allowable Emission Rates

1. Reg. 2A Registration Form, Table 2 – total design heat input for all Power & Services “Type ‘b’” units is ~~327.8~~ 193.8 mm Btu/hr. Factor is 0.09 lb. particulate/mm Btu.
Weight emission rate is: ~~327.8~~ 193.8 x 0.09 = ~~29.502~~ 17.44 lb. particulate per hour

2. Reg. 2A Registration Form, Table 2 – total design heat input for all “Type ‘c’” units is 705.2 mm Btu/hr.

From Table 45-2, the allowable particulate emissions for 600 mm Btu/hr. is 54 lb. /hr. and the allowable particulate emissions for 3333 mm Btu/hr. is 300 lb. /hr. Linearly interpolate between 600 and 3333 mm Btu/hr. to determine the corresponding particulate emission rate for 705.2 mm Btu/hr.:

$$\frac{705.2 - 600}{3333 - 600} = \frac{x - 54}{300 - 54}$$

$$\frac{705.2 - 600}{3333 - 600} = \frac{x - 54}{300 - 54}$$

$$\frac{(705.2 - 600) \times (300 - 54)}{(3333 - 600)} = (x - 54)$$

$$\frac{(705.2 - 600) \times (300 - 54)}{(3333 - 600)} = (x - 54)$$

$$\frac{(705.2 - 600) \times (300 - 54)}{(3333 - 600)} + 54 = x$$

$$\frac{(705.2 - 600) \times (300 - 54)}{(3333 - 600)} + 54 = x$$

x = 63.469 lb. /hr. total particulate emissions from the coal-fired boilers

3. Reg. 2A Registration Form, Table 3 – proportioning the allowable particulate emissions amongst the three stacks serving the coal fired boilers:

- Stack 1: (64.2 mm Btu/hr.)/705.2 mm Btu/hr. = 0.091038
0.091038 x 63.469 lb./hr. = 5.7781 lb./hr.

- Stack 2: (94 + 125 mm Btu/hr.)/705.2 mm Btu/hr. = 0.31055
0.31055 x 63.469 lb./hr. = 19.7103 lb./hr.

Site Reg. 2A Registration Forms

Sources: Power & Services Boilers; "D" Area CF Boiler; "Z" Area Vaporizers; "T" Area #9 Furnace

Table 1 - Sum of Design Heat Inputs for Similar Units

Type 'a'		Type 'b'		Type 'c'	
(A) Unit ID	(B) DHI (mmBTU/hr)	(C) Unit ID	(D) DHI (mmBTU/hr)	(E) Unit ID	(F) DHI (mmBTU/hr)
		P31	181	P02	64.2
		DOM	44	P03	94
		Z11	14	P04	125
		Z12	14	P05	181
		Z13	14	P06	241
		Z14	14		
		Z15	16		
		Z23	18		
		T1CD	12.8		
Sum of DHI for all Type 'a' units	0	Sum of DHI for all Type 'b' units	327.8 <u>193.8</u>	Sum of DHI for all Type 'c' units	705.2

Site Reg. 2A Registration Forms

Sources: Power & Services Boilers; "D" CF Boiler; "Z" Area Vaporizers; "T" Area #9 Furnace

Table 2 - Weight Emission Limits for Similar Units			
(A)	(B) Total Design Heat Input (mmBtu/hr)	(C) Factor from 45C NH ₂ , Subsection 4.1 (lb/mmBtu)	(D) Weight Emission Rate (lb/hr)
Sum of DHI for all Type 'a' units		0.05	0
Sum of DHI for all Type 'b' units	327.8 193.8	2.19	29.502 17.442
Sum of DHI for all Type 'c' units	705.2	92A, boiling lbs/hr limit in 45C NH ₂ , Title 45-2	63.469

¹ If the calculated weight emission limit for Type 'a' units is greater than 1200 lbs/hr, then 1200 lbs/hr is the limit.

² If the calculated weight emission limit for Type 'b' units is greater than 600 lbs/hr, then 600 lbs/hr is the limit.

Site Reg. 2A Registration Forms

Sources: Power & Services Boilers; "D" Area CF Boiler; "Z" Area Vaporizers; "T" Area #9 Furnace

Table 3 - Registration of Standard Individual Stack Emission Rates

(A) Stack ID	(B) Sum of DTH for all units venting thru stack (mmBTU/hr)	(C) Sum of DTH for all Similar Units (mmBTU/hr)	(D) Wt. Emission Rate for all Similar Units (mmBTU/hr)	(E) Stack Emission Rate (lb/hr) $[(B/C) * D] = E$
475	64.2	705.2	63.469	5.7781
476	219	705.2	63.469	19.7103
477	422	705.2	63.469	37.9806
479	181	327.8	29.502	1.38
328	44	327.8	29.502	0.36
711	14	327.8	29.502	1.26
712	14	327.8	29.502	1.26
713	14	327.8	29.502	1.26
714	14	327.8	29.502	1.26
715	16	327.8	29.502	1.44
723	18	327.8	29.502	1.62
605	12.8	327.8	29.502	0.09
Stack Allowable Emission Rate (lb/hr)				73.399

64.94

Note: Sources P31 (Stk # 479), DOM (Stk # 328), and TICD (Stk # 605) have particulate emission limits specified in Reg. 13 permits and these are reflected in Table 3 (E).

**~~45-CSR 2/2A Monitoring and Recordkeeping Plan (Non-COMS) Source "D" Area
Comparable Fuels Boiler (DOM)
Revised December 20, 2012~~**

1. Facility Information

Facility Name: DuPont Washington Works

Mailing Address:

Post Office Box 1217

Washington, WV 26181 1217

Shipping Address:

8480 DuPont Road

Washington, WV 26181

Facility Contact:

David F. Altman, Sr. Environmental Control Consultant — (304) 863-4271

2. Facility Description

~~At the Washington Works site, DuPont manufactures plastics including nylon, polyvinyl butyral sheeting, acrylic and polyacetal resins, and fluorocarbon polymers. Other manufacturing activities at the site include plastics compounding and production of nylon fibers and monofilament, formaldehyde, and fluorocarbon monomers and telomers.~~

~~This plan addresses the comparable fuels boiler (source ID — DOM) installed pursuant to permit R13-1849A and operated under permit R13-1849K and Title Permit R30-10700001-2012 Segment 3 of 14. The unit is located at the Acetal resin production area of the DuPont Washington Works. The boiler utilizes liquid waste, which has been characterized as comparable fuels under the RCRA exemption found under 40 CFR 261.38 as a fuel. The liquid fuel has characteristics similar, but not identical to distillate oil. The unit will also co-fire natural gas. Maximum thermal input for the unit is 44 mm BTU/hr.~~

3. Regulatory Applicability

~~45-CSR 2A, 3.1.b states, "The owner or operator of a fuel burning unit(s) with a DHI of less than 100 mm BTU/hr. shall be exempt from the periodic testing requirements of Section 5 and the monitoring requirements of Section 6." The comparable fuels boiler is exempt from Regulation 2A Section 5 (periodic visible and weight emission testing) and Section 6 (visible emission monitoring plan requirements) provisions based on the rated DHI of the unit.~~

~~Initial compliance emission testing as specified in permit R13-1849A was conducted on December 9, 2002 after startup of the unit. The testing validated that the unit was in compliance with the permitted emission limits and satisfied the baseline weight emissions testing and visible emissions monitoring requirements specified in 45 CSR 2A Section 5. (45 CSR 2A 5.1 and 5.2)~~

~~The operation of this unit is subject to the recordkeeping requirements of 45 CSR 2A 7.1.a.1, 7.1.a.5 and 7.1.a.6, including date and time of startup and shutdown, the type and quantity of fuel consumed on a monthly basis and fuel quality requirements.~~

~~4. Allowable Emissions Rates for Individual Stacks.~~

~~Per 45 CSR 2 4.1.b Type "b" fuel burning units are limited to particulate emissions of 0.09 pounds/ million BTU "allowable emission rates for individual stacks shall be determined by the owner and/or operator and registered with the Director..."~~

~~Based on a DHI of 44 million BTU/hr. the allowable particulate emission rate for the comparable fuels boiler is 3.96 pounds per hour. However, as specified in Permit R13-1849A and subsequent permits, the allowable PM emission rate for this unit is limited to 0.36 pounds per hour.~~

~~5. Recordkeeping~~

~~As per the requirements specified in 45 CSR 2A section 7.1.a.1, section 7.1.a.5 and section 7.1.a.6 records will be maintained for the boiler as follows:~~

~~Natural gas combustion—date and time of startup and shutdown and the quantity of fuel burned each month.~~

~~Alternative fuel combustion; the date and time of startup and shutdown and fuel quality analysis as approved by the Director under the waste analysis plan. Comparable fuels shall be retested at the frequency specified in the waste analysis plan required by 40 CFR 261.38 or at any time after a process change has occurred that could change the physical or chemical properties of the waste according to 40 CFR 261.38.~~

~~Records of all required monitoring data and support information shall be maintained on-site for at least 5 years.~~

~~6. Reporting~~

~~Per 45 CSR 2A, Section 7.2.d, excursions due to malfunction will be reported per the requirements of 45 CSR 2, Section 9.~~

Appendix B

45CSR10/10A Monitoring and Recordkeeping Plan

Revised: ~~December 20, 2012~~

May 4, 2015

Approved: ~~July 24, 2013~~

May 26, 2015

DuPont Chemours – Washington Works
Source: Power House Area (Boilers)
45 CSR 10/10A Monitoring and Recordkeeping Plan (Non-CEMS)
Revision 4 5

1. Facility InformationFacility Name: ~~DuPont~~ Chemours Washington Works

Mailing Address:

Post Office Box 1217

Parkersburg, WV 26102-1217

Shipping Address: Route

892 South Washington,

WV 26181

Facility Contact:

David Altman, Sr. Environmental Control Consultant – (304) 863-4271

In accordance with 45 CSR 10, 8.2.c, this document is the proposed plan for monitoring compliance with the sulfur dioxide weight emission standards expressed in 45 CSR 10, 3.

2. Facility Description

At the Washington Works site, ~~DuPont~~ Chemours manufactures ~~plastics including nylon, polyvinyl butyral sheeting, acrylic and polyacetal resins, and fluorocarbon polymers. Other manufacturing activities at the site include plastics compounding and production of nylon fibers and monofilament, formaldehyde, and fluorocarbon monomers and telomers.~~ acrylics plastics, fluorocarbon polymers, and fluorocarbon monomers and telomers.

Washington Works is located in Wood County, WV, which is Priority Classification II and part of the Region II, Parkersburg-Marietta Interstate Air Quality Control Region (West Virginia-Ohio) per Table 45-10A.

Using five coal-fired boilers and one natural gas-fired boiler, the Power & Services unit at Washington Works supports the manufacturing operations by producing steam for process and building heating. No electricity is generated for sale as a result of these operations. The design heat input (DHI) for each boiler is:

#1 boiler (not in service)	64.2 MM Btu/hr.	coal-fired stoker
#2 boiler	64.2 MM Btu/hr.	coal-fired stoker
#3 boiler	94.0 MM Btu/hr.	coal-fired stoker
#4 boiler	125.0 MM Btu/hr.	coal-fired stoker
#5 boiler	181.0 MM Btu/hr.	coal-fired stoker
#6 boiler	241.0 MM Btu/hr.	coal-fired stoker

The coal-fired stoker steam boilers fit the 45 CSR 10, 2.8.c definition of a "Type 'c'" fuel burning unit ("any hand-fired or stoker-fired fuel burning unit not classified as a Type 'a' unit"). Boilers #1 (not in service) and #2 share a common vents through stack (Stack #1) (source ID #475). Similarly, Boilers #3 and #4 share Stack #2 (Source ID #476) and Boilers #5 and #6 share Stack #3 (Source ID #477).

The coal-fired boilers receive coal from a common supply. DuPont Chemours currently receives coal by truck from its suppliers. The coal is unloaded at either the ground level coal feeders or at the field storage pile along the west side of the Power House (B-301). Coal stored in the yard and needed for consumption is moved to the ground level feeder hopper using the bucket end-loader. From the feeder hopper, the coal travels up the inclined conveyer belt to the bucket elevators, and tripper floor transfer belt to reach the five coal bunkers.

The #1 coal fired boiler is not in service. ~~The site will file a notification letter with the West Virginia Division of Environmental Protection, Office of Air Quality, indicating its intent to no longer operate the #1 boiler. There are no plans to operate the #1 boiler in the foreseeable future and it is not being included in this updated compliance and monitoring plan for Regs 10 and 10A.~~

The #8 Boiler is exempt from Reg 10A per 45 CSR 10A, 3.1.b which exempts "fuel burning unit(s) which combust natural gas, wood, or distillate oil, alone or in combination" from the testing, monitoring, recordkeeping and reporting provisions of the rule.

3. Allowable Emission Rates for Individual Stacks

Table 1 lists each source and the potential to emit. Per 45 CSR 10, 3.1.e, for Priority II regions and Type 'b' and Type 'c' fuel burning units, sulfur dioxide emissions are limited to "the product of 3.1 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour." Attachment 1 ("Appendix B") provides the details of the potential to emit calculations. The potential-to-emit calculations provide the maximum sulfur dioxide emissions allowed for each coal-fired boiler, regardless of firing rate. Thus, the sulfur content of a particular coal shipment could be greater than that defined by 45 CSR 10A, 2.2 as long as the combination of firing rate and coal sulfur content resulted in SO₂ emissions as allowed under 45 CSR 10, 3.1.e, 3.4.a, and 3.8.

Regulation 10 section 3.4 provides for the operation of a unit or units to exceed the calculated SO₂ emission rate by a maximum of 25% (on a per stack basis) providing that the allowable rate "cap" for the sum of all such stacks at the site is not exceeded on a per day basis. This variance provides for emission rates greater than the MDHI * 3.1 on a stack or multiple stacks providing the other units are operated at an emission rate not exceeding the sum of the

allowable rates for all such units/stacks at the site. This circumstance would require adjustment of the operating rates of the other site boilers in order to be in ongoing compliance with the site cap total allowable rate.

Table 2 summarizes the applicable regulatory requirements for each boiler, including emission limits, frequency for coal analysis, and weight emission testing.

4. 45 CSR 10 Monitoring Plan

In accordance with 45 CSR 10 and 10A, DuPont Chemours Washington Works proposes the following plan that includes baseline weight emission testing, annual weight emission testing, analysis of each shipment of coal to determine compliance with the sulfur dioxide weight emissions standards, and recordkeeping.

4.a Baseline Weight Emission Testing (45 CSR 10A, 5.1.a) – Using a contract testing firm, DuPont performed baseline SO₂ weight emission testing on the #1, #2, #3, #4, #5, and #6 coal-fired boilers within 12 months of the effective date for 45 CSR 10A. The test protocol was conducted following the methods described in 40 CFR Part 60, Appendix A. The six boiler discharges were sampled following EPA Methods 1-6 to determine the mass emission rate of sulfur dioxide. The Method 5 particulate train was modified to conduct the SO₂ analysis simultaneously by replacing the impinger water with a 3% peroxide solution. The impinger solution was analyzed for sulfate content by an outside laboratory. The test protocol was submitted to WV DAQ for approval.

In conjunction with the baseline weight emission testing, the coal was characterized for its heat, sulfur, volatile, fixed carbon, ash, and moisture content. The operating variables for each boiler (over fire air header pressure, flue gas oxygen content) was recorded on the Vantage computer system and correlated to each specific test period. During testing, each boiler was operated at a rate greater than or equal to 80% of its design heat input. 45CSR2 Appendix, 5.1 states that, "All compliance test runs, which are to be included in the test result for a unit or a specified number of units, shall be conducted while the unit or group of units is operated at or above the normal maximum operating load for the specified unit or group of units; while fuel or combinations of fuel representative of normal operation are being burned; and under such other relevant conditions as the Director may specify based on representative performance of the specified units." Since the particulate and SO₂ weight emission testing was conducted simultaneously and review of operating records shows that 80% of the design heat input has been about the normal maximum operating load of the boilers, this operating level was used during the testing.

4.b Annual Weight Emission Testing – Table 3 summarizes the relationships among heat input and coal heat content and percent sulfur with respect to frequency of weight emission testing as defined in 45 CSR 10A, 5.1.a. DuPont Chemours will perform annual weight emission testing on the #2, #3, #4, #5, and #6 boilers. The annual testing is based on the expectation of burning a coal blend for at least one shipment per year that contains greater than 90% of the allowable sulfur content as defined by 45 CSR 10A, 5.1.a.

As for the baseline weight emission testing, DuPont Chemours will use a contract testing firm and the test protocol will be conducted following the methods described in 40 CFR Part 60, Appendix A. The stacks will be sampled following EPA Methods 1-6 to determine the mass emission rate of sulfur dioxide. The Method 5 particulate train will be modified to conduct the SO₂ analysis simultaneously by replacing the impinger water with a 3% peroxide solution. The impinger solution will be analyzed for sulfate content by an outside laboratory. Any changes to the previously accepted test protocol will be submitted to WV DAQ for review and concurrence.

In conjunction with the annual weight emission testing, the coal will be characterized for its heat, sulfur, volatile matter, fixed carbon, ash, and moisture content. The operating variables for each boiler (over fire air header pressure, flue gas oxygen content) will be recorded on a data historian system and correlated to each specific test period. During testing, each boiler will be operated at or above the normal maximum operating load.

If DuPont Chemours is able to contractually secure long-term coal supplies containing less than 90% of the sulfur content as calculated from the "factor", the DHI, and the BTU value of the coal, DuPont Chemours will notify DAQ of a change in the testing frequency to once every 5 years. Such coal supplies would have Table 3 sulfur contents between the values shown in columns 3 and 5. For a coal containing an average heat value of 13600 BTU/lb. and a 45 CSR 10, 3.1.e factor of 3.1 pounds SO₂ per million BTU design heat input, 2.11% is the maximum sulfur content of a coal that could be burned at the design heat input. In order to qualify for weight emission testing once every five years, the maximum sulfur content of any coal shipment would be 1.899%. Attachment 2 shows the calculations supporting columns 1 through 5 of Table 3.

4.c Coal Analysis – Per 45 CSR 10A, 6.1.c, coal monitoring requirements derive from burning fuels with sulfur contents "that equate[s] to an SO₂ emission rate greater than or equal to 90% of the rate, calculated as the product of the TDHI and applicable factor". Table 3, columns 6, 7, and 8 shows the interrelationship among operating rate as a percent of TDHI, coal heat value, and sulfur content of the coal. Column 8 shows the percent sulfur in the coal that triggers the requirement for either continuous emission monitoring systems (CEMS) for SO₂ or daily "as burned" fuel analyses. For operating rates and corresponding sulfur contents less than those listed in Column 8, the sulfur analysis requirement is "per shipment".

DuPont Chemours expects to burn coal blends with sulfur contents between 1.8 and 2.25% sulfur. Historically, normal maximum operating rates have been approximately 80-85% of DHI. Thus,

depending upon relative proportions of low- and medium-sulfur coal in the blend at any given time, DuPont Chemours might be covered by the "daily as burned" or "per shipment" sulfur analysis requirements. To satisfy both situations and to know at all times what the sulfur content is of the blended coal, DuPont Chemours will utilize one of all the following options:

Option 1: Working with a coal terminal, DuPont Chemours would arrange for blending of coal from its various suppliers. The coal purchased for DuPont Chemours Washington Works would be physically segregated from that of other customers of the coal terminal. Once the segregated pile is made and sampled, no other coal would be added to the pile. The segregated pile would then be worked down to depletion while a new pile was being accumulated and blended. This would allow the blended coal to meet the definition of a "shipment" per 45 CSR 2 ("any discrete, identifiable quantity of a fuel for which a quality report is available. For example, a fuel shipment may be all fuel delivered from a specific lot, identified by the lot number, or fuel delivered under a specific purchase order number."). In addition, because all coal burned would be coming out of a segregated pile covered under one analysis, this would also satisfy the requirement to provide a "daily 'as burned'" analysis.

At the coal terminal, the blended, segregated coal would be sampled per ASTM Method D2234-99 ("Standard Practice for Collection of a Gross Sample of Coal", 2000).

Quality Assurance/Quality Control – in order to independently verify the coal terminal's analyses, DuPont Chemours proposes that the segregated pile will be sampled every calendar quarter (collecting a minimum of 36 grab samples, approximately 8 ounces each, from the accessible perimeter of the pile), composited, and a 2-3 pound cut be analyzed for heat, sulfur, volatile matter, fixed carbon, ash, and moisture content. These results will be recorded and kept for a period of 5 years.

Option 2: DuPont Chemours would sample the coal from the inclined transfer belt that feeds the tripper floor transfer belt. The tripper floor transfer belt feeds the bunkers for the #2 through #6 Boilers.

DuPont Chemours would use an automated coal sampler to periodically take a sample and add it to a sample receiver. To satisfy ASTM D2234-00, Table 1, footnote c when receiving coal from more than one source, DuPont Chemours will collect a minimum of 35 2-pound grab samples per day while the inclined transfer belt is running. Otherwise, when receiving coal from a single source, a minimum of 15 1-pound grab samples will be collected through the sampling day. At the end of the sampling day, the previous day's sample will be removed. The composited sample will be thoroughly blended and then transferred to a suitable container for transport to a certified laboratory. The lab will pulverize the sample prior to analysis. This arrangement will satisfy the "daily 'as burned'" analytical requirement described in 45 CSR 10A, 6.1.c.2.

If the automated coal sampler is out of service or unavailable, manual grab samples (approximately 8 ounces each) will be collected at the coal feeder grate each time before the operator starts the conveyor system. The conveyor system is started about once per hour, resulting in about 48 scoops per day. The scoops will be placed into a container with a lid. At the conclusion of each sampling day, the container's contents will be thoroughly blended and a 2-3 pound sample will be removed and sent to the lab for size reduction and analysis for heat, sulfur, volatile matter, fixed carbon, ash, and moisture content. These results will be recorded and kept for a period of 5 years.

Option 3: Alternatively, if DuPont Chemours elects to purchase coal from a single supplier, the supplier will arrange for sampling and analysis of the coal per the methods referenced in this plan. The coal will be segregated and staged so that one sampling and analysis event will cover each shipment. The segregation and sampling process will satisfy the intent of performing a daily "as burned" analysis of the fuel in accordance with applicable ASTM procedures and test methods, per 45 CSR 10A, 6.1.c.2. Records will be retained for 5 years per 45 CSR 10A, 7.1.d.

Quality Assurance/Quality Control – in order to independently verify the coal vendor's analyses, DuPont Chemours proposes that the segregated pile will be sampled every calendar quarter (collecting a minimum of 36 grab samples, approximately 8 ounces each, from the accessible perimeter of the pile), composited, and a 2-3 pound cut be analyzed for heat, sulfur, volatile matter, fixed carbon, ash, and moisture content. These results will be recorded and kept for a period of 5 years.

Analytical Details: Using a certified analytical laboratory, the sample will be prepared for analysis in accordance with ASTM Method D2013-00 ("Standard Method of Preparing Coal Samples for Analysis", 2000). Testing of the coal will either be accomplished by a certified independent analytical lab or a DuPont Chemours on-site laboratory certified to perform this work.

Per 45 CSR 10A, 6.4.a, 6.4.b, and 6.4.c, the following parameters will be analyzed for each blended, segregated coal pile ("shipment") or daily "as burned" sample:

Heat value per ASTM D5865-99a ("Standard Test Method for Gross Calorific Value of Coal and Coke", 2000) or equivalent. Heat value is required to calculate the maximum percent sulfur allowed under 45 CSR 10A, 5.1.a and 6.1.c. The current minimum value is 12500 Btu/lb. while the typical value is around 13500 Btu/lb.

Total sulfur per ASTM D3177-89 ("Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke", 2000) or ASTM D4230-00 ("Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods", 2000) or equivalent. Total sulfur is required to calculate compliance with 45 CSR 10A, 2.5 and 6.1.c. The current maximum value is 2.5% and the typical values range between 1.5 and 2.45% depending upon coal supplier.

Volatile matter, fixed carbon, ash, and moisture per ASTM D3172-89 ("Standard Practice for Proximate Analysis of Coal and Coke", 1997) or D5142-90 ("Standard Test Methods for Proximate Analysis of the Analysis Sample of Coal and Coke by Instrumental Procedures", 2000) or equivalent. These parameters are used internally to determine coal quality and resulting compliance with the purchase specification. Volatile matter is typically 35% with a minimum of 30%. Fixed carbon is usually around 50-52%.

Ash is typically around 8% with a maximum of 11%. Moisture is typically around 5% with a maximum of 8%.

Per 45CSA10A, 6.4, Table 4 shows the expected ranges for the coal analyses and the basis for selecting these parameters. The maximum and minimum values shown in Table 4 were selected based on meeting emission limits, efficient performance of the boilers, and compatibility with the mechanical dust collection and baghouse systems based on operating experience and input from equipment vendors and coal suppliers (45 CSR 10A, 6.4.e).

4.d Response Plan During Excursions (45 CSR 10A, 6.4.g) – If the sampling program shows that the coal blend is higher in sulfur than desired, the boiler operating rates will be adjusted to maintain compliance with the SO₂ emissions cap, for the five coal-fired boilers as a group.

In addition, the coal terminal and coal suppliers will be contacted to adjust the formulation of the coal blend to assure that the next shipment or segregated pile meets the sulfur concentrations shown on Table 1 that will allow the boilers to be operated at the desired rates.

45CSR10, 9.1 states, "Due to unavoidable malfunction of equipment or inadvertent fuel shortages, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the equipment malfunction or fuel shortage. In cases of major equipment failure or extended shortages of conforming fuels, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director." If the above situation occurs (e.g., due to supply or transportation problems with the low sulfur coal now used in the blend) and the operating rate cannot be adjusted downward sufficiently to meet the current SO₂ emissions cap, DuPont Chemours will contact the Director to request a variance to the Reg 10/10A provisions. If an extension of the variance is required, DuPont Chemours will provide a corrective program.

4.e Records Management - DuPont Chemours has tracked the above information in spreadsheet form and developed monthly and annual weighted averages based on the analytical information provided by the suppliers and the amount of coal purchased in a given period. Through a data historian system, information is recorded about date and time of start-up and shutdown as well as

information about the furnace operating rates (45 CSR 10A, 7.1.a); this data is available "live" for two years and will be retrievable from data tapes for the 3 previous years. Paper operating logs for the Power House operations and supporting information including relevant instrument calibration records and maintenance records will be retained in hard copy for 5 years in accordance with the requirements of 45 CSR 10A, 7.1.d.

Alternatively, if ~~DuPont~~ Chemours elects to purchase coal from a single supplier, the supplier will arrange for sampling and analysis of the coal per the methods referenced above. The coal will be segregated and staged so that one sampling and analysis event will cover each shipment. The segregation and sampling process will satisfy the intent of performing a daily "as burned" analysis of the fuel in accordance with applicable ASTM procedures and test methods, per 45 CSR 10A, 6.1.c.2. Again, records will be retained for 5 years per 45 CSR 10A, 7.1.d.

5. Reporting —~~DuPont~~ Chemours will prepare quarterly "Monitoring Summary" and "Excursion and Monitoring Plan Performance" reports. Quarterly submittals will be postmarked by January 30, April 30, July 30, and October 30 of each respective year.

If the total number of excursions for the reporting period is less than 4% of the total number of readings and the number of readings missing for the reporting period is less than 5% of the total number of readings agreed upon in the monitoring plan, the Monitoring Summary report will be submitted to the Director of the Office of Air Quality. In this case, the Excursion and Monitoring Plan Performance Report will be maintained on-site and submitted to the Director of the Office of Air Quality upon request. In all other circumstances, both reports will be submitted to the Director of the Office of Air Quality.

The Excursion and Monitoring Plan Performance Report will include the following information:

- the magnitude of each excursion, and the date and time, including starting and ending times, of each excursion;
- specific identification of each excursion that occurs during startups, shutdowns, and malfunctions of the facility;
- the nature and cause of any excursion, if known, and the corrective action(s) taken and preventative measures adopted, if any;
- the date and time identifying each period when the data is unavailable, the reason for data unavailability, and the corrective action(s) taken; and
- if no excursions occurred during the quarter or there were no periods of data unavailability, that information will be stated in the report.

Pending availability of a report format provided by the Office of Air Quality, a format similar to that used for the "Emissions Data Summary" (45 CSR 10A, Appendix A) will be used for the

Attachment 1 Reg 10A Appendix B – Registration

Sources: Power & Services Boilers; "D" Area CF Boiler

Table 1 - Sum of Design Heat Inputs for Similar Units					
Type 'a'		Type 'b'		Type 'c'	
(A) Unit ID	(B) DHI (mmBtu/hr)	(C) Unit ID	(D) DHI (mmBtu/hr)	(E) Unit ID	(F) DHI (mmBtu/hr)
		DOM	44	P02	64.2
				P03	94
				P04	125
				P05	181
				P06	241
Sum of DHI for all Type 'a' units	0	Sum of DHI for all Type 'b' units	44	Sum of DHI for all Type 'c' units	705.2

Sources: Power & Services Boilers; "D" CF Boiler

Table 2 - Weight Emission Limits for Similar Units			
(A)	(B) Total Design Heat Input (mmBtu/hr)	(C) Factor from 450 SR10, Section 3 (lb/mmBtu)	(D) Weight Emission Rate (lb/hr)
Sum of DHI for all Type 'a' units			0
Sum of DHI for all Type 'b' units	44	3.1	136.4
Sum of DHI for all Type 'c' units	705.2	3.1	2186.12

Sources: Power & Services Boilers; "D" Area CF Boiler

Table 3 - Registration of Standard Individual Stack Emission Rates

(A) Stack ID	(B) Identify each unit venting this stack	(C) Sum of DLU for all units venting this stack (lb/hr)	(D) Sum of DLU for all Similar Units (lb/hr)	(E) Weight Emission Rate for all Similar Units (lb/hr)	(F) Stack Emission Rate (lb/hr)
475	P02	64.2	705.2	2186.12	199.02
476	P03/P04	219	705.2	2186.12	678.9
477	P05/P06	422	705.2	2186.12	1308.2
328	DOM	44	44	136.4	136.4
Sum of Standard Individual Stack Emission Rates (lb/hr)					2322.52

2186.12

Sources: Power & Services Boilers; "D" Area CF Boiler

In Table 4 below, the owner or operator may register individual stack allowable emission rates, differing from those calculated in Table 3, as provided for in 45CSR10, Subsection 3.4.

Table 4 - Registration of Alternative Stack Emission Rates

(A) Stack ID	(B) Identify each unit venting this stack	(C) Alternative Stack Emission Rate (lb/hr)
Sum of Alternative Stack Emission Rates (lb/hr)		0

¹ The sum of the Alternative Stack Emission Rates for similar units shall not exceed the Weight Emission Rates for all Similar Units in Table 2, Column D.

DuPont—Washington Works
Source: Acetal Resins (Area "D") Comparable Fuel Boiler [DOM]
45-CSR-10/10A Monitoring and Recordkeeping Plan (Non-GEMS) December 20, 2012
Revision

1. Facility Information

Facility Name: DuPont Washington Works

Mailing Address:

Post Office Box 1217

Parkersburg, WV 26102-1217

Shipping Address: Route 892

South Washington, WV 26181

Facility Contact:

David Altman, Sr. Environmental Control Consultant—(304) 863-4271

In accordance with 45-CSR-10, 8.2.c, this document is the proposed plan for monitoring compliance with the sulfur dioxide weight emission standards expressed in 45-CSR-10, 3.

2. Facility Description

At the Washington Works site, DuPont manufactures plastics including nylon, polyvinyl butyral sheeting, acrylic and polyacetal resins, and fluorocarbon polymers. Other manufacturing activities at the site include plastics compounding and production of nylon fibers and monofilament, formaldehyde, and fluorocarbon monomers and telomers.

Washington Works is located in Wood County, WV, which is Priority Classification II and part of the Region II, Parkersburg-Marietta Interstate Air Quality Control Region (West Virginia-Ohio) per Table 45-10A.

This plan addresses the comparable fuels boiler (source ID—DOM) installed pursuant to permit R13-1849A and operated under permit R13-1849K and Title Permit R30-10700001-2012 Segment 3 of 14. The unit is located at the Acetal resin production area of the DuPont Washington Works. The boiler utilizes liquid waste, which has been characterized as comparable fuels under the RCRA exemption found under 40 CFR 261.38 as a fuel. The liquid fuel has characteristics similar, but not identical to distillate oil. The unit will also co-fire natural gas. Maximum thermal input for the unit is 44 mm-BTU/hr.

3. Regulatory Applicability

~~Interpretive rule 45 CSR 10A applies to any fuel burning unit, manufacturing process source or combustion source subject to 45 CSR 10 with 3 enumerated exceptions. The comparable fuels boiler is a combustion unit that does not meet any of the enumerated exceptions. The comparable fuels unit is also subject to 40 CFR 60 Subpart Dc.~~

4. Allowable Emission rates for Individual Stacks

~~As per 45 CSR 10, 3.1.e for Priority IUI regions and Type "b" and type "c" fuel burning units, the sulfur dioxide emissions are limited to "the product of 3.1 and the Total Designed Heat input (TDHI) for such units discharging through those stacks in millions of BTUs/hour." Based on the comparable fuel boiler's TDHI of 44 million BTU/hr. and its' discharge through a dedicated stack the allowable SO₂ emissions are 136.4 pounds per hour. Based upon testing performed on the comparable fuels boiler as required by permit R13-1849A the emission limitation for SO₂ from the DOM stack is 2.6 pounds per hour. Because the unit is also subject to 40 CFR 60 Subpart Dc the maximum concentration of sulfur in the comparable fuel fed to the boiler must be less than or equal to 0.5% by weight sulfur.~~

5. Monitoring Plan

~~In accordance with 45 CSR 10A, 6.1.a DuPont Washington Works proposes the following monitoring plan that includes sampling and fuel analysis of the comparable fuel. Pursuant to 45 CSR 10A, 5.1.a no weight emission testing is required because the comparable fuel boiler emissions are less than 50% of the 3.1 pounds per million BTU factor based on the comparable fuel sulfur concentration of less than 100 ppm by weight.~~

~~Monitoring of the sulfur content in the fuel to the comparable fuels boiler will be by the specifications and frequency of the waste analysis plan filed as part of the comparable fuels boiler exemption under 40 CFR 261.38 and this alternative sampling shall meet the requirements of 40 CFR 60.46c(d).~~

6. Recordkeeping and Reporting

~~In accordance with 45 CSR 10A, 7.1.a, records shall be kept of the date and time of startup and shutdown, the quantity of fuel consumed on a daily basis and sulfur analyses as set forth in Section 5 above. The records will be retained for 5 years from the date of generation or last use whichever is later to meet the requirements of 45 CSR 10A, 7.1.d.~~

~~In accordance with 45 CSR 10A, 7.2.a, DuPont shall submit a "monitoring summary report" and an "excursion and Monitoring Plan Performance Report" to the Director on a quarterly basis.~~

Appendix C
ATTACHMENT A – EXAMPLE DATA FORM
DuPont Chemours Boiler Number 8 Fuel Usage Report⁽¹⁾⁽²⁾⁽³⁾
E. I. du Pont de Nemours & Company, Inc. The Chemours Company FC, LLC – Washington Works
Permit No. R14-14, Plant ID No. 10700001182

Month	Natural Gas Combusted (scf)	12-Month Rolling ⁽³⁾ Average (MMscf)	Initials
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

- Note: (1) The CERTIFICATION OF DATA ACCURACY statement appearing on the reverse side of this sheet must be completed within fifteen (15) days of the end of the reporting period.
- (2) This record shall be maintained on site for a period of five (5) years from the date of certification. It shall be made available, upon request, to the Director or his (her) authorized representative.
- (3) Twelve month rolling average of natural gas combusted should not exceed 1,585,560,000 scf.