July 30, 2015

Assistant Director for Permitting
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Ox Paperboard, LLC
Halltown Paperboard Mill
WVDAQ ID# 037-00007

REFERENCE: Permit R13-0622 (Issued September 1, 1981)
Permit R30-03700007-2012 (Issued January 10, 2012)

SUBJECT: Application for Modification of R13-0622
and Significant Modification of R30-03700007-2012

Dear Assistant Director:

Ox Paperboard, LLC (OXP) hereby submits the enclosed application for a modification of permit R13-0622 and for a significant modification of permit R30-03700007-2012. We would appreciate the opportunity to review a pre-draft version of the modified permit R13-0622A.

This application is being submitted in order to permit the installation of two new air pollution control devices on our existing coal-fired boiler. This will result in our plant becoming a minor/area source of hazardous air pollutants, with the boiler becoming no longer subject to 40 CFR 63 Subpart DDDDD, although the boiler will become subject to 40 CFR 63 Subpart JJJJJJ.

Please note that we have included one original paper set of the application, one paper copy set of the application, and two electronic copy sets of the application on CD. Enclosed with the original paper set of the application is our application fee check in the amount of $3,500.00.

Should you have additional questions regarding this submittal please contact Martin Weller, General Manager, at 304/725-2076, ext 142 or mweller@oxindustries.com, or contact our consultant Rick Wilson, TRC Environmental Corporation, at 304/476-7037 or rwilson@trcsolutions.com.

Very truly yours,

Ox Paperboard, LLC

Mark E. Wallace
Vice President of Operations

Enclosures

TABLE OF CONTENTS

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

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):
☐ **CONSTRUCTION** ☒ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☐ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):
☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☒ **SIGNIFICANT MODIFICATION**
IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):* Ox Paperboard, LLC

2. Federal Employer ID No. ***(FEIN):*** 26-1387010

3. Name of facility *(if different from above):* Halltown Paperboard Mill

4. The applicant is the: ☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
Ox Paperboard, LLC
PO Box 70
Halltown, WV 25423

5B. Facility's present physical address:
Ox Paperboard, LLC
Halltown Road
Halltown, WV 25423

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ **YES** ☐ **NO**
- If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**
- If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation: OX Industries

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**
- If **YES,** please explain: The applicant owns the site.
- If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): Paperboard Mill

10. North American Industry Classification System **(NAICS)** code for the facility: 322130

11A. DAQ Plant ID No. (for existing facilities only): 037-00007

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R13-0622 (September 1, 1981)
R30-03700007-2012 (January 10, 2012)

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

From Charles Town proceed East on U.S. Route 340 to Halltown Road. Turn left off of U.S. Route 340 onto Halltown Road, the facility is located on the left approximately two (2) miles from the intersection of U.S. Route 340, in Jefferson County.

12.B. New site address (if applicable): NA	12C. Nearest city or town: Halltown	12D. County: Jefferson
12.E. UTM Northing (KM): 4,355.289	12F. UTM Easting (KM): 258.702	12G. UTM Zone: 18

13. Briefly describe the proposed change(s) at the facility:
Applicant proposes to replace the existing baghouse control device (C-1) on the coal-fired boiler (001) with a new sorbent injection control system (C-3) and a new baghouse control device (C-4). These new controls will result in the facility becoming a minor source/area source for hazardous air pollutants (HAP).

14A. Provide the date of anticipated installation or change: 11/01/15 – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: / /	14B. Date of anticipated Start-Up if a permit is granted: 12/15/15

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day 24 Days Per Week 7 Weeks Per Year 52

16. Is demolition or physical renovation at an existing facility involved? ☒ **YES** ☐ **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known)*. A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known)*. Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) .
– Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**
– Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

– For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	
☐ Grey Iron and Steel Foundry	☒ Indirect Heat Exchanger	☐ Storage Tanks
☐ General Emission Unit, specify:		

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☒ Baghouse	☐ Flare
☒ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☐ Other Collectors, specify:

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ☒ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
☐ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ DATE: 7/27/15
(Please use blue ink) *(Please use blue ink)*

35B. Printed name of signee: Mark E. Wallace		35C. Title: Vice President of Operations
35D. E-mail: mwallace@oxpaperboard.com	36E. Phone: (717) 698-3329	36F. FAX: (717) 698-3025
36A. Printed name of contact person (if different from above): Martin H. Weller		36B. Title: Plant Operations Manager
36C. E-mail: mweller@oxpaperboard.com	36D. Phone: (304) 725-2076	36E. FAX: (304) 728-7544

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ **Attachment A: Business Certificate**
- ☐ **Attachment B: Map(s)**
- ☒ **Attachment C: Installation and Start Up Schedule**
- ☒ **Attachment D: Regulatory Discussion**
- ☒ **Attachment E: Plot Plan**
- ☒ **Attachment F: Detailed Process Flow Diagram(s)**
- ☒ **Attachment G: Process Description**
- ☐ **Attachment H: Material Safety Data Sheets (MSDS)**
- ☒ **Attachment I: Emission Units Table**
- ☒ **Attachment J: Emission Points Data Summary Sheet**
- ☐ **Attachment K: Fugitive Emissions Data Summary Sheet**
- ☒ **Attachment L: Emissions Unit Data Sheet(s)**
- ☒ **Attachment M: Air Pollution Control Device Sheet(s)**
- ☒ **Attachment N: Supporting Emissions Calculations**
- ☐ **Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans**
- ☒ **Attachment P: Public Notice**
- ☐ **Attachment Q: Business Confidential Claims**
- ☐ **Attachment R: Authority Forms**
- ☐ **Attachment S: Title V Permit Revision Information**
- ☒ **Application Fee**

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ ***Forward 1 copy of the application to the Title V Permitting Group and:***
- ☐ ***For Title V Administrative Amendments:***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit,***
- ☐ ***For Title V Minor Modifications:***
  - ☐ ***Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit.***
- ☐ ***For Title V Significant Modifications processed in parallel with NSR Permit revision:***
  - ☐ ***NSR permit writer should notify a Title V permit writer of draft permit,***
  - ☐ ***Public notice should reference both 45CSR13 and Title V permits,***
  - ☐ ***EPA has 45 day review period of a draft permit.***

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

Attachment A

Business Certificate

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
OX PAPERBOARD, LLC
OLD ROUTE 340 HALLTOWN RD
HALLTOWN, WV 25423-0010

BUSINESS REGISTRATION ACCOUNT NUMBER: **2187-3847**

This certificate is issued on: 06/16/2011

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.4
L1170791552

ATTACHMENT C – INSTALLATION & START UP SCHEDULE

Proposed Facility Changes	Begin Installation Date	Initial Startup Date
Replace the existing baghouse control device (C-1) on the coal-fired boiler (001) with a new sorbent injection control system (C-3) and a new baghouse control device (C-4).	About 11/01/15	About 12/15/15

ATTACHMENT D – REGULATORY DISCUSSION

The following table discusses the most significant Clean Air Act new applicable regulatory requirements that Ox Paperboard, LLC believes to apply to as a result of this proposed permitting action.

Presumed Applicable CAA Requirements

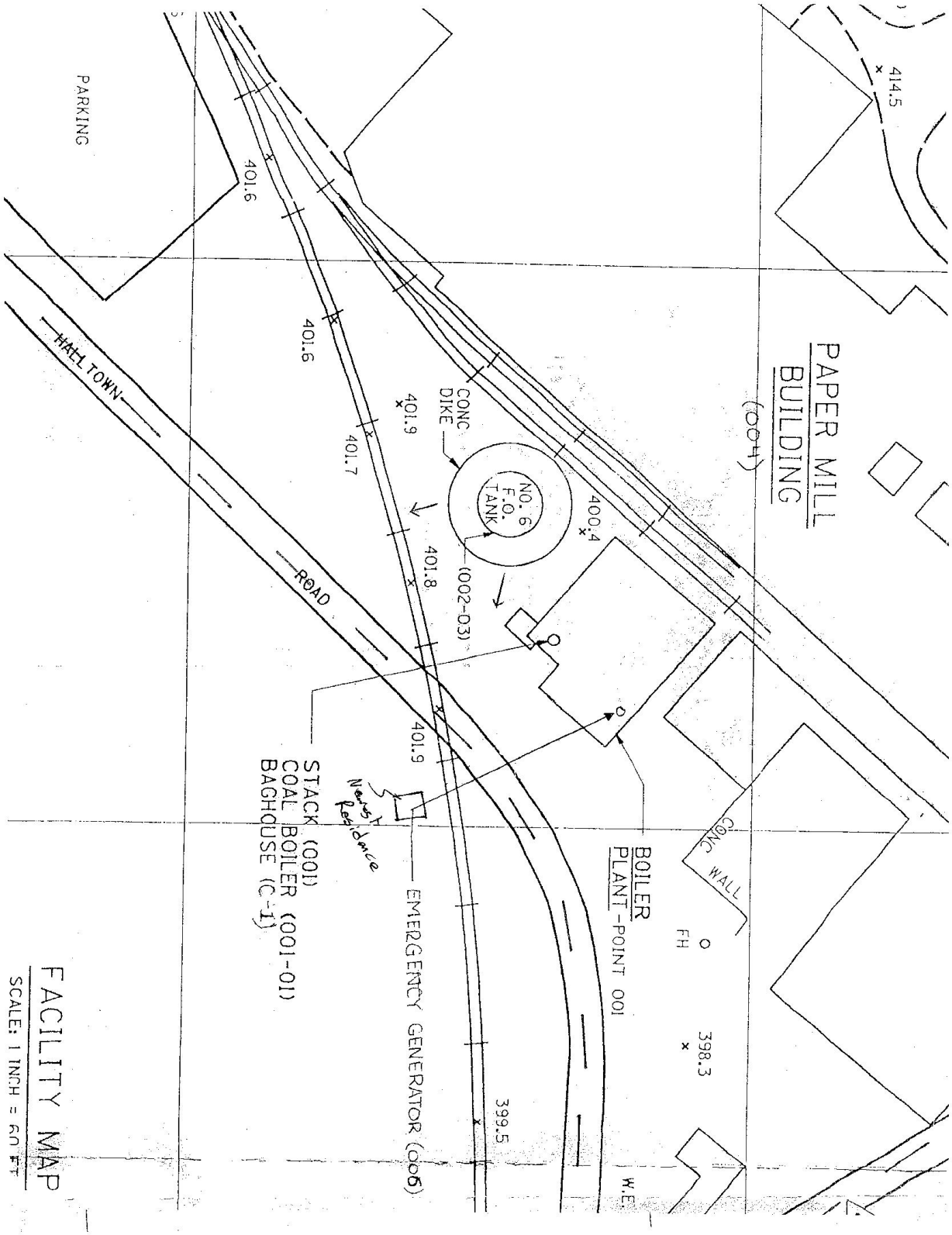
Regulatory Citation	Emission Source Affected	Description of Applicability	Compliance Demonstration
45CSR13 & 45CSR30	Boiler 001	Boiler 001 is currently permitted by R13-0622 and R30-03700007-2012. OXP proposes to replace the existing baghouse control device with new control devices C-3 (sorbent injection) and C-4 (baghouse) in order to become a minor source of all HAPs (specifically HCl).	Apply for a modification to permit R13-0622; comply with all Rule 13 permit requirements. Apply for a modification to permit R30-03700007-2012; comply with all Title V permit requirements.
40CFR63 Subpart JJJJJJ	Boiler 001	Boiler 001 is currently permitted by R13-0622 and R30-03700007-2012. The OXP-Halltown Mill is a currently major source of HAP emissions (due to HCL potential emissions > 10 tpy), and therefore is currently subject to 40CFR63 Subpart DDDDD. OXP proposes to replace the existing baghouse control device with new control devices C-3 (sorbent injection) and C-4 (baghouse) in order to become a minor source of all HAP emissions (including HCl). After permits R13-0622 and R30-03700007-2012 are updated to include enforceable limits that demonstrate that the OXP-Halltown Mill is a minor source/area source of HAP emissions, the facility will be subject to 40CFR63 Subpart JJJJJJ, instead of 40CFR63 Subpart DDDDD.	In accordance with the applicable requirements of 40CFR63 Subpart JJJJJJ.

Attachment E

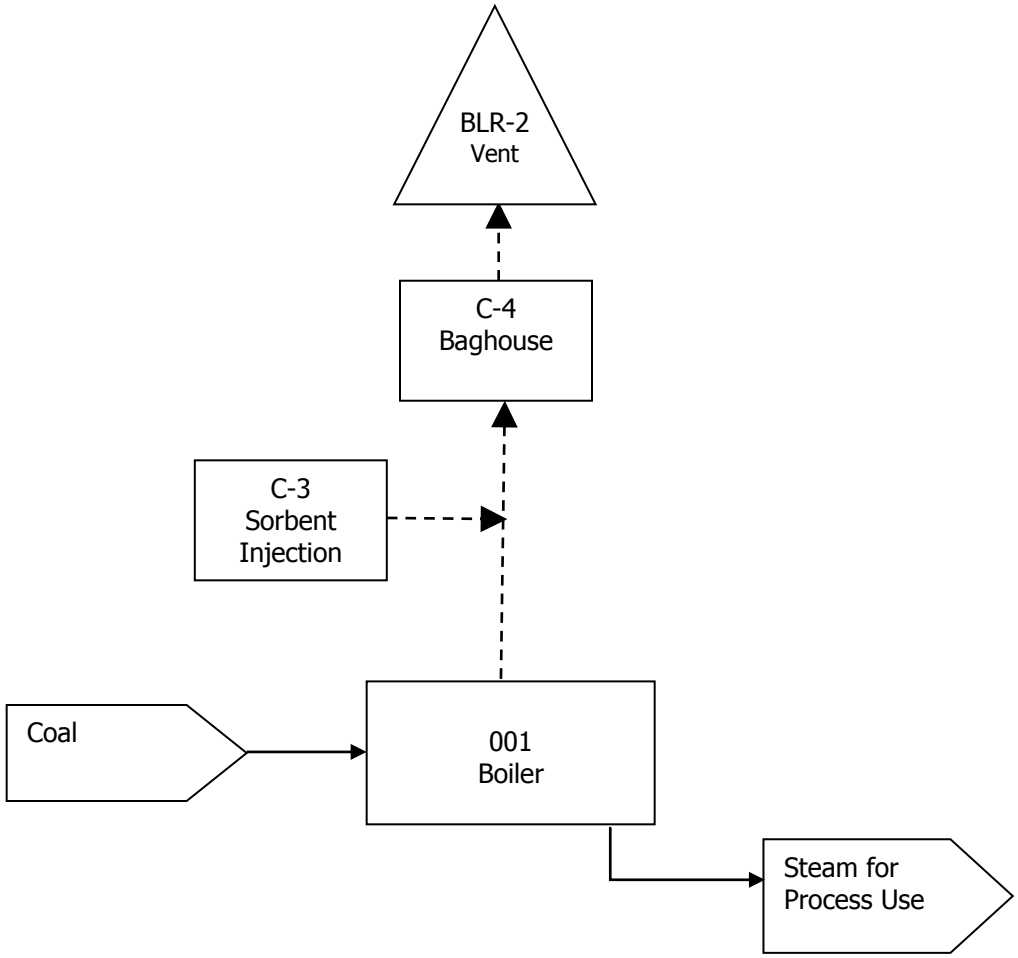
Plot Plan

Full size Plot Plan drawing is too large to scan to the pdf file.
See paper copy of Application for full size Plot Plan.

An excerpt of the Plot Plan showing the boiler location is contained on the following page.


PAPER MILL BUILDING (004)
PARKING
HALL TOWN ROAD
CONC DIKE
NO. 6 F.O. TANK
(002-03)
414.5
401.6
401.6
401.9
401.7
401.8
400.4
401.9
399.5
398.3
STACK (001)
COAL BOILER (001-01)
BAGHOUSE (C-1)
EMERGENCY GENERATOR (006)
BOILER PLANT-POINT 001
CONC WALL
FH
W.E.
FACILITY MAP
SCALE: 1 INCH = 60 FT

ATTACHMENT F – PROCESS FLOW DIAGRAM



ATTACHMENT G – PROCESS DESCRIPTION

Ox Paperboard, LLC (Ox Paperboard) is requesting that the Division of Air Quality (DAQ) grant a modification to Permit R13-0622 for the existing Halltown Mill (DAQ Plant ID# 037-00007), located on Halltown Road in Jefferson County, at UTM Zone 18 coordinates 4,355.289 km N and 258.702 km E.

Directions to the site are as follows: From Charles Town proceed East on U.S. Route 340 to Halltown Road. Turn left off of U.S. Route 340 onto Halltown Road, the facility is located on the left approximately two (2) miles from the intersection of U.S. Route 340, in Jefferson County.

The Ox Paperboard's Halltown Mill is a producer of 100% recycled paperboard from recovered papers. The facility operates under NAICS Code 322130 and SIC Code 2631. The facility consists of one coal fired boiler, the paper mill, a carpenter shop, a waste water treatment plant, an emergency generator, truck traffic, and welding equipment.

The existing coal-fired boiler (emission unit 001, emission point BLR-2) was installed in 1985 and is designed for a steam output rate of 80,000 lbs/hr. Due to changes in facility production demands, currently the boiler operates at a much reduced steam output typically averaging 15,000 lbs/hr with peak demands in the range of 25,000 to 30,000 lbs/hr.

The Halltown Mill is currently considered a major source for hazardous air pollutants (HAPs) due to the potential hydrogen chloride (HCl) emissions from the boiler, and therefore at present is subject to 40 CFR Part 63 Subpart DDDDD National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial Boilers and Process Heaters, also known as Boiler MACT. The facility has spent considerable time and effort pursuing a number of options for complying with Boiler MACT requirements, primarily focusing on retrofitting or replacing the boiler with a gaseous fuel such as natural gas or propane. Unfortunately, there is no natural gas service within reasonable distance to the plant and propane fuel was cost prohibitive. As an alternative path to compliance, Ox Paperboard proposes to take further limits on annual coal consumption and install additional air pollution control technology to limit HCl emissions to < 10 TPY and therefore become a minor (area) source for HAPs and subject to Subpart JJJJJJ (Boiler GACT) rather than Subpart DDDDD.

The purpose of this application is to revise Permit R13-0622 as follows:

1. Ox Paperboard proposes to replace the existing baghouse control device (C-1) on the existing coal-fired boiler (001) with a new dry sorbent injection (DSI) control system (C-3), using hydrated lime and powdered activated carbon (PAC), and a new baghouse control device (C-4). These new controls will result in the facility becoming a minor source/area source for hazardous air pollutants (HAP) by substantially reducing emissions of hydrogen chloride.

2. 40CFR63 Subpart DDDDD (major source Boiler MACT) will no longer be applicable because the affected source will become a minor source/area source of hazardous air pollutants, and thus will become subject to 40CFR63 Subpart JJJJJJ (area source Boiler MACT).

3. Ox Paperboard proposes to reduce the existing permitted coal consumption quantity from 30,000 tons per year (TPY) to 15,000 tons per year TPY.

ATTACHMENT G – PROCESS DESCRIPTION

Installation of the new control devices (sorbent injection C-3 and baghouse C-4) is planned to commence about 11/01/15, and re-start of Boiler 001 is planned to occur about 12/15/15.

The process flow diagram for the emission units included in the proposed changes at the facility can be found in Attachment D. A drawing of the Halltown Mill can be found on the Plot Plan in Attachment E.

The emission units and vent points included in the proposed changes at the facility are listed in Attachment I Emission Units Table.

Attachment I
Emission Units Table
(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
001	BLR-2	E. Keeler Co. Coal-Fired Boiler	2015	112 MMBtu/hr	Modification 11/01/15	C-3 (Sorbent Injection), C-4 (Baghouse)

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^3)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	CO	21.50	37.50	21.50	37.50	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	NOx	47.30	82.50	47.30	82.50	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	PM	288.34	502.93	6.82	11.89	Solid	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	PM10	61.30	106.93	5.00	8.72	Solid	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	PM2.5	29.14	50.83	4.74	8.27	Solid	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	SO2	277.78	484.50	277.78	484.50	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	VOC	0.22	0.38	0.22	0.38	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	Hydrogen Chloride 7647-01-0	5.16	9.00	1.26	2.20	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	Hydrogen Fluoride 7664-39-3	0.65	1.13	0.65	1.13	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	Mercury 7439-97-6	0.00036	0.00062	0.00014	0.00024	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	Total HAP	5.84	10.18	1.94	3.38	Gas/Vapor	EE	
BLR-2	Vent	001	Boiler	C-3, C-4	Sorbent, Baghouse	NA	NA	CO2e	23,559	41,091	23,559	41,091	Gas/Vapor	EE	

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data								
Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
BLR-2	4.0	325	44,400	56	400	85	4,355.289	258.702

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.

Attachment L
Emission Unit Data Sheet
(INDIRECT HEAT EXCHANGER)

Control Device ID No. (must match List Form): C-3 (Sorbent Injection), C-4 (Baghouse)

Equipment Information (Boiler 001, Vent BLR-2)

1. Manufacturer: E. Keeler Co.	2. Model No. MKB Serial No. 17148
3. Number of units: 1	4. Use Coal-fired boiler used to provide process steam.
5. Rated Boiler Horsepower: Approx. 2,319 hp	6. Boiler Serial No.: 17148
7. Date constructed: 1984	8. Date of last modification and explain: 1984
9. Maximum design heat input per unit: 112 ×10^6 BTU/hr	10. Peak heat input per unit: 112 ×10^6 BTU/hr
11. Steam produced at maximum design output: 80,000 LB/hr 350 psig	12. Projected Operating Schedule: Hours/Day 24 Days/Week 7 Weeks/Year 52
13. Type of firing equipment to be used: ☐ Pulverized coal ☒ Spreader stoker ☐ Oil burners ☐ Natural Gas Burner ☐ Others, specify	14. Proposed type of burners and orientation: ☐ Vertical ☐ Front Wall ☐ Opposed ☐ Tangential ☐ Others, specify
15. Type of draft: ☒ Forced ☐ Induced	16. Percent of ash retained in furnace: NA %
17. Will flyash be reinjected? ☒ Yes ☐ No	18. Percent of carbon in flyash: No data %

Stack or Vent Data

19. Inside diameter or dimensions: 4 ft.	20. Gas exit temperature: 325 °F
21. Height: 85 ft.	22. Stack serves: ☒ This equipment only ☐ Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
23. Gas flow rate: 44,400 ft^3/min	
24. Estimated percent of moisture: 7 %	

Fuel Requirements

25.						
	Type	Fuel Oil No.	Natural Gas	Gas (other, specify)	Coal, Type:	Other:
	Quantity (at Design Output)	NA gph@60°F	NA ft^3/hr	NA ft^3/hr	4.3 TPH	NA
	Annually	$\times 10^3$ gal	$\times 10^6$ ft^3/hr	$\times 10^6$ ft^3/hr	15,000 tons	
	Sulfur	Maximum: wt. % Average: wt. %	gr/100 ft^3	gr/100 ft^3	Maximum: 1.7 wt. %	
	Ash (%)				Maximum 14 %	
	BTU Content	BTU/Gal. Lbs/Gal.@60°F	BTU/ft^3	BTU/ft^3	13,000 BTU/lb	
	Source				Bute Mine	
	Supplier				Penn Keystone	
	Halogens (Yes/No)				Typical halogens in bituminous coal	
	List and Identify Metals				Typical metals in bituminous coal	

26. Gas burner mode of control: NA
☐ Manual ☐ Automatic hi-low
☐ Automatic full modulation ☐ Automatic on-off

27. Gas burner manufacture: NA

28. Oil burner manufacture: NA

29. If fuel oil is used, how is it atomized? NA ☐ Oil Pressure ☐ Steam Pressure ☐ Compressed Air ☐ Rotary Cup ☐ Other, specify

30. Fuel oil preheated: NA ☐ Yes ☐ No

31. If yes, indicate temperature: NA °F

32. Specify the calculated theoretical air requirements for combustion of the fuel or mixture of fuels described above actual cubic feet (ACF) per unit of fuel:
3.06 @ 70 °F, atmospheric PSIA, 6.15 % moisture

33. Emission rate at rated capacity: See next page. lb/hr

34. Percent excess air actually required for combustion of the fuel described: 33 %

Coal Characteristics

35. Seams: Pittsburgh

36. Proximate analysis (dry basis): % of Fixed Carbon: 51.05 % of Sulfur: 1.7
% of Moisture: 1.5 % of Volatile Matter: 38.44
% of Ash: 10

Emissions Stream

37. What quantities of pollutants will be emitted from the boiler before controls?

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	21.50		325	Ambient
Hydrocarbons				
NO_x	47.30			
Pb	0.0018			
PM_{10}	56.76			
SO_2	277.78			
VOCs	0.22			
Other (specify)				
HCl	5.16			
HF	0.65			

38. What quantities of pollutants will be emitted from the boiler after controls?

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	21.50		325	Ambient
Hydrocarbons				
NO_x	47.30			
Pb	0.0018			
PM_{10}	0.45			
SO_2	277.78			
VOCs	0.22			
Other (specify)				
HCl	0.03			
HF	0.65			

39. How will waste material from the process and control equipment be disposed of?
Offsite to cement plant or licensed landfill.

40. Have you completed an *Air Pollution Control Device Sheet(s)* for the control(s) used on this Emission Unit. Yes

41. Have you included the ***air pollution rates*** on the Emissions Points Data Summary Sheet? Yes

42. **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.

MONITORING PLAN: Please list (1) describe the process parameters and how they were chosen (2) the ranges and how they were established for monitoring to demonstrate compliance with the operation of this process equipment operation or air pollution control device.

As required by 40 CFR 63 Subpart JJJJJJ and the existing, approved 40 CFR 64 CAM Plan.

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.

As required by 40 CFR 63 Subpart JJJJJJ and the existing, approved 40 CFR 64 CAM Plan.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

As required by 40 CFR 63 Subpart JJJJJJ and the existing, approved 40 CFR 64 CAM Plan.

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.

As required by 40 CFR 63 Subpart JJJJJJ and the existing, approved 40 CFR 64 CAM Plan.

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

Boiler is out of its warranty period. Please note that the boiler is typically operated in the range of 25% to 35% of its rated capacity.

Attachment M

Control Device Sheets

C-3	Sorbent Injection
C-4	Baghouse

Attachment M
Air Pollution Control Device Sheet
(ADSORPTION SYSTEM)

Control Device ID No. (must match Emission Units Table): C-3

Equipment Information

1. Name of Control Device: Sorbent Injection System	2. Manufacturer: Amec Foster Wheeler Model No. Universal Bulk Bag Discharging System
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.	

Gas Stream Characteristics

4. Gas Flow Rate into the Collector:
ACFM 44,373 @ 325 °F
Relative Humidity PSIA

5. Emission Rate of each Pollutant (Specify) into and out of Collector (*Baghouse C-4*):

	IN			OUT		
Pollutant	**lb/*MMBtu***	**grains/acf**	**ppm (volume)**	**lb/*MMBtu***	**grains/acf**	**ppm (volume)**
A HCl	0.09		28.7 ppmv	0.022		7.1 ppmv
B Hg	0.000057		27.9 µg/dscm	0.000022		10.8 µg/dscm
C PM	5	0.68		0.04	0.0055	
D						
E						

6. LEL (lower explosive limit) for most volatile pollutant: Pollutant N/A PPM

7. List vapor pressure (mmHg) at the operating temperature for each pollutant in inlet stream:

	Pollutant	Temp	MmHg
A	N/A		
B			
C			
D			
E			

Adsorbent Characteristics

8. Adsorbent: Type: Hydrated lime & activated carbon
Manufacturer: To be determined
Grade No.:
Specifications:

9. Maximum adsorbate loading:
lb pollutant/lb of adsorbent
60 lb lime/hr and 5 lb activated carbon/hr.

10. Pressure drop across unit:
6 (in inches of water)

11. Number of beds per unit:
N/A

12. Weight of adsorbent material per bed:
N/A lb

13. Adsorbent media average particle size:
N/A microns

14. Adsorber geometry: N/A
Length: ft
Diameter: ft
Bed Depth: ft
Bed Surface Area: ft^2

15. Temperature Range Adsorption:
Min. Temp. 250 °F
Max. Temp. 375 °F
Average Temp. 325 (design temperature) °F

16. Cycle time for adsorption: N/A hr

17. Frequency of adsorbent replacement:
N/A (continuous feed) yr

18. Cycle time for drying before adsorbing:
N/A hr

19. Saturation Capacity of Pollutant on adsorbent (supply units): N/A

20. Length of mass transfer zone: N/A in

Regenerative Systems

21. Type of regeneration: ☐ Replacement N/A
☐ Stream
☐ Other, specify:

22. Method of Regeneration: N/A
☐ Alternate use of entire units ☐ Source shut down
☐ Alternate use of beds in a single unit ☐ Other (describe):

23. Cycle time for regeneration: N/A hr

24. Emission steam velocity through bed:
N/A ft/min

25. Steam flow rate: N/A lb/min
Steam temp.: °F
Steam pressure: PSIA

26. Disposition of vapors during regeneration:

N/A

27. Guaranteed minimum efficiency per pollutant captured:

	Captured Pollutant	Minimum Efficiency
A	N/A – Manufacturer only guarantees	%
B	maximum emission rates, not	%
C	removal efficiencies.	%
D		%

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

None.

29. Describe the collection material disposal system:

Plant ash conveying system.

30. Have you included ***Adsorption Control Device*** in the Emissions Points Data Summary Sheet? Yes

31. **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.

MONITORING:	RECORDKEEPING:
Sorbent flow will be monitored by data historian instrumentation; as required by 40 CFR 63 Subpart JJJJJJ.	Sorbent flow will be recorded by data historian; as required by 40 CFR 63 Subpart JJJJJJ.
REPORTING:	TESTING:
As required by 40 CFR 63 Subpart JJJJJJ.	As required by 40 CFR 63 Subpart JJJJJJ.

MONITORING:	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.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

32. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.

Manufacturer provided guaranteed maximum emission rates (in lb/MMBtu) for air pollutants (PM, HCl, Hg), not capture efficiency.

33. Manufacturer's Guaranteed Control Efficiency for each air pollutant.

Manufacturer provided guaranteed maximum emission rates (in lb/MMBtu) for air pollutants (PM, HCl, Hg), not control efficiency.

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

Per Section 1.2 of Addendum 1 (Performance Guarantees) of Amec Foster Wheeler Proposal.

Attachment M
Air Pollution Control Device Sheet
(BAGHOUSE)

Control Device ID No. (must match Emission Units Table): C-4

Equipment Information and Filter Characteristics

1. Manufacturer: Amec Foster Wheeler
   Model No. 144 Jet III (Size 1717 TA-SB)
2. Total number of compartments: 2
3. Number of compartment online for normal operation: 2
4. 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.
5. Baghouse Configuration: (check one)
   ☐ Open Pressure ☐ Closed Pressure ☒ Closed Suction
   ☐ Electrostatically Enhanced Fabric
   ☐ Other, Specify
6. Filter Fabric Bag Material:
   ☐ Nomex nylon ☐ Wool
   ☐ Polyester ☐ Polypropylene
   ☐ Acrylics ☐ Ceramics
   ☒ Fiber Glass/Membrane
   ☐ Cotton Weight 22 oz./sq.yd
   ☐ Teflon Thickness in
   ☐ Others, specify
7. Bag Dimension:
   Diameter 6 in.
   Length 12 ft.
8. Total cloth area: 11,306 ft^2
9. Number of bags: 578
10. Operating air to cloth ratio: 3.92 ft/min
11. Baghouse Operation: ☒ Continuous ☐ Automatic ☐ Intermittent
12. Method used to clean bags:
    ☐ Mechanical Shaker ☐ Sonic Cleaning ☐ Reverse Air Jet
    ☐ Pneumatic Shaker ☐ Reverse Air Flow ☐ Other:
    ☐ Bag Collapse ☒ Pulse Jet
    ☐ Manual Cleaning ☐ Reverse Jet
13. Cleaning initiated by:
    ☒ Timer ☐ Frequency if timer actuated
    ☐ Expected pressure drop range in. of water ☐ Other
14. Operation Hours: Max. per day: 24
    Max. per yr: 8,760
15. Collection efficiency: Rating: %
    Guaranteed minimum: 0.04 lb PM/MMBtu ~~%~~

Gas Stream Characteristics

16. Gas flow rate into the collector: 44,373 ACFM at 325 °F and ambient PSIA
    ACFM: Design: PSIA Maximum: PSIA Average Expected: PSIA
17. Water Vapor Content of Effluent Stream: N/A lb. Water/lb. Dry Air
18. Gas Stream Temperature: 325 °F
19. Fan Requirements: 200 hp
    OR ft^3/min
20. Stabilized static pressure loss across baghouse. Pressure Drop: High 6.0 in. H_2O
    Low 4.5 in. H_2O
21. Particulate Loading: Inlet: 5.0 lb/MMBtu ~~grain/scf~~ Outlet: 0.04 lb/MMBtu ~~grain/scf~~

22. Type of Pollutant(s) to be collected (if particulate give specific type):
PM (coal-fired boiler fly ash)

23. Is there any SO_3 in the emission stream? ☒ No ☐ Yes SO_3 content: ppmv

24. Emission rate of pollutant (specify) into and out of collector at maximum design operating conditions:

	IN		OUT	
Pollutant	**lb/*MMBtu***	**grains/acf**	**lb/*MMBtu***	**grains/acf**
PM	5.0	0.68	0.04	0.0055
HCl	0.09		0.022	
Hg	0.000057		0.000022	

25. Complete the table:

Particulate Size Range (microns)	**Particle Size Distribution at Inlet to Collector** **Weight % for Size Range**	**Fraction Efficiency of Collector** **Weight % for Size Range**
0 – 2	(approximations from AP-42, Table 1.1-9., rev. 9/98) 6%	99%
2 – 4	4%	99%
4 – 6	4%	>99%
6 – 8	3%	
8 – 10	3%	
10 – 12	4%	
12 – 16	4%	
16 – 20	The remaining 72% of particles are > 15 microns.	
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

26. How is filter monitored for indications of deterioration (e.g., broken bags)?
☐ Continuous Opacity
☒ Pressure Drop
☐ Alarms-Audible to Process Operator
☐ Visual opacity readings, Frequency:
☒ Other, specify: Bag leak detection system.

27. Describe any recording device and frequency of log entries:
Continuously monitored by instrumentation and recorded by data historian.

28. Describe any filter seeding being performed:
None.

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

30. Describe the collection material disposal system:
Plant ash conveying system.

31. Have you included ***Baghouse Control Device*** in the Emissions Points Data Summary Sheet? Yes

32. **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.

MONITORING:	RECORDKEEPING:
Pressure drop and bag leak detection will be monitored by data historian instrumentation; as required by 40 CFR 63 Subpart JJJJJJ.	Pressure drop and bag leak detection will be recorded by data historian; as required by 40 CFR 63 Subpart JJJJJJ.
REPORTING:	TESTING:
As required by 40 CFR 63 Subpart JJJJJJ.	As required by 40 CFR 63 Subpart JJJJJJ.

MONITORING:	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.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

33. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.
Manufacturer provided guaranteed maximum emission rates (in lb/MMBtu) for air pollutants (PM, HCl, Hg), not capture efficiency.

34. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
Manufacturer provided guaranteed maximum emission rates (in lb/MMBtu) for air pollutants (PM, HCl, Hg), not control efficiency.

35. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
Per Section 1.2 of Addendum 1 (Performance Guarantees) of Amec Foster Wheeler Proposal.

Attachment N

Supporting Emissions Calculations

Process/Area: Coal Boiler

Date Revised: 7/24/15

Vent/Stack ID No.	Emission Unit ID No.	Emission Unit Description	Toal Design Capacity	Type of Release	Control System	Control System ID No.	Control System Efficiency (%)	Pollutant	Emission Estimate Basis [2]	Emission Estimate Units	Emission Factor	PTE EMISSIONS: Estimated Max. Hourly Emis. Rate (lb/hr)	PTE EMISSIONS: Max. Hours of Operation (hr/yr)	PTE EMISSIONS: Estimated Max. Annual Emis. Rate (ton/yr)
Coal Combustion Emissions:														
BLR-2	001	**Coal Boiler**	112.0	P				**NOx**	EF	lb/ton	11	**47.30**	8,760	**82.50**
			max. MMBtu/hr					**CO**	EF	lb/ton	5	**21.50**		**37.50**
								VOC (TNMOC)	EF	lb/ton	0.05	**0.22**		**0.38**
	Proposed Limit of Coal Combusted [ton/yr]-->		**15,000.0**		**Cyclone/Baghouse**		99.2	**Filterable PM**	EF	lb/ton	66.00	**2.27**		**3.96**
					Cyclone/Baghouse		99.2	**Filterable PM-10**	EF	lb/ton	13.20	**0.45**		**0.79**
	Existing Limit of Coal Sulfur Content [%]-->		**1.70**		**Cyclone/Baghouse**			**CPM-Total**	EF	lb/MMBtu	0.04	**4.54**		**7.93**
								PM Total	=Filterable PM + CPM-Total			**6.82**		**11.89**
								PM-10 Total	=Filterable PM-10 + CPM-Total			**5.00**		**8.72**
	Estimated Maximum Hourly Coal Feed Rate [ton/hr]-->		**4.30**					**PM-2.5 Total**	=Filterable PM-10 * 26/60 + CPM-Total			**4.74**		**8.27**
					Sorbent Injection/ Baghouse			**SO2**	EF	lb/ton	65	**277.78**		**484.50**
	2014 Actual Avg HV of Coal Combusted [MMBtu/ton]-->		**26.424**					**Greenhouse Gases:**						
								CO2	EF	kg CO_2 /mm Btu	93.28	**23,370.3**		**40,762.14**
								Methane	EF	kg CH_4 /mm Btu	0.011	**2.8**		**4.81**
								N2O	EF	kg N_2O /mm Btu	0.0016	**0.4**		**0.70**
								HAPs:						
					Sorbent Injection/ Baghouse		75.6	**HCl**	EF	lb/ton	1.2	**1.26**		**2.20**
					Sorbent Injection/ Baghouse			**HF**	EF	lb/ton	0.15	**0.65**		**1.13**
								Antimony	EF	lb/ton	0.000018	**0.0001**		**0.0001**
								Arsenic	EF	lb/ton	0.00041	**0.0018**		**0.003**
								Beryllium	EF	lb/ton	0.000021	**0.0001**		**0.0002**
								Cadmium	EF	lb/ton	0.000051	**0.0002**		**0.0004**
								Chromium	EF	lb/ton	0.00026	**0.0011**		**0.002**
								Cobalt	EF	lb/ton	0.0001	**0.0004**		**0.0008**
								Lead	EF	lb/ton	0.00042	**0.0018**		**0.003**
								Manganese	EF	lb/ton	0.00049	**0.0021**		**0.004**
					Sorbent Injection/ Baghouse		61.4	**Mercury**	EF	lb/ton	0.000083	**0.00014**		**0.00024**
								Nickel	EF	lb/ton	0.00028	**0.0012**		**0.002**
								Selenium	EF	lb/ton	0.0013	**0.0056**		**0.010**
								Benzene	EF	lb/ton	0.0013	**0.006**		**0.010**
								Cyanide	EF	lb/ton	0.0025	**0.011**		**0.019**
								Formaldehyde	EF	lb/ton	0.00024	**0.001**		**0.002**
BASIS FOR EMISSION ESTIMATES:														
1. COAL COMBUSTION EMISSIONS														
a. Coal combustion emission factors are based upon AP-42 Coal Combustion Table 1.1-3 [Spreader stoker, bituminous (Uncontrolled)] (Rev. 9/98) for NOx, CO and SO2;														
Table 1.1-4 [Spreader stoker (Uncontrolled)] (Rev. 9/98) for Filterable PM and Filterable PM-10;														
Table 1.1-5 [Spreader stoker (Uncontrolled)] (Rev. 9/98) for CPM-TOT; Table 1.1-9 for PM-2.5 particle size distribution [Spreader stoker, baghouse controlled];														
Table 1.1-9 for PM-2.5 particle size distribution [Spreader stoker, baghouse controlled], where ratio of PM-2.5 to PM-10 is 26/60;														
Table 1.1-19 for VOC (TNMOC) [Spreader stoker];														
and Table 1.1-14 for Organic HAPs; Table 1.1-15 for HCl and HF [Spreader stoker]; Table 1.1-18 for HAP metals.														
b. Coal combustion emissions are based upon proposed maximum annual coal use of 15,000 ton/year and upon engineering estimate of 4.30 ton/hour maximum coal feed rate. Emissions = Fuel Usage x EF														
c. Coal quality factors are based upon the 2014 sampled average values of 26.42 MMBtu/ton, and the existing limit for sulfur content of <=1.7%.														
d. Estimated control system efficiency is based upon manufacturer's guaranteed emissions for PM, HCl and Hg. For these emission calculations, no control efficiency was utilized for Condensible PM (CPM), SO2, HF or any HAP metal except Hg.														
e. Greenhouse Gases (CO2, CH4, N2O) emission factors are based on 40 CFR 98 Subpart C, Tier 2 Equations C-2a, C-2b and C-9a. Emissions = Fuel Usage x HHV x EF														
2. HOURS OF OPERATION														
a. Assumes potential operating time of 8760 hours/year.														

NOTES:

[1] P=Point, F=Fugitive

[2] EF=Emission Factor, MB=Material Balance, EN=Engineering Calculation, MO=Monitored/Measured, ST=Stack Testing

Attachment N -- Supporting Emissions Calculations

Date Revised: 7/24/15

	Boiler Proposed	2010 Title V Renewal -- Boiler	Change in Boiler
Criteria Pollutants	**Potential Emissions (TPY)**	**Potential Emissions (TPY)**	**Potential Emissions (TPY)**
Carbon Monoxide (CO)	37.50	75.20	(37.70)
Nitrogen Oxides (NOx)	82.50	165.70	(83.20)
Total Particulate Matter	11.89	52.40	(40.51)
Particulate Matter (PM10)	8.72	31.10	(22.38)
Particulate Matter (PM2.5)	8.27	10.54	(2.27)
Sulfur Dioxide (SO2)	484.50	481.40	3.10
Volatile Organic Compounds (VOC)	0.38	1.30	(0.93)
Hazardous Air Pollutants			
Hydrochloric Acid	2.20	42.13	(39.93)
Hydrofluoric Acid	1.13	2.25	(1.13)
Antimony	0.0001	0.0003	(0.0001)
Arsenic	0.0031	0.0062	(0.0031)
Beryllium	0.0002	0.0003	(0.0002)
Cadmium	0.0004	0.0008	(0.0004)
Chromium	0.0020	0.0039	(0.0020)
Cobalt	0.0008	0.0015	(0.0008)
Lead	0.0032	0.0063	(0.0032)
Manganese	0.0037	0.0074	(0.0037)
Mercury	0.00024	0.0012	(0.0010)
Nickel	0.0021	0.0042	(0.0021)
Selenium	0.0098	0.0195	(0.0098)
Benzene	0.0098	0.0195	(0.0098)
Cyanide	0.0188	0.0375	(0.0188)
Formaldehyde	0.0018	0.0036	(0.0018)
Total HAP	**3.38**	**44.49**	**(41.11)**
Greenhouse Gases			
Carbon Dioxide (CO2)	40,762.14	69,853.86	(29,091.72)
Methane (CH4)	4.81	8.23	(3.42)
Nitrous Oxide (N2O)	0.70	1.20	(0.50)
Total CO2 Equivalent (CO2e)	**41,090.66**	**70,416.13**	**(29,325.47)**

>>>CO2 Equivalent is based upon global warming potential values of 298 x tons N2O and 25 x tons CH4.

ATTACHMENT P – Public Notice Class I Legal Advertisement

Ox Paperboard, LLC will submit the required Class I legal advertisement to a local newspaper and will forward the original affidavit of publication to DAQ. The notice will be published no earlier than five (5) working days of receipt by DAQ of this application. The original affidavit of publication will be received by DAQ no later than the last day of the public comment period. The anticipated text of the legal ad to be published in the *Spirit of Jefferson* (Charles Town, WV) is as follows:

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Ox Paperboard, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Modification to Permit R13-0622 for its existing Halltown Mill located near Halltown at 619 Halltown Road, in Jefferson County, West Virginia at latitude 39.313379 and longitude -77.798783.

The applicant estimates, as a result of the modification, the facility's potential to discharge Regulated Air Pollutants will be increased as follows:

Regulated Pollutant	Increased Potential Annual Emissions in tons per year (tpy)
Sulfur Dioxide	3.10

The applicant estimates, as a result of the proposed modification, the facility's potential to discharge Regulated Air Pollutants will be decreased as follows:

Regulated Pollutant	Decreased Potential Annual Emissions in tons per year (tpy)
Carbon Monoxide	-37.70
Nitrogen Oxides	-83.20
Particulate Matter (PM)	-40.51
PM-10	-22.38
PM-2.5	-2.27
Volatile Organic Compounds	-0.93
Hydrogen Chloride	-39.93
Total Regulated Hazardous Air Pollutants	-41.11
Total Carbon Dioxide Equivalent	-29,325

Operations at the existing facility are on-going. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the 3rd day of August, 2015.

By: Ox Paperboard, LLC
Mark Wallace, Vice President of Operations
PO Box 70
Halltown, WV 25423

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary	
Mark all applicable requirements associated with the changes involved with this permit revision:	
☒ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☐ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS (Subpart(s)_____)	☒ Section 112(d) MACT standards (Subpart(s)_ JJJJJJ_____)
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☒ Compliance Assurance Monitoring (40CFR64) (1)
☐ NO_x Budget Trading Program Non-EGUs (45CSR1)	☐ NO_x Budget Trading Program EGUs (45CSR26)

(1) If this box is checked, please include **Compliance Assurance Monitoring (CAM) Form(s)** for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why **Compliance Assurance Monitoring** is not applicable:

After the new control devices (sorbent injection C-3 and baghouse C-4) are installed on Boiler 001 and performance tested to demonstrate compliance with 40CFR63 Subpart JJJJJJ (area source Boiler MACT), Ox Paperboard will submit any needed revisions to the existing Compliance Assurance Monitoring Plan for PSEU 001 – Boiler No. 2 for the new baghouse C-4.

2. Non Applicability Determinations

List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.

40CFR63 Subpart DDDDD (major source Boiler MACT) will no longer be applicable because the affected source will become a minor source/area source of hazardous air pollutants, and thus will become subject to 40CFR63 Subpart JJJJJJ (area source Boiler MACT).

☒ **Permit Shield Requested** *(not applicable to Minor Modifications)*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? ☒ Yes ☐ No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

The current minor NSR permit (R13-0622) is a one page permit issued in 1981. The existing Title V permit will need to be revised to delete the former applicable requirements from 40 CFR 63 Subpart DDDDD (major source Boiler MACT), and add the applicable requirements from 40 CFR 63 Subpart JJJJJJ (area source Boiler MACT).

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R13-0622	09/01/1981	
R30-03700007-2012	01/10/2012	
	/ /	

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
NA	MM/DD/YYYY	
	/ /	
	/ /	

6. Change in Potential Emissions

Pollutant	Change in Potential Emissions (+ or -), TPY
See attached page S4.	

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

7. Certification For Use Of Minor Modification Procedures *(Required Only for Minor Modification Requests)* NA

Note:	*This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:*

i. Proposed changes do not violate any applicable requirement;
ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;
iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;
v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;
vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed):	*(Please use blue ink)*	Date:	/ / *(Please use blue ink)*
Named (typed):		Title:	

Note: Please check if the following included (if applicable):

☐	Compliance Assurance Monitoring Form(s)
☐	Suggested Title V Draft Permit Language

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

	Boiler Proposed Potential Emissions (TPY)	2010 Title V Renewal -- Boiler Potential Emissions (TPY)	Change in Boiler Potential Emissions (TPY)
Criteria Pollutants			
Carbon Monoxide (CO)	37.50	75.20	(37.70)
Nitrogen Oxides (NOx)	82.50	165.70	(83.20)
Total Particulate Matter	11.89	52.40	(40.51)
Particulate Matter (PM10)	8.72	31.10	(22.38)
Particulate Matter (PM10)	8.27	10.54	(2.27)
Sulfur Dioxide (SO2)	484.50	481.40	3.10
Volatile Organic Compounds (VOC)	0.38	1.30	(0.93)
Hazardous Air Pollutants			
Hydrochloric Acid	2.20	42.13	(39.93)
Hydrofluoric Acid	1.13	2.25	(1.13)
Antimony	0.0001	0.0003	(0.0001)
Arsenic	0.0031	0.0062	(0.0031)
Beryllium	0.0002	0.0003	(0.0002)
Cadmium	0.0004	0.0008	(0.0004)
Chromium	0.0020	0.0039	(0.0020)
Cobalt	0.0008	0.0015	(0.0008)
Lead	0.0032	0.0063	(0.0032)
Manganese	0.0037	0.0074	(0.0037)
Mercury	0.00024	0.0012	(0.0010)
Nickel	0.0021	0.0042	(0.0021)
Selenium	0.0098	0.0195	(0.0098)
Benzene	0.0098	0.0195	(0.0098)
Cyanide	0.0188	0.0375	(0.0188)
Formaldehyde	0.0018	0.0036	(0.0018)
Total HAP	**3.38**	**44.49**	**(41.11)**
Other Pollutants			
Ammonia	4.24	8.48	(4.24)
Greenhouse Gases			
Carbon Dioxide (CO2)	40,762.14	69,853.86	(29,091.72)
Methane (CH4)	4.81	8.23	(3.42)
Nitrous Oxide (N2O)	0.70	1.20	(0.50)
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>>>CO2 Equivalent is based upon global warming potential values of 298 x tons N2O and 25 x tons CH4.