



E. I. du Pont de Nemours and Company
Washington Works
Mail: P.O. Box 1217
Washington, WV 26181-1217

April 1, 2015

CERTIFIED MAIL – 7013 3020 0000 3729 9345
RETURN RECEIPT REQUESTED



Mr. William F. Durham, Director
Division of Air Quality
WV Department of Environmental Protection
601 57th Street, S.E.
Charleston, WV 25304

RE: Permit Determination for Regulation 13 Permit, R13-1533K

Dear Mr. Durham:

With this letter DuPont requests a permit determination for the replacement of the existing cartridge filter control devices [293-C-04A, 04B, 04C, 04D] with cyclone separators while still maintaining the same capture efficiency. We request a quick reply on the matter so that we may begin the installation process as soon as possible.

If you have any questions or need additional information, please call me at [304] 863-2202. I may also be reached by email at Charles-R.F.Hill-1@dupont.com.

Very truly yours,

C. R. Hill
SHE Manager
Washington Works

Enclosure
CRH:pts/slb

CC: Ms. Carrie McCumbers
Division of Air Quality
WV Department of Environmental Protection
601 57th Street S.E.
Charleston, WV 25304-2345



WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
www.wvdep.org

**PERMIT DETERMINATION FORM
(PDF)**

FOR AGENCY USE ONLY: PLANT I.D. # _____

PDF # _____

PERMIT WRITER: _____



1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):

E. I. du Pont de Nemours and Company,

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):

Washington Works

3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE:

3 2 5 2 1 1

4A. MAILING ADDRESS:

DuPont Washington Works
P.O. Box 2800
Washington WV 26181-1217

4B. PHYSICAL ADDRESS:

DuPont Washington Works
8480 DuPont Road, Building 24
Washington WV 26181

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE MAP AS ATTACHMENT A): See Map - From Charleston take I-77 north to the Route 50. Turn West on to Route 50 and use the bypass around Parkersburg. At the DuPont Road Exit - exit and at DuPont Road turn Left. The plant is approximately ¼ - ½ mile on the right side.

5B. NEAREST ROAD:

DuPont Road

5C. NEAREST CITY OR TOWN:

Parkersburg

5D. COUNTY:

Wood

5E. UTM NORTHING (KM):

4346.8331

5F. UTM EASTING (KM):

442.3767

5G. UTM ZONE:

17

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:

Charles R. Hill

6B. TITLE:

SHE Manager

6C. TELEPHONE:

(304) 863-2202

6D. FAX:

(304) 863-4190

6E. E-MAIL:

Charles-R.F.Hill-1@dupont.com

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):

107 - 00001

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY):

R30-10700001 Part 8 of 14

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:

No

8A. TYPE OF EMISSION SOURCE (CHECK ONE):

NEW SOURCE ADMINISTRATIVE UPDATE

MODIFICATION OTHER (PLEASE EXPLAIN IN 11B)

8F. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?

YES NO

9. IS DEMOLITION OR PHYSICAL RENOVATION AT AN EXISTING FACILITY INVOLVED?

YES NO

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:

07/01/2015

10B. DATE OF ANTICIPATED START-UP:

07/15/2015

11A. PLEASE PROVIDE A DETAILED PROCESS FLOW DIAGRAM SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS ATTACHMENT B.

11B. PLEASE PROVIDE A DETAILED PROCESS DESCRIPTION AS ATTACHMENT C.

12. PLEASE PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS ATTACHMENT D. FOR CHEMICAL PROCESSE, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

13A. REGULATED AIR POLLUTANT EMISSIONS:

⇒ FOR A NEW FACILITY, PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ FOR AN EXISTING FACILITY, PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM	0	
PM ₁₀	0	
VOCs	0	
CO	0	
NO _x	0	
SO ₂	0	
Pb	0	
HAPs (AGGREGATE AMOUNT)	0	
TAPs (INDIVIDUALLY)*	0	
OTHER (INDIVIDUALLY)*	0	

* ATTACH ADDITIONAL PAGES AS NEEDED

13B. PLEASE PROVIDE ALL SUPPORTING CALCULATIONS AS ATTACHMENT E.

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

14. CERTIFICATION OF DATA

I, JAY VALVO (TYPE NAME) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A **RESPONSIBLE OFFICIAL**** (PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: _____



TITLE: PLANT MANAGER

DATE: 3 130 115

** THE DEFINITION OF THE PHRASE 'RESPONSIBLE OFFICIAL' CAN BE FOUND AT 45CSR13, SECTION 2.23.

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

ATTACHMENT A ATTACHMENT B ATTACHMENT C ATTACHMENT D ATTACHMENT E

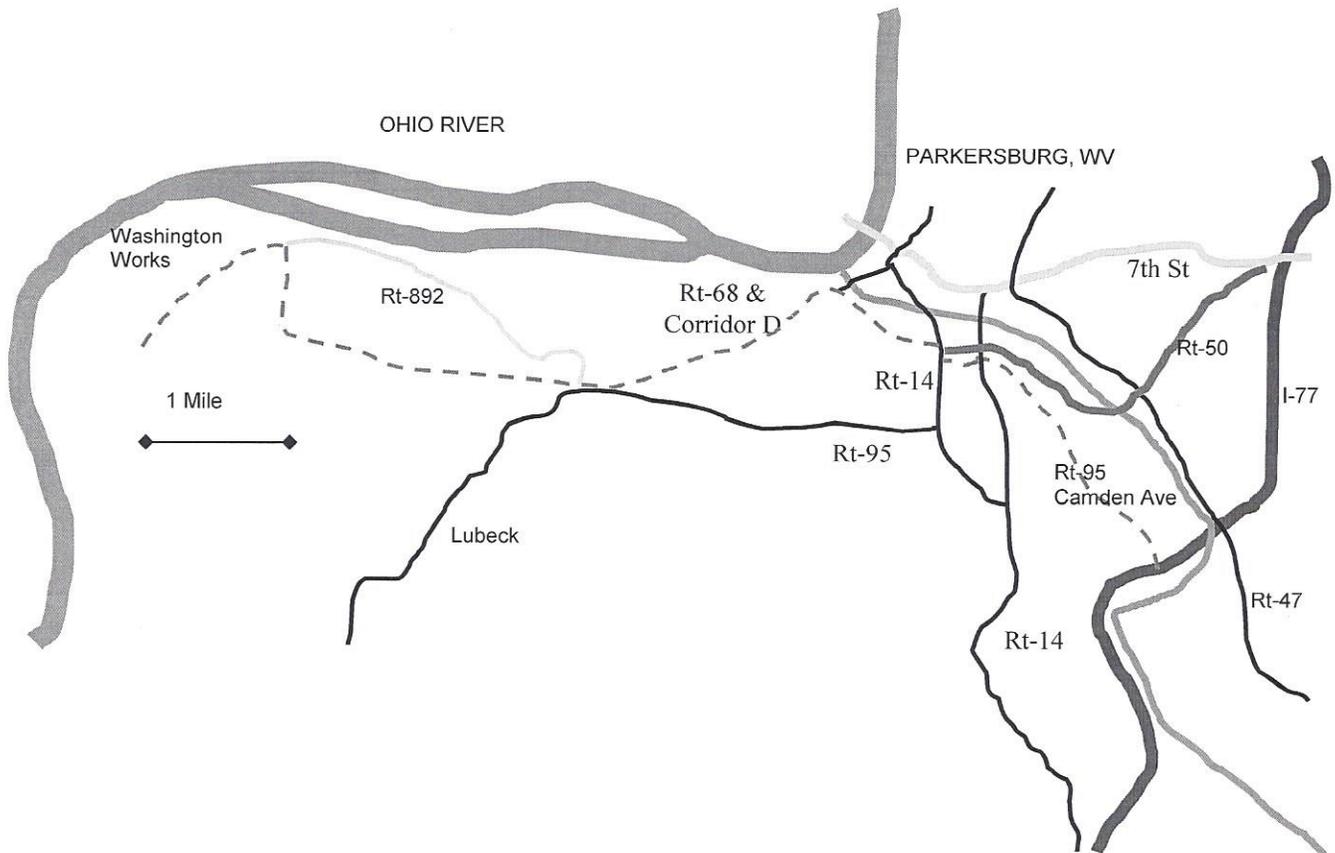
RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

www.wvdep.org

ATTACHMENT A

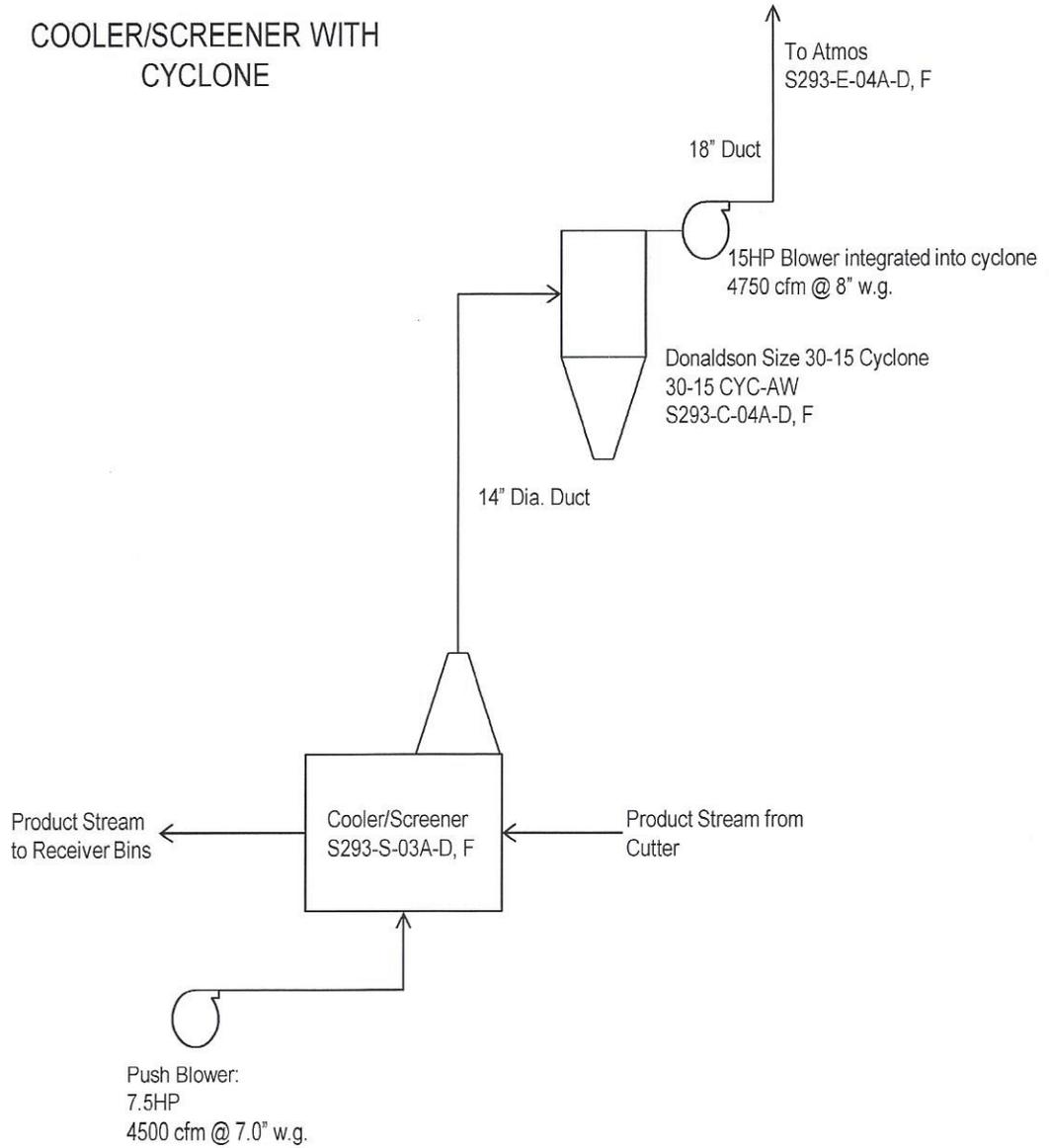
MAP to the Facility



From Interstate 77, take exit for Rt-95/Camden Avenue.
Proceed West until intersection with Rt-14 then turn right (north).
After about 1/4 mile turn left onto Corridor D Bypass entrance.
Follow the bypass to the exit just before the bridge (under construction until 10/07).
Turn left (south) onto DuPont Rd, Rt-892.
Proceed approx. 1 mile to facility on right.

ATTACHMENT B

Process Flow Diagram



ATTACHMENT C

Process/Project Description

This project is upgrading the existing cooler/screeners [293-C-04A, 04B, 04C, 04D] due to the current screeners exceeding their useful life and a direct replacement in kind is not available. The new screener will perform identical to the existing unit and meet current specifications. As part of the project, the control device on the cooling air is being changed from a cartridge filter to a cyclone separator. The cyclone separator will provide the same efficiency and will eliminate the need to change the cartridge filters. This change will decrease operational costs of the filters and time to change and also reduce the risk to quality when the filters are changed. The cyclone will also allow the separated PM to be collected, handled and disposed of in a more efficient way. As part of the change to the cyclone, the existing exhaust blowers and duct work are being upgraded to provide the needed air flows and velocities with the upgraded system.

ATTACHMENT D

Material Data Safety Sheets

None

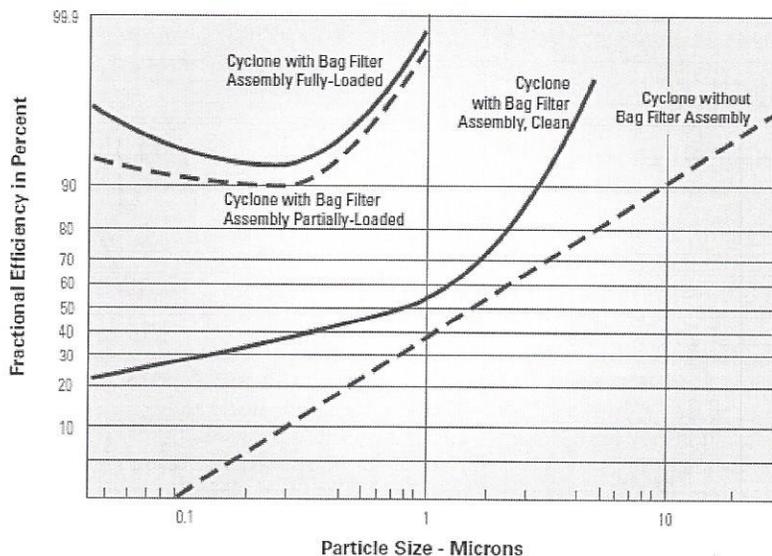
ATTACHMENT E

Supporting Calculations

Efficiencies for the two types of control devices are the same so no change in emissions is expected.

EFFICIENCY OF DONALDSON CYCLONE 30-15 CYC-AW

- Cyclone efficiency provided for particle sizes up to 20 micron.
- Particulate Size Distribution of screener discharge is >50 microns.
- Using data provided in attached graph for "Cyclone without Bag Filter Assembly" the predicted efficiency for 30 micron particle size and larger was determined from extrapolation.
- Extrapolation shows 99% collection efficiency for 40 micron particle size and larger.



*From Donaldson Cyclone Data Sheet (9/12)

PREDICTED EFFICIENCIES

Particle Size Micron	Removal Efficiency	Predicted Efficiency	
5	80	81	From above Chart "Cyclone without Bag Filter Assembly"
10	90	87	
20	92	93	
30		96	Predicted values from below extrapolation curve
40		99	
50		101	

Attachment M
Air Pollution Control Device Sheet
(MECHANICAL COLLECTOR-CYCLONE)

Control Device ID No. (must match Emission Units Table): 293-C-04A-D

Equipment Information

<p>1. Manufacturer: DONALDSON Model No. 30-15 CYC-AW</p>	<p>2. Method: <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry <input type="checkbox"/> Single-stage <input type="checkbox"/> Multiple: number <input type="checkbox"/> In series: number</p>																																																															
<p>3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.</p>																																																																
<p>4. Provide a diagram of the proposed simple cyclone or multicyclone system with examples of the parameters identified below:</p>																																																																
<p>5. Simple cyclone system (show units):</p> <table style="width:100%; border: none;"> <tr><td>Major cylinder diameter:</td><td style="text-align: center;">30</td><td style="text-align: right;">in.</td></tr> <tr><td>Major cylinder length:</td><td style="text-align: center;">36</td><td style="text-align: right;">in.</td></tr> <tr><td>Cone length:</td><td style="text-align: center;">36</td><td style="text-align: right;">in.</td></tr> <tr><td>Gas outlet diameter:</td><td style="text-align: center;">14</td><td style="text-align: right;">in.</td></tr> <tr><td>Gas outlet length:</td><td style="text-align: center;">20.62</td><td style="text-align: right;">in.</td></tr> <tr><td>Gas inlet height:</td><td style="text-align: center;">130</td><td style="text-align: right;">in.</td></tr> <tr><td>Gas inlet weight:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Dust outlet diameter:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Pressure drop across the cyclone:</td><td style="text-align: center;">0.7</td><td style="text-align: right;">in. H₂O</td></tr> </table> <p>Describe the collected dust discharge valves and system:</p>	Major cylinder diameter:	30	in.	Major cylinder length:	36	in.	Cone length:	36	in.	Gas outlet diameter:	14	in.	Gas outlet length:	20.62	in.	Gas inlet height:	130	in.	Gas inlet weight:		in.	Dust outlet diameter:		in.	Pressure drop across the cyclone:	0.7	in. H ₂ O	<p>6. Multicyclone system (show units):</p> <table style="width:100%; border: none;"> <tr><td>Major cylinder diameter:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Major cylinder length:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Cone length:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Gas outlet diameter:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Gas outlet length:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Gas inlet height:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Gas inlet weight:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Dust outlet diameter:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Pressure drop across the system:</td><td></td><td style="text-align: right;">in. H₂O</td></tr> <tr><td>Number of tubes:</td><td></td><td></td></tr> <tr><td>Tube diameter:</td><td></td><td style="text-align: right;">in.</td></tr> <tr><td>Tube length:</td><td></td><td style="text-align: right;">in.</td></tr> </table> <p>Describe the collected dust discharge valves and system:</p>	Major cylinder diameter:		in.	Major cylinder length:		in.	Cone length:		in.	Gas outlet diameter:		in.	Gas outlet length:		in.	Gas inlet height:		in.	Gas inlet weight:		in.	Dust outlet diameter:		in.	Pressure drop across the system:		in. H ₂ O	Number of tubes:			Tube diameter:		in.	Tube length:		in.
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<p>7. More than one cyclone:</p> <p>Number of cyclones:</p> <p>Arrangement: <input type="checkbox"/> Parallel <input type="checkbox"/> Series</p> <p>Pressure drop across the system: _____ in. H₂O</p>																																																																
<p>8. On a separate sheet answer the following questions for each cyclone and attach:</p> <table style="width:100%; border: none;"> <tr><td>Major cylinder diameter:</td><td style="text-align: center;">in.</td><td>Gas inlet weight:</td><td style="text-align: center;">in.</td></tr> <tr><td>Major cylinder length:</td><td style="text-align: center;">in.</td><td>Dust outlet diameter:</td><td style="text-align: center;">in.</td></tr> <tr><td>Cone length:</td><td style="text-align: center;">in.</td><td>Pressure drop across the system:</td><td style="text-align: center;">in. H₂O</td></tr> <tr><td>Gas outlet diameter:</td><td style="text-align: center;">in.</td><td>Number of tubes:</td><td></td></tr> <tr><td>Gas outlet length:</td><td style="text-align: center;">in.</td><td>Tube diameter:</td><td style="text-align: center;">in.</td></tr> </table> <p>Describe the collected dust discharge valves and systems:</p>		Major cylinder diameter:	in.	Gas inlet weight:	in.	Major cylinder length:	in.	Dust outlet diameter:	in.	Cone length:	in.	Pressure drop across the system:	in. H ₂ O	Gas outlet diameter:	in.	Number of tubes:		Gas outlet length:	in.	Tube diameter:	in.																																											
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<p>9. Guaranteed collection efficiency:</p> <p style="text-align: center;">Minimum: 99 %</p>	<p>10. Efficiency of cyclone:</p> <p style="text-align: center;">At design maximum: 99 % At average Operation: 99 %</p>																																																															
<p>11. Method of handling material removed: MATERIAL WILL BE COLLECTED IN LEVER PACKS AND THEN SENT TO BE LANDFILLED.</p>																																																																

Gas Stream Characteristics

12. Particle characteristics (for particulate matter):		Particulate matter inlet rate to device: 0.003 lb/hr
Type of material: PM		0.00007 grains/ACF
Particle density: 1.2		
Emission rate at collector outlet: 0.00003 lb/hr		
0.0000007 grains/ACF		
13. Total flow rate:		14. Gas Stream Temperature:
Design maximum: 5500 acfm		Inlet: 120 °F
Average expected: 4750 acfm		Outlet: 100 °F
15. Gas flow rate into collector: 4750 acfm at 120 °F and 16.5 PSIA		
16. Viscosity of gas stream at the above temperature and pressure: AIR lb/sec-ft		
17. Inlet gas velocity: 74 ft/sec		18. Particulate Grain Loading in grains/scf:
		Inlet: 0.00007
		Outlet: 0.0000007
19. Supply a curve showing particulate collection efficiency versus gas volume from 25 to 100 percent of design rating of collector.		

Particulate Distribution

20. Complete the table:	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
Particulate Size Range (microns)	Weight % for Size Range	Weight % for Size Range
0 – 2		
2 – 4		
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50	<1% BELOW 100 MICRON	99
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100	> 99% ABOVE 100 MICRON	99

21. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

22. Describe the collection material disposal system:
 COLLECTED PM WILL DROP FROM CYCLONE INTO A LEVER PACK AND SENT TO LANDFILL FOR DISPOSAL.

23. Have you included **Mechanical Collector (Cyclone) Control Device** in the Emissions Points Data Summary Sheet? NO, THERE ARE NO EMISSION CHANGES EXPECTED WITH THIS UPGRADE.

24. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

<p>MONITORING: MONITORING SHALL BE ACCOMPLISHED BY PERFORMING A VISIBLE EMISSIONS CHECK ON THE ASSOCIATED STACK ON A MONTHLY BASIS.</p>	<p>RECORDKEEPING: RECORDS OF MAINTENANCE ON THIS EQUIPMENT WILL BE MAINTAINED IN THE ELECTRONIC MAINTENANCE SCHEDULING MODULES. RECORDS OF MONTHLY VISIBLE EMISSIONS CHECK WILL BE MAINTAINED. ALL RECORDS WILL BE MAINTAINED FOR A PERIOD OF FIVE YEARS.</p>
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<p>REPORTING:</p>	<p>TESTING:</p>
--------------------------	------------------------

<p>MONITORING:</p>	<p>Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.</p>
<p>RECORDKEEPING:</p>	<p>Please describe the proposed recordkeeping that will accompany the monitoring.</p>
<p>REPORTING:</p>	<p>Please describe any proposed emissions testing for this process equipment on air pollution control device.</p>
<p>TESTING:</p>	<p>Please describe any proposed emissions testing for this process equipment on air pollution control device.</p>

25. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.
 99% total efficiency for PM >40 microns

26. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
 PM = 99%
 HAP(Formaldehyde) = 0%
 VOC = 0%

27. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.