

Pulp and Paper Sector Survey
Instructions for Part I:
Mill Overview and Subpart S Data
 2/4/11

This survey overview document provides instructions for completing Part I of the pulp and paper survey. This overview is organized as follows:

- A. Part I Introduction.....2
- B. Confidential Business Information (CBI).....4
- C. How to Submit Your Part I Survey Response.....4
 - C1. Submitting Your Non-CBI Response.....4
 - C2. Submitting CBI.....4
- D. How to Complete the Part I Survey.....5
 - D1. Flow diagrams.....5
 - D2. Process data (P&P survey_PI.xls).....6
 - a. Mill tab.....9
 - b. PI Equip detail tab.....11
 - c. PI Permit limits tab.....15
 - d. PI Controls tab.....17
 - e. Pulp prod tab.....18
 - f. Byproducts tab.....19
 - g. Kraft condensates tab.....19
 - h. CCA tab.....20
 - i. Bleaching tab.....21
 - j. Paper prod tab.....22
 - k. HAP additives tab.....22
 - l. WW tab.....23
 - D3. Test data.....23
 - a. PI Emissions test data tab.....24
 - b. CEMS data spreadsheet (P&P CEMS_PI.xls).....24
 - D4. Optional cost data.....26
- PART I - ATTACHMENT 1 Emission Units to Include in the Part I Pulp and Paper Survey Response.....28
- PART I - ATTACHMENT 2 Small Business Size Standards.....30
- PART I - ATTACHMENT 3 Part I Emissions Test Data Request.....31

A. Part I Introduction

The pulp and paper sector information request applies for pulp and/or paper/paperboard mills that are a major source or synthetic area source of hazardous air pollutant (HAP) emissions that:

- (a) Perform chemical wood pulping (kraft, sulfite, soda, or semi-chemical), or
- (b) Perform mechanical, groundwood (e.g., thermomechanical pulping (TMP), refiner mechanical pulping (RMP)), secondary fiber, and non-wood pulping, or
- (c) Perform bleaching, or
- (d) Manufacture paper or paperboard products.

As defined in 40 CFR Part 63, subpart A,

“*Major source*” means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

A “*synthetic area source*” is a stationary source which is subject to federally-enforceable conditions that limit its potential to emit to below major source thresholds.

Certain mills are not required to complete the pulp and paper sector survey. If your mill meets one of the following conditions, then you should complete the form in Attachment 1 *of the Survey Overview document* and email (or fax) it to Bill Schrock at EPA (contact information is provided on the form). Conditions for exemption from all parts of the pulp and paper sector survey are as follows:

- Your mill is not a major source or synthetic area source of HAP emissions, or
- Your mill was not operational in 2009 (and remains closed), or
- Your mill does not produce pulp, perform bleaching, or serve as a primary manufacturer of paper or paperboard products.

You are required to complete Part I of the pulp and paper sector survey unless you meet one of the three criteria listed above for exemption from the survey.

This survey is to be completed in a Microsoft Excel spreadsheet file that is divided into several worksheets (“tabs” within the spreadsheet). You must complete certain tabs of the survey spreadsheet (depending on the type of mill you operate). Table 1 below denotes which survey spreadsheet tabs to complete depending on mill type. Additional spreadsheets are provided for submittal of continuous emissions monitoring system (CEMS) data or control measure cost information.

Please complete the survey for the facility listed in the Section 114 letter you received in the mail. If you received more than one Section 114 letter for multiple facilities, you must create a separate survey response for each facility. If you have not already received or downloaded a copy of the survey spreadsheets, they can be downloaded here: <https://icr2010.rti.org/Industries/PulpPaper.aspx>

Use the 2009 calendar year as the base year for all survey responses (e.g., 2009 emissions inventory, 2009 capacity, 2009 equipment configurations, etc.), unless another year is specified in the instructions (e.g., for emissions test data).

Part I of this survey asks questions about the emission units listed in Attachment 1 to this document. Part I covers essentially all emission units except for chemical recovery combustion sources (which are covered in Part III). Section D, *How to Complete the Part I Survey*, explains how to treat various configurations of emission units (e.g., multiple emission units venting to the same stack, etc.) for each survey tab. Attachment 2 contains a listing of small business size standards for North American Industry Classification System (NAICS) code Subsector 322, Paper Manufacturing. Finally, Attachment 3 of this survey contains a table of emission units and pollutants for which existing emission test data are requested under Part I.

Use the following attachments to the *Survey Overview* document for reference:

Attachment 2: Regulatory definitions from the kraft pulp mill new source performance standards (NSPS) (40 CFR Part 60, subpart BB), chemical recovery combustion source national emissions standards for hazardous air pollutants (NESHAP) (40 CFR Part 63, subpart MM), the pulp and paper processing NESHAP (40 CFR Part 63, subpart S), and selected definitions from the NSPS and NESHAP General Provisions.

Attachment 3: Acronyms and abbreviations used throughout the survey and associated spreadsheets.

Table 1. Part I Survey Spreadsheets and Tabs to Complete

Spreadsheet and tab	Types of mills that should complete this spreadsheet tab
P&P survey_PI.xls	
Mill	All mills
PI Equip detail	All mills
PI Permit limits	All mills
PI Controls	Mills with add-on air pollution controls on pulping emission units, bleaching emission units, or papermaking emission units.
Pulp prod	Mills that produce any type of pulp (including chemical, mechanical/groundwood, secondary fiber, including non-wood pulp)
Byproducts	Mills that produce turpentine or tall oil byproducts from pulping processes
Kraft condensates ²	Mills that perform kraft pulping
CCA ²	Mills that perform kraft pulping and use the clean condensate compliance alternative (CCA)
Bleaching	Mills that perform bleaching
Paper prod	Mills that produce paper or paperboard products
HAP additives	Mills that produce paper or paperboard products
WW	Mills with onsite wastewater treatment plants
PI Emissions test data	Mills operating emission units for which test data are requested in Attachment 3 to this document.
P&P CEMS_PI.xls	
CEMS data ¹	Mills operating CEMS on emission units listed in Attachment 1 to this document.
P&P costs OPTIONAL_PI.xls (Completion of this spreadsheet is optional)	
APCD costs	Mills that installed selected air pollution controls (see section D4)
Equip change costs	Mills implementing selected process or equipment changes (see section D4)

¹Separate tabs are included for different pollutants and for CEMS cost.

²This tab does not apply for synthetic area sources.

Note that the information submitted by a facility is not intended for a compliance assessment. If actual data is not available, the facility should provide the best engineering estimates where appropriate. In addition, it is not the intent of the EPA to use this data to confirm data/information submitted in the facility's Toxic Release Inventory (TRI) or other regulatory required reports. It is understood that data submitted in this survey could vary due to the nature of the questions.

B. Confidential Business Information (CBI)

The U.S. Environmental Protection Agency's (EPA's) procedures for handling confidential business information (CBI) are described in the letter (and attachments) accompanying the pulp and paper information collection request (ICR). If you believe that providing any specific information to us would reveal a trade secret, please identify this information clearly in your spreadsheet response by shading the spreadsheet cell containing the CBI with red highlight and indicating in the red block at the top of each spreadsheet tab that the tab contains CBI. (You will find the red highlighting and red CBI block at the top of the spreadsheet helpful when you separate your CBI data from non-CBI for submittal as indicated in section C2 below). Also, please clearly label any flow diagrams or other attachments submitted with your survey that contain CBI. However, please do not label your entire response as CBI if only a portion includes trade secrets. The EPA is likely to follow up with a request for validation of CBI claims for mills claiming large amounts of information as trade secrets, especially information that is readily reported by other mills without such claims.

C. How to Submit Your Part I Survey Response

If your response to this information collection request includes data with a claim of CBI, you should follow the instructions in this section to ensure the protection of your data. Please note that if you submit CBI, you will be separating your data into two portions and sending your data to EPA using two different mailing addresses.

C1. Submitting Your Non-CBI Response

Follow these instructions for the non-CBI portions of your survey response (or for responses that are entirely non-CBI.)

After you have completed and reviewed your survey response, sign and date the certification form in Attachment 4 of the *Survey Overview* document. Remove the CBI components from your survey as instructed in section C2, leaving only the red shading and replacing the CBI data with the letters "CBI". Save the Excel spreadsheet(s) containing the non-CBI portions of your completed response, non-CBI flow diagrams, emission test reports, and any other electronic non-CBI attachments on the flash drive you were provided with your section 114 letter (or on a CD or DVD). Assemble any non-CBI hard copy attachments to your survey (such as the signed certification form, hard copy flow diagrams, test data, wastewater emissions modeling reports, etc.). Please clearly label and mail the non-CBI flash drive (or disk) and any non-CBI hard copy materials in one envelope to EPA at the address specified below by the specified response deadline in the Section 114 letter. (Note: If the spreadsheet/diagrams/attachments contain CBI, use the address for Mr. Morales provided in section C2 of this document.)

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
U.S. EPA Mailroom (E143-03)
Attn: Mr. Bill Schrock
109 TW Alexander Drive
Research Triangle Park, NC 27711

EPA recommends sending your non-CBI files via Registered U.S. Mail using return receipt requested, Federal Express, or other method for which someone must provide a signature upon receipt.

C2. Submitting CBI

Follow these instructions for any portion of your survey response that contains CBI.

Please create and label a separate CD or DVD containing a version of your spreadsheet response with only the CBI portion of your data (i.e., only the red highlighted data in the survey spreadsheet). Include on the disk any flow

diagrams or pages of other attachments to your survey response containing CBI, with the CBI portions of the diagrams/pages clearly marked (e.g., highlighted or circled). Clearly mark the disk with the words "Confidential Business Information." Send only these CBI files under separate cover to:

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
U.S. EPA Mailroom (C404-02)
Attn: Mr. Roberto Morales, Document Control Officer
109 T.W. Alexander Drive
Research Triangle Park, NC 27711

For the security of your data, EPA recommends sending your confidential files to Mr. Morales via Registered U.S. Mail using return receipt requested, Federal Express, or other method for which someone must provide a signature upon receipt.

DO NOT ELECTRONICALLY TRANSMIT CONFIDENTIAL BUSINESS INFORMATION TO EPA. E-mail and facsimile are not secure forms of communication and should never be used to transmit CBI.

D. How to Complete the Part I Survey

Your survey response will consist of flow diagrams, test reports, and completed Microsoft Excel spreadsheets. Separate Excel spreadsheet files are provided for completion (P&P survey_PI.xls; P&P CEMS_PI.xls; P&P costs OPTIONAL_PI.xls). You must complete certain tabs of the P&P survey_PI.xls spreadsheet file (depending on the type of mill you operate) as shown in Table 1 above. The P&P CEMS_PI.xls spreadsheet file is to be completed if you have continuous emissions monitoring data to supply. The P&P costs OPTIONAL_PI.xls spreadsheet file is an optional spreadsheet file that can be completed to supply control measure cost information helpful for EPA's regulatory analyses. One additional file, Boiler MACT Code Lookup.xls, is provided for your convenience and to reduce survey effort in case you wish to locate and supply your Boiler MACT survey ID codes when completing P&P survey_PI.xls.

You will enter data into the white (unshaded) cells of the spreadsheets. Please do not enter data into the blue shaded area of the spreadsheet, or in the orange-colored column headings.

D1. Flow diagrams

Please provide a process flow diagram (or diagrams) showing the equipment listed in Attachment 1 (to both survey Parts I and III). No additional diagrams are requested in Part III, so please include chemical recovery combustion sources in the diagrams submitted in response to Part I.

Readily available block flow diagrams (e.g., such as those used for permit applications) will suffice. Electronic or hard copies are acceptable. You need not prepare any new flow diagrams. It is acceptable to hand-mark changes on an older diagram that may no longer be completely reflective of current operations. Examples of diagrams that would be helpful for EPA are as follows:

Chemical recovery area. A diagram showing each chemical recovery furnace/combustion unit, black liquor oxidizer (if used), smelt or ash dissolving tank, causticizing equipment, lime kiln/calcliner, and liquor storage tanks or ponds would be helpful.

Pulping process. A diagram showing the equipment in all pulping lines, including the digester area, pulp washing lines, evaporator lines, and oxygen delignification systems, would be useful. The diagram could show any brown stock washers, hoods, filtrate tanks, vacuum pumps, screens, knotters, deckers, stock chests (including open stock chests, pulp storage tanks), thickeners, and weak black liquor storage tanks.

Deckers, screens, knotters, stock chests, and pulp storage tanks following the last stage of pulp washing and/or those located prior to the paper machines are also of interest.

Black liquor gasification. If black liquor gasification is used, a diagram and description of the system, including any combustion controls or add-on controls used to reduce air pollutants, would be helpful.

Wastewater treatment plant (WWTP). A flow diagram of each WWTP showing each wastewater handling/treatment unit would be useful.

How detailed must my diagram(s) be?

The EPA will use the diagram(s) to aid in understanding the general mill flow and any unique characteristics in the mill layout. It is not necessary to show every single vent of every emission unit on the diagrams. However, the diagram should provide enough information so it is clear how emissions are collected and controlled. For example, if all digester vents are routed to a low-volume, high-concentration (LVHC) collection system, then it is not necessary to show each individual digester vent when one line drawn from a digester “block” to the LVHC collection system is informative.

D2. Process data (P&P survey_PI.xls)

In this portion of the survey, you are asked to add data to the various tabs in the P&P survey_PI.xls spreadsheet. Many of the instructions you need for completing the survey tabs are included in the “Instruction” row of each tab in the P&P survey_PI.xls spreadsheet. However, more detailed instructions for selected tabs are provided below to account for common situations and to provide information on how the data will be used by EPA. Each survey tab includes fields with pull-down menus for common entries. Use these pull-down menus whenever possible, or write in information if your selection is not contained in the pull-down menu.

Why does EPA need process data?

Facility and equipment details are being requested to inform the technology review of the pulp and paper NESHAP and NSPS and to provide information on means of reducing residual risk. While the NEI update (requested in Part II of this survey) provides EPA with data related to emissions release points (e.g., mass emission rate and stack exit parameters used for risk analysis and tracking nationwide trends), the technology review of the NESHAP and NSPS considers emission unit and control equipment details specific to the processes employed and matches these details to emissions levels that are achieved (e.g., emission concentrations). Applicability of the NESHAP and NSPS compliance options depends on the specific process equipment.

Several IDs are requested throughout the pulp and paper survey response spreadsheet(s), including:

- NEI Site ID
- Emission Unit ID
- Boiler MACT survey IDs: FacilityID and UnitID [Optional]
- Collection system ID
- Bleaching line ID (if needed)
- APCD_ID

The NEI Site ID and Emission Unit ID should correspond with the IDs used in the NEI update (Part II of this survey) where such IDs exist. If no NEI Site ID already exists (e.g., in cases where no previous NEI data exists for your mill), then you should use “NEW_____” for the NEI Site ID where the blank is your mill’s zip code, as this

will (in all likelihood) provide a unique identifier for your mill. If Emission Unit ID(s) for selected process units do not already exist in the NEI data set, then you may use any Emission Unit ID you choose (for example, the ID used in your permit), and this same ID should be used throughout all parts of the survey. Note that Emission Units IDs are limited to 6 text characters in the NEI. You will specify the Collection system ID and APCD_ID in the *PI Equip detail* and other spreadsheet tabs. The Bleaching line ID would be used in the Bleaching tab, if needed, for plants with multiple bleaching lines.

A “comments” column is included to the right of each spreadsheet should you wish to supply any comments on the information provided.

A Note About Identification Numbers (IDs)

The different parts of the pulp and paper survey include the following IDs:

- NEI Site ID
- Emission Unit ID
- Collection system ID
- APCD_ID

It is imperative that you use the same IDs to describe the same facility, equipment/emission unit, and emission release point throughout all parts of this survey. These ID codes will be used to link the various pulp and paper data base tables together into a functional and informative data base to be used for regulatory analyses. You may choose your own IDs (e.g., based on Emission Unit IDs already included in the NEI, IDs from existing process flow diagrams, IDs in your air permit, etc.), but the IDs you choose must be consistent throughout your survey response. If you wish to avoid follow-up calls regarding your survey data, please make every effort to ensure that your IDs match throughout the spreadsheet(s) and in each part of your survey response. For example, any Emission Unit ID or APCD_ID you create/specify in Part I should also be used when referring to the same piece of equipment in Parts II and III for this survey response.

Also, please be sure that no extra spaces or characters are included in the ID cells. For example, Emission Unit ID “DIG1” is not read the same as “DIG-1” or “DIG-1_” by data base software.

What if I have difficulty pairing emission units with corresponding Emission Unit IDs in the NEI?

Having Emission Unit IDs in Part I/III and the NEI matching as closely as possible will help tremendously as EPA analyzes the survey data (for those instances where we need to link the NEI and Part I/III data). However, we realize that information may be presented in the NEI differently than we are requesting it in the *Equip detail* tabs of Parts I/III of the pulp and paper survey. The *Equip detail* tabs and the NEI serve two different purposes, so this is to be expected. Instructions for handling difficult matches between the NEI and Part I/III are below:

1. When there is no corresponding Emission Unit ID in the NEI, then you should make one up (6 text characters or less) to use in Part I and/or Part III. If you add the emission unit to the NEI in Part II, then use the Emission Unit ID you made up for Parts I/III.
2. In some cases there may not be a one-to-one correspondence between an existing NEI Emission Unit ID and the equipment listing requested in the Part I/III *Equip detail* tab.

Example 1: An existing Emission Unit ID in the NEI may represent a grouping of equipment (e.g., “PSC” for 4 pulp storage chests), but these equipment need to be listed separately in the *Equip detail* tab. In this case, you should make up a similar Emission Unit ID for the *Equip detail* tabs of Parts I and III (e.g., PSC-1, PSC-2, PSC-3, PSC-4), and then add a note in the *Equip detail* tab “Process notes (optional)” column to indicate the corresponding NEI Emission Unit ID of PSC as shown below:

Emission Unit ID	Process notes (optional)
PSC-1	NEI Emission Unit ID (covering 4 tanks) = PSC
PSC-2	NEI Emission Unit ID (covering 4 tanks) = PSC
PSC-3	NEI Emission Unit ID (covering 4 tanks) = PSC
PSC-4	NEI Emission Unit ID (covering 4 tanks) = PSC

Example 2: Suppose the NEI contains 2 or more Emission Unit IDs for a given piece of equipment (such as a single paper machine’s forming section {SN23} and burners {SN24}). In this case you need to pick a single representative Emission Unit ID (e.g., SN23) to use in the Part I/III response.

Example 3: Suppose a single NEI Emission Unit ID is provided for many pieces of unrelated equipment at the mill, but the NEI Process ID varies for the equipment (e.g., NEI Emission Unit ID = 001 for all equipment at the mill, but each emission unit has a unique Process ID {01, 02, 03...}). This is not common, but is the case for at least one mill. In this situation, it is suggested that the Emission Unit ID used for Part I/III be 001_01 for NEI Process ID 01; 001_02 for NEI Process ID 02, 001_03 for NEI Process ID 03 etc.

3. If respondents unfamiliar with their pre-populated NEI data are unable to match one or more NEI Emission Unit IDs with emissions unit(s) at their mill (using the SCCs as a guide), then it is suggested that the respondent flag the unmatchable NEI data for deletion in Part II, and replace it with revised NEI data for identifiable emission units. Include the identifiable Emission Unit IDs in Parts I/III.

Other tips:

- The NEI requires Emission Unit IDs to be limited to 6 characters.
- You may use the “Process notes (optional)” column in the Part I/III *Equip detail* tabs to clarify any matching discrepancies with the Part II NEI. These notes will assist EPA in analyzing the data and prevent confusion.

Follow the instructions below and in the “Instruction” rows of the spreadsheet to complete the survey tabs. Refer to Table 1 of this document to determine which tabs you must complete depending on the type of mill you operate.

In several parts of the survey, the agency requests “nominal daily throughput capacity.” These values are typical operating rates for the process or emission unit and can be used by the agency to compare the relative size of the unit. You may use the pulping line nominal capacity (throughput) for all equipment in the pulping line. You may specify the nominal liquor solids or lime kiln throughput for equipment in the chemical recovery loop. Likewise, for papermaking equipment you may use the nominal paper throughput capacity. The EPA is interested in capacity values that would be used for estimating emissions (for example, values used in your permit application). We are not interested in maximum capacity values for each piece of equipment outside of the constraints of the pulping/papermaking/chemical recovery process within which it is located.

What if I do not know or have the information to answer a survey question?

There may be survey questions that you do not know the answer to, or for which information is not readily available. The following codes may be used:

Unknown (UK): If you do not have the requested information, cannot obtain the information without extraordinary effort, and cannot provide a reasonable estimate, then you may enter “UK” for unknown.

Not Applicable (NA): If a question is not applicable to your operations, then you may enter “NA” for not applicable.

Survey respondents are reminded that their certification of the accuracy of their response includes a certification that any identification of information as "unknown" or "not applicable" is accurate. Further, survey respondents providing an excessive number of responses as “UK or “NA” are likely to receive scrutiny and follow-up inquiries from EPA related to their survey response.

a. Mill tab

Complete the columns following the instructions provided in the “Instruction” row. Your response in the *Mill* tab will consist of one row of data. These data will be used by EPA to characterize your facility and identify applicable regulations.

Size of entity. Attachment 2 to this document contains a listing of North American Industry Classification System (NAICS) codes and small business size standards for NAICS subsector 322. For private businesses, small entity is defined for each NAICS code of the owning entity based on number of employees and/or company revenue. The parent company number of employees is used for the pulp and paper subsector (322). Note that the “number of employees” is calculated according to the Small Business Size Regulations codified at 12 CFR 121.06, where all individuals employed on a full-time, part-time, or other (e.g., temporary) basis are counted equally.

Paper or paperboard processes/products. Enter the total number of operable paper machines located at the mill in 2009 (including any machines that were temporarily idle due to economic conditions in 2009) in the “Total number of paper machines” column. Enter the total paper/paperboard machine *nominal daily production capacity* as of 2009 in the “2009 nominal daily production capacity total for paper/paperboard (air dried short tons/day)” column. Note that nominal daily production capacity represents the paper/paperboard production capability of the operable machines and may be greater than 2009 actual

production. Next, indicate the types of paper grades the facility is capable of producing across all paper machines (again, including machines temporarily idle in 2009).

Paper/paperboard capacity utilization. You are asked to provide the decimal percentage utilization for paper/paperboard nominal daily production capacity at your mill for the survey base year (2009). In addition, because 2009 was characterized by short-term production curtailments at many mills due to the U.S. economic situation, you are asked to provide a 5-year average nominal daily production capacity utilization. For example, suppose a mill has 3 paper machines but one of these machines was shut down due to economic reasons for half of 2009. The capacity utilization could be figured as follows:

	A	B	C	D	E	F
Paper machine	Nominal daily production capacity (air dried st/day)	Maximum production days/yr	Actual production days/yr	2009 nominal production capacity, air dried st/yr (= A x B)	2009 actual production, air dried st/yr* (= A x C)	2009 decimal percent utilization* (= E / D)
#1	400	360	340	144,000	136,000	
#2	500	360	355	180,000	177,500	
#3	200	360	175	72,000	35,000	
TOTAL	1,100			396,000	348,500	0.88

st = short tons (1 st = 2000 pounds)

*The EPA recognizes the potential for actual production or actual utilization by machine to be considered as sensitive information (e.g., to be CBI). Therefore, EPA is asking that you report the overall decimal percent utilization aggregated across all machines instead of utilization for each machine.

It should be noted that the owner may not have production data back to 2005 if the facility was purchased after January 1, 2005. If this is the case, the facility should average the years that are available and note as such in the "comments" column.

b. PI Equip detail tab

All mills are asked to complete the *PI Equip detail* tab. This tab asks for information for each individual emission unit. The purpose of this tab is to provide EPA with equipment-specific details needed for the Agency to review the technology-based standards (i.e., nationwide numbers of equipment, configuration of controls, pertinent equipment details, and regulatory compliance options used).

The types of emission units listed in Attachment 1 that you operate should be included in the *PI Equip detail* tab. Essentially, you are requested to provide information for most of the equipment at your mill in Part I (except for chemical recovery combustion sources such as recovery furnaces, semi-chemical liquor combustors, smelters, smelt dissolving tanks, lime kilns, calciners, and black liquor oxidation systems which are covered in Part III). However, if you operate chemical recovery combustion sources or power boilers that burn pulp mill non-condensable gases (NCGs) or stripper off gases (SOG), then you will need to identify these combustion sources as the air pollution control device (APCD) in the *PI Equip detail* tab. Boilers are a special case. Specific instructions pertaining to boilers are included in “Boilers, thermal oxidizers, and direct-fired dryers” below.

Columns A through AR of the *PI Equip detail* tab ask generic questions for all emission units listed in Attachment 1. The columns to the right of column AR request design and operating details for specific types of emission units (e.g., digesters, strippers, etc.). The table below summarizes the different types of equipment for which specific questions are included in the *PI Equip detail* tab.

<i>PI Equip detail</i> tab columns	Description of information requested
A-AR	Equipment, exhaust flow rate, controls, and Federal rule applicability for each emission unit and collection system.
AS-AU	Digesters
AV-AZ	Pulp washers
BA-BB	Knotters, screens, and deckers
BC-BE	Evaporators
BF-BH	Oxygen delignification
BI-BR	Strippers
BS-BV	Pulp storage and liquor storage
BW-BZ	Liquor storage ponds
CA-CD	Causticizing equipment
CE	Fuel-fired equipment (e.g., boilers*, thermal oxidizers, direct-fired dryers, etc.)
CF-CG	Equipment incinerating NCG or SOG
CH-DP	Primary and supplemental fuels for fuel-fired equipment (e.g., for boilers*, thermal oxidizers, direct-fired dryers, etc.)
DQ-DW	Emission unit startup and shutdown.
DX	Comments

*Not required for boilers if Boiler MACT survey IDs are specified.

Data are requested for each emission unit (and need not be broken out by individual emission points for a given emission unit unless different collection or control measures apply for the different emission points from an emissions unit or the characteristics of the emission points are different). Specify the Emission Unit ID and Collection system ID (if applicable), and APCD_ID(s) by following the directions in the “*Instruction*” row of the *PI Equip detail* tab. Some common configurations of emission units are addressed below.

Multiple emission units ducted to a single release point. Unless the emission units are numerous and share similar design/operation (see exception below), then you should list each emission unit separately in the *PI Equip detail* tab even if the exhaust from the emission unit is ducted to a common conveyance. For multiple emission units ducted through a common conveyance to the same release point, list each Emission Unit ID separately and provide the same Collection system ID for the different Emission Unit IDs.

For example, an LVHC collection system (Collection system ID LVHC01) may collect emissions from multiple emission points associated with digesters 1, 2, and 3 and an evaporator (Emission Unit IDs D1, D2, D3 and EVAP1). You should list digesters 1, 2, and 3 and the evaporator on four separate rows in the PI Equip detail tab (with 4 separate Emission Unit IDs, as shown above) and provide the data requested for each emission unit, indicating for each entry that the emissions are collected by the LVHC collection system (Collection system ID LVHC01). You should also list the LVHC collection system in the Emission Unit ID column (using the Collection system ID = LVHC01 as the Emission Unit ID = LVHC01) so you can provide control information and equipment details for the LVHC collection system.

Exception: If the multiple emission units ducted to a single release point are numerous and identical in design/operation (for example – 20 batch digesters all ducted to LVHC control and processing softwood), then you may lump the emission units together on one row and note their total capacity. Note how many emission units are lumped together in the “Emission unit description” column (e.g., digester (20 units))

Single emission unit with multiple release points. In the *PI Equip detail* tab, EPA is most interested in learning how (or if) your emission unit is controlled and what Federal regulation compliance options are in use as indicated in columns A through AR. If the different release points (vents or stacks) have different controls or different NSPS/NESHAP applicability then you will need to list each vent (or group of vents with the same controls) on separate rows. Repeat the Emission Unit ID on separate rows and distinguish the release points using the “Emission unit description” column in as many rows as needed to reflect all of the release points associated with the emission unit in the *PI Equip detail* tab.

For example, Emission Unit ID 001 (EU001) is vented to two stacks with different controls. Split EU001 to EU001a and EU001b on separate rows of the PI Equip detail tab, and then indicate in the “Emission unit description” column that EU001a and EU001b vent through separate stacks. Enter details associated with emission release (exhaust flow, APCD information and NSPS/NESHAP compliance options) in each row. Enter equipment details (year installed, hours per year [hr/yr], combustion controls, fuel data, equipment design and other operating parameters) in only 1 row, leaving all other rows associated with the Emission Unit ID blank.

If the different release points (vents or stacks) are uncontrolled, have the same control, and have the same NSPS/NESHAP applicability then you should list the emission unit on only one row.

For example, consider Emission Unit ID (OXDLIG), an oxygen delignification system with 6 uncontrolled vents. You would list this OXDLIG system in only one row. In the “Emission unit exhaust parameters (if emitted through a conveyance)” columns, you would enter the total flow from all vents combined and note in column Q stating “multiple vents combined.” You would specify the emission release details (exhaust flow, APCD information and NSPS/NESHAP compliance options) and any requested equipment information (year installed, hr/yr, etc) in the single row.

If an emission unit has some groups of release points (vents or stacks) that are controlled and some that are uncontrolled (or if NSPS/NESHAP applicability varies for different groups of release points) then you should list the emission unit on multiple rows for each group of release points with similar controls or rule applicability.

For example, consider Emission Unit ID (OXDLIG), an oxygen delignification system with 3 uncontrolled vents (under the CCA compliance option) and 3 thermal oxidizer-controlled vents. You would list this OXDLIG system in two separate rows and distinguish the groups of release points using the “Emission unit description” column. In the “Emission unit exhaust parameters (if emitted through a conveyance)” columns, you would enter the total flow from all vents combined

for each group of vents and note in column Q "multiple vents combined" on each row. Enter details associated with emission release (exhaust flow, APCD information and NSPS/NESHAP compliance options) in each row. Enter equipment details (year installed, hours per year [hr/yr], combustion controls, fuel data, equipment design and other operating parameters) in only 1 row, leaving all other rows associated with the Emission Unit ID blank.

Emission units vented into the building. Include emissions units that vent into a building in the *PI Equip detail* tab, and enter "BLDG" in the "Configuration if not emitted through a conveyance" column.

Emission units that are not vented. Include emissions units that are not vented in the *PI Equip detail* tab, and enter "NV" in the "Configuration if not emitted through a conveyance" column.

Emission units with fugitive emissions. Include emissions units with fugitive emissions in the *PI Equip detail* tab, and enter "FUGITIVE" in the "Configuration if not emitted through a conveyance" column. If an emission unit produces both fugitive emissions and emissions that are emitted through a conveyance, then you need to either: (1) specify the fugitive emissions on a separate row in the *PI Equip detail* tab (e.g., as a "Single emission unit with multiple release points" as described in the instructions immediately above for the *PI Equip detail* tab), or (2) if you know the volume percent of exhaust flow captured from the emission unit (e.g., 60%), you could use only one row to represent the emission unit and note 60% capture in the "Control capture efficiency" column without specifying vent-by-vent details.

Bypass stacks used only during certain times. Do not include data for bypass stacks or control system bypasses in the *PI Equip detail* tab, except as specified for alternate (backup) controls below.

Air pollution control devices (APCDs). In the APCD columns, enter primary APCDs (i.e., the pollution control used most frequently) in the sequence in which they are used to control emissions from each emission unit (or collection system) identified in the Emission Unit ID column. Enter a description of the APCD in the APCD "type" column and an ID code in the APCD_ID column. The ID you enter into the APCD_ID field will correspond with the APCD_ID you enter in the *Controls* tab. For example,

If you use an electrostatic precipitator (ESP) (ESP1) followed by a scrubber (WSa), you would enter APCD1 type = ESP and APCD2 type = scrubber, and APCD1_ID = ESP1 and APCD2_ID = WSa.

If a white liquor scrubber (identified as WLIQSBR) is used to scrub SOG prior to burning of the SOG in a lime kiln (Emission Unit ID = LK2), then APCD1_ID = WLIQSBR and APCD2_ID = LK2.

Emission units routed to a boiler, lime kiln, or recovery furnace for emissions control. Enter the Emission Unit IDs for each emission unit (e.g., digester) in the Emission Unit ID column. Use the boiler, lime kiln, or recovery furnace's Emission Unit ID as the APCD_ID in the APCD columns. The same Emission Unit ID (e.g., for the lime kiln or recovery furnace) should be used in Part III when equipment-specific details are provided for these equipment. (Note that process details for lime kilns and recovery furnaces are not required in Part I, but would be entered in Part III. You would only identify the lime kiln or recovery furnace in Part I if it serves as the APCD for a Part I emission unit.)

Alternate controls. Alternate (or backup) controls include alternative controls used when flow from an emission source (e.g., high-volume, low-concentration (HVLC) or LVHC collection system) is diverted from the primary control device to a less frequently used control device. For example, the primary LVHC control may be lime kiln 1 and the backup control may be a boiler when lime kiln 1 is not operating. Enter alternate controls in the "Alternate method of control" column of the *PI Equip detail* tab. Do not include alternate controls in the columns for APCD1 through APCD4.

Complete the applicable equipment-specific details requested in columns AS through DU for each type of emission unit in the *PI Equip detail* tab by following the directions in the “*Instruction*” row of the tab. Additional specific instructions are provided below for equipment requiring instructions beyond what could be explained in the “*Instruction*” row. **Leave columns that do not apply for a given emission unit blank rather than entering “NA”.**

All emission units listed in Attachment 1. Complete columns A through AR. These columns ask generic questions for all emission units related to how the emission units are vented and controlled, and related to Federal rule applicability. Additional questions in columns AS through DU may also apply for selected emission unit types.

Pulp processing equipment. Information pertaining to pulp processing equipment such as digesters, pulp washers, knotters, screens, deckers, evaporators, and oxygen delignification is requested so EPA can determine the population and characteristics of these emission units following subpart S MACT compliance. Capacities are requested so EPA can estimate emissions and perform impacts analyses.

What averaging period should be used in responding to process detail questions?

Several questions in the *PI Equip detail* and other survey tabs ask for process parameters such as exhaust flow rate (acfm), temperature, etc. Unless otherwise specified, typical values are requested, and are subject to the respondent’s discretion. For example, if you measure a particular parameter with an online meter and you have data available for most operating hours of the year, then you may choose to supply an annual average for the parameter. However, if the parameter is only measured periodically, then you may want to provide the most recent measurement.

Strippers. Information related to strippers is requested to provide an understanding of the number and characteristics of strippers in use at pulp and paper mills following subpart S compliance.

Pulp storage and liquor storage, and liquor ponds. HAP emissions may be associated with pulp and cooking liquor storage tanks, and liquor storage ponds. Questions pertaining to pulp and liquor storage are asked to provide an inventory of storage equipment and to characterize any storage processes that may require further analysis for subpart S residual risk purposes.

Causticizing equipment. Limited questions are asked for equipment in the causticizing loop of mills that perform kraft or soda pulping. Information on causticizing operations provides inventory detail and process rates for purposes of emission calculations, and can inform EPA of practices that could be used to reduce emissions from the lime kiln or from other causticizing equipment.

Boilers, thermal oxidizers, and direct-fired dryers. The EPA is requesting limited information on boilers (and other fuel-fired equipment such as thermal oxidizers and dryers) in the *PI Equip detail* tab. Many pulp and paper mills use boilers for primary or backup control of organics from pulping process, and some mills use thermal oxidizers for this purpose. Boilers (and other fuel-fired equipment) currently contribute to the facility-wide risk levels at pulp and paper mills.

Boilers are a special case. Many pulp and paper mills completed EPA’s 2008 Boiler MACT survey that provides greater detail than are requested in the pulp and paper sector survey. You are asked to first list all boilers at your facility in the Emission Unit ID column of *PI Equip detail*. First, you should either (1) enter the Boiler MACT survey IDs requested for each boiler, or (2) complete all of the details requested in *PI Equip detail* for the boilers. If you enter the Boiler MACT survey IDs (FacilityID and UnitID) in the initial columns of *PI Equip detail*:

- You do not need to complete following portions of *PI Equip detail* for your boilers: year installed, operating hr/yr, emission unit exhaust parameters, combustion modifications/controls, process controls, air

pollution controls, fuel-fired equipment, primary fuels, supplemental fuels, or emission unit startup/shutdown.

- You are required to complete the Subpart BB and Subpart S applicability columns and “equipment incinerating NCG or SOG” columns for boilers burning pulp mill NCG or SOG.
- Boilers burning NCG/SOG (and the boiler’s APCDs) must be indicated as the air pollution control on the rows for the Emission Unit IDs controlled by the boiler.

Thermal oxidizers may be used to control emissions from Part I or Part III emission units. For example, LVHC thermal oxidizers are covered under Part I, and semi-chemical liquor combustor thermal oxidizers are covered under Part III). You will only enter the thermal oxidizers that control emissions from Part I emissions units (listed in Attachment 1 of this document) in Part I of the survey.

Wastewater handling/treatment units. Complete the generic questions in Columns A through AR of the *PI Equip detail* tab for any wastewater handling/treatment units that are closed and/or vent through a conveyance.

Primary and supplemental fuels. Fuel types are requested for fuel-fired equipment because fuel type can have an effect on emissions. The EPA may consider fuel types and perform calculations based on fuel firing rates for various nationwide impact analyses. Because the types and amounts of fuels fired can vary throughout the year, EPA is requesting the approximate percent of annual heat input capacity in million British thermal units per year (MMBtu/yr) supplied by each fuel.

Primary and supplemental fuel information is requested for fuel-fired equipment such as boilers, thermal oxidizers controlling Part I emission sources, and direct-fired dryers (e.g., pulp dryers or paper machine dryers). NCG and SOG are not considered to be either primary or supplemental fuels for purposes of this survey. Information for secondary and additional fuels used routinely for multifuel-fired equipment may be indicated in the supplemental and other fuel columns.

Emission unit startup and shutdown. Complete the startup and shutdown questions for all emission units currently subject to Federal or State emission limits or monitoring requirements. Questions pertaining to emission unit startup and shutdown are asked in order to provide EPA with an understanding of the duration, emissions potential, work practices, and control mechanisms of startup and shutdown events for the wide variety of equipment used at pulp and paper mills. The EPA is considering standards that could apply during startup and shutdown events (or whether the current standards developed for normal operation should apply) in light of the December 2008 vacatur of the NESHAP startup, shutdown, and malfunction exemption in 40 CFR Part 63, subpart A. The startup and shutdown questions would also identify pulp and paper emission unit types for which startup and shutdown are not already addressed with the current emission standards. You are asked to supply information for routine startup and shutdown events associated with planned process or mill downtime. (Do not provide information for unplanned startup/shutdown events associated with equipment malfunctions.) The startup and shutdown data in the *PI Equip detail* tab are being sought for regulatory development purposes and will not be used for enforcement purposes.

c. PI Permit limits tab

Permit limits for each emission unit/point listed in Attachment 1 of this document are requested with one exception (boilers). You do not need to provide permit limits for boilers. You are only asked to include permit limits for the emission units listed in Part I Attachment 1 at this time. However, you may also include permit limits for the chemical recovery combustion source emission units listed in Part III Attachment 1 (and, therefore, would not need to include these limits in Part III).

If available in the permit, provide limits in terms consistent with the suggested units shown in Table 2 below. These suggested units were taken from existing Federal limits codified in 40 CFR Part 60, subpart BB or 40 CFR Part 63, subparts S or MM. Specify permit limits as written in the permit if the suggested units are not included in the permit. You do not need to convert limits to the suggested units. You may specify limits for a given pollutant in multiple units/formats (e.g., ppm_{dv} and/or % reduction) if the permit is written to include multiple compliance

options. However, you do not need to provide every unit/format for pollutants with multiple limits in different units of measure or formats (e.g., only provide ppm_{dv} and lb/MMBtu at specified % oxygen (O₂) for a combustion unit sulfur dioxide (SO₂) limit specified in the permit in terms of ppm_{dv}, lb/hr, lb/day, and tpy, lb/MMBtu at specified % O₂, etc.). The survey spreadsheet allows for up to five different permit limit formats for the same pollutant. Permit limits of most interest to EPA are concentration limits (ppm_{dv}, gr/dscf, etc.), percent reduction, mass per unit production (lb/ton of material throughput, etc.) because these limits can be compared from facility to facility independent of emission unit or mill capacity. EPA will use the permit limit information you supply in comparing permit limits across similar emission units nationwide. Please be as specific as possible when entering permit limit units. Include any oxygen correction factors (% O₂). Be sure to note if ppm values are on a dry (d) or volume (v) or weight (w) basis if specified this way in your permit (ppm_{dv}, ppm_{dw}, ppm_v, ppm_w). Please note:

State Mass-based Limits: Mass emission rate limits (lb/hr or tpy), or limits based on state-only required modeling, are not being requested unless this is the only way in which limits are specified in the permit. The EPA is most interested in state permit limits that are more stringent than those limits in federal rules (e.g., PSD Avoidance or BACT limits).

Permits restating NESHAP and NSPS limits. Your permit may simply restate the emission limits contained in Federal rules such as NESHAP subparts S and MM. Some permits may list all of the compliance options contained in the Federal rules as permit limits. If this is the case, you do not need to enter permit limits that are exactly the same as Federal NESHAP or NSPS. Instead, specify the applicable Federal rule (not the specific numeric Federal limits) in Column F and skip the remaining permit questions/columns in the table. If your permit contains additional State limits in terms other than the Federal limit, please indicate these limits in the appropriate column (e.g., Column G for permit limit 1, Column J for permit limit 2, etc.) *Please do not enter State lb/hr or tpy emission limits in addition to the Federal limits.*

Opacity. The opacity limits of most interest to EPA are those for fuel-fired equipment such as recovery furnaces, semichemical combustion units, lime kilns, and thermal oxidizers. *You do not need to include State opacity limits for every emission unit (only the fuel-fired units).*

Alternative to submit permit copy: The facility may also opt to send a pdf copy of their permit with the survey. While we would prefer to receive data in the *PI Permit limits* tab, we will accept a copy of your operating permit (e.g., title V operating permit) instead of the completed *PI Permit limits* tab. Other complete and up-to-date summaries of permit limits, such as a mill-specific summary of permit limits or compliance matrix, would be acceptable as well.

Table 2. Suggested Units of Measure for Permit Limits

Pollutant	Suggested units
PM ¹	Recovery furnaces/chemical recovery combustion units: gr/dscf @ 8% O ₂ SDT: lb/ton BLS LK: gr/dscf @10% O ₂
PM ₁₀ ¹	Other processes: lb/ton of throughput, lb/MMBtu, gr/dscf, g/dscm, or specify
PM _{2.5} ¹	
Opacity	% (provide averaging time)
TRS	RF/combustion units: ppm _{dv} @ 8% O ₂ SDT: lb/ton BLS (as H ₂ S) LK: ppm _{dv} @ 10% O ₂ Other processes: lb/ADT pulp and/or ppm _{dv}
SO ₂	lb/MMBtu and/or ppm _{dv} or limits on fuel S content
NO _x	lb/MMBtu (as NO ₂) or ppm _{dv}
CO	lb/MMBtu or ppm _{dv}
Pb or other HAP metals	Specify units
VOC	lb/{production}, specify if as propane, etc. or ppm _{dv}
THC	Report as carbon. RF/combustion units: lb/ton BLS
HCl	ppm _{dv} and/or % reduction
Methanol and gaseous organic HAP	chemical recovery combustion sources: lb/ton BLS process sources: ppm _v @ 10% O ₂ , lb/ton ODP, and/or percent reduction
Chlorine and chlorinated HAP	ppm _v , lb/ton ODP, and/or percent reduction
Other speciated HAP (specify...)	Specify units

¹Specify filterable and/or condensable if your permit limits distinguish between the filterable and condensable PM fractions.

d. PI Controls tab

Complete the *PI Controls* tab by following the instructions in the “*Instruction*” row for add-on APCDs used to control pulp and paper emission units. The data requested in the *PI Controls* tab include pertinent control device design parameters that will be used by EPA to distinguish among control devices (e.g., pressure drop and L/G ratio can be used to identify high- vs. low-efficiency wet scrubbers) and to understand the non-air environmental impacts associated with the control devices (e.g., amount of wastewater or solid waste generated and methods for handling).

Baghouses, cyclones, and other material handling equipment. The EPA is most interested in details for control systems used to reduce HAP emissions (for equipment in the NESHAP source categories) and criteria air pollutant emissions from equipment in the NSPS subpart BB source category. You do not need to include the specific details requested in the *PI Controls* tab for control devices used solely for wood/material handling operations (e.g., baghouses or cyclones on pneumatic wood handling systems; and particulate controls on lime, starch, or coal handling etc. need not be included).

Boilers. You do not need to include details for APCDs used to control boilers in the *PI Controls* tab.-

Actual control efficiency. Actual control efficiencies are requested for PM, TRS, HCl, SO₂, and other HAP. This information will be used in determining the capability of different control devices for reducing emissions. If you have data from inlet/outlet emissions testing used to determine a percentage reduction in the requested pollutant across the control device, then you would enter this test result as the “actual” control efficiency. You may leave the control efficiency columns blank (rather than marking as “NA”) if actual control efficiency is not known (or not applicable for a given pollutant).

Strippers. Specific information for strippers used to reduce air emissions from process liquid or wastewater streams is requested in the *PI Equip detail* tab rather than in the *PI Controls* tab.

Thermal oxidizers. Questions pertaining to thermal oxidizers controlling Part I emission sources are included in both the *PI Controls* and *PI Equip detail* tabs. The *PI Equip detail* tab contains questions about heat input capacity, equipment incinerating NCG or SOG, and primary or supplemental fuels.

Control device startup and shutdown. The EPA is considering standards that could apply during startup and shutdown events (or whether the current standards developed for normal operation should apply) in light of the December 2008 vacatur of the NESHAP startup, shutdown, and malfunction exemption in 40 CFR Part 63 subpart A. Questions pertaining to control device startup and shutdown are asked in order to provide EPA with an understanding of the duration and definition of startup and shutdown events for the types of control devices used at pulp and paper mills. The EPA is seeking information on the integral nature of startup and shutdown events for the different combinations of emission units and control devices used in the pulp and paper industry. In addition, because Federal NSPS and NESHAP require continuous monitoring of emissions or control device operating parameters, information is requested to inform EPA of particular pulp and paper NSPS or NESHAP control device parameter limits that cannot feasibly be met during startup and shutdown events. Certain parameters may be "instant on" while others are more transient in nature (i.e., changing as startup or shutdown progresses). Examples could include control device temperature that must heat up to a set point, or pressure drop that cannot be achieved due to low exhaust gas flow from the emission unit. The EPA will use this information to evaluate which existing control device parameter limits may remain in effect during startup and shutdown events, and which parameter limits may need to be replaced with another requirement during startup and shutdown. In all of the control device startup and shutdown questions, you are asked to supply information for routine startup and shutdown events associated with planned equipment or mill downtime. (Do not provide information for unplanned startup/shutdown events associated with equipment malfunctions.) The startup and shutdown data in the *PI Controls* tab are being sought for regulatory development purposes, and will not be used for enforcement purposes.

e. Pulp prod tab

The *Pulp prod* tab is to be completed by all mills that produce pulp onsite using chemical, semichemical, mechanical, non-wood, and secondary fiber pulping processes. This tab is arranged in a way to accommodate multiple pulping processes or pulping lines (if applicable) and each pulping process/line should occupy only one row (e.g., a mill that co-produces kraft and mechanical pulps should use two rows). Some data fields apply for specific types of pulp (e.g., mechanical pulp, non-wood pulp). If a data field does not apply to a particular type of pulping line, you may simply leave the field blank rather than marking it "NA". Provide data for the 2009 operating year.

The pulp capacity data will be used by EPA to understand the general mill flow and in estimation of impacts and economic analyses. In the *Pulp prod* tab, the 2009 pulp capacity (ADTP/d) and capacity utilization refer to unbleached pulps (i.e., pulp exiting the pulping line prior to any brightening or bleaching). [Note: Capacity of bleached pulp (e.g., pulp exiting the bleaching/brightening line) is requested in the *Bleaching* tab.] An example of how to calculate the pulp capacity utilization percentage requested in the *Pulp prod* tab is as follows:

	A	B	C	D	E	F
Pulping process	Pulp nominal daily production capacity ADTP/d in 2009	Max. d/yr	Actual 2009 operating d/yr when pulp was produced	2009 nominal production capacity, ADTP/yr (= A x B)	2009 actual production, ADTP/yr* (= A x C)	Pulp capacity utilization decimal percentage in 2009 (= E / D)
kraft	950	365	340	346,750	323,000	0.93

mechanical	300	365	250	109,500	75,000	0.68
------------	-----	-----	-----	---------	--------	------

ADTP/d = air dried tons of pulp per day. *The 2009 actual pulp production could be determined by multiplying columns A x C or by other means. The EPA is not asking that you report the 2009 actual production.

In the *Pulp prod* tab, EPA asks questions regarding how various pulps are used by the mill in order to understand the mill flow for purposes of economic modeling. With these questions, EPA seeks the amount of unbleached pulp from the pulping line that typically:

- goes to an onsite bleaching/brightening line (if applicable)
- is sold (or transferred to another mill within the same company) as unbleached market pulp
- is used onsite to manufacture unbleached paper/paperboard

Complete the *Pulp prod* tab by following the instructions in the “*Instruction*” row.

f. Byproducts tab

Mills that recover turpentine or tall oil from pulping processes should complete the *Byproducts* tab. Basic turpentine and tall oil production information are requested (hr/yr, gal/yr, and equipment supplying byproduct production). Turpentine recovery systems are covered under subpart S. Tall oil production may be considered in the review of pulp and paper regulations. The information requested may be used to estimate emissions and in economic calculations.

Complete the *Byproducts* tab by following the instructions in the “*Instruction*” row.

g. Kraft condensates tab

Complete the *Kraft condensates* tab by following the instructions in the “*Instruction*” row. The kraft condensate standards in subpart S apply to certain “named” condensate streams originating from the following equipment:

- Digester systems
- Turpentine recovery systems
- Evaporator systems
- HVLC collection systems
- LVHC collection systems
- Combined systems (i.e., a combination of any of the above named systems)

The kraft condensate streams are “named” in §63.446(b). In the kraft condensates tab, you are asked to list (select from menu) each kraft condensate stream (or combination of streams) named in subpart S. Next you are asked to enter the Emission Unit IDs or Collection system IDs associated with each kraft condensate stream, and indicate whether the condensate stream is treated (or partially treated) according to subpart S.

You do not need to list every single condensate stream separately. If condensates from multiple systems are combined for treatment, then you may select menu choice “Combined systems” and then enter the Emission Unit IDs or Collection system IDs for the combination of systems (grouped according to the treatment method).

In some cases mills may have complied with the subpart S kraft condensate standards through implementation of an equivalency-by-permit project involving other condensate systems not named above. If you are controlling condensate streams other than those named in subpart S for purposes of subpart S compliance, then you are asked to list these “un-named” condensate sources as menu choice “Other systems” and then describe the streams being controlled (e.g., Other systems – foul water collection).

Uncontrolled/uncollected streams (table heading II). Mills may either collect/control all “named” kraft pulping condensates (according to §63.446(c)(1)), or employ one of the volume reduction options are specified in subpart S at §63.446(c)(2) or (3). Mills may also comply with subpart S through equivalency-by-permit. For “named”

condensate streams that are uncollected/uncontrolled, you are asked to complete the question in table heading II to describe why the stream “named” in subpart S is not collected/controlled (e.g., because you meet one of the volume reduction options; or use equivalency-by-permit to control un-named streams in lieu of the named streams).

Recycled streams (table heading III). Indicate if subpart S compliance is achieved by recycling the condensate to equipment meeting the kraft pulping system vent standards. Specify the equipment Emission Unit ID receiving recycled condensates.

Condensate treatment (table headings IV-VII). Specify the treatment methods and provide compliance test results under table headings IV-VII for each condensate stream treated/controlled for purposes of subpart S compliance. The kraft condensate control options are summarized as follows. This table corresponds with the pull down menu options for condensates treated by steam strippers, biological treatment, or other means.

Control option	Applicability	Rule reference
92% total HAP reduction (by weight)		§63.446(e)(3)
Remove 6.6 pounds/ton ODP	Mills that do not bleach	§63.446(e)(4)
210 ppmw at the outlet of the control device	Mills that do not bleach	§63.446(e)(4)
Remove 10.2 pounds/ton ODP	Mills that bleach	§63.446(e)(5)
330 ppmw at the outlet of the control device	Mills that bleach	§63.446(e)(5)
Remove prorated mass of ___ pounds/ton ODP. { <i>Respondent should specify limit in blank</i> }	Mills producing a mixture of bleached and unbleached pulp	§63.446(i)

If your mill uses multiple treatment methods for a given kraft condensate stream, please answer the questions for each treatment method (under table headings III, IV, V, and/or VI) and the question in table heading VII. For example, if your mill normally treats condensates with a steam stripper but relies on biological treatment when the stripper is down, then you would respond to the questions under table headings IV (stripping), V (biological treatment), and VII (multiple treatment methods).

Comments. Should you have comments regarding the kraft condensate data you supply, please enter these comments in column S.

h. CCA tab

The CCA tab is divided into two portions: (1) Emission Balance to the left of the orange vertical line (column H), and (2) CCA Equipment List on the right of the orange vertical line. You will enter one row of data for the Emissions Balance and multiple rows of data for the CCA Equipment List. This information is being requested to inform EPA of the mill-specific emission units involved in CCA compliance calculations.

The CCA tab must be completed once for each set of CCA compliance calculations used by your mill. Add another CCA tab if you need to provide more than one set of CCA calculations. As an alternative to completing the CCA tab, you may attach separate documentation of your CCA calculations used for purposes of showing compliance.

Sources eligible for inclusion in the CCA as credit generators include (but are not limited to): pulping systems, bleaching systems, causticizing systems, wastewater systems, and papermaking systems. Debit generating sources can include equipment from the kraft mill HVLC system, including: pulp washing systems, knotter systems, screen systems, decker systems, O₂ delignification systems, and weak liquor storage tanks. Refer to the system definitions

in subpart S at §§63.441 and 63.447(a). If equipment other than that listed above is included in your CCA calculations (e.g., equivalency-by-permit facilities), please include that equipment in the CCA tab. EPA is interested in identifying which mills are using the CCA option and the mill-specific equipment used in CCA calculations. EPA is not requesting detailed calculations used to show compliance with the CCA at this time. However, EPA reserves the right to request additional detail if needed as a follow-up to this survey.

Complete the CCA tab by following the instructions in the “*Instruction*” row.

i. Bleaching tab

All mills that perform bleaching or brightening of chemical, mechanical, secondary fiber, or non-wood pulps should complete the portion of the *Bleaching* tab to the left of the orange vertical line (column M) to describe the bleaching (or brightening) systems used at your mill. Note that, for brevity, the terms “bleaching” and “brightening” are used interchangeably in the *Bleaching* tab (e.g., the word “bleaching” can be read to mean “brightening” if that is the process your mill uses).

Your response in the *Bleaching* tab will consist of one row for each bleaching/brightening line located at your mill. Most mills will have only one or two bleaching line rows. For example, a mill that produces bleached chemical pulp, bleached secondary fiber pulp, and brightened mechanical pulp could include three rows (one for each type of pulp that is bleached/brightened using separate bleaching/brightening processes).

If your mill does not have a bleaching “line” (e.g., a TMP mill with only one emission unit for mixing brightening chemicals with pulp), the you need only to list the Emission Unit ID for the bleaching/brightening emission unit and answer the questions to the left of the orange vertical line (entering “NA” for questions that are not applicable).

If your bleaching system includes any stages that use chlorine or chlorinated compounds, then you must complete the portion of this tab to the right of the orange vertical line. Extraction or other bleaching stages that do not use chlorine or chlorinated compounds are not covered by subpart S and should be reported in the *Bleaching* tab with “NA (no chlorine or chlorinated compounds used in this stage)” indicated.

When specifying controls used for the various bleaching stages, enter not applicable “NA” for stages without control. Enter the APCD_ID used in the *PI Equip detail* and *PI Controls* tabs when referring to any control device. Each bleaching stage includes several vents: the tower vent, washer hood, seal tank vent, chemical and steam mixers, and vacuum pumps. If all vents from a particular bleaching stage are not routed to the control device indicated for that stage, then you should describe the control system configuration in the control methods column.

Responses to these bleaching questions will be used to characterize mills according to bleaching processes used, estimate nationwide emissions, and identify subpart S compliance options commonly used (e.g., to determine if any remaining residual risk is associated only with bleaching at mills meeting certain compliance options). Information on how the mill uses the pulp exiting the bleach plant may be used for economic modeling and in characterization of potential emissions from paper machines (e.g., use of bleached/unbleached pulp produced onsite, use of purchased pulp, effects of bleaching process on paper machine emissions, etc.).

Complete the *Bleaching* tab by following the instructions in the “*Instruction*” row.

j. Paper prod tab

All mills that produce paper should complete the *Paper prod* tab. Report information for all operable paper machines (including idle machines that are capable of operating in the future). Do not include pulp dryers in the *Paper prod* tab. Complete the *Paper prod* tab by following the instructions in the “*Instruction*” row.

If multiple paper grades are produced on the same paper machine (e.g., coated free sheet produced some of the time, and uncoated freesheet produced at other times), then you will need to include paper machine information on separate rows. Given the numerous specific grades of paper and paper characteristics, EPA requests that you distinguish among a relatively short list of generalized paper grades, including:

coated free sheet	kraft packaging
uncoated free sheet	linerboard
coated groundwood	corrugating medium
uncoated groundwood	solid bleached board
tissue & sanitary	recycled board
specialty packaging & industrial	construction paper and board
	other *

*Respondents are asked to specify a general paper grade in the event that one of the general grades listed above is not representative.

Information on pulp type is requested because it is possible that pulp type may have an effect on emissions (particularly for bleached versus unbleached pulps). Should EPA consider paper machines for residual risk rulemaking, information such as pulp type, whether the pulp is bleached or unbleached, paper grade, stock consistency, and liquid HAP concentration may be useful for purposes of subcategorizing paper machines.

You are asked to specify the approximate makeup of each paper machine furnish - specifically the approximate percentage of each pulp type. We recognize that the percentage can vary throughout the operating year and within paper grades (due to specific product variations), and therefore, a specific percentage is not being requested. It will be sufficient to round to the nearest 5 or 10 percent.

k. HAP additives tab

Complete the *HAP additives* tab for any stock preparation and paper machine additives that contain “measurable” concentrations of one or more of the following HAP: formaldehyde, acetaldehyde, naphthalene, methylene chloride, acrylamide, or benzene. Only include in this tab additives with measurable quantities of HAP as reported on the material safety data sheet (MSDS) for the additive. For purposes of this survey, “measurable” is defined consistent with OSHA requirements that chemical suppliers provide specific constituent amounts in Material Safety Data Sheets for any carcinogens that are present in amounts greater than 0.1 percent and any non-carcinogens that are present in amounts greater than 1 percent. Information on lesser quantities of HAP ingredients is voluntary but not required. Although it is unclear whether paper machine additives contribute significantly to paper machine emissions (e.g., because additives may partition to the paper product or white water, and not necessarily to the air), EPA is requesting information for paper machine additives that contain HAP of significance for purposes of residual risk. EPA is not requesting information for other paper machine additives (many of which contain no HAP), except in determining any non-HAP substitutes for the additives. The HAP additives information would be used (e.g., along with emissions data for paper machines) to identify HAP-containing additives that may contribute significantly to paper machine HAP emissions or residual risk, and to evaluate work practices related to additives.

Complete the *HAP additives* tab by following the instructions in the “*Instruction*” row.

I. WW tab

All mills with onsite wastewater treatment plants (WWTP) should complete the *WW* tab columns to the left of the orange vertical line (column AA). The first questions in the *WW* tab ask if your mill outsources wastewater treatment to a publicly owned treatment works (POTW) or other separate entity such as a privately held entity that may be owned and operated by your same company or a different company. The purpose of the *WW* tab is to provide EPA with information regarding the status of permitting requirements and emissions measurement for pulp and paper mill wastewater treatment plants. This information will be used by EPA for purposes of reviewing the pulp and paper regulations (e.g., NSPS and/or NESHAP subpart S). Use the *WW* tab to specify any Federal/State/local requirements, permit limits, fence-line monitoring, measurement methods (such as ambient measurements), or modeling methods that apply for measurement or estimation of HAP and TRS (including H₂S) air emissions associated with the wastewater treatment system.

In addition to questions about measurement and permitting status, mills are requested to submit a flow diagram of the WWTP (see section D1 of these instructions) and to complete some basic questions regarding WWTP capacity, the sequence of wastewater treatment units, and upstream controls/practices that reduce air emissions from the WWTP. Mills are also asked to identify any wastewater treatment units that are closed to limit emissions to the atmosphere, or equipped with a closed-vent collection system and APCD. If any wastewater treatment units are equipped with a closed-vent collection system and APCD, then you should also include the wastewater treatment unit in the Emission Unit ID column of the *PI Equip detail* and *PI Control* tabs and indicate the APCD information in those tabs.

The series of questions seeking an approximate volume percentage of WWTP capacity from various mill areas will inform EPA of the overall nature of the wastewaters generated by pulp and paper mills for treatment. Mills are encouraged to complete this series of questions to the extent this information is known (or can reasonably be estimated). Otherwise, mills may enter "UK" for unknown. If the WWTP is outsourced to a joint treatment facility that treats process wastewater from several mills owned by the same company, then the volume percentage questions should be answered for each individual pulp and paper mill in their survey response considering the total volume of wastewater sent to the WWTP by that mill.

Mills with wastewater treatment plants that serve as the biological treatment system for the subpart S kraft condensate standards must complete the questions to the right of the orange vertical line in the *WW* tab. These questions request the subpart S quarterly biological treatment system compliance testing results for the four quarters of calendar year 2009. This information will inform EPA of the performance of biological treatment systems in destroying HAP.

Complete the *WW* tab by following the instructions in the "*Instruction*" row.

D3. Test data

Attachment 3 of this Part I survey contains a table of emission units and pollutants for which existing emissions data are requested. Emissions data are being requested in the form of emissions test reports or continuous emissions monitoring data, whichever may be available. You are **not required** to conduct any new emissions testing or continuous emissions monitoring to respond to this survey. Follow the instructions below for the "PI Emissions test data tab" for emissions test reports. Follow the instructions for completing the "CEMS data spreadsheet (P&P CEMS_PI.xls)" if you have continuous emissions monitoring system (CEMS) data instead of emission test reports for a given emission unit and pollutant combination. The emissions test data collected will provide valuable information on current emissions levels and will allow EPA to consider variability in emissions from mill to mill (and over time for a given emission unit and pollutant) in reviewing and setting emission standards. When submitting test data, EPA is requesting full test reports with field and lab data sheets and example calculations, not just summary reports.

Mills required to complete Part III may postpone until the deadline for Part III submittal of emissions test data and CEMS data required for the emission units listed in Part I Attachment 1 for the following pollutants: PM, PM_{2.5}, TRS, NO_x, SO₂, and CO.

a. PI Emissions test data tab

Attachment 3 of this survey contains a table of emission units and pollutants for which existing emission test data are requested. You are not required to conduct any new emissions testing to respond to this survey. The EPA is only requesting existing emission test reports at this time as they may already be available.

Emissions test data are not requested for power boilers unless the power boiler is used to control NCGs or SOGs (in which case the test data requested are for the pulping systems controlled by the power boiler, assuming these emissions points have been tested).

Review the test data request table in Attachment 3 of this survey. Locate any existing emissions test reports in your files that match the test method and other criteria for each emission unit and pollutant combination requested. Emissions test data representative of your current operations are requested. You are not required to supply emissions data that are no longer representative of the current emission unit and control system configuration. For example, if you have installed controls or made significant process changes expected to change emissions, then you need not supply emissions data for the prior configuration. However, you may voluntarily supply emissions data for prior configurations, as such information would be useful to EPA in characterizing emissions in general (for non-site-specific uses), but we request that you identify that such data are no longer representative in the *PI Emissions test data* tab.

Cutoff dates are provided in Attachment 3 for certain emission unit and pollutant combinations. More recent cutoff dates (e.g., 2001 or date of MACT compliance) are specified for emission unit and pollutant combinations expected to be widely available. Longer cutoff dates (e.g., dating back to 1990) are included for emission unit and pollutant combinations for which data are likely to be sparse. Test data prior to the cutoff dates are requested only if necessary to obtain results of at least one representative test for a given process unit and pollutant.

Provide available test data for multiple years dating back to the cutoff date. Multiple years of test data will allow EPA to examine and account for variability in emissions in setting emissions standards.

Supply both APCD inlet and outlet data if available.

As noted above, submit full and complete copies of the emission test reports, to include field and lab data sheets and example calculations, meeting the criteria in Attachment 3 with your survey response. Electronic (pdf) or hard copies are acceptable. Include the summary portion of the report and any appendices showing run-by-run test parameters, method detection limits, laboratory data, production data, example calculations, etc. EPA will extract the test data from the emission test reports for use in nationwide regulatory analyses.

Complete the *PI Emissions test data* tab to identify the specific emission units and control systems for which emission test reports are being submitted, the pollutant tested, and the test method. The *PI Emissions test data* tab will be used by EPA as the starting point for development of the emissions test data base that EPA intends to construct based on the emissions test data received through this survey.

b. CEMS data spreadsheet (P&P CEMS PI.xls)

The EPA is requesting existing CEMS data and/or continuous opacity monitoring system (COMS) data for calendar year 2009 (CY2009) operations from facilities that have installed continuous monitoring systems. You are not required to install or operate any new CEMS or COMS to respond to this survey.

CEMS data that are representative of your current operations are requested. You are not required to supply CEMS data that are no longer representative of the current emission unit and control system configuration.

You do not need to supply CEMS data for power boilers unless the boiler has a CEMS installed to show compliance with a NESHAP subpart S or NSPS subpart BB emission limit.

A separate Microsoft Excel spreadsheet file (P&P CEMS_PI.xls) is provided for submittal of the requested CEMS data. The spreadsheet file contains individual worksheets (tabs) designed specifically for TRS (12-hour block average), TRS (hourly), Opacity, and other pollutants (NO_x, SO₂, CO, Methanol, Chlorine, and PM). Each worksheet is designed to accommodate data from one CEMS (including oxygen data). If you have multiple CEMS (e.g., two TRS CEMS on different emission units), then you must copy the relevant worksheet in order to enter data for the additional CEMS.

A brief introduction to each of the CEMS worksheets follows. Additional, field-specific instructions are included on each worksheet. An "EXAMPLE" completed worksheet is also provided as a separate tab within the P&P CEMS_PI.xls spreadsheet file.

TRS (12-Hour Average). This worksheet is designed for recovery furnaces, smelt dissolving tanks, lime kilns, digester systems, brown stock washer systems, multiple effect evaporator systems, and condensate stripper systems subject to the TRS monitoring requirements in NSPS subpart BB, but can be used for any emission units with TRS CEMS (e.g., for compliance with State emissions standards which may be based on the TRS emissions guidelines). Respondents are requested to specify the Emission Unit ID (or Collection system ID), the APCD_ID, and report the 12-hour averages of CEMS concentration data for TRS for CY2009 operations. In addition, respondents are asked to provide the highest single 12-hour average TRS concentration recorded in CY2009: (a) under normal operating conditions, (b) under conditions of startup or shutdown, and (c) under malfunction conditions. [Note: The reported concentrations of TRS should be corrected to 8% O₂ for recovery furnaces and 10% O₂ for lime kilns and other equipment.]

TRS (1-Hour Average). Same as above, except that this worksheet is designed to accept the 1-hour average TRS data for the same time period as provided for the 12-hour averages.

Opacity. This worksheet is designed for recovery furnaces or lime kilns equipped with COMS but may be used for thermal oxidizers and other equipment. Respondents are requested to specify the Emission Unit ID (or Collection system ID) and the APCD_ID, and report the 6-minute average opacity for CY2009 operations. An optional column is also included for hourly average opacity for mills that calculate an hourly average. In addition, respondents are asked to provide the highest single 6-minute average opacity recorded in CY2009: (a) under normal operating conditions, (b) under conditions of startup or shutdown, and (c) under malfunction conditions.

Other pollutants (such as NO_x, SO₂, CO, total HAP, methanol, total chlorinated HAP, chlorine, HCl, or PM). This worksheet is designed for any emissions unit equipped with a CEMS. Specify the continuously monitored pollutant at the top of the worksheet. Respondents are requested to specify the Emission Unit ID (or Collection system ID) and the APCD_ID (or type of combustion controls used), and report the 1-hour averages of the CEMS data for CY2009 operations. In addition, respondents are asked to provide the highest single 1-hour average concentration recorded in CY2009: (a) under normal operating conditions, (b) under conditions of startup or shutdown, and (c) under malfunction conditions.

OPTIONAL-CEMS cost. Completion of this worksheet is OPTIONAL. This worksheet requests equipment cost data for CEMS or COMS installed within the past 10 years. EPA can use these data to estimate costs of CEMS or COMS when evaluating monitoring options.

What if my data are not in a form that can be inserted into P&P CEMS_PI.xls?

It is very helpful for EPA's data analysis purposes if data are entered into the P&P CEMS_PI.xls template provided. However, we understand that some CEMS software may not be configured to provide output that can be easily converted to our preferred spreadsheet format. We also understand that, in some cases, the hourly production data requested in the CEMS spreadsheet may not be coupled with the CEMS data or may not be available in a manner to be easily linked to the CEMS data. If you face these or related issues, please note that *EPA is not asking you to hand enter hard copy CEMS data into the spreadsheet*. You may provide CEMS data in an alternative format if you are unable to convert it to our spreadsheet format within the timeframe for this survey. We request that you provide CEMS data in a form suitable for analysis if possible (e.g., spreadsheet or data base format is preferred over read-only pdf format). We'd accept more recent CEMS data (e.g., from the most recent 6 months) if 2009 CEMS data are no longer in electronic form due to company records retention policies. Further, you may omit the production data if they cannot reasonably be included in your CEMS spreadsheet. Estimates of production data are acceptable (e.g., if you have a daily production rates, you may divide by 24 operating hours in a day to estimate hourly production).

D4. Optional cost data

The EPA requests information related to the capital and operating costs of selected air pollution controls or process/equipment changes. Providing this cost information to EPA is optional at this time. The Agency wishes to receive enough cost information on a voluntary basis to perform regulatory analyses. However, should additional cost information be needed, EPA reserves the right to follow up with mills that have installed equipment or implemented process changes of interest to request cost information under CAA section 114 authority.

The spreadsheet entitled "P&P costs OPTIONAL_PI.xls" can be completed to provide cost information. This spreadsheet contains two tabs (*APCD costs* and *Equip change costs*). The EPA recognizes that cost information can be sensitive. The "P&P costs OPTIONAL_PI.xls" spreadsheet contains a red block at the top of each tab where you can indicate if the tab contains CBI, or if the entire tab should be treated as CBI. Responses containing CBI should be submitted according to the instructions in section C2 of this document.

Any cost information that you provide would be very useful to EPA for purposes of evaluating the costs of control measures that may be considered as regulatory options. These cost data will be used by EPA to estimate the nationwide costs of any regulatory options based on the control measure indicated. Cost information from within the last 10-12 years is requested (e.g., costs dating back to 1998). The cost information could come from vendor quotes for APCD or equipment changes that either have been implemented or were explored but not implemented.

For Part I, the EPA is particularly interested in costs of the following APCDs. Please supply this information using the *APCD costs* tab:

- Paper machine HAP control devices
- Controls that reduce HAP emissions from wastewater handling and treatment systems
- Bleach plant CO control devices

The EPA is particularly interested in costs of the following process changes or equipment changes/upgrades. Please supply this information using the *Equip change costs* tab.

- Process changes that reduce HAP emissions from wastewater handling and treatment systems
- Process changes to improve lime mud washing or to control makeup water quality in the causticizing area
- Process changes that reduce paper machine HAP emissions

Complete the *APCD costs* and *Equip change costs* tabs by following the instructions in the "Instruction" rows of those tabs. You may also submit information in an alternative format (e.g., as an attachment to your response) if

Part I

Form Approved ___/___/___
OMB Control No. _____-_____
Approval Expires ___/___/___

needed. Because the cost data will be used by EPA to estimate the nationwide costs, please note if you believe that any portion of the cost information that you supply would be completely unrepresentative of costs that other mills may face for similar control projects (e.g., if your project capital cost included installation of extra buildings, land purchases, etc. that may not be required for other mills).

PART I - ATTACHMENT 1
Emission Units to Include in the Part I Pulp and Paper Survey Response

Include the following types of equipment (emission units) in your Part I survey response. You may not operate all of the emission units listed below. Only include equipment operated at your mill. The purpose of the detailed list below is to ensure all emission points are represented. You may aggregate the equipment listed below into larger systems as appropriate in your survey response (e.g., you may list “bleaching stage 1” as an emission unit instead of every pump, tank, and hood vent within bleaching stage 1 as long as “bleaching stage 1” represents all of the emission points associated with that system). [Note: Chemical recovery combustion units are included in Part III.]

Causticizing Equipment

Green liquor clarifier
Green liquor storage tank
Green liquor surge tank
Slaker
Causticizers
White liquor clarifier
White liquor storage tank
White liquor pressure filter tank
White liquor/weak wash pressure filter
Weak wash storage tank
Dregs washer
Dregs filter exhaust
Lime mud washer
Lime mud filter system

Digester Area Equipment

Digester
Chip bin
Chip steaming vessel
Flash tank
Blow tank
Condenser
Turpentine decanter

Pulp Washing, Thickening, and Storage Equipment

Brown stock washers
Hoods
Filtrate tanks
Vacuum pumps
Screens
Knotters
Decker
Stock chests (including open stock chests)
Pulp storage tanks
Thickeners

Evaporators

Black liquor storage tanks
Evaporator hot wells
Condensers
Boilout tanks
Soap storage tanks
Soap skimmer tanks
Other emission points associated with evaporators.

Oxygen Delignification Equipment

Oxygen delignification reactor
Oxygen delignification blow tank
Oxygen delignification washer
Post-oxygen washer filtrate tank
Pulp storage tanks
Other oxygen delignification system emission points.

Non-condensable Gas (NCG) Collection

LVHC system
HVLC system

Stripper System Equipment

Stripper feed tanks
Condensers
Heat exchangers

Methanol Rectification Equipment

Rectifiers
Condensers
Decanters
Storage tanks

Storage Tanks

Weak liquor storage tanks
Strong liquor storage tanks
Liquor storage ponds
Acid condensate storage tanks (at sulfite mills)

Tall Oil Production Equipment

Tall oil acidulation reactor
Storage tank
Dehydrator
Brine storage tank
Screen
Centrifuge tank
Other tall oil production vents

Bleaching Equipment

Tower vents
Washer hoods
Seal tank vents
Chemical and steam mixers
Vacuum pumps

Mechanical Pulping Equipment

Stone grinder
Refiner
Chip pre-steaming vessel
Chip cooker
Screen
Decker
Brightening/bleaching tower

Non-wood Pulping Equipment

Secondary Fiber Pulping Equipment

Paper Making Equipment

Paper machines
Pulp dryers
Machine chest
Repulpers
Stock blending and storage tanks
Broke tanks
Savealls
White water storage tanks

Wastewater Treatment System Units

Clarifiers
Settling ponds
Aerated stabilization basins
Activated sludge systems
UNOX systems
Wastewater tanks
Other wastewater handling and treatment units

Power Boilers – PI Equip detail tab only

Thermal Oxidizers/Incinerators controlling Part I
emission sources

Woodyard Operations

Form Approved __/__/__
 OMB Control No. ____-____
 Approval Expires __/__/__

PART I - ATTACHMENT 2
Small Business Size Standards

Small Business Size Standards for NAICS Subsector 322 – Paper Manufacturing

NAICS Codes	NAICS U.S. industry title	Size standards in number of employees
322110	Pulp Mills	750
322121	Paper (except Newsprint) Mills	750
322122	Newsprint Mills	750
322130	Paperboard Mills	750
322211	Corrugated and Solid Fiber Box Manufacturing	500
322212	Folding Paperboard Box Manufacturing	750
322213	Setup Paperboard Box Manufacturing	500
322214	Fiber Can, Tube, Drum, and Similar Products Manufacturing	500
322215	Non-Folding Sanitary Food Container Manufacturing	750
322221	Coated and Laminated Packaging Paper Manufacturing	500
322222	Coated and Laminated Paper Manufacturing	500
322223	Coated Paper Bag and Pouch Manufacturing	500
322224	Uncoated Paper and Multiwall Bag Manufacturing	500
322225	Laminated Aluminum Foil Manufacturing for Flexible Packaging Uses	500
322226	Surface-Coated Paperboard Manufacturing	500
322231	Die-Cut Paper and Paperboard Office Supplies Manufacturing	500
322232	Envelope Manufacturing	500
322233	Stationery, Tablet, and Related Product Manufacturing	500
322291	Sanitary Paper Product Manufacturing	500
322299	All Other Converted Paper Product Manufacturing	500

Source: U. S. Small Business Administration Table of Small Business Size Standards Matched to North American Industry Classification System Codes, *Effective August 22, 2008*. Accessed June 16, 2009 at: http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf

Part I

Form Approved __/__/__
OMB Control No. ____-____
Approval Expires __/__/__

PART I - ATTACHMENT 3
Part I Emissions Test Data Request

(Note: Test Reports submitted should be full and complete copies of the emission test reports, to include field and lab data sheets and example calculations.)

Part I - Attachment 3. Pulp and Paper Emission Units and Pollutants for Which Existing Representative Emission Test Data Are Requested

Note: Emissions test data representative of your current operations are requested as described in the survey instructions. Mills required to complete Part III may postpone until the deadline for Part III submittal of emissions test data and CEMS data required for the emission units listed in Part I Attachment 1 for the following pollutants: PM, PM_{2.5}, TRS, NO_x, SO₂, and CO.

Emission Unit	Particulate matter (PM) ¹	Speciated HAP metals ²	PM _{2.5} (fil.)	PM _{2.5} (cond.)	Chlorinated HAP (Cl) ¹	Acetaldehyde, Formaldehyde, and Methanol ¹	Total hydrocarbon (THC) as carbon	Total reduced sulfur (TRS) ^{1,3}	Nitrogen oxides (NO _x) ¹	Sulfur dioxide (SO ₂) ¹	Carbon monoxide (CO) ¹	
Test methods⁴	M5, M29, M17 PM CEMS, COMS	M29	EPA OTM 27	EPA OTM 28	Chlorine (Cl ₂) via M26A with modifications described in subpart S Cl ₂ CEMS	Methanol: Method 308 (part 63) or Methanol CEMS Other methods (e.g., for acetaldehyde & formaldehyde)	M25 or M25A	M16 (or variants such as 16A, 16B, 16C) or TRS CEMS Provide total TRS data. Also provide speciated TRS data, if available.	M7 (or variants such as 7E) CEMS	M6 (or variants such as 6C) CEMS	M10 CEMS	
Thermal oxidizers controlling Part I emission sources	Supply most recent data				Not requested			Supply most recent data				
Digesters, Pulp washers, Evaporators, Turpentine recovery, Strippers, O₂ delignification, Knotters and screens, Deckers (high density storage), and Weak and strong liquor storage tanks (or their associated LVHC and/or HVLC collection systems)	Not requested				Supply most recent data following MACT compliance			Supply most recent data following MACT compliance		Not requested		
Sulfite pulping sources	Not requested				Supply most recent data following MACT compliance					Supply most recent data	Not requested	

Emission Unit	Particulate matter (PM) ¹	Speciated HAP metals ²	PM _{2.5} (fil.)	PM _{2.5} (cond.)	Chlorinated HAP (Cl) ¹	Acetaldehyde, Formaldehyde, and Methanol ¹	Total hydrocarbon (THC) as carbon	Total reduced sulfur (TRS) ^{1,3}	Nitrogen oxides (NOx) ¹	Sulfur dioxide (SO ₂) ¹	Carbon monoxide (CO) ¹
Wastewater treatment systems	Not requested					Supply most recent modeling or measurement data (as requested in WW tab)		Supply most recent modeling or measurement data (as requested in WW tab)	Not requested		
Bleaching systems subject to subpart S	Not requested				Supply most recent data following MACT compliance						Supply most recent data following MACT compliance
Paper machine emission points	Not requested					Supply most recent data					
Causticizing area sources	Not requested					Supply most recent data					
Stand alone semichemical, mechanical, nonwood, and secondary fiber pulping	Not requested					Supply most recent data					

¹ If your emission unit is equipped with a continuous emissions monitoring system (CEMS) or continuous opacity monitoring system (COMS), supply the CEMS and COMS data using the CEMS data spreadsheet (P&P CEMS_PI.xls). Synthetic area sources should supply the most recent data (if data are available).

² The HAP metals include antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium. Include chromium VI (Cr⁺⁶) and speciated mercury (Hg) test data if available.

³ Speciated TRS would include: hydrogen sulfide (H₂S), methyl mercaptan, dimethyl sulfide, and dimethyl disulfide.

⁴ M = method (e.g., M5 is EPA Method 5). EPA Methods 5, 6, 7, 10, 16, 17, 23, 25/25A, 26/26A appear in 40 CFR Part 60, Appendix A. EPA Method 308 appears in Part 63, Appendix A. The “OTM” test methods can be found at <http://www.epa.gov/ttn/emc/prelim.html>