



Maine Air Inventory Reporting System
MAIRIS
Facility User's Manual
Version 2



Maine Department of Environmental Protection
March 2016

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Welcome to MAIRIS!

MAIRIS—which stands for **M**aine **A**ir **I**nventory **R**eporting **S**ystem—is the web application developed by the Maine Department of Environmental Protection (DEP) to assist Maine facilities with their annual air emissions reporting requirements. MAIRIS is web-based, meaning that users will simply need a web browser to access and use the program—nothing needs to be downloaded or installed.

In October 2006, Maine DEP received a grant from the U.S. Environmental Protection Agency (EPA) to fund development of a new web-based reporting software tool that would speed the collection of data from facilities, provide higher quality and transparency of that data, and format it to meet EPA submittal requirements. After an open and competitive bid process, Perrin Quarles Associates, Inc. of Charlottesville, Virginia was selected and subsequently developed MAIRIS in collaboration with DEP personnel.

MAIRIS has been specifically designed to meet the following program objectives and requirements:

- **Consolidated Inventory Package**—MAIRIS was designed to seamlessly combine the criteria and hazardous air pollutant and greenhouse gas inventories, taking advantage of commonalities, such as facility identification and contact information, stack and geospatial coordinate information, and fuel throughputs.
- **Quality Control Validation and Quality Assurance Feedback Tools**—MAIRIS provides instantaneous, quality control validation to facility users by vetting data inputs and providing extensive on-screen help at every step. More than 200 QA/QC checks, including comparison to last year's data and license permit limits, are incorporated. Electronic communications are used to submit inventories and to notify companies about the discrepancies in their submission.
- **XML-Formatted Data, Deliverable to EPA via Maine Exchange Network Node**—Data submitted to Maine DEP doesn't stop in Augusta. The federal Consolidated Emissions Reporting Rule (68 FR 39682) requires the State of Maine to collect and submit an annual emissions inventory from point sources, and Maine's companion rule, 06-096 CMR Chapter 137, defines these requirements for Maine facilities. MAIRIS has been designed to exchange data with EPA using the **XML** format and Exchange Network node.

Please feel free to make suggestions on ways to make improvements.

2

Understanding Individuals, Accounts, and Roles

Every person who logs into MAIRIS has a unique User Id and password. What that person can do and which facilities that person can see are governed by the authorizations specifically assigned to that User Id. This section provides an overview of individuals, accounts and roles, and the rules which govern them. Chapter 3 will explain the process for facilities to register and change users.

2.1 Definitions

An **individual** is any person involved with MAIRIS, including Maine DEP personnel, facility representatives, or consultants. An **account** provides one individual user with rights to use MAIRIS. Every individual with an account in MAIRIS has one or more associated roles. A **role** is a collection of permissions that allow an individual to perform specific tasks within MAIRIS. Certain roles allow you to do and see things, while other roles may not.

There are five defined roles that exist in MAIRIS: Facility Editor, Facility Approver, DEP Agent, DEP Editor, and DEP Administrator.

- **Facility Editor:** A Facility Editor may review and modify all editable data for an inventory in Initial status. This includes entering fuel throughputs, operating details, and emissions data. The Facility Editor may not submit the inventory but may electronically “hand-off” the inventory to the Facility Approver for submittal. A facility may have more than one Facility Editor. With authorization, consultants may be added as Facility Editors in order to prepare emission inventories.
- **Facility Approver:** The Facility Approver is the person at a facility who is responsible for legally certifying the inventory data. The Facility Approver is the only person who may submit an emissions inventory to DEP. There may be only one account per facility site with this role. An individual with this role must have a physical ink signature on file with the Maine DEP. Chapter 3 further explains the registration and signature process.
- **DEP Agent:** A DEP Agent acts on behalf of a facility in a capacity similar to a Facility Editor and Facility Approver. A DEP Agent may enter data for a site and submit an emissions inventory by proxy for a facility. This role was created to address rare situations that prohibit a facility from submitting their inventory electronically.
- **DEP Editor:** A DEP Editor can review all aspects of a facility’s submission and make minor edits during the review process. Maine DEP’s Air Licensing Engineers and Emissions Inventory staff will have the role of DEP Editor.
- **MAIRIS Administrator:** The MAIRIS Administrator manages the content of MAIRIS and all data contained in MAIRIS. The MAIRIS Administrator is responsible for creating user accounts, assigning roles, and associating accounts with individual facilities.

2.2 Rules Regarding Roles

The previous section hinted at several of the rules regarding roles. Maine DEP designed specific logic in MAIRIS that would protect the integrity of the data collection and submission process. This logic provides the basis for these rules.

- **One person can be both a Facility Editor and a Facility Approver.** By design, the Facility Approver does not have permission to edit data when the inventory is in Initial status in MAIRIS, only to view. Once the inventory is changed to Ready to Review and Certify status by the Editor, the approver can then edit, certify, and submit the inventory to DEP. Where an individual both compiles and enters the inventory data and acts as the certifying official, they will have both roles. Unless specifically requested, however, the certifying official will only be assigned the Facility Approver role, and not the Facility Editor role.
- **A facility can have more than one Facility Editor.** This accommodates situations where (a) a facility has more than one person in-house who helps compile the emissions inventory; (b) a facility wants their Facility Approver to have edit capabilities over the submission, in addition to the staff person compiling the inventory; or (c) a facility hires a consultant and has a staff person in-house who work together to compile the emissions inventory.
- **Each facility can have only one Facility Approver.** A Facility Approver is the individual with the role of certifying and submitting the facility's emissions inventory. In legal terms, this is the facility's responsible official described in DEP's Chapter 137, Section 4.A. The system prevents the MAIRIS Administrator from associating more than one Facility Approver with a facility.
- **An account may not have both a Facility role and a DEP role.** This rule was designed to prevent the accidental assigning of DEP roles to facility users. A DEP staff person who is acting on behalf of a facility will have the role of DEP Agent. No DEP staff will ever be assigned Facility roles.
- **An individual functioning solely as a Facility Editor for one facility and Facility Approver for a second facility will be assigned two accounts, with two different User IDs and passwords.** An account provides one individual with one specific set of rights. If an individual must have different rights for different facilities, then two accounts are needed. No two User IDs in MAIRIS can be the same.

3

Registering MAIRIS Facility Users

3.1 User Registration and Electronic Signature Agreement

Maine DEP uses two forms to register MAIRIS users: The **MAIRIS User Registration and Electronic Signature Agreement** and the **MAIRIS User Registration for Facility Editors Only**. In order to initially create or change a Facility Approver, facilities must submit the MAIRIS User Registration and Electronic Signature Agreement, which serves to identify the Facility Approver and any Facility Editors who will be using MAIRIS.

As the names suggest, the **MAIRIS User Registration for Facility Editors Only** form can be used by an on-file approver to change editor accounts associated with a facility. This form does not need to be notarized and allows for the simultaneous creation of new Editors and deletion of old ones. That said, it is not required in order to remove old editor accounts. That can be done with an email from the current Facility Approver to the emissions inventory staff at Maine DEP.

Accounts should be used by the person to whom they are registered. When a person responsible for MAIRIS inventory editing or submission changes, new accounts need to be created and old accounts deactivated. Do not simply pass around login information.

The full **MAIRIS User Registration and Electronic Signature Agreement**, shown at right, has several key areas:

- ① The primary purpose of Part One is to identify the facility and the individual selected as the Facility Approver; create the equivalency between “wet ink” and electronic signatures; and stipulate the conditions - such as misuse or termination from employment - under which the agreement would be invalid. The certification language in Section 2 is exactly as it appears on the Certify and Submit page in MAIRIS.
- ② The signature of the Facility Approver must be notarized, with signature and commission expiration date.
- ③ If the person identified as the Facility Approver is replacing a previous Facility Approver, please check the box provided. Maine DEP will need to disable the account of the current Facility Approver before a new one can be added.
- ④ The Facility Approver does not have the rights to edit emissions inventory when in Initial status; those rights are held by the Facility Editor role. However, there are situations where a facility would like the Facility Approver to have editing capabilities at all times, such as when the Facility Approver and Facility Editor are the same person. This check box assigns the Facility Approver the additional MAIRIS role of Facility Editor.
- ⑤ The User Registration and Electronic Signature Agreement allows facilities to add up to three Facility Editors. A consultant who prepares an emissions inventory should be listed as a Facility Editor, never as the Facility Approver.
- ⑥ Finally, the addition of Facility Editor(s) must be approved by the current or new Facility Approver, with an ink signature.

Maine Air Inventory Reporting System (MAIRIS) User Registration and Electronic Signature Agreement



**Maine Department of Environmental Protection
Maine Air Inventory Reporting System (MAIRIS)
User Registration and Electronic Signature Agreement**

Part 1: Facility Approver Designation and Electronic Signature Agreement

Instructions: The Facility Approver is the sole person authorized by a facility to certify and submit emissions inventory data through MAIRIS. Each facility may have only one person authorized to do so at one time. The Electronic Signature Agreement authorizes the Facility Approver to electronically certify data without further ink signatures. This form must be notarized, with signature and the commission expiration date, to be valid.

I, _____, do hereby affirm on this _____ Day of _____, 20____ that I understand and agree to the following:

- I have been designated by the owners of _____, which has been assigned Air Emissions License Number A-00, to be the facility's responsible official for the submission of the Annual Air Emissions Inventory for that facility as required by the Air Emissions License and 06-096 CMR Chapter 137.
- I have read and understand the following certification statement that also appears at the time data is submitted electronically through the MAIRIS system.
I certify, under penalty of Maine statutes 38 MRSA, Section 349(3) and Section 585-C(2)(c), that I am the facility's responsible official and have undertaken due diligence to personally examine and otherwise familiarize myself with the information contained in these forms and underlying input data. I further certify, to the best of my knowledge, that the Annual Air Emissions Inventory is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.
- I agree that affixing an electronic signature to the Annual Air Emissions Inventory using MAIRIS is equivalent to affixing a wet ink signature to the same information as would be submitted on paper to the Department.
- I understand that allowing another individual to use my electronic signature or any other willful misuse of MAIRIS could lead to revocation of the authorization to use MAIRIS and may result in legal action as noted above.
- I will immediately report to the DEP MAIRIS Administrator any instance where I believe that my MAIRIS User ID, Password or my MAIRIS electronic signature has been compromised, including, but not limited to, my termination, whether voluntary or involuntary, from the facility.

Signature of Applicant

Applicant Title

E-Mail Address of Applicant

Applicant Telephone Number

Sworn to and subscribed before me, this _____ Day of _____, 20____

Signature of Notary Public

Commission Expiration

This form must be notarized with a signature and the commission end date to be valid.

Is the Facility Approver, designated above, replacing another person so designated at the facility?
 Yes No If "Yes", please provide the name of the former Facility Approver: _____

Would you like the Facility Approver, designated above, to be registered as a Facility Editor for the facility?
 Yes No Marking "Yes" gives the Facility Approver full data editing capabilities. If not answered, "No" is assumed.

Part 2: Facility Editor Registration

Instructions: A Facility Editor has the ability to input and edit emissions inventory data i have more than one Facility Editor at a time. Consultants preparing emissions inventories Facility Editors by the facility. All Facility Editors must be approved by the currently reg

Facility Editor #1 (please type or print)
 Applicant Name: _____ Telephone Number: _____
 Applicant E-mail Address: _____
I will immediately report to the DEP MAIRIS Administrator any instance where I believe that my I has been compromised. I understand that allowing another individual to use my electronic signat MAIRIS could lead to revocation of the authorization to use MAIRIS.
 Applicant Signature: _____ Date: _____

Facility Editor #2 (please type or print)
 Applicant Name: _____ Telephone Number: _____
 Applicant E-mail Address: _____
I will immediately report to the DEP MAIRIS Administrator any instance where I believe that my MAIRIS User ID or Password has been compromised. I understand that allowing another individual to use my electronic signature or any other willful misuse of MAIRIS could lead to revocation of the authorization to use MAIRIS.
 Applicant Signature: _____ Date: _____

Facility Editor #3 (please type or print)
 Applicant Name: _____ Telephone Number: _____
 Applicant E-mail Address: _____
I will immediately report to the DEP MAIRIS Administrator any instance where I believe that my MAIRIS User ID or Password has been compromised. I understand that allowing another individual to use my electronic signature or any other willful misuse of MAIRIS could lead to revocation of the authorization to use MAIRIS.
 Applicant Signature: _____ Date: _____

Facility Approver Recommendation: I approve the above listed individual(s) as Facility Editors for

Legal Company or Facility Name Date

Facility Approver's Name, Typed or Printed Signature

DEP Use Only: MAIRIS ID	Permit	UserID	Date Issued
FA			
FE1			
FE2			
FE3			

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3.2 Adding New MAIRIS Users During the Inventory Cycle

Facility Approvers and Facility Editors may change at any point during the annual emissions inventory cycle. The requisite forms must be completed and sent to Maine DEP any time there is a change in the authorized Facility Approver or Facility Editor(s).

When there is a change in the Facility Approver, Maine DEP recommends that the facility notify the MAIRIS Administrator by e-mail *in advance of sending the MAIRIS User Registration and Electronic Signature Agreement*. This advance notice will alert emission inventory staff of the change and allow them to disable the account for the current Facility Approver. However, only once the form arrives at the DEP offices in Augusta can the new Facility Approver account be enabled.

Forms may be sent by U.S. Mail, UPS or FedEx overnight. Facility Approvers and Facility Editors will receive a MAIRIS New User Account e-mail notifying them when they have been added to the system.

4

Log-In, General Navigation, and the MAIRIS Global Menu

The MAIRIS menus and navigation between pages have been designed to provide a natural workflow for all users. Menus and user capabilities vary depending the role of the user and whether the inventory has yet been submitted. However, some features in MAIRIS are constant, regardless of user or submission status. This chapter will look at those common MAIRIS elements.

4.1 The MAIRIS Welcome E-Mail

Users will receive an e-mail when their MAIRIS account has been created. The e-mail contains three important pieces of information:

- **MAIRIS User ID:** The e-mail will display your MAIRIS User ID. User IDs are case sensitive and must be typed exactly as they appear in the e-mail.
- **Temporary Password:** The e-mail will also contain a temporary, single-use password. The password is only good for the first time the user logs into the system. Every user must change their password the first time they log into MAIRIS.
- **MAIRIS URL:** A link to the MAIRIS Log In page. Users may bookmark this link for future use. It is also available on Maine DEP's MAIRIS website.

4.2 A Few Notes About Web Browsers

MAIRIS is a web-based tool which means users will be required to use a web browser to access MAIRIS. MAIRIS was built to be compatible with two web browsers: Microsoft's Internet Explorer* and Mozilla's Firefox. During development, Maine State Government required all web-based applications to be compatible with three browsers and MAIRIS has been tested in Apple's Safari browser. Safari is primarily an Apple/Mac browser and meets the Governor's requirement of making all State applications capable of running on student laptops.

While it is possible users may experience browser specific issues when accessing MAIRIS, as of 2015, MAIRIS was working well across all common web browsers.

4.3 Log Into MAIRIS

Clicking on the link provided in the e-mail opens to the MAIRIS Log In page. Users may wish to bookmark this link for ease of future use.



The screenshot shows the MAIRIS login interface. At the top, it displays the logo for the Department of Environmental Protection, Bureau of Air Quality, and the MAIRIS (Maine Air Inventory Reporting System) title. The main heading is "Log in to Maine Air Inventory Reporting System". Below this, users are instructed to enter their unique User ID and password combination. There are two input fields: "* User ID:" and "* Password:", both marked as required. A "Login" button is positioned below the password field. A link is provided: "[Click here if you have forgotten your User ID or Password](#)". The footer contains navigation links for "Bureau Home", "Maine.gov", "Privacy", and "Security", along with a copyright notice: "Copyright © 2008 All rights reserved."

Users who have forgotten their User ID or password, may use the link, [Click here if you have forgotten User ID or Password](#), to request their User ID and/or reset their password. **MAIRIS does not store passwords, nor does Maine DEP have any access to them.** The MAIRIS Administrator can only reset passwords which generates an e-mail containing another single-use password.

The first time any user enters their User ID and single-use password provided in the e-mail and clicks Log-in, they will be taken to the Change Password screen.

Users must enter both the temporary, single-use password from the e-mail and a new password of their



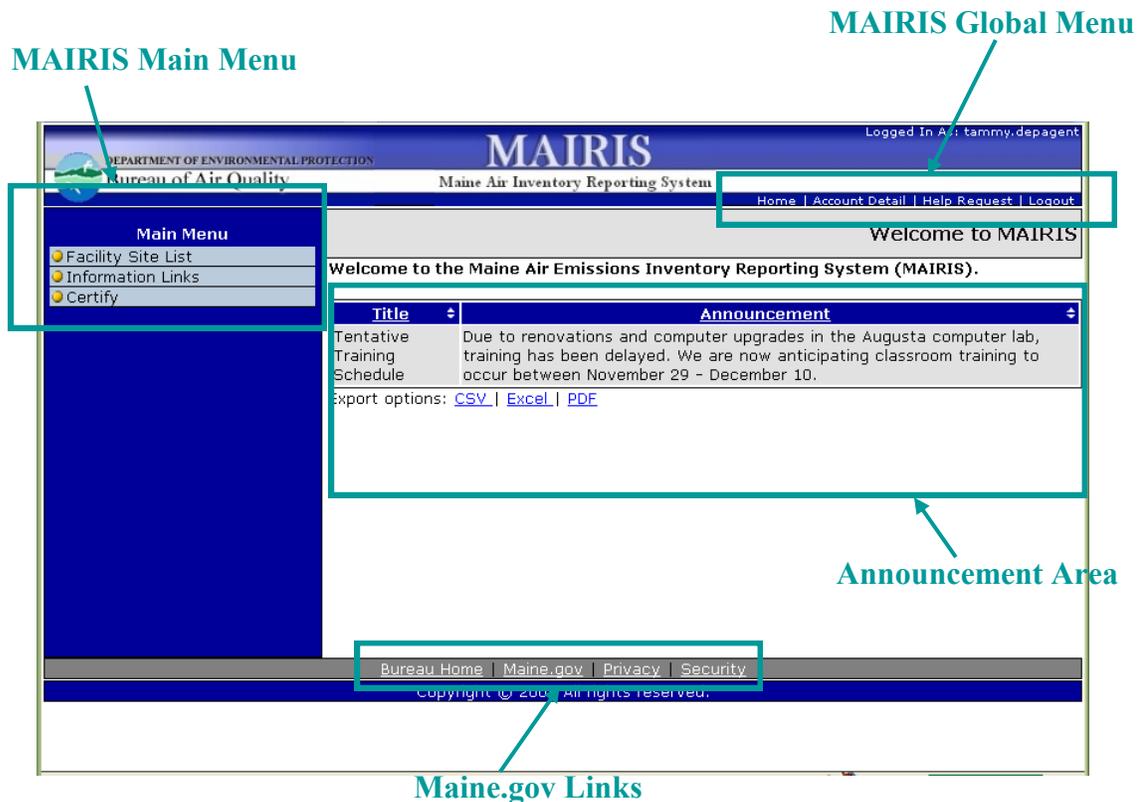
The screenshot shows the MAIRIS "Change Password" page. The user is logged in as "tammy.depagent". The page title is "Change Password". A "Main Menu" sidebar on the left lists "Facility Site List", "Information Links", and "Certify". The main content area contains "Instructions: Re-enter the temporary, single-use password which was e-mailed to you. Then enter your new password and select **Change Password** to confirm it." Below the instructions, there are three input fields for "* Temporary Password:", "* New Password:", and "* Confirm New Password:", all marked as required. There are two buttons: "Change Password" and "Reset". The footer is identical to the login page, with navigation links and a copyright notice.

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4.4 The MAIRIS Home Page

The MAIRIS Home Page is the gateway to MAIRIS. A Global Menu, available throughout MAIRIS, runs along the top right portion of the screen. The vertical menu on the left, known as the Main Menu, contains links to specific inventory activity pages.

Primary information is displayed in the center of the page, including date sensitive announcements.



The links at the bottom center of the page are consistent with Maine DEP's public website, but be aware, when clicked, redirect the browser out of the MAIRIS application.

4.4.1 MAIRIS Global Menu

The MAIRIS Global Menu has four links.

- **Home:** The Home link will always return the browser to the MAIRIS Home Page.
- **Account Detail:** The Account Detail page provides any user with a quick synopsis of their account information, including the current e-mail address and work telephone number on file in MAIRIS, the user's MAIRIS account User ID and role within MAIRIS.
- **Help Request:** MAIRIS provides a general purpose form allowing users to contact Maine DEP with questions or requests related to their MAIRIS accounts or inventory information. The **Request Topic** list contains more than a dozen areas, including selections for account information, inventory-specific issues, and MAIRIS submission

Help Request

Instructions:

- Select the topic of your Help Request and type your message in the Request Message field.
- If you wish Maine DEP to reply to an e-mail address other than the one that is currently associated with your account, enter the address in the **Alternate E-mail** field.
- To send the message, select **Submit**.
- You will receive a copy of the e-mail sent to Maine DEP.

*** Required Fields Marked By Asterisk**

Help Request

* **Request Topic:**

Alternate E-mail:

* **Request Message:**

and reporting questions. The user may also provide an alternate e-mail address for Maine DEP to reply.

When all required fields are populated, select Submit and an e-mail message will be forwarded to Maine DEP, copied to the e-mail address on the MAIRIS user's account.

Questions will also be answered by telephone or by e-mail to emissionsinventory@maine.gov.

- **Logout:** MAIRIS users are advised to log out of an active session of MAIRIS when their work is complete. This can be done at any time by clicking the Logout link in the MAIRIS Global Menu. When this link is clicked, MAIRIS provides a confirmation screen so that accidental logouts (and any subsequent data loss) can be avoided. Users should click Logout on the confirmation screen to end their session or Cancel and Return to return to the previous page.

For security purposes, MAIRIS has a built-in timeout feature that will automatically log the user out due to prolonged inactivity. That inactivity period has been set at 20 minutes. No message is displayed when this automatic logout occurs and it isn't readily apparent. However, the next user action - click of a button or link - returns the user to the MAIRIS Log-In screen where the user must re-enter their User ID and password. Upon successful log-in, the user action originally requested occurs.

4.4.2 MAIRIS Main Menu and Facility Site Menu

The MAIRIS Main Menu is displayed when a user is logged into the system. All users, regardless of role, will see a link to the Facility Site List and Information Links. User accounts with the role of Facility Approver will also show a Certify link.

The Facility Site List link opens a page that lists all the facilities associated with an account. If a user has more than one account in MAIRIS, they will only see those facilities associated with the current account. When a user clicks on a specific facility site, the Facility Site Menu appears. This menu is discussed further in Chapter 5.

The Information Links provide users with direct access to forms, documents, and other web sites that are useful to completing their annual emissions inventory. Beware, however, that links to these websites will take the user away from the MAIRIS application.

4.4.3 Other Features of the MAIRIS Home Page

- **Welcome and Announcements:** A welcome announcement greets all MAIRIS users. In addition, an announcement grid may appear on the MAIRIS Home Page in the primary information section.
- **Maine.gov Links:** The links at the bottom center of every page are required by Maine.gov and provide specific navigation to (1) the Bureau of Air Quality Home Page; (2) the Maine.gov Home Page; (3) the Maine.gov Privacy Statement; and (4) the Maine.gov Transaction Security Policy. Maine DEP encourages users to visit these sites and read these policies, however, please do it when not working on an annual inventory submission. Clicking any of these links redirects the browser out of the MAIRIS application and users risk losing any unsaved data.

5

Facility Inventory: Facility Site Data

5.1 Working with Data in Grids

After logging into MAIRIS, clicking the link for Facility Site List in the MAIRIS Main Menu will display a list of facilities associated with that account as a grid in the primary information portion of the screen.

MAIRIS displays a great deal of its information in grids. At the bottom of each of these grids is a label, **Export Options**, with three hyperlinked options: [CSV](#) (comma-separated values); Excel; and [PDF](#) (portable document format). Clicking on any of these three links will download the information currently displayed in the grid or, depending on the browser settings, open the program registered for that file type.

The screenshot shows the MAIRIS interface. At the top, it says 'DEPARTMENT OF ENVIRONMENTAL PROTECTION Bureau of Air Quality' and 'MAIRIS Maine Air Inventory Reporting System'. The user is logged in as 'tammy.depagent' for the 'Inventory Year 2008'. A 'Main Menu' is on the left with options: Facility Site List, Information Links, and Certify. The main content area is titled 'Facility Site List' and contains a table with the following data:

MAIRIS Facility Id	Air License Number	Name	Facility Operating Status	Inventory Status
2303300001	A-000001	Electricity for ME	Operating	Initial
2303300002	A-000002	Maine Paper Company Holdings	Operating	Complete
2303300003	A-000003	Yancy's Yo-Yos	Temporarily Shutdown	Submitted

Below the table, it says 'Export options: [CSV](#) | [Excel](#) | [PDF](#)'. At the bottom, there are links for 'Bureau Home', 'Maine.gov', 'Privacy', and 'Security', and a copyright notice: 'Copyright © 2008 All rights reserved.'

MAIRIS grids also have another universal capability. Each column heading has two small triangles displayed next to it. Clicking on the column heading once will cause the entire grid to be sorted (ascending) using information in the selected column as a key. The top arrow (pointing upward) will turn red. Clicking on the column heading again will cause the entire grid to be sorted (descending) and the bottom arrow will turn red. Subsequent clicks will toggle the sorting between ascending and descending. To sort based on a different column, simply select that column heading.

5.2 The Facility Site List

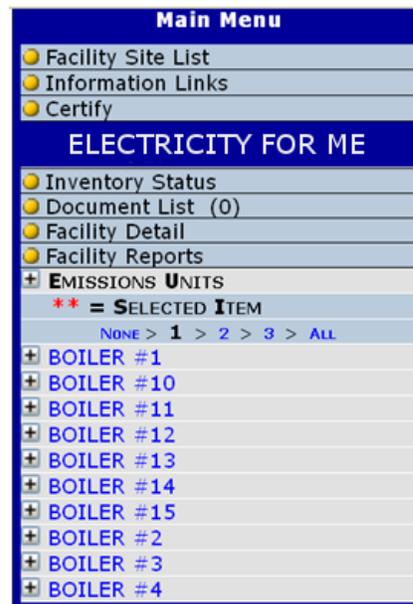
The Facility Site List contains all the facilities associated with that user's account in MAIRIS. The Facility Site List displays the MAIRIS Facility ID, Air License Number, Facility Name, operating status of the facility, and status of the annual air emissions inventory.

Both the facility name and its corresponding inventory status are hyperlinks. When the **Facility Name** link is clicked, the Facility Detail page is displayed in the primary information panel and a new menu, the Facility Site Menu, appears on the left. Clicking on the **Inventory Status** of a facility in the Facility Site List takes the user to the Facility Inventory Status page, which will be discussed further in Chapter 13.

5.3 The Facility Site Menu

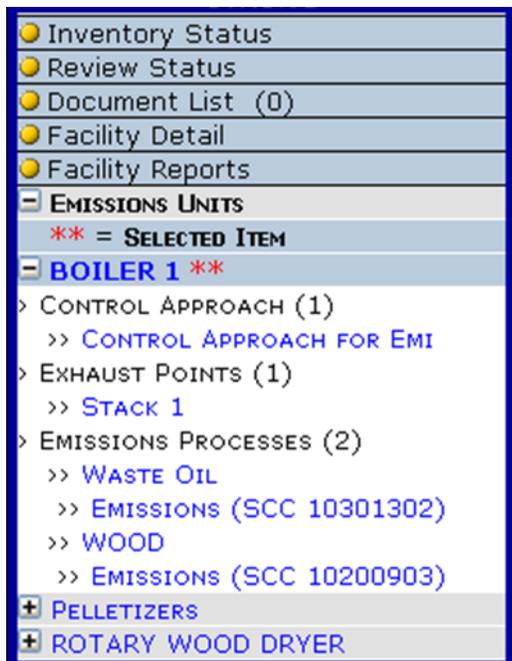
Once a facility has been selected, a new menu - the Facility Site Menu - appears on the left, below the MAIRIS Main Menu. The Facility Site Menu is labeled with the Facility Name. The top four items in the Facility Site Menu are links to facility-wide functionality:

- **Inventory Status:** The Inventory Status page is where a Facility Editor changes the status from 'Initial' to 'Ready to Review and Certify' thus signaling the Facility Approver that the emissions inventory is ready for submission to Maine DEP. This page is explained fully in Chapter 13.
- **Document List:** The Document List page is where MAIRIS users may view uploaded inventory-supporting documents, such as supporting information, manual calculations, or additional QA reports. The number in parentheses displays the number of documents attached to the submission for the current year. The Document page is discussed further in Chapter 11.
- **Facility Detail:** The Facility Detail page is the summary page initially displayed to the right of the menu. It is discussed later in this chapter.
- **Facility Reports:** The Facility Reports page is the location of several facility-specific reports, including the Completeness Report that must be run prior to submission. Reports are discussed in Chapter 12.



The hierarchical menu initially shows the label **Emissions Units** at the top with a “+” symbol directly to its left. Beneath the **Emissions Units** label is menu that allows users to chose how many emission units are displayed. The link is titled **NONE >1 > 2 > 3 > ALL**. Facilities with more than ten (10) Emission Units have the option to view None, some (increments of ten (10)) or All Emission Units. Displaying a subset or none of a facility's emission units reduces page refresh times. **Note:** For the fastest page refresh times, select an Emission Unit for which you would like to enter or check data, then click “NONE” to hide ALL Emission Units.

In addition to the “+” symbol next to **Emissions Units**, there is a “+” symbol to the left of each individual unit. Any single emissions unit can be expanded to view all its associated components by clicking on the “+” symbol to its left. To see the associated components of all emissions units, click the “+” next to the Emissions Unit header. Associated components may include:



- **Control Approach** - A control approach is the combination of control devices associated with a single piece of equipment. If there are no control devices associated with the equipment, then this section will not appear.
- **Exhaust Points** - Exhaust points may be either vertical stacks or fugitive vents. If emissions are released through more than one exhaust point, all points will be listed here.
- **Emissions Processes** - Emission processes are fuel or material processed by the emissions unit. Each process of a unit is listed separately. Under each process label, a hyperlinked name allows the user to directly access detailed information for that process. The user can also go directly to the associated Emission Summary Page by clicking on the *Emissions* link below each process.

A user may collapse the menu back to its original state by clicking the “-” next to the name of an emissions unit. The user may collapse all emissions units simultaneously by clicking the “-” symbol next to the Emissions Units heading.

5.4 Reviewing Facility Site Data

The Facility Detail page is displayed in MAIRIS’ primary information panel whenever a Facility Name is selected from the grid in the Facility Site List. After navigating away, a user may return to the Facility Detail page by selecting the Facility Detail link in the Facility Site Menu.

The Facility Detail page displays information that is relevant to the facility site, including basic descriptive information, address information, geographic coordinates, and operating status information.

The majority of information about the facility site is maintained by Maine DEP in our internal **Environmental Facility Information System (EFIS)**. This data system contains all of the specific information about a company, location, and air emissions license. Every evening changes made in EFIS are sent to update MAIRIS. These updates continue until the facility’s emissions inventory has been submitted.

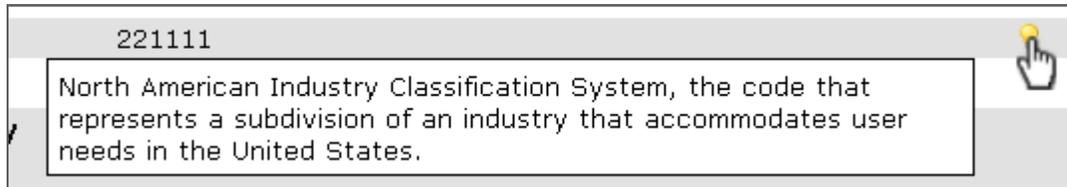


If users see non-editable information on any MAIRIS page that is inaccurate, please let Maine DEP know. Users can inform Maine DEP about errors by:

- Sending a Help Request, using the link on the MAIRIS Global menu;
- Sending an e-mail with details to emissionsinventory@maine.gov; or
- Contacting the Emissions Inventory staff by phone (see contact information on page ii of this manual).



Help icons are available for many fields and are indicated by this yellow light bulb. When your mouse hovers over a Help icon, a temporary text message will appear. These help icons are used throughout MAIRIS.



The example above shows the explanatory message that appears when a user hovers over the Help icon associated with the **NAICS Code** field.

The **Comment**, **Facility Operating Status**, and **Status Operating Year** are the only three fields on the Facility Detail page that can be edited by the user. MAIRIS assumes that every facility subject to the annual emissions inventory is “Operating” and pre-populates the **Facility Operating Status** with that value. There are four possible operating statuses in MAIRIS:

- *Operating*: The facility operated some or all of their licensed emissions units during any part of the reporting year.
- *Permanently Shutdown*: The facility has been closed for the entire reporting year. Equipment may have been sold off. Other activities may be occurring using portions of the facility structure. The facility is likely to surrender its air emissions license.
- *Temporarily Shutdown*: The facility has been closed or otherwise non-operational for the entire reporting year, but maintains a valid air emissions license. The facility infrastructure and equipment have been left in place for immediate restart.

NAICS Code:	221111	
NAICS Code Desc:	Hydroelectric Power Generation	
Comment (required for Facility Operating Status other than Operating):	<input type="text"/>	
* Facility Operating Status:	Operating	
* Operating Status Year:	2009	
Physical and Mailing Addresses		

- *Under Construction*: The air emissions license has been issued. However, the facility is still under construction and none of its licensed emission units operated during the reporting year.
- *Operating—not reporting*: This is a designation that Maine DEP uses when reporting non-compliant entities to the Environmental Protection Agency and should not be selected by reporting facilities.

When the facility’s operating status is changed to one of the non-operating statuses, the operating status of all emissions units is changed to the same status.

If a facility’s status is something other than “Operating,” a comment is required in the **Comment** field. Comment fields are available on all MAIRIS pages. Comments here should pertain to the facility, in general.



The **Operating Status Year** must be the reporting year. It is pre-filled and should not be changed.

5.5 Save, Reset, and Cancel and Return

At the bottom of most MAIRIS pages, users will find three buttons: Save, Reset, and Cancel and Return.

- *Save*: Pressing the Save button saves all data entered on the page. If a user enters data on a page and navigates away from that page without pressing the Save button, all data will be lost! Save can be pressed at any time. A confirmation message will be displayed at the top of the page when data have been saved (see below). If you have left a required field blank or entered a value out of the acceptable range, you will see an error message with additional instructions.

Information

- The Facility Operating Status has been successfully updated.

- *Reset*: The Reset button clears all data from the page but does not redirect the web browser.
- *Cancel and Return*: Cancel and Return cancels the current activity and navigates to the previous page.

Completing Your Emissions Inventory...

- Verify that the facility information presented on the Facility Detail page is correct. Contact Maine DEP if you find errors.
- Select the appropriate **Facility Operating Status**. If you choose a status other than “Operating,” you must enter an explanatory comment in the **Comment** field.

6

Facility Inventory: Emissions Unit Data

Emissions unit data can be accessed by clicking on a hyperlinked emissions unit name in the Facility Site Menu.

The Emissions Unit page is divided into three sections: the **Emissions Unit Information**, the **Emissions Unit Operating Details**, and at the very bottom of the page, **Exhaust Point(s) Associated With This Emissions Unit**.

6.1 Emissions Unit Information

The majority of emissions unit information is supplied to MAIRIS from EFIS. These data elements are not editable by MAIRIS users, but are presented for reference and confirmation.

The **Emissions Unit Operating Status** and **Comment** may be edited prior to submission. As on the Facility Detail page, a user may set the operating status of a piece of equipment or process to a status other than “Operating.” The same list of options - *Operating*, *Permanently Shutdown*, *Temporarily Shutdown*, and *Under Construction* - is available to describe the operating status of an emissions unit.

Emissions Unit Information	
Emissions Unit Id:	001
Emissions Unit Description:	BOILER 1
Unit Type Code:	100
Unit Type Description:	Boiler
Design Capacity:	585.9
Design Capacity Description:	E6BTUHR
Associated CEMS?:	
Unit Operating Status Year:	2009
Comment:	
<div style="border: 1px solid gray; height: 100px; width: 100%;"></div>	
* Unit Operating Status:	<input type="text" value="Operating"/>  

When would an Operating Status other than “Operating” be appropriate? A user will select a non-operating status for a piece of equipment that did not operate during the entire reporting year. The equipment may have been sold, not yet purchased, or only temporarily taken off-line. If indicating a non-operating status for a piece of equipment, users are not required to enter any further information about its operating status, fuel or processes, and emissions. That said, a comment as to why equipment was non-operating is encouraged.

When the **Facility Operating Status** on the Facility Detail page is set to any value other than “Operating,” each emissions unit at the facility will have the same operating status and the **Emissions Unit Operating Status** will not be editable.

6.2 Emissions Unit Operating Details

Operating schedule details are also entered on the Emissions Unit Detail page. This section describes the hours the equipment or process is active or operating during the reporting year.

In the screen shot below, **Hours Per Year** is the only required field. This total must be entered in order for the facility to pass the Completeness Check (Chapter 13) prior to submission. Users may enter the hours per year directly or may enter the **Hours Per Day**, **Days Per Week** and **Weeks Per Year** separately and then select the “Calculate Hours” button at the bottom of the page.

Emissions Unit Operating Details

- The Operating Details describe the hours the process is active or operating during the reporting year.
- Enter the average **Hours Per Day**, **Days Per Week** and **Weeks Per Year** and press the **Calculate Hours** button. **Hours Per Year** will be calculated for you.
- **Hours Per Day** and **Days Per Week** may be entered with one decimal place; **Weeks Per Year** must be an integer.

Inventory Year:	2008
Hours Per Day:	<input type="text"/>
Days Per Week:	<input type="text"/>
Weeks Per Year:	<input type="text"/>
* Hours Per Year:	<input type="text" value="0"/>
Summer Operating Days:	<input type="text" value="0"/>

Summer Operating Days is collected by Maine DEP in order to perform emissions calculations specific to ozone and PM planning and modeling. Enter a number between 1 and 91, representing the number of days the emissions unit operated during the months of June, July and August.



If a user enters values for **Hours Per Day**, **Days Per Week**, **Weeks Per Year** and **Hours Per Year**, then selects the “Save” button, MAIRIS will validate that the **Hours Per Year** equals the multiplied product of the first three numbers. If it does not, an error message will be displayed and the user will need to make changes before saving the page.



Pressing the “Calculate Hours” button alone does not save the data on the page. Remember to press the “Save” button.

6.3 Exhaust Point(s) Associated With This Emissions Unit

Displayed at the bottom of the Emissions Unit page is a table listing the exhaust point(s) associated with the unit. To see the details of an exhaust point, click its name in the expanded Unit Menu on the left side of the screen. Exhaust points are discussed further in Chapter 10.

Exhaust Point ID	Exhaust Point Name	Exhaust Type
EXH001	WOOD BOILER	Vertical

Export options: [CSV](#) | [Excel](#) | [PDF](#)

Completing Your Emissions Inventory...

- Verify that the emissions unit information presented on the Emissions Unit Detail page is correct. Contact Maine DEP if you find errors.
- Select the appropriate **Emissions Unit Operating Status**. If you choose a status other than “Operating,” enter an explanatory comment in the **Comment** field.
- Enter the operating schedule details for the emissions unit. Enter **Hours Per Day**, **Days Per Week**, and **Weeks Per Year** and press the “Calculate Hours” button - or - enter **Hours Per Year**.
- Enter the number of days that the emissions unit operated in the months of June, July, and August in the **Summer Operating Days** field.
- Select the “Save” button at the bottom of the page.

7

Facility Inventory: Emissions Process Data

An emissions process is a fuel burned or material processed by an emissions unit. Each unit process has an Emissions Process Detail page found by clicking on its link in the expanded Unit Menu under the Emissions Processes header. If you do not see the fuels or materials that are used in the emissions unit listed in the unit menu, please contact Maine DEP.

The Emissions Process Detail page is divided into three sections: Emissions Process Information, Process Throughput, and Additional Fuel Parameters.

7.1 Emissions Process Information

Most of the information contained in the Emissions Process Information section is passed to MAIRIS nightly by Maine DEP's EFIS system. The information is presented here for reference and review.

Emissions Process Information	
Emissions Unit Description:	BOILER 1
Emissions Process Description:	WOOD
MAIRIS ID:	001-1
Source Classification Code (SCC):	10200903
SCC Description:	External Combustion Boilers; Industrial; Wood/Bark Waste; Wood-fired Boiler - Wet Wood (>=20% moisture)
Emissions Process Comment:	<div style="border: 1px solid black; height: 80px;"></div>
* Operating Status:	<input type="text" value="Operational"/>

7.2 Process Throughput

In the Process Throughput section, users report monthly throughput of fuel or material processed, using the most appropriate unit of measure. If a particular process (e.g. wood) was not used in the reporting year you may simply set the Operating Status to "Not Operational".

7.2.1 The Importance of Selecting Throughput Units for Emission Calculations

Emissions calculations are based on this formula:

THROUGHPUT X EMISSION FACTOR = EMISSIONS

Any control efficiencies must be factored into the emission factor that is entered into MAIRIS.

When reporting throughput amounts, users must be mindful of the unit of measure they select. If the user is relying on MAIRIS to perform emissions calculations, the formula above assumes that emission factors and throughput are in the same units of measure. For example, most emission factors for liquid fuels are expressed in units of pounds of pollutant “per thousand gallons”. If the user chooses to enter a throughput in “gallons,” then any emission factors expressed as “per thousand gallons” will not align and will not be available to the user. Emission factors expressed as “per thousand gallons” would need to be converted to “per gallon” and re-entered.

Users are encouraged to work with their Air Licensing Engineer or Emissions Inventory staff to convert existing emission factors. Entering new emission factors in MAIRIS is an easy process (Chapter 8) and, once entered, emission factors are retained in MAIRIS for future inventories.

7.2.2 Setting Material and Throughput Codes

In the Process Throughput section, the **Process Material**, **Material Throughput Units**, and **Process Descriptor** fields are required for the reasons described above. For most source classification codes, these three fields are preset to default values selected by the MAIRIS Administrator.

Users will note that each selection is followed by a button to “Set” the choice. This approach provides consistency and supportability for disabled users as directed under Section 508 of the Rehabilitation Act. Selecting and setting the **Process Material** field will provide a dropdown list with allowable values for **Material Throughput Units**. Selecting and setting the **Material Throughput Units** then provides an allowable set of values for the **Process Descriptor**. These steps prevent such anomalies as trying to report “Wood” in units of “Thousands of Gallons” or “Natural Gas” in units of “Tons.”

The values which populate each dropdown list are set by the MAIRIS Administrator. If you do not see the value you would like to use in the dropdown list, contact the Emissions Inventory Staff. Maine DEP will consider the request, consult with the facility’s Air License Engineer about the appropriateness of the request, and notify the user of the outcome.

7.2.3 Entering Throughput Values

After the **Process Material**, **Material Throughput Units** and **Process Descriptor** are set, throughput value(s) may be entered. A value for **Total Annual Throughput** must be entered

* Process Material:	Distillate Oil - No. 1 & 2	Set Process Material	
* Material Throughput Units:	Thousands of Gallons	Set Throughput Unit	
* Process Descriptor:	I (Burned)		

in order for the facility to pass the Completeness Check at submission.

Users are encouraged to enter the monthly throughput values for each month and then press the “Sum Throughput” button at the bottom. If a user enters values for one or more months and also annual throughput and then selects the “Save” button, MAIRIS will perform a check to ensure that the sum of the twelve monthly values equals the annual value. If not, the user will receive an error message and the page will not be saved. If values were mistakenly or incorrectly entered and need to be cleared, simply click the “Clear Throughput” button at the bottom.



In addition, be careful to enter your throughput data according to content rather than container size as the two are not always identical. For instance, 55 gallon barrels are generally filled with only 42 gallons of fuel.

Process Throughput	
Inventory Year:	2015
* Process Material:	Wood/Bark <input type="button" value="Set Process Material"/>
* Material Throughput Units:	Tons <input type="button" value="Set Throughput Units"/>
* Process Descriptor:	I (Burned)
January Monthly Throughput:	<input type="text"/>
February Monthly Throughput:	<input type="text"/>
March Monthly Throughput:	<input type="text"/>
April Monthly Throughput:	<input type="text"/>
May Monthly Throughput:	<input type="text"/>
June Monthly Throughput:	<input type="text"/>
July Monthly Throughput:	<input type="text"/>
August Monthly Throughput:	<input type="text"/>
September Monthly Throughput:	<input type="text"/>
October Monthly Throughput:	<input type="text"/>
November Monthly Throughput:	<input type="text"/>
December Monthly Throughput:	<input type="text"/>
* Total Annual Throughput:	<input type="text"/>
<input type="button" value="Sum Throughput"/> <input type="button" value="Clear Throughput"/>	

Users may also enter annual throughput directly. However, this prevents Maine DEP from calculating summer season emissions for ozone planning purposes, as Maine DEP and EPA are not able to apportion throughput to June, July and August based on the information provided. Facilities may be contacted in the future if this information is not provided.

7.3 Additional Fuel Parameters

At the bottom of the Emissions Process Detail page are two fields related solely to fuel combustion.

Some emission calculations include the percent sulfur or percent ash when calculating pollutant emissions. Therefore, when submitting throughput data for certain combustion processes (identified by source classification code), users are requested to provide the **Ash Content** and **Sulfur Content** of the fuel above.



You do not need to fill these fields in order to save the page, however, errors will arise later if a user selects an emission factor which uses the percent sulfur or percent ash values.

Additional Fuel Parameters

Some emission factors require the use of ash and sulfur content to properly calculate emissions. Enter the ash and sulfur content of the fuel, expressed in percent (%).

Ash Content (%):

Sulfur Content (%):

Completing Your Emissions Inventory...

- Verify that prepopulated information is correct.
- Decide on the **Process Material**, **Material Throughput Units**, and **Process Descriptor** you are going to use. If not using the default shown, select and “Set” each value. If you do not see values that you want to use in the dropdown list, contact Maine DEP.
- Enter each monthly throughput and press the “Sum Throughput” button. If monthly throughput values are not available, enter the **Total Annual Throughput** value only.
- If you’re reporting on a fuel combustion process, enter the **Ash Content** and **Sulfur Content** values.
- Select the Save button at the bottom of the page.

8

Facility Inventory: Reporting Emissions

8.1 The Emissions Summary Page

Each process has an Emissions Summary Page that summarizes the emissions to be reported for that process. Any MAIRIS user can navigate to the Emissions Summary page by clicking on (1) the Emissions hyperlink under a process in the expanded Unit Menu or (2) the “View Pollutants” button on the Emissions Process Detail page.

The Emissions Summary page contains a grid which allows the user to quickly view and sort reported pollutants and compare this year’s estimated emissions to those reported last year. Buttons from this page allow a user to add or remove reportable pollutants. The pollutant code is a hyperlink that takes users to the Emissions Detail page where emissions are reported or calculated.

[Add Pollutant](#) [Remove Pollutant](#) [Cancel and Return](#)

Instructions:

- To enter emissions for a pollutant, select the **Pollutant Code** for that pollutant.
- To add additional pollutants, select the **Add Pollutant** button.
- To remove a pollutant from the list, select the **Remove Pollutant** button.

*** Required Pollutants Marked By Asterisk May Not Be Removed**

Emissions Unit Description: BOILER #1

Process Description: WOOD

<u>Pollutant Code</u> ↕	<u>Pollutant Name</u> ↕	<u>Pollutant Category</u> ↕	<u>Calculation Method</u> ↕	<u>Last Year's Reported Emissions</u> ↕		<u>Current Year's Estimated Emissions</u> ↕	
7439921	Lead	CAP *	Other Emission Factor (no Control Efficiency used) 0.123 LB per TON/I-BURNED	5.791E-5	Tons	7.56E-6	Tons
CO	Carbon Monoxide	CAP *	Engineering Judgement / Manual Calculation				
NH3	Ammonia	CAP *	Engineering Judgement / Manual Calculation	0.06273229	Tons		
NOX	Nitrogen Oxides	CAP *	State/Local Emission Factor (no Control Efficiency used) 1.98 LB per TON/I-BURNED	0.30923639	Tons	1.2177E-4	Tons

8.1.1 Required Pollutants For Combustion Processes

The combustion process produces a set of pollutants - criteria pollutants and greenhouse gases - that must be reported every year. MAIRIS has been programmed to identify combustion processes by source classification code and require that a set of eight criteria air pollutants and three greenhouse

gases be reported (see table on right). These pollutants, once added to the Emissions Grid, cannot - and should not - be removed without assistance from a MAIRIS Administrator.

Every three years, hazardous air pollutants (HAPs) are also required for these same combustion processes. These HAP pollutants are only required every third year and can be removed in interim years without causing errors. During the year following a HAP reporting year, these pollutants may appear in the Emissions Grids followed by the comment “Not Reporting”. There is no need to remove HAP pollutants listed in this manner: the system will not require that emissions be reported for these pollutants. Clicking on these pollutants will reactivate them and they will then have to be removed using the “Remove Pollutant(s)” button. Therefore, it is best not to click on them.

 Note: Annual HAP reporting is required in some facility air licenses. In such cases, the “Not Reporting” text should be disregarded and the required HAPs should be reported every year.

Users may find the list of pollutants in the Emissions Grid empty or incomplete during the first year of reporting and in any subsequent year when they add a new emissions unit or emissions process.

8.1.2 Adding a Pollutant

To add a pollutant to the Emissions grid on the Emissions Summary page, users begin by clicking on the Add Pollutant button in the upper right corner of the screen. This will direct the user to the Add Pollutant(s) page, which lists all pollutants that can be reported through MAIRIS.

Pollutant Code	Pollutant Name	Pollutant Category
7439921	Lead	CAP *
CO	Carbon Monoxide	CAP *
NH3	Ammonia	CAP *
NOX	Nitrogen Oxides	CAP *
PM10-FIL	Particulate Matter, 10 microns, filterable	CAP *
PM25-FIL	Particulate Matter, 2.5 microns, filterable	CAP *
SO2	Sulfur Dioxide	CAP *
VOC	Volatile Organic Compounds	CAP *
10024972	Nitrous Oxide	GHG *
124389	Carbon Dioxide	GHG *
74828	Methane	GHG *

Pollutant Code:

Pollutant Name:

CAS Number:

Pollutant Category:

Select	Pollutant Code	CAS Number	Pollutant Name	Pollutant Category
<input type="checkbox"/>	NH3	7664-41-7	Ammonia	CAP
<input type="checkbox"/>	CO		Carbon Monoxide	CAP
<input type="checkbox"/>	7439921	7439-92-1	Lead	CAP
<input type="checkbox"/>	NOX		Nitrogen Oxides	CAP
<input type="checkbox"/>	PM10-FIL		Particulate Matter, 10 microns, filterable	CAP
<input type="checkbox"/>	PM10-PRY		Particulate Matter, 10 microns, primary	CAP

Search capabilities allow users to search for a particular pollutant by pollutant code, pollutant name, CAS Number, pollutant category (CAP, HAP or GHG), or any combination thereof.

To select a pollutant, simply check the box in the Select column. Multiple pollutants may be added at a time. When finished with selections, click the “Add Pollutant(s)” button at the top or bottom of the grid.

8.1.3 Removing a Pollutant

If a user accidentally adds a pollutant or if certain pollutants do not need to be reported in the current reporting year, these pollutants can be removed from the Emissions grid using the “Remove Pollutant” button in the upper right corner of the Emissions Summary page.

The Remove Pollutant page lists all non-required pollutants from the Emissions grid, whether or not they are associated with currently reported emissions. To remove a pollutant, check the Select box and click on the “Remove Pollutant(s)” button at the bottom of the grid. If the Emissions grid

Select	Pollutant Code	CAS Number	Pollutant Name	Pollutant Category
<input checked="" type="checkbox"/>	677565	677-56-5	1,1,1,2,2,3-Hexafluoropropane (HFC-236cb)	GHG

Export options: [CSV](#) | [Excel](#) | [PDF](#)

Remove Pollutant(s) Cancel and Return

contains only required pollutants, the Remove Pollutant page will return an empty grid with the error message: “No pollutant codes are available to remove.”

8.2 The Emissions Detail Page

Emissions Data	
Emissions Unit Description:	BOILER #1
Emissions Process Description:	WOOD
Source Classification Code (SCC):	10300903
SCC Description:	External Combustion Boilers; Commercial/Institutional; Wood/Bark Waste; Wood-fired Boiler - Wet Wood (>=20% moisture)
Pollutant Code:	7439921
Pollutant Name:	Lead
Pollutant Category:	CAP
Emissions Calculation Method:	<input type="text" value="Manufacturer Specification"/> <input type="button" value="Set Calculation Method"/>
* Estimated Emissions:	<input type="text"/> Tons Per Year
Emissions Comment:	<div style="border: 1px solid gray; height: 100px; width: 100%;"></div>
Remember to SAVE your changes before leaving this page.	
<input type="button" value="Save"/> <input type="button" value="Cancel and Return"/>	

Emissions are reported on the Emissions Detail page. Users can access the Emissions Detail page for a specific pollutant by clicking on the **Pollutant Code** for the desired pollutant in the Emissions Grid. The Emissions Detail page contains mostly read-only information about the emissions unit, emissions process, source classification code, and pollutant. These fields are designed to provide the user with a one glance verification of their location within the facility's inventory.

Selecting the **Emissions Calculation Method** is the first step. Currently, there are eight choices on the dropdown menu. The first seven assume that the user is going to input a manually calculated emissions value; the last one assumes the user will be selecting an emission factor. If you are unsure which calculation method to use, consult the following summary of guidance provided in the fifth addition of the EPA's AP 42 Document:

- *CEMS*: Continuous Emissions Monitoring Systems are the best method for estimating emissions. Choose this method if your facility has a Continuous Emissions Monitoring System that measures the emissions of the selected process and pollutant.
- *EPA Speciation Profile*: EPA Speciation Profiles are used to disaggregate emissions calculations and are available in EPA's Emissions Modeling Clearinghouse. They can be used to obtain emissions estimates of VOC components, PM components, chromium species, etc. and are used in concert with another calculation method that provides aggregate emission estimates.
- *Engineering Judgment*: Emissions are estimated using knowledge specific to the facility and using the best judgment of the Facility Editor. Engineering Judgement should only be used if there is no available alternative.
- *Manufacturer Specification*: Manufacturer Specifications may provide information on pollutants emitted by a particular piece of equipment or throughput. Such information has the advantage of being quite specific, but may only be valid under a certain set of operating conditions.
- *Material Balance*: Material balances assume that all material consumed in a process has evaporated. The calculation is performed by taking accurate measurements of the quantity of material lost through a process and multiplying that number by the concentration of a particular pollutant in the original material. This method works well for estimating the emissions of solvent, degreasing, and surface coating operations, but should not be used for processes where materials undergo significant chemical changes.
- *Stack Test*: Stack tests can provide good, source specific information, as long as care is taken to test under conditions that are representative of the conditions experienced throughout the year. Proper measurement may require multiple tests under different conditions. EPA reference methods for estimating emissions of Criteria Air Pollutants can be found in the Code of Federal Regulations, Title 40, Part 60. The drop-down menu lists two stack test options: one that does not factor in Control Efficiency and one that does. MAIRIS does not factor in control efficiency using the control information provided for a process! The two stack test options listed here allow the users to note whether or not a particular value used to calculate emissions in the past was adjusted to include control efficiency.
- *State/Local Speciation Profile*: State or Local Speciation Profiles are formulas used to disaggregate emissions that were developed at the state or local level. If done correctly, they

can be better than EPA Speciation Profiles because they are specific to local conditions.

- *Calculated Using An Emission Factor*: This method estimates emissions by multiplying a process's throughput by an established factor that estimates the amount of a pollutant produced for a certain quantity of throughput. The accuracy of such calculations varies with the applicability and specificity of the emission factor used.

EPA has developed emissions factors for various Source Classification Codes. These EPA factors are developed by combining large amounts of available data and estimate average emissions produced in the country via a particular process. By design, these factors underestimate the emissions of 50% of the country's sources and overestimate the emissions of the other 50%. As such they do a good job of estimating emissions on the aggregate and are less effective at estimating the emissions of individual facilities. EPA emission factors are published in a document titled AP 42 and in an online application called Webfire, both of which can be found at on EPA's website.

MAIRIS allows users to add Emission Factors, therefore, there are many processes and pollutants for which the MAIRIS database contains Trade Group or locally derived emission factors that may be more specific to a particular facility than the EPA factors. Users should be mindful to review the source when selecting an emission factor from the list to ensure it is applicable to their particular situation.

In situations where facilities have more than one appropriate calculation method at their disposal, Maine DEP has the following preference. Each method on the following list is preferable to those below it.

- Continuous Emission Monitors (CEMS)
- Stack test data
- Material balance
- Emission factor
- Best engineering judgment

After the **Emissions Calculation Method** has been chosen, the user must click the "Set Calculation Method" button.

8.2.1 Entering An Emissions Value

If any choice other than "Calculated Using An Emission Factor" is selected, an **Estimated Emissions** field and a **Comment** field appear. The user enters an estimated emissions value expressed in tons per year in the field provided.

When an emissions factor is not used, lack of anything in the **Comment** field will cause a Warning on the Completeness Report run prior to submission.

After clicking "Save", the user is returned to the Emissions Grid on the Emissions Summary page. The value entered is displayed under the **Current Year's Estimated Emissions** column.

8.2.2 Estimating Emissions Using an Emission Factor

If the user chooses "Calculated Using An Emission Factor" from the **Emissions Calculation Method** dropdown list and presses the "Set Calculation Method" button, a **Comment** field and

another dropdown list, **Available Emission Factors**, appear.

The **Available Emission Factors** list contains any EPA, state, trade group, or facility-specific emission factors that meet all the parameters for this emission process. In order to qualify, an emission factor must match the **Source Classification Code**, the **Throughput Units of Measure** (from the Emissions Process Detail page), the **Pollutant Code**, and, for facility-specific emission factors, the MAIRIS ID of the facility. The user chooses the desired emission factor from the list. In addition to the emission factor value, the display shows the throughput units and material and whether the ash and sulfur contents are used in the emissions calculation.

It is quite possible that the user will either not find any matching emission factors or wish to use an emission factor not currently on the list. Section 8.2.2.1 discusses the steps to add an emissions factor.

Once an emissions factor has been selected, whether it was pre-existing or added as a custom emission factor by the current user, MAIRIS uses the value to calculate emissions for this emissions process. A display-only **Estimated Emissions** field appears with the formula used in the calculation immediately below it. Any source or comment that were entered for the

* Emissions Calculation Method:	Calculated Using An Emission Factor ▼	Set Calculation Method
* Available Emission Factors:	2.61 LB per TON/Wood/Bark (Ash/N) (Sulfur/N) ▼	
Estimated Emissions:	1.6051E-4	Tons Per Year
(Emission Factor 2.61 * Annual Throughput 0.123) / 2000		
Webfire for 4500Btu/lb wood		
2014 DEP DEFAULT		
Calculate Emissions	View Factor Details	
Save	Cancel and Return	
Add Emission Factor		

emission factor when it was created will also be shown.

When “Calculated Using An Emissions Factor” is selected, five buttons appear at the bottom of the Emissions Detail page. The buttons perform the following functions:

- Calculate Emissions: Performs the calculation - Annual Throughput X Emission Factor - and refreshes the page, presenting the estimated emissions and the formula.
- Save: Performs the calculation, saves data, returns the user to the Emissions Summary page, and places the estimated emissions value in the Emissions Grid.
- Add Emissions Factor: Takes the user to the Add New Emissions Factor page, which

will be discussed later in this chapter.

- **View Factor Details:** Displays additional details about the emission factor selected in the dropdown list. All information is read-only.
- **Cancel and Return:** Returns the user to the Emissions Summary page. No data is saved or calculated. If set, the **Emissions Calculation Method** choice will be returned to the Emissions grid.

8.2.2.1 Adding a New Emission Factor

As described in the previous section, a user may find it necessary to add a custom emission factor. From the Emissions Detail page, the user clicks the “Add New Factor” button and is taken to the Add New Emission Factor page.

The Add New Emission Factor page displays the key information by which emission factors are matched to applicable pollutant records. It contains six editable fields, but only four of these fields are required. From top to bottom, these fields are:

- **Uses Ash Content in calculation?:** Choose yes to multiply the percent ash content by the emission factor value to obtain an emission estimate.
- **Uses Sulfur Content in calculation?:** Choose yes to multiply the percent sulfur content by the emission factor value to obtain an emission estimate.
- **Emission Factor Value:** Enter the numeric value for the emission factor in pounds/throughput units.
- **Emission Factor Applicability:** This field tells Maine DEP about the source (EPA, site-specific, state, trade group, vendor or other) and future applicability (pre-control plus control efficiency or no control efficiency used) of the emission factor that is being

New Emission Factor Fields		
Emissions Process Description:	WOOD	
Source Classification Code:	10300903	
Pollutant Code:	Lead	
Uses Ash Content in calculation?:	<input type="radio"/> Yes <input type="radio"/> No	
Uses Sulfur content in calculation?:	<input type="radio"/> Yes <input type="radio"/> No	
Throughput Units:	Tons/Wood/Bark	
* Emission Factor Value:	<input type="text"/> (lbs per Tons)	
* Emission Factor Applicability:	-- Select -- 	
Source of Emission Factor:	<input type="text"/>	
Comment:	<input type="text"/>	
Added By:	MAINE DEPARTMENT OF CORRECTIONS	
Date Added:	01/29/2016	
<input type="button" value="Save"/>	<input type="button" value="Reset"/>	<input type="button" value="Cancel and Return"/>

added.

- **Source of Emission Factor:** Users are asked to provide a brief notation on the source of the emission factor.
- **Comment:** Enter additional explanatory information about the factor here. We recommend that the name of the user be included. The facility name is captured automatically in the **Added By** field.

After filling in the required and additional fields, users must press the “Save” button. Upon doing so, the emission factor is inserted into the **Available Emission Factors** field on the Emissions Detail page and the **Estimated Emissions** value is calculated and displayed using the new emission factor. Users must still save the Emissions Detail page.

It is possible for the Facility Editor to either select or create an emission factor for any pollutant that requires the percent ash or percent sulfur to properly estimate emissions. If such an emission factor is chosen, MAIRIS will provide a warning when trying to save the Emissions Detail page that **Sulfur Content** (and/or **Ash Content**) must now be entered on the Emissions Process Detail page. MAIRIS will not be able to calculate emissions for the pollutant if these data are missing and the chosen emission factor requires their use. MAIRIS will allow users to save emission factor selections so that they may return to the Emissions Process Detail page and enter the required value. In the event that users ignore the warning message and fail to enter the ash or sulfur value, this incongruity will be flagged as a critical error on the Completeness Report and prohibit them from certifying and submitting their inventory to Maine DEP.



Completing Your Emissions Inventory...

- Verify that all the pollutants you need to report are present. If not, use the “Add Pollutant(s)” button to add appropriate pollutants.
- Click on the **Pollutant Code** link to go to the Emissions Detail page for that pollutant.
- Select the **Emissions Calculation Method** and press the “Set Calculation Method” button.
 - For manually calculated emissions, enter the estimated emissions in tons and write a descriptive comment.
 - For emissions calculated using an emission factor, select the appropriate emission factor from the list. Add an emission factor, if needed.
- Select the “Save” button at the bottom of the page.

9

Facility Inventory: Control Approaches

The Control Approach describes the overall control system or “approach” that is applied to the emissions unit. Control devices and their efficiencies are not automatically factored into emission calculations, however, control approach data is still important data to be transmitted to EPA.

9.1 What makes up a Control Approach?

Three elements go into making a Control Approach and properly describing how emissions are controlled. The first element - capture efficiency - is an estimate of that portion of an affected emissions stream that is collected and routed to control devices. That information is stored in Maine DEP’s air licensing data system, EFIS, as it is reported with the air emissions license applications.

The second element - control efficiency - is the percent reduction achieved for the pollutant when all control measures are operating as designed. Each control device or piece of control equipment associated with a user’s facility is stored individually in EFIS and a control efficiency is associated with each pollutant controlled. As the data is packaged and transferred to MAIRIS nightly, all controls associated with each emissions unit are grouped together, grouping their pollutants and combining any control efficiencies. When two devices associated with the same emissions unit are controlling the same pollutant, the following formula is used:

$$\text{Combined Control Efficiency} = \{CE_1 + CE_2 - [(CE_1 \times CE_2) \div 100]\} \times CP_1 / 100$$

Where:

CE_1 = Control Efficiency for first control device in the series

CE_2 = Control Efficiency for second control device in the series

CP_1 = Capture Efficiency for first control device in the series

The third element - control effectiveness - is the estimate of the amount of time during the reporting period for which the control system was operating as designed. This is the sole field for which users must supply data in MAIRIS, as only facility users can report the time that the control approach was fully operational during the reporting period. This information is reported as a percent of the reporting year.

9.2 Reviewing Control Approach Information

Control Approach information can be accessed by clicking on the hyperlinked name in the expanded Unit Menu. As mentioned previously, the majority of Control Approach data is supplied through the EFIS integration process and is not editable by any MAIRIS user.

The **Percent Time Operational During Reporting Period** field is a required value and must be entered by facility users prior to submission. If this value is less than one hundred percent (expressed

as “100”), a comment must be provided.

The two tables presented at the bottom of the screen - *Control Devices and Practices Included in Control Approach* and *Pollutants Controlled by Control Approach* - list the control devices that make up the control approach, the pollutants controlled, and the combined control efficiencies.

*** Required Fields Marked By Asterisk**

Control Approach Information

Control Approach Id:	APR001	
Control Approach Name:	Control Approach for Emissions Unit 001	💡
First Inventory Year:	2008	
Capture Efficiency:	100	💡

Control Approach Effectiveness

*** Percent Time Operational During Reporting Period:** 💡

Control Approach Comment:

Control Devices and Practices Included in Control Approach

Control Device or Practice Code(s) ↕	Control Device or Practice Description(s) ↕
850	Super Scrubber
140	SNCR
128	Electrostatic Precipitator (Dry)
121	Cyclones (multiple)

Pollutants Controlled By Control Approach

Pollutant Code ↕	Pollutant Name ↕	Pollutant Reduction Efficiency ↕
NOX	Nitrogen Oxides	70
PM10-FIL	Particulate Matter, 10 microns, filterable	99.8

Save Reset



Completing Your Emissions Inventory...

- Verify that the pollutant and control device information presented on the Control Approach Detail page is correct. Contact Maine DEP if you find errors.
 - Enter the **Percent Time Operational During Reporting Period**. If this is less than 100, enter an explanatory comment.
 - Click the “Save” button at the bottom of the page.
- 

10

Facility Inventory: Exhaust Points

Exhaust points include both vertical stacks and fugitive releases of emissions from a facility. Exhaust point data can be accessed by clicking on a hyperlinked exhaust point name in the expanded Unit Menu. As with many MAIRIS elements, the majority of exhaust point data is supplied through the nightly EFIS integration process and is not editable by any MAIRIS user.

Only the **Exhaust Point Operating Status** and **Comment** may be edited by facility users prior to submission. The **Exhaust Point Operating Status** will automatically be set to match the Facility Site Status if the Facility Site Status is marked other than “Operating.” Users need only to change the operating status for a particular stack if all emission units which exhausted to a particular exhaust point were non-operational in a given reporting year. If an exhaust point is marked with one of the non-operating statuses, a comment must be provided. Please see the screen shot on the next page.

Completing Your Emissions Inventory...

- Verify the exhaust point information presented on the Exhaust Point Detail page is correct. Contact Maine DEP if you find errors.
- Select the appropriate **Exhaust Point Operating Status**. If you choose a status other than “Operating,” you must enter an explanatory comment in the **Comment** field.
- Click the “Save” button at the bottom of the page.

*** Required Fields Marked By Asterisk**

Exhaust Point Information

Exhaust Point ID:	EXH001
Exhaust Point Name:	WOOD BOILER
Exhaust Type:	Vertical 
Stack Height (feet):	220
Stack Diameter (feet):	8
Stack Exit Gas Velocity (ft/sec):	65.8
Stack Exit Gas Flow Rate (acfm):	198444
Stack Exit Gas Temperature (Fahrenheit):	315

Emissions Unit(s) Associated With This Exhaust Point

Emissions Unit Desc	Percent Emissions Unit's Exhaust	Comment
BOILER 1	100.0	

Export options: [CSV](#) | [Excel](#) | [PDF](#)

Exhaust Point Geographic Coordinates

Latitude:	46.635611
Longitude:	-68.435399

Exhaust Point Operating Status and Comment

Comment:

*** Exhaust Point Operating Status:** 

Operating Status Year:

11

Documents

Supporting documentation is critical to understanding the choices that are made when estimating emissions. MAIRIS allows for documents to be attached to facility inventories. Any type of electronic document can be accepted.

11.1 Adding a Document

Any MAIRIS user with access to a facility's inventory may send documents to the DEP emissions inventory staff for uploading. Please include the following information in your email:

- **Document Title:** This is the title on the document itself, not the file name. While not all documents have titles (such as photos), a descriptive name is useful.
- **How this document relates to your emissions inventory:** Often, the title alone isn't enough to help reviewers identify which document they need to read. This is a longer description field.
- **Attached document:** Users must attach the desired documentation to the email.

Once your email has been received and the document passes in-house virus scanning, a copy of the document is stored in the MAIRIS database. A new row is added to the Document grid on the Document Management page, which is reached via the Document List link on the Facility Site Menu.

Document Title	Document Relevance	File Name	Inventory Year	View
2015 Emissions Calcs for Boiler 1	Explanation of emissions calculations.	2015_Emissions_Calcs_for_Boiler_1.docx	2015	<input type="button" value="View"/>

11.2 Viewing and Removing Uploaded Documents

Any MAIRIS user who has access to the facility's inventory can view a document. Depending on the user's browser settings, selecting the View button either opens the document in the current browser or prompts the user to save the document to a local location.

If a MAIRIS user would like a document removed from the list, they should contact the Emissions Inventory staff. If the title or description of a document needs to be revised, Emissions Inventory staff can make edits to these fields.

Users will note that MAIRIS tracks the number of documents attached to the current inventory next to the Document List link in the Facility Site Menu.

12

Reports

The Facility Reports page, accessed from the Facility Reports link in the Facility Site Menu, contains information about the status of the Completeness Report and links to four, built-in reports within MAIRIS. The Completeness Report is an integral part of the submission process, and, as such, will be discussed in Chapter 13. This section will provide the user with a brief overview of the four, built-in reports and how users can utilize them to improve the quality of their inventory submission.

12.1 Facility Contacts Report

The Facility Contacts Report is not a “paper” report, but a standard MAIRIS grid with a single record for each MAIRIS user account that is currently associated with the selected facility. The report contains contact information for each individual and specifies the role of each user account for the current facility.

This list should be reviewed annually to ensure only persons still employed or contracted by the facility are listed as MAIRIS users.

12.2 Full Facility Report

The Facility Report is automatically generated and stored in the database in portable document format (PDF) whenever the Facility Approver submits an inventory. The reports associated with past submissions are available via the Inventory Status link in the Facility Site Menu. A current Full Facility Report can be generated at any time by clicking the link on the Facility Reports page.

The Full Facility Report presents all inventory and emissions information associated with the facility site at the time it is generated. The report is organized according to the following hierarchy:

- General Facility Information
- Listing of Exhaust Points and their reported status
- Emission Unit Details for each unit
 - Associated Processes
 - Each followed by its respective Emissions
 - Associated Control Approaches
 - Exhaust Point Apportionments
- Completeness Report

12.3 Comparison Report

The Comparison Report (PDF) compares current reported emissions to those reported for the previous inventory year. Emissions are summarized at both the emissions unit level and emissions process level for the entire facility. Thus, there is a section of this report listing all pollutants for each emission unit,

followed immediately by a section listing all pollutants for each of its emission processes.

The report displays the CAS number and pollutant name for each pollutant, followed by the reported emissions for both the prior year and the current year. A percentage change is calculated as:

$$100 * (B-A)/A \quad \text{Where } A = \text{Last year's emissions}$$
$$B = \text{This year's emissions}$$

The final column is used to flag any pollutants where the absolute value of the percent change was in excess of a threshold that is set by the MAIRIS Administrator. Currently, that percent change is set to 10%, though it may be adjusted in future years. The gray shading is an alternative means to identify those pollutants where the percent change exceeds the threshold.

12.4 Facility License Limit Report

The Facility License Limit Report (PDF) summarizes emissions at the facility site level for carbon monoxide, nitrogen oxides, PM-10 filterable, sulfur dioxide, and volatile organic compounds (VOCs). These five pollutants are those listed in an air emissions license.

The report displays one record per pollutant and displays columns for CAS number, pollutant name, licensed emission limit, emissions reported for the current year, and a flag to indicate whether the facility's license limit has been exceeded. Once again, gray shading is used as an alternative means to identify those pollutants where the current year's emissions exceed the license limit.

13

Facility Inventory: Submission Process

13.1 Inventory Status

An individual MAIRIS user's ability to modify data or perform certain operations varies depending on the current status of the facility's inventory. A facility's inventory status can be viewed or modified using the Inventory Status page, a link to which is found in the Facility Site Menu.

There are five distinct statuses that have been defined for a facility inventory:

- **Initial:** Every new inventory starts in Initial status. Only users with the Facility Editor role may modify data while the inventory is in this status. Other roles may view the data without editing.
- **Ready to Review and Certify:** When Facility Editors believe all data and associated emissions have been correctly entered for a facility inventory, they can change the status to Ready to Review and Certify. At that point, only the Facility Approver is allowed to edit data. This status also allows the Approver to and certify and submit the inventory.
- **Submitted:** When Facility Approvers have reviewed the entire inventory and all associated emissions, and are ready to certify the data as accurate, they Certify and Submit the facility's inventory. This operation automatically changes the inventory status from Ready to Review and Certify to Submitted.
- **Approved:** After the DEP review process is complete for a facility, the MAIRIS Administrator changes the inventory status to Approved. Only inventories in this status are eligible for inclusion in the submission to EPA.
- **Returned:** If the DEP review process reveals problems that must be addressed by a representative of the facility, the MAIRIS Administrator changes the inventory status to Returned. This status is functionally equivalent to Ready to Review and Certify. **The Facility Approver must change the status back to 'Initial' before any changes can be made by a Facility Editor.** After making any necessary modifications, the Facility Editor must change the inventory to Ready to Review and Certify and the Facility Approver needs to repeat the certification and submission process.

Up until this point, this manual has assumed the facility's inventory is in Initial status. In order to complete the submission, three important steps remain:

- The Completeness Report must be run and all critical errors addressed.
- The Facility Editor must change the inventory status from Initial to Ready to Review and Certify.
- The Facility Approver must Certify and Submit.

13.2 The Completeness Report

Any user may run a Completeness Report for a facility at any point in time. A summary of the most recent Completeness Report is found on the Facility Reports page.

Completeness Report	
Last Run:	02/09/2016 2:39 PM
Critical Errors:	1
Critical Errors or Warnings Justified:	1
Number of Warnings:	3
<ul style="list-style-type: none">• Run Completeness Report	

The Completeness Report section of the Facility Report page contains a date and time stamp as to when the most recent Completeness Report was run, the number of critical errors, the number of critical errors which have been justified, and the number of warnings. If there are no errors, a status message reflects this fact. A link to run a new Completeness Report is also present.

The Completeness Report represents a combination of approximately 40 data quality checks that have been created to ensure data submitted are complete and compatible with Maine DEP and EPA's data requirements. The Completeness Report returns, in grid format, all critical and warning level errors that exist in the data each time the report is run. There is no preset limit as to the number of times that the report can be run during a reporting period.

A sample of the Completeness Report is shown on the next page. The report contains the following columns:

- **Inventory Item:** This column contains an active link to the MAIRIS page (Facility Detail, Emissions Unit Detail, Emissions Process Detail, etc.) that was being analyzed when the error occurred. A click on the link will redirect the browser to that page. Right clicking on the page to open it in another window avoids the need to run a new completeness report after every fix.
- **Check Number:** The number assigned to a specific data quality check. This number is useful to have handy when calling Maine DEP with questions about a particular error.
- **Check Name:** The name for the data quality check.
- **Check Description:** A description of the rule that was violated during this data quality check. It often provides clues as to how to resolve the error.
- **Error Level:** There are two error levels: Warning and Critical. Warnings are presented to guide users toward filing more complete inventories, but will not hinder the user's ability to proceed to Certify and Submit. Critical errors must either be corrected or, where applicable, justified before a facility user can proceed to Certify and Submit.
- **Justification:** Some data errors cannot be avoided and Maine DEP has designed MAIRIS to allow users to proceed with Certify and Submit provided select errors can be justified by the facility. This column will display "Cannot Justify" if justification of the error is not allowed. If justification is allowed, this column will display a link with the word, "Justify." Once the error

is justified, the link will be updated to display the justification text.

MAINE PAPER COMPANY HOLDINGS: Complete	Completeness Report
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Review the results of your completeness report below. If errors may be justified, a justification field will appear. Type in a comment and reference any supporting documents you may have attached to the inventory. If a justification field does not appear, you must return to your inventory and correct the errors. The completeness report may not contain any unjustified errors for the inventory to be submitted to the DEP.

Completeness Report	
Last Run Date:	07/23/2009 1:29 PM
Inventory Year:	2008

Inventory Item ↕	Check Number ↕	Check Name ↕	Check Description ↕	Error Level ↕	Justification ↕
Control Approach: CTRL1_DESC	956	Control Approach Comment Present	A facility may report a comment for their control approach.	Warning	Cannot Justify
Process: #2_FUEL OIL / DIESEL	948	Material Throughput Codes Combination Valid	The combination of Material Code, Material Throughput, Material I/O Code must match value in code table.	Critical	Cannot Justify
Process: #2_FUEL OIL / DIESEL	957	Comment Present with Certain Emissions Calculation Methods	A facility is encouraged to provide supporting documentation for emissions values that they supplied without emissions factors.	Warning	Cannot Justify
Process: #2_FUEL OIL / DIESEL	952	Required HAP's Reported	In a HAP year, emissions for the required HAP's must be reported.	Critical	Cannot Justify
Process: #2_FUEL OIL / DIESEL	947	Emissions Process Detail Comment Present	A facility may report a comment for their emission process.	Warning	Cannot Justify
Process: #2_FUEL OIL / DIESEL	948	Material Throughput Codes Combination Valid	The combination of Material Code, Material Throughput, Material I/O Code must match value in code table.	Critical	Cannot Justify
Process: #2_FUEL OIL / DIESEL	952	Required HAP's Reported	In a HAP year, emissions for the required HAP's must be reported.	Critical	Cannot Justify
Release Point: FUGITIVE	946	Release Point Detail Comment Present	A facility may report a comment for their release point.	Warning	Cannot Justify
Release Point: FUGITIVE	946	Release Point Detail Comment Present	A facility may report a comment for their release point.	Warning	Cannot Justify
Unit: CHIPPER DRIVE	328	Minimum Release Point	Every facility must have at least one Release Point	Critical	Cannot Justify
Unit: CHIPPER DRIVE	945	Operating Hours per Year Required	Operating Hours per Year must be reported for an emissions unit.	Critical	Cannot Justify

13.2.1 Error Justification

The MAIRIS Administrator has the capability to designate certain checks as “Justifiable.” A check can be made justifiable regardless of its error level (critical or warning). If a check has a critical error level and is justifiable, the user will have a choice to either fix the error or enter a justification. In order to fix the error, right click on the link in the Inventory Item column to open the appropriate page in another window/tab. In order to justify the error, click on the Justify link in the Justification column. The Justification page reflects all the same information that was reported in the Completeness Report grid. In order to complete the justification process, the user must provide a justification comment and click the Save button. Users are returned to the Completeness Report where the new comment is displayed in the Justification column.

This comment will be stored in association with the check number and the inventory item for the remainder of the reporting period. If a subsequent Completeness Report is run, and the same check fails for the same inventory item, the justification will still appear in the Completeness Report.

13.3 Changing An Inventory Status

After running a clean completeness report, the Facility Editor should change the inventory status from Initial to Ready to Review and Certify. This is a signal that the data entry portion of the inventory submission is done and that the inventory is ready to be certified and submitted.

Facility Editors perform this change in status on the Facility Inventory Status page. A link to the page is found at the top of the Facility Site Menu. All users have access to this page, but the MAIRIS roles allow only some users to change the status at select times in the inventory. The **Inventory Status** dropdown menu will display valid change options in accordance with current facility status and the user's role. If no valid status changes are available, then MAIRIS will display: "There are no status transitions that you can change for this facility at this time." The history of all status changes for the current facility is displayed in the grid at the bottom of the page. Notice that the grid has columns to allow the user to quickly view a copy of the Certification statement or Facility Report associated with previous submissions.

To change the inventory status from Initial to Ready to Review and Certify, the Facility Editor would select Ready to Review and Certify from the Inventory Status dropdown list and provide a comment in the Status Change Comment field. Maine DEP recommends a synopsis of the Completeness Report and any other information that may be important for the Facility Approver to know prior to certifying the inventory.

Instructions:

- The table below shows the inventory status history for this facility, in reverse order, beginning with the current status.
- If your user account allows you to change the inventory status, then a form is displayed that contains a pick list of allowable status transitions and a field to enter a comment associated with the status change.
- Please see the MAIRIS User Manual for information about user accounts and inventory states.

Facility Name: BIG MAINE POWER COMPANY

*** Required Fields Marked By Asterisk**

*** Inventory Status:**

*** Status Change Comment:**

Status	Status Change Comment	Date Changed	Changed By	Inventory Year	Certification	Facility Report
Approved	All reviews complete.	11/10/2010 9:03 AM	Tammy Gould	2008		
Submitted	Supporting docs attached.	11/10/2010 8:52 AM	Tammy Gould	2008	Download	Download
Complete	0 critical errors; 3 warnings.	11/10/2010 8:51 AM	Tammy Gould	2008		
Initial	Newly Created By EFIS Integration	12/04/2009 10:00 PM	DEP ADMINISTRATOR	2008		

When the Facility Editor clicks "Save", two important things happen. First, the Facility Editor is locked out of making any further changes to the inventory. Second, an e-mail is sent to the Facility Approver and all Facility Editors associated with the facility stating that the inventory is ready for review and certification.

13.4 Certification and Submission

After the Facility Editor has finished entering all inventory and emission data, the inventory status is changed to Ready to Review and Certify. The Facility Approver then conducts a review of all information, and, provided that all critical errors on the Completeness Report have been addressed, the Facility Approver is ready to certify the inventory and submit it to Maine DEP.

At this point, the Facility Approver selects Certify from the Main Menu. MAIRIS will display a grid showing any facility sites associated with the Facility Approver that are in the Ready to Review and Certify status.

Certify and Submit Facility Inventory							
Instructions:							
<ul style="list-style-type: none"> The list below contains all the facility inventories which you are authorized to submit to Maine DEP and which have an Inventory Status of Complete or Returned. The Completeness Report must be run and free of critical errors to certify and submit an inventory. The Action column will lead you to your next step in the certification/submission process. Click on that link to proceed. 							
MAIRIS Id	Air License Number	Facility Name	Facility Operating Status	Operating Status Year	Passed Completeness Report Checks	Inventory Status	Action
2303300002	A-000002	Maine Paper Company Holdings	Operating	2009	No	Complete	There are 81 critical errors to correct or justify for this Completeness Report. Click to run it.
2303300001	A-000001	Electricity for ME	Operating	2009	Yes	Complete	Certify and Submit
Export options: CSV Excel PDF							

If a Completeness Report has been generated with no unjustified critical errors - and no inventory changes have been made since the report was generated - the **Passed Completeness Report Checks** column will display “Yes” and the **Action** column will display a “Certify and Submit” hyperlink.

If the above conditions are not met, the **Action** column will contain one of two error messages.

- If any data for any component of the facility—emissions unit, emissions process, emissions record, control approach or exhaust point—have been modified, the **Action** column will display the link: [Changes have been made since you last ran the Completeness Report. Click to run it.](#) Clicking on the link will regenerate the Completeness Report.
- If the last Completeness Report had critical errors which could not be justified (or have not been corrected), the **Action** column will display the link: [There are x critical errors to correct or justify for this completeness Report. Click to run it.](#) If the Facility Approver would like the Facility Editor to address the errors, the inventory status must be changed back to Initial so that the Facility Editor can edit the inventory.

Maine DEP strongly advises Facility Editors to only set the inventory status to Ready to Review and Certify when all critical errors have been addressed.

When all critical errors have been justified or corrected and a “clean” Completeness Report is achieved, the Certify and Submit link should appear in the **Action** column. After clicking this link, MAIRIS will display the Facility Inventory Certification form.

When filling out the Facility Inventory Certification form, the **MAIRIS Legal Name** must match the name exactly as entered for the current account holder in the MAIRIS database. (Before starting the certification process, the Facility Approver can click the “Account Detail” link in the upper right corner of the screen to confirm the exact name on record in MAIRIS for their account.) The password must match the password for the current account. A comment is required for each submission.

If all fields are validated, MAIRIS will perform several operations upon Submittal:

- The inventory state will be changed from Ready to Review and Certify to Submitted. No facility users will be able to make further changes.
- A PDF file is created and stored in the database containing the certification statement, including the legal name of the Facility Approver.
- The Facility Report is created and stored as a PDF file in the database.
- Both of these PDF files are associated with the submission event and are viewable in the submission log on the Inventory Status page.
- Both of these PDF files are sent as e-mail attachments to the e-mail address stored in MAIRIS for the Facility Approver’s account.
- The browser is redirected to the Inventory Status page, showing a record with the new status of Submitted and containing links to both PDF files.

Instructions:

- Review the certification statement below.
- Your **MAIRIS Legal Name** must match exactly as on your MAIRIS user account.
- Enter your MAIRIS password and click the **Submit Inventory** button.

Facility Name: ELECTRICITY FOR ME

*** Required Fields Marked By Asterisk**

I certify, under penalty of Maine statutes 38 MRSA, Section 349(3) and Section 585-C(2)(c), that I am the facility's responsible official and have undertaken due diligence to personally examine and otherwise familiarize myself with the information contained in these forms and underlying input data.

I further certify, to the best of my knowledge, that the Annual Air Emissions inventory is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Entering my name in the field below acts as my signature. By entering my name, I acknowledge that I understand this certification and that this certification can only be revoked by me, in writing, to the Department of Environmental Protection.

*** MAIRIS Legal Name:**

*** MAIRIS Password:**

*** Comment:**

3.5 After Submitting the Inventory

After completing the inventory submission,

- No further forms or signatures need to be mailed to Maine DEP. The only thing that may need to be mailed would be supporting documentation that existed solely in paper form.
- The inventory submission will be reviewed by Maine DEP.
- If changes are made to your inventory during the review process, these changes will be logged and attached to your inventory as an Audit report. The MAIRIS Administrator will change the status of your inventory from “Submitted” to “Returned.” Changes must be reviewed. If edits are required, they may be done by the Facility Approver or the Approver can change the inventory status back to ‘Initial’ so that the Facility Editor can make edits. Once edits are complete the inventory must once again be certified and submitted.
- If no changes are made during the review process, the MAIRIS Administrator will mark the inventory submission as “Approved.” The Facility Approver will receive an automated email notifying them of the status change. The facility and emissions data will then be transmitted to EPA.

Completing Your Emissions Inventory...

- Facility Editors: Run the Completeness Report. Correct or justify all critical errors. Correct as many warning errors as seems practical.
- Facility Editors: Change the inventory state from Initial to Ready to Review and Certify on the Inventory Status Page.
- Facility Approvers: Review data. Certify and Submit the inventory.

Glossary of Terms

Term	Description
Account	An account provides a user with rights to use MAIRIS. These rights are further defined by the assignment of a role and authorizations.
CAP	Criteria Air Pollutant. As used in MAIRIS, criteria air pollutants include: carbon monoxide; sulfur dioxide; nitrogen oxides; fine particulate matter of 10 microns or less in size; fine particulate matter of 2.5 microns or less in size; lead; ammonia; and volatile organic compounds.
Capture Efficiency	An estimate of the portion of an affected emissions stream that is collected and routed to a control device.
Check	A software entity that subjects entered data to one or more prescribed business rules, resulting in errors or warning messages in the event of non-compliance.
Control Approach	The overall characteristics of a control system, including capture efficiency, control efficiency, and control effectiveness, where applied to an emissions unit to reduce the amount of pollutants released into the environment.
Control Effectiveness	An estimate of the portion of the reporting period's emissions for which the control system was operating as designed.
Control Efficiency	The percent reduction achieved for the pollutant when all control measures are operating as designed.
Control Equipment	Physical equipment that is employed at an emissions unit or exhaust point to reduce the emission of a specific pollutant.
CSV	Comma Separated Values. A simple text format for a database table, where each record in the table is one line of the text file and each field value of a record is separated from the next by a character (typically a comma). These files can easily be opened in Excel.
DEP	Department of Environmental Protection (State of Maine)
DEP Agent	A MAIRIS user employed by the Department of Environmental Protection whose responsibility is to enter, certify, and submit emissions inventory data in MAIRIS on behalf of facilities that are not able to use MAIRIS.
DEP Editor	A MAIRIS user employed by the Department of Environmental Protection whose responsibility is to review and manage updates to the inventory.
EFIS	Environmental Facility Information System. Department-wide licensing, compliance and enforcement database operated by the Maine DEP.

Glossary of Terms continued

Term	Description
Emission Factor	The average rate of emissions per unit of activity for a given pollutant. Emission factors may be specific to controlled or uncontrolled emission streams.
Emissions	Release of pollutants to the ambient air. The term is sometimes used to represent the quantifiable amount of pollutants released into ambient air.
Emissions Unit	Any significant activity, stationary article, process equipment, machine, or other contrivance that emits air pollutants.
Emissions Process	An operation or occurrence that results in air emissions. Processes may occur as part of a physical emissions unit, such as a boiler, or they may occur without a traditional, physical emissions unit, as is the case with road dust or landfill fugitive emissions. Emissions processes are described by source classification codes. As used in MAIRIS, emissions processes generally represent the fuel that is burned or the materials that are handled, transferred, dried, stored, etc.
EPA	Environmental Protection Agency (United States)
Exhaust Point	The location at which pollutants are released into the environment, either via a stack or fugitive release point.
Facility Approver	A MAIRIS user responsible for reviewing, certifying, and submitting the emission inventory for a facility site.
Facility Editor	A MAIRIS user, representing one or more facilities, who is responsible for preparing the emissions inventory.
GHG	Greenhouse gases. As used in MAIRIS, greenhouse gases include carbon dioxide; methane; nitrous oxide; and a variety of perfluorocarbons and hydrofluorocarbons, including sulfur hexafluoride.
HAP	Hazardous air pollutant. As used in MAIRIS, hazardous air pollutants include more than 200 chemicals listed in Appendix A of 06-096 CMR 137, "Emissions Statements."
Individual	Any person involved with MAIRIS, including Maine DEP personnel and facility users. An account is associated with exactly one individual.
Inventory Status (Inventory State)	A MAIRIS programming mode or condition that determines an individual user's ability to modify data or perform certain operations. There are five inventory statuses in MAIRIS: Initial, Ready to Review and Certify, Submitted, Approved, and Returned.

Glossary of Terms continued

Term	Description
MAIRIS	Maine Air Inventory Reporting System. The software developed by Maine DEP to assist Maine facilities with their annual air emissions reporting requirements.
MAIRIS Administrator	A MAIRIS user, employed by the Department of Environment Protection, responsible for reviewing emissions inventories and submitting the final state inventory to EPA.
Material	The substance consumed or produced by an emissions process.
Operating Schedule	A collection of data fields used to describe the time periods during which an emissions unit was in operation, thus, creating emissions. Generally, operating schedule is defined by Hours Per Day, Days Per Week, and Weeks Per Year, resulting in Hours Per Year.
Operating Status	The conditions under which a facility, emissions unit, emissions process, or other inventory entity was operating during the emissions reporting period. The status may be “operating” or one of several non-operating statuses.
PDF	Portable Document Format. The file format created by Adobe Systems for representing two-dimensional documents in a manner independent of the application software, hardware, and operating system.
Permission	The ability to perform certain actions in MAIRIS, such as changing an inventory state, deleting a document, or saving data to a page.
Pollutant	An emitted substance that is regulated or monitored for its potential to cause harm to human health and the environment.
Role	A set of authorizations or rights assigned to an account. There are five roles in MAIRIS: Facility Editor; Facility Approver; DEP Agent; DEP Editor; and MAIRIS Administrator.
Source Classification Code (SCC)	EPA code that identifies and describes a unique emissions process.
Submission	A complete inventory for a facility, certified by a Facility Approver, and transferred to the Maine DEP for its review and approval.
Throughput	A quantifiable action, function, or quantity of material, used in the calculation of emissions. Also referred to as activity data. Examples include the quantity of material produced or fuel burned in an emissions process.
User	A person with access to MAIRIS. The set of authorizations granted and roles assigned to a user comprise the user’s account.

Glossary

Term	Description
Web Browser	A software application for retrieving, presenting, and traversing information resources on the World Wide Web. Examples include Microsoft's Internet Explorer, Google Chrome, and Apple's Safari.
XML	Extended Markup Language. A textual data format, widely used over the Internet for the representation of data structures. This format is used to send facility inventories to EPA.

Consolidated List of Pollutant Codes

CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
677-56-5	677565	1,1,1,2,2,3-Hexafluoropropane (HFC-236cb)	GHG		
431-89-0	431890	1,1,1,2,3,3,3-Heptafluoropropane (HFC-227ea)	GHG		
431-63-0	431630	1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	GHG		
138495-42-8	138495428	1,1,1,2,3,4,4,5-Decafluoropentane (HFC-43-10mee)	GHG		
811-92-2	811972	1,1,1,2-Tetrafluoroethane (structure: CH ₂ FCF ₃) (HFC-134a / R-134a)	GHG		
359-35-3	359353	1,1,1,2-Tetrafluoroethane (structure: CHF ₂ CHF ₂) (HFC-134)	GHG		
690-39-1	690391	1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	GHG		
406-58-5	406586	1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	GHG		
460-73-1	460731	1,1,1,3,3-Pentafluoropropane (HFC-245fa)	GHG		
420-46-2	420462	1,1,1-Trifluoroethane (HFC-143a / R-143a)	GHG		
679-86-7	679867	1,1,2,2,3-Pentafluoropropane (HFC-245ca)	GHG		
79-34-5	79345	1,1,2,2-Tetrachloroethane	HAP	2000	1
79-00-5	79005	1,1,2-Trichloroethane	HAP	1000	0.5
430-66-0	430660	1,1,2-Trifluoroethane (HFC-143)	GHG		
75-37-6	75376	1,1-Difluoroethane (HFC-152a / R-152a)	GHG		
57-14-7	57147	1,1-Dimethyl Hydrazine	HAP	200	0.1
120-82-1	120821	1,2,4-Trichlorobenzene	HAP	2000	1
96-12-8	96128	1,2-Dibromo-3-Chloropropane	HAP	20	0.01
624-72-6	624726	1,2-Difluoroethane (HFC-152 / Freon 152)	GHG		
122-66-7	122667	1,2-Diphenylhydrazine	HAP	200	0.1
106-88-7	106887	1,2-Epoxybutane (1,2-Butylene oxide)	HAP	2000	1
75-55-8	75558	1,2-Propylenimine (2-Methyl Aziridine)	HAP	10	0.005
106-99-0	106990	1,3-Butadiene	HAP	200	0.1
542-75-6	542756	1,3-Dichloropropene	HAP	1000	0.5
1120-71-4	1120714	1,3-Propanesultone	HAP	200	0.1
106-46-7	106467	1,4-Dichlorobenzene	HAP	2000	1
123-91-1	123911	1,4-Dioxane (p-Dioxane)	HAP	2000	1
42397-64-8	42397648	1,6-Dinitropyrene	HAP	POM	POM
42397-65-9	42397659	1,8-Dinitropyrene	HAP	POM	POM
2422-79-9	2422799	12-Methylbenz[a]Anthracene	HAP	POM	POM
90-12-0	90120	1-Methylnaphthalene	HAP	POM	POM
832-69-9	832699	1-Methylphenanthrene	HAP	POM	POM
2381-21-7	2381217	1-Methylpyrene	HAP	POM	POM

Consolidated List of Pollutant Codes

CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
5522-43-0	5522430	1-Nitropyrene	HAP	POM	POM
540-84-1	540841	2,2,4-Trimethylpentane	HAP	2000	1
95-95-4	95954	2,4,5-Trichlorophenol	HAP	2000	1
88-06-2	88062	2,4,6-Trichlorophenol	HAP	2000	1
94-75-7	94757	2,4-Dichlorophenoxy Acetic Acid (salts and esters)	HAP	2000	1
51-28-5	51285	2,4-Dinitrophenol	HAP	1000	0.5
121-14-2	121142	2,4-Dinitrotoluene	HAP	1000	0.5
584-84-9	584849	2,4-Toluene Diisocyanate	HAP	20	0.01
91-08-7	91087	2,6-Toluene Diisocyanate	HAP	20	0.01
53-96-3	53963	2-Acetylaminofluorene	HAP	2000	1
532-27-4	523374	2-Chloroacetophenone	HAP	10	0.005
91-58-7	91587	2-Chloronaphthalene	HAP	POM	POM
91-57-6	91576	2-Methylnaphthalene	HAP	POM	POM
607-57-8	607578	2-Nitrofluorene	HAP	POM	POM
79-46-9	79469	2-Nitropropane	HAP	20	0.01
91-94-1	91941	3,3'-Dichlorobenzidine	HAP	200	0.1
119-90-4	119904	3,3'-Dimethoxybenzidine	HAP	2000	1
119-93-7	119937	3,3'-Dimethylbenzidine	HAP	20	0.01
56-49-5	56495	3-Methylcholanthrene	HAP	POM	POM
101-14-4	101144	4,4'-Methylenebis(2-Chloroaniline) (MBOCA)	HAP	200	0.1
101-77-9	101779	4,4'-Methylenedianiline	HAP	200	0.1
101-68-8	101688	4,4'-Methylenediphenyl Diisocyanate (MDI)	HAP	200	0.1
534-52-1	534521	4,6-Dinitro-o-Cresol	HAP	200	0.1
92-67-1	92671	4-Aminobiphenyl	HAP	2000	1
60-11-7	60117	4-Dimethylaminoazobenzene	HAP	200	0.1
92-93-3	92933	4-Nitrobiphenyl	HAP	200	0.1
100-02-7	100027	4-Nitrophenol	HAP	1000	0.5
3697-24-3	3697243	5-Methylchrysene	HAP	POM	POM
7496-02-8	7496028	6-Nitrochrysene	HAP	POM	POM
57-97-6	57976	7,12-Dimethylbenz[a]Anthracene	HAP	POM	POM
779-02-2	779022	9-Methyl Anthracene	HAP	POM	POM
83-32-9	83329	Acenaphthene	HAP	POM	POM
208-96-8	208968	Acenaphthylene	HAP	POM	POM
75-07-0	75070	Acetaldehyde	HAP	1000	0.5
60-35-5	60355	Acetamide	HAP	1000	0.5
75-05-8	75058	Acetonitrile	HAP	2000	1

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CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
98-86-2	98862	Acetophenone	HAP	2000	1
107-02-8	107028	Acrolein	HAP	10	0.005
79-06-1	79061	Acrylamide	HAP	200	0.1
79-10-7	79107	Acrylic Acid	HAP	200	0.1
107-13-1	107131	Acrylonitrile	HAP	1000	0.5
107-05-1	107051	Allyl Chloride	HAP	200	0.1
7664-41-7	NH3	Ammonia	CAP		
62-53-3	62533	Aniline	HAP	200	0.1
120-12-7	120127	Anthracene	HAP	POM	POM
7440-36-0	7440360	Antimony	HAP	200	0.1
	92	Antimony & Antimony Compounds	HAP	200	0.1
7440-38-2	7440382	Arsenic	HAP	20	0.01
	93	Arsenic & Arsenic Compounds (Also Inorganic Arsine)	HAP	20	0.01
1332-21-4	1332214	Asbestos	HAP	10	0.005
56-55-3	56553	Benz[a]Anthracene	HAP	POM	POM
71-43-2	71432	Benzene	HAP	1000	0.5
92-87-5	92875	Benzidine	HAP	10	0.005
203-33-8	203338	Benzo(a)fluoranthene	HAP	POM	POM
195-19-7	195197	Benzo(c)phenanthrene	HAP	POM	POM
203-12-3	203123	Benzo(g,h,i)Fluoranthene	HAP	POM	POM
50-32-8	50328	Benzo[a]Pyrene	HAP	POM	POM
205-99-2	205992	Benzo[b]Fluoranthene	HAP	POM	POM
192-97-2	192972	Benzo[e]Pyrene	HAP	POM	POM
191-24-2	191242	Benzo[g,h,i]Perylene	HAP	POM	POM
205-82-3	205823	Benzo[j]Fluoranthene	HAP	POM	POM
207-08-9	207089	Benzo[k]Fluoranthene	HAP	POM	POM
56832-73-6	56832736	Benzofluoranthenes	HAP	POM	POM
98-07-7	98077	Benzotrichloride	HAP	20	0.01
100-44-7	100447	Benzyl Chloride	HAP	1000	0.5
7440-41-7	7440417	Beryllium	HAP	20	0.01
	109	Beryllium & Beryllium Compounds	HAP	20	0.01
57-57-8	57578	Beta-Propiolactone	HAP	2000	1
92-52-4	92524	Biphenyl	HAP	2000	1
117-81-7	117817	Bis(2-Ethylhexyl) Phthalate	HAP	2000	1
542-88-1	542881	Bis(Chloromethyl) Ether	HAP	10	0.005
75-25-2	75252	Bromoform	HAP	2000	1
7440-43-9	7440439	Cadmium	HAP	10	0.005

Consolidated List of Pollutant Codes

CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
	125	Cadmium & Cadmium Compounds	HAP	10	0.005
156-62-7	156627	Calcium Cyanamide	HAP	1000	0.5
133-06-2	133062	Captan	HAP	2000	1
63-25-2	63252	Carbaryl	HAP	2000	1
75-15-0	75150	Carbon Disulfide	HAP	2000	1
124-38-9	124389	Carbon Dioxide	GHG		
	CO	Carbon Monoxide	CAP		
56-23-5	56235	Carbon Tetrachloride	HAP	1000	0.5
75-73-0	75730	Carbon Tetrafluoride (CF ₄ / R-14)	GHG		
463-58-1	463581	Carbonyl Sulfide	HAP	1000	0.5
120-80-9	120809	Catechol	HAP	2000	1
133-90-4	133904	Chloramben	HAP	2000	1
57-74-9	57749	Chlordane	HAP	10	0.005
7782-50-5	7782505	Chlorine	HAP	200	0.1
10049-04-4	10049044	Chlorine Dioxide	HAP	200	0.1
79-11-8	79118	Chloroacetic Acid	HAP	1000	0.5
108-90-7	108907	Chlorobenzene	HAP	2000	1
510-15-6	510156	Chlorobenzilate	HAP	1000	0.5
67-66-3	67663	Chloroform	HAP	1000	0.5
107-30-2	107302	Chloromethyl Methyl Ether	HAP	200	0.1
126-99-8	126998	Chloroprene	HAP	200	0.1
7440-47-3	7440473	Chromium	HAP	10	0.005
	136	Chromium & Chromium Compounds (includes chromium metal and all oxidation states)	HAP	10	0.005
16065-83-1	16065831	Chromium (III) (Trivalent Chromium)	HAP	Cr	Cr
18540-29-9	18540299	Chromium (VI) (Hexavalent Chromium)	HAP	Cr	Cr
218-01-9	218019	Chrysene	HAP	POM	POM
7440-48-4	7440484	Cobalt	HAP	10	0.005
	139	Cobalt & Cobalt Compounds	HAP	10	0.005
	140	Coke Oven Emissions	HAP	200	0.1
1319-77-3	1319773	Cresols/Cresylic Acid	HAP	2000	1
98-82-8	98828	Cumene	HAP	2000	1
57-12-5	57125	Cyanide	HAP	1000	0.1
	144	Cyanide & Cyanide Compounds	HAP	1000	0.5
334-88-3	334883	Diazomethane	HAP	2000	1
192-65-4	192654	Dibenzo[a,e]Pyrene	HAP	POM	POM
53-70-3	53703	Dibenzo[a,h]Anthracene	HAP	POM	POM
189-64-0	189640	Dibenzo[a,h]Pyrene	HAP	POM	POM

Consolidated List of Pollutant Codes

CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
189-55-9	189559	Dibenzo[a,i]Pyrene	HAP	POM	POM
224-42-0	224420	Dibenzo[a,j]Acridine	HAP	POM	POM
191-30-0	191300	Dibenzo[a,l]Pyrene	HAP	POM	POM
132-64-9	132649	Dibenzofuran	HAP	2000	1
84-74-2	84742	Dibutyl Phthalate	HAP	2000	1
111-44-4	111444	Dichloroethyl Ether	HAP	2000	1
62-73-7	62737	Dichlorovos	HAP	200	0.1
111-42-2	111422	Diethanolamine	HAP	20	0.01
64-67-5	64675	Diethyl Sulfate	HAP	200	0.01
75-10-5	75105	Difluoromethane (HFC-32, R-32)	GHG		
131-11-3	131113	Dimethyl Phthalate	HAP	1000	0.5
77-78-1	77781	Dimethyl Sulfate	HAP	1000	0.5
79-44-7	79447	Dimethylcarbamoyl Chloride	HAP	2000	1
	600	Dioxin & Dioxin-like Compounds	HAP	0.0002	0.0000001
106-89-8	106898	Epichlorohydrin	HAP	200	0.1
140-88-5	140885	Ethyl Acrylate	HAP	2000	1
100-41-4	100414	Ethyl Benzene	HAP	2000	1
51-79-6	51796	Ethyl Carbamate Chloride (Urethane)	HAP	200	0.1
75-00-3	75003	Ethyl Chloride (Chloroethane)	HAP	20000	10
106-93-4	106934	Ethylene Dibromide (Dibromomethane)	HAP	10	0.005
107-06-2	107062	Ethylene Dichloride (1,2-Dichloroethane)	HAP	1000	0.5
107-21-1	107211	Ethylene Glycol	HAP	2000	1
75-21-8	75218	Ethylene Oxide	HAP	200	0.1
96-45-7	96457	Ethylene Thiourea	HAP	200	0.1
151-56-4	151564	Ethyleneimine (Aziridine)	HAP	2000	1
75-34-3	75343	Ethylidene Dichloride	HAP	2000	1
	383	Fine Mineral Fibers	HAP	2000	1
206-44-0	206440	Fluoranthene	HAP	POM	POM
86-73-7	86737	Fluorene	HAP	POM	POM
353-36-6	353366	Fluoroethane (HFC-161 / R-161)	GHG		
593-53-3	593533	Fluoromethane / Methyl fluoride (HFC-41 / R-41)	GHG		
50-00-0	50000	Formaldehyde	HAP	1000	0.5
	171	Glycol Ethers	HAP	2000	1
76-44-8	76448	Heptachlor	HAP	10	0.005
118-74-1	118741	Hexachlorobenzene	HAP	10	0.005
87-68-3	87683	Hexachlorobutadiene	HAP	200	0.1
77-47-4	77474	Hexachlorocyclopentadiene	HAP	200	0.1

Consolidated List of Pollutant Codes

CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
67-72-1	67721	Hexachloroethane	HAP	1000	0.5
76-16-4	76164	Hexafluoroethane (C2F6)	GHG		
822-06-0	822060	Hexamethylene Diisocyanate	HAP	20	0.001
680-31-9	680319	Hexamethylphosphoramide	HAP	2000	1
110-54-3	110543	Hexane	HAP	2000	1
302-01-2	302012	Hydrazine	HAP	20	0.01
7647-01-0	7647010	Hydrochloric Acid (Acid Aerosol Only)	HAP	2000	1
7664-39-3	7664393	Hydrogen Fluoride (Hydrofluoric Acid)	HAP	1000	0.5
7783-06-4	7783064	Hydrogen Sulfide	HAP	200	0.1
123-31-9	123319	Hydroquinone	HAP	1000	0.5
193-39-5	193395	Indeno[1,2,3-cd]Pyrene	HAP	POM	POM
78-59-1	78591	Isophorone	HAP	20000	10
7439-92-1	7439921	Lead	CAP		
	195	Lead & Lead Compounds	HAP	100	0.05
58-89-9	58899	Lindane (1,2,3,4,5,6-Hexachlorocyclohexane)	HAP	200	0.1
108-31-6	108316	Maleic Anhydride	HAP	1000	0.5
7439-96-5	7439965	Manganese	HAP	20	0.01
	198	Manganese & Manganese Compounds	HAP	20	0.01
108-39-4	108394	m-Cresol	HAP	2000	1
7439-97-6	7439976	Mercury	HAP	10	0.005
	199	Mercury & Mercury Compounds	HAP	10	0.005
74-82-8	74828	Methane	GHG		
67-56-1	67561	Methanol	HAP	2000	1
72-43-5	72435	Methoxychlor	HAP	100	0.05
74-83-9	74839	Methyl Bromide (Bromomethane)	HAP	1000	0.5
74-87-3	74873	Methyl Chloride	HAP	2000	1
71-55-6	71556	Methyl Chloroform (1,1,1-Trichloroethane)	HAP	2000	1
60-34-4	60344	Methyl Hydrazine	HAP	200	0.1
74-88-4	74884	Methyl Iodide (Iodomethane)	HAP	1000	0.5
108-10-1	108101	Methyl Isobutyl Ketone	HAP	2000	1
624-83-9	624839	Methyl Isocyanate	HAP	200	0.1
74-93-1	74931	Methyl Mercaptan	HAP	1000	0.5
80-62-6	80626	Methyl Methacrylate	HAP	2000	1
1634-04-4	1634044	Methyl Tert Butyl Ether	HAP	20000	10
26914-18-1	26914181	Methylanthracene	HAP	POM	POM
65357-69-9	65357699	Methylbenzopyrene	HAP	POM	POM
41637-90-5	41637905	Methylchrysene	HAP	POM	POM
75-09-2	75092	Methylene Chloride (Dichloromethane)	HAP	2000	1

Consolidated List of Pollutant Codes

CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
1313-27-5	1313275	Molybdenum Trioxide	HAP	200	0.1
108-38-3	108383	m-Xylenes	HAP	2000	1
121-69-7	121697	N,N-Dimethylaniline	HAP	1000	0.5
68-12-2	68122	N,N-Dimethylformamide	HAP	2000	1
91-20-3	91203	Napthalene	HAP	1000	0.5
7440-02-0	7440020	Nickel	HAP	20	0.01
	226	Nickel & Nickel Compounds	HAP	20	0.01
98-95-3	98953	Nitrobenzene	HAP	1000	0.5
	NOX	Nitrogen Oxides	CAP		
7783-54-2	7783542	Nitrogen Trifluoride (NF3)	GHG		
10024-97-2	10024972	Nitrous Oxide	GHG		
62-75-9	62759	N-Nitrosodimethylamine	HAP	10	0.005
59-89-2	59892	N-Nitrosomorpholine	HAP	20	0.01
684-93-5	684935	N-Nitroso-N-Methylurea	HAP	2000	1
90-04-0	90040	o-Anisidine	HAP	200	0.1
95-48-7	95487	o-Cresol	HAP	2000	1
115-25-3	115253	Octafluorocyclobutane (c-C4F8)	GHG		
95-53-4	95534	o-Toluidine	HAP	1000	0.5
95-47-6	95476	o-Xylenes	HAP	2000	1
56-38-2	56382	Parathion	HAP	1000	0.5
	PM10-FIL	Particulate Matter, 10 microns, filterable	CAP		
	PM10-PRI	Particulate Matter, 10 microns, primary	CAP		
	PM25-FIL	Particulate Matter, 2.5 microns, filterable	CAP		
	PM25-PRI	Particulate Matter, 2.5 microns, primary	CAP		
106-44-5	106445	p-Cresol	HAP	1000	0.5
82-68-8	82688	Pentachloronitrobenzene (Quintobenzene)	HAP	1000	0.5
87-86-5	87865	Pentachlorophenol	HAP	1000	0.5
354-33-6	354336	Pentafluoroethane (HFC-125, R-125)	GHG		
355-42-0	355420	Perfluorohexane (C6F14)	GHG		
355-25-9	355259	Perfluoro-n-butane (C4F10)	GHG		
678-26-2	678262	Perfluoropentane (C5F12)	GHG		
76-19-7	79197	Perfluoropropane (C3F8 / R-218)	GHG		
198-55-0	198550	Perylene	HAP	POM	POM
85-01-8	85018	Phenanthrene	HAP	POM	POM
108-95-2	108952	Phenol	HAP	2000	1
75-44-5	75445	Phosgene	HAP	200	0.1
7803-51-2	7803512	Phosphine	HAP	200	0.1
7723-14-0	7723140	Phosphorus	HAP	20	0.01

Consolidated List of Pollutant Codes

CAS Number	Pollutant Code	Pollutant Name	Pollutant Category (CAP, HAP, GHG)	HAP Reporting Threshold (lbs)	HAP Reporting Threshold (tons)
85-44-9	85449	Phthalic Anhydride	HAP	2000	1
1336-36-3	1336363	Polychlorinated Biphenyls	HAP	10	0.005
	246	Polycyclic Organic Matter	HAP	100	0.05
106-50-3	106503	p-Phenylenediamine	HAP	2000	1
123-38-6	123386	Propionaldehyde	HAP	2000	1
114-26-1	114261	Propoxur (Baygon)	HAP	1000	0.5
78-87-5	78875	Propylene Dichloride (1,2-Dichloropropane)	HAP	1000	0.5
75-56-9	75569	Propylene Oxide	HAP	1000	0.5
106-42-3	106423	p-Xylenes	HAP	2000	1
129-00-0	129000	Pyrene	HAP	POM	POM
91-22-5	91225	Quinoline	HAP	200	0.1
106-51-4	106514	Quinone	HAP	200	0.1
	605	Radionuclides (Including Radon)	HAP	2000	1
7782-49-2	7782492	Selenium	HAP	200	0.01
	253	Selenium & Selenium Compounds	HAP	200	0.1
100-42-5	100425	Styrene	HAP	2000	1
96-09-3	96093	Styrene Oxide	HAP	2000	1
	SO2	Sulfur Dioxide	CAP		
2551-62-4	2551624	Sulfur Hexafluoride	GHG		
7664-93-9	7664393	Sulfuric Acid (Acid Aerosol Only)	HAP	1000	0.5
127-18-4	127184	Tetrachloroethylene (Perchloroethylene)	HAP	2000	1
109-99-9	109999	Tetrahydrofuran	HAP	2000	1
7550-45-0	7550450	Titanium Tetrachloride	HAP	20	0.01
108-88-3	108883	Toluene	HAP	2000	1
95-80-7	95807	Toluene-2,4-Diamine (2,4-Diaminotoluene)	HAP	200	0.1
8001-35-2	8001352	Toxaphene (Chlorinated Camphene)	HAP	10	0.005
79-01-6	79016	Trichloroethylene	HAP	2000	1
121-44-8	121448	Triethylamine	HAP	1000	0.5
75-46-7	75467	Trifluoromethane (HFC-23, R-23)	GHG		
1582-09-8	1582098	Trifluralin	HAP	100	0.05
8006-64-2	8006642	Turpentine	HAP	2000	1
108-05-4	108054	Vinyl Acetate	HAP	2000	1
593-60-2	593602	Vinyl Bromide	HAP	1000	0.5
75-01-4	75014	Vinyl Chloride	HAP	200	0.01
75-35-4	75354	Vinylidene Chloride (1,1-Dichloroethylene)	HAP	1000	0.5
	VOC	Volatile Organic Compounds	CAP		
1330-20-7	1330207	Xylenes (Isomers & Mixture)	HAP	2000	1