

MAERS

MICHIGAN AIR EMISSIONS REPORTING SYSTEM

USER GUIDE

A Guide for Completing an Electronic MAERS Report



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1 Introduction

Overview of the Michigan Air Emissions Reporting System:

The federal Clean Air Act (CAA) requires that each state maintain an inventory of air pollution emissions for certain facilities and update this inventory every year. Michigan's emission inventory is collected annually using the Michigan Air Emissions Reporting System (MAERS). MAERS is a Web-based application accessible to participating regulated facilities via the Internet. Participating facility access privileges are administrated using a Personal Identification Number (PIN), user name, and password. All MAERS Report submissions are verified via PIN/Security Question authentication with software security to ensure that the content of the data is original, truthful, legitimate, and unaltered.

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) maintains Emission Inventory (EI) reports for commercial, industrial, and governmental sources of air pollution in Michigan. Each year, approximately 2,000 facilities report emissions to the MAERS. Emissions data is submitted to the U.S. Environmental Protection Agency (USEPA) to be added to the national data bank. This information is used to track air pollution trends, determine the effectiveness of current air pollution control programs, serve as a basis for future year projections of air quality, track source compliance, provide information for permit review, and calculate the emissions portion of the air quality fee.

Reporting year 2022 will be the last reporting year MAERS will be used. MiEnviro Portal will be used for emissions reporting beginning in 2024 for reporting year 2023. Check the AQD webpage for more information on MiEnviro Portal. Data from your current year and historical MAERS reports will be migrated to the new system.

The AQD's Policy and Procedure [AQD-013](#) generally explains which Michigan facilities, operating sources of air pollution, are required to report their annual emissions. They include the following:

- Facilities subject to the Renewable Operating Permit (ROP) Program.
- Facilities that have opted out of the ROP Program by obtaining an Opt-Out Permit to Install.
- Facilities subject to a federal New Source Performance Standard (NSPS).
- Facilities whose actual emissions exceed the thresholds listed in Table 1-1.
- *Any facility* receiving notification from the AQD to report.

Table 1-1: MAERS Reporting Thresholds

Pollutant	Threshold
Carbon monoxide (CO)	100 tons per year
Nitrogen oxides (NO _x)	40 tons per year*
Sulfur dioxide (SO ₂)	40 tons per year
Particulate matter (PM)	25 tons per year
Particulate matter (PM _{2.5})	10 tons per year
Particulate matter (PM ₁₀)	15 tons per year
Volatile organic compounds (VOC)	10 tons per year
Lead (Pb)	0.5 tons per year

*25 TPY for sources in Ozone Nonattainment areas

Note: These thresholds are based on the AQD Policy and Procedure, AQD-013, except for VOCs. The VOC threshold is based on the major source definition for a single hazardous air pollutant in Section 112 of the federal CAA and the requirement to identify VOC point sources greater than 10 tons per year in the Michigan State Implementation Plan.

The MAERS reports are due by **March 15** each year. The AQD is required to notify each facility at least 45 days prior to the deadline for submitting the report. This notification usually occurs in mid-January.

NOTE: Reporting Toxic Pollutants

Reporting air emissions of 235 toxic pollutants is **optional**. The AQD analyzes the emissions data submitted by each company and estimates the toxic air pollutant emissions based on the information provided for criteria pollutants. This includes activity information such as source classification codes and material throughput, along with source estimates of PM and VOCs. A company may preview toxic emissions data that has been calculated using the MAERS software once criteria pollutant emissions data has been completed for the facility. If the estimates are felt to be in error, the company may submit corrected estimates, provided they also submit data supporting the changes. As an alternative to the AQD estimating toxic emissions, a company may submit toxic pollutant emissions with its MAERS submittal. For questions regarding the reporting of toxic pollutants, contact your AQD district office. See [Appendix D](#) for more information.

MAERS Report Submission Process

The typical MAERS submission process performed by a facility's Primary Preparer is:

- Step 1:** Log into the MAERS via the Internet with a user name and password.
- Step 2:** Select a source in the MAERS Report List. Click the View/Edit icon to access the data entry form.
- Step 3:** Complete the Source Form, Contact Form, Stack Form, Emission Unit Form, Reporting Group Form, and Activity & Emission Form.
- Step 4:** Perform the emission calculation and Completeness Check.
- Step 5:** Enter the PIN number and answer the security question in the Submittal Authorization Form.
- Step 6:** Submit the MAERS Report.
- Step 7:** Submit the Supplemental Control Template spreadsheet.
- Step 8:** For ROP sources complete and submit ROP Certification.

MAERS Resources

In addition to this guide, there are several other resources you may wish to refer to for guidance in completing and submitting your MAERS Report. They include:

Training and Outreach

EGLE's Training and Outreach Unit helps businesses understand their obligations under state and federal air quality regulations as well as identify methods of compliance with those requirements. The types of assistance available from the Training and Outreach Unit include telephone consultations, guidance publications, and training workshops. Staff are available to help with your MAERS related questions and can be contacted by calling the Environmental Assistance Center at 800-662-9278 or on the Internet at

Michigan.gov/EnvironmentalAssistance.

EGLE MAERS Website

This site provides an overview of the AQD, Emissions Reporting Program, up-to-date MAERS news, information on where to go for help, as well as access to all the MAERS forms, instructions, and other guidance documents. You can access the MAERS Home Page at Michigan.gov/MAERS.

InfoMAERS@michigan.gov

The AQD maintains this e-mail box to accept, track and administer MAERS-related correspondence. Facilities should use this email whenever they need assistance.

2 Minimum System Requirements

Participating facilities must be able to access **MAERS** .

The performance of the MAERS will vary based on the computer's internet connection speed, CPU, Operating System, and available memory.

The AQD recommends the following system configuration:

- Broadband Internet Connection or higher
- Pentium II processor or higher
- Microsoft Windows XP or higher
- 256 MB of RAM or higher

3 Getting Started

Access the MAERS website at www.egle.state.mi.us/maersfacility. You will be greeted by the login screen shown below (Figure 3-1). You must enter a valid user name and password. A user name and password can be obtained by self-registering.

The screenshot shows the MAERS website login page. At the top left is the EGLE logo (Michigan Department of Environment, Great Lakes, and Energy). The main title is 'MAERS-Michigan Air Emissions Reporting System'. Below the title is a navigation bar with 'Michigan.gov Home' and 'MAERS Home'. The main content area is divided into two columns. The left column has an 'Overview' section with a welcome message and a 'Getting Started' section with registration instructions. The right column has a 'SIGN IN' form with 'User Name' and 'Password' fields, a 'Sign In' button, and a 'Help' section with links for 'Forgot Password?', 'Self-Registration', and 'Need Help?'. The footer contains various links and copyright information.

Figure 3-1 MAERS Website Login Page

Self-Registration

To establish an account in MAERS, click on the “Self-Registration” link (Figure 3-2)

NOTE: You only need to register once. If you have registered for a previous year, you can skip Self-Registration.

Figure 3-2: Access Self-Registration

Step 1: Select a role - (Figure 3-3). The registered user's role determines access to the appropriate data and defines user rights. If you are uncertain as to which role (defined below) applies to you, contact your district office, or send your inquiry to InfoMAERS@michigan.gov.

Figure 3-3: Select Role in Self-Registration

- **Primary Preparer** –Each facility must have one Primary Preparer. This user must be employed at the facility and cannot be a consultant. This user manages the facility's online MAERS account, assigns additional users, makes edits, and is responsible for submitting the report when it is finished. Only the Primary Preparer can certify and submit the report.

Note: If multiple people at a facility review and edit the MAERS Report, then one person must be registered as the Primary Preparer and the other users should register as Secondary Preparers.

- **Secondary Preparer** – This user is employed at the facility, other than the Primary Preparer, who will be working on the MAERS Report. This user can access and make edits to the

MAERS Report once the Primary Preparer associates them with the facility. A person that registers as a Secondary Preparer can be associated with multiple facilities, and multiple Secondary Preparers can be associated with a facility.

- **Consultant** – This role is like the Secondary Preparer except that they are a consultant rather than someone employed at the facility. This user can access and make edits to the MAERS Report once the Primary Preparer associates them with the facility. A Consultant can be associated with multiple facilities.
- **Reviewer** – This user can only view the MAERS Report once the Primary Preparer associates them with the facility. A Reviewer can be associated with multiple facilities.

Step 2: Complete all required fields (denoted with a red star) in the Account Information section (Figure 3-4).

The screenshot shows a form titled "Account Information" with the following fields and values:

- * First Name:** John
- * Last Name:** Sample
- * User Name:** SampleJ
- * Employer Name:** Sample Corporation
- Job Title:** Env Manager
- * Email Address:** samplej@samplecorp.com
- * Address Line 1:** 555 W. Main St
- Address Line 2:** (empty)
- * City:** Lansing
- * State:** MI
- * Zip:** 48909
- * Country:** United States
- Area Code:** 517
- Phone No.:** 123-4567
- Ext.:** (empty)

Figure 3-4: Account Information

Step 3: Primary Preparer Role ONLY: Associate Facility(s). (Figure 3-5).

Click on the “Retrieve Facility Data” button. Any facilities that are associated with the e-mail address entered in the account information section will be displayed. If no facilities are displayed, then you can manually enter the facility name, address, and State Registration Number (SRN) for which you want to be the Primary Preparer.

If a facility appears for which you do not want to be the Primary Preparer, click the delete button.

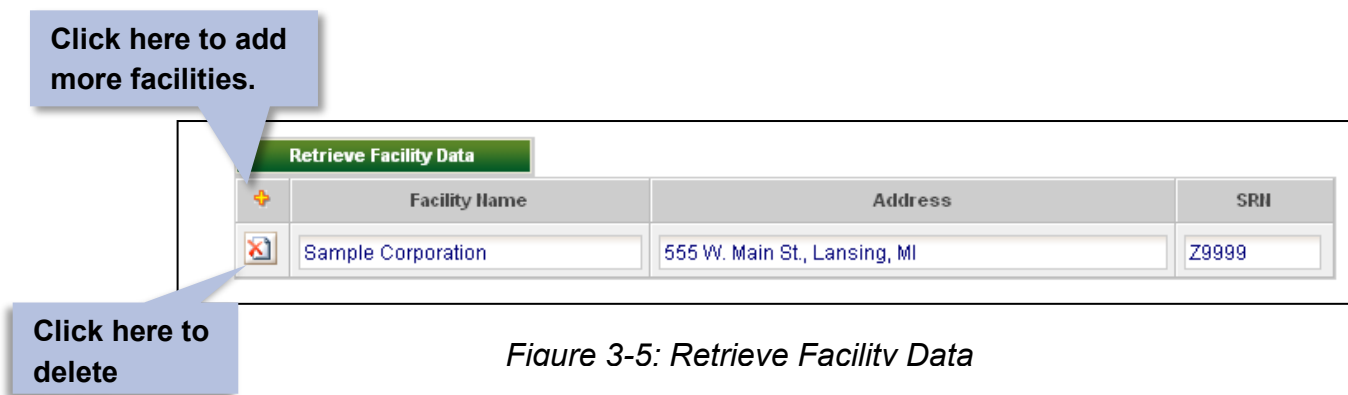


Figure 3-5: Retrieve Facility Data

Step 4: Read the MAERS Terms of Service in the Agreements and Policy section, then click on the checkbox to confirm reading and acceptance of the agreements.

Step 5: Click on the “Create Account” button to submit the self-registration.

Step 6: Primary Preparer Role ONLY: Print the Electronic Signature Agreement Form (Figure 3-6) at the end of registration.

This form should be signed and dated by the Primary Preparer and mailed to the address indicated on the form. Within 1-2 days of receiving this form, the Air Quality Division (AQD) will activate your account and send you an e-mail notifying you that your account is active. You may also email the form for quicker access.

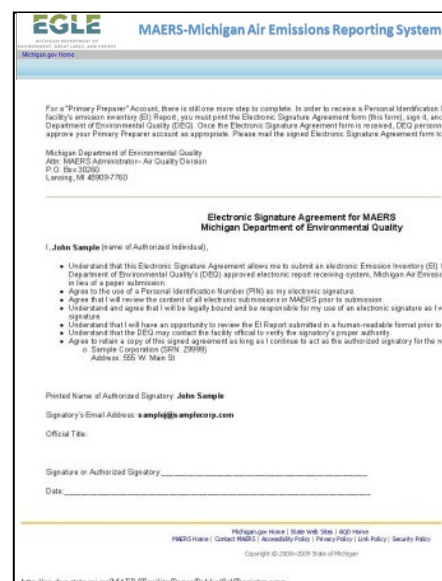


Figure 3-6: E-Signature Agreement Form

WHAT'S NEXT?

- **Primary Preparers:** Once your account is activated you will be able to log into the MAERS and associate additional users (Secondary Preparers, Consultants, and Reviewers) See Associating User Instructions.
- **Secondary Preparers, Consultants, and Reviewers:** You will be able to log into the MAERS but will not be able to view any facility specific MAERS data until associated with the facility by the Primary Preparer.

Logging In

Step 1: Access the MAERS at www.egle.state.mi.us/maersfacility. You will be greeted by the log in screen above (Figure 3-1). Enter your user name and password.

Step 2: FIRST TIME LOGGING IN Click on “Request Access Code.” See Figure 3-7.

Password Reset

Access Code

To change or reset the security information below, click on Request Access Code. A security access code will be sent via e-mail, the code will be valid for 20 minutes. Once you receive the security access code, enter the code to be able to change the security information. For assistance send an e-mail to INFOMAERS@michigan.gov or call the Environmental Assistance Center at 1-800-662-9278.

Security Access Code: Request Access Code

A password must be least eight character long including one uppercase letter, one lowercase letter, and one number

* Password: * Confirm Password:

Enter Pin and Security Questions' answer

A PIN must contain at least 4 characters.

* PIN:

Answers to security questions must contain at least 3 characters. Also the same answer cannot be used for different security questions

Question 1:
 Answer:

Question 2:
 Answer:

Question 3:
 Answer:

Question 4:
 Answer:

Question 5:
 Answer:

Save

Figure 3-7: Request Access Code

Step 3: Security Information

After you click the Request Access Code button you will receive an email with a one time use Security Access Code, then do the following:

- (a) Enter the Security Access Code.
- (b) Enter a password in the "Password" field and re-enter it in the "Confirm Password" field.
- (c) Enter a PIN.
- (d) Choose your security questions and enter your answers.
- (e) Click on "Save".

The second time and any subsequent times you log in; you will only need to enter your user name and password.

Whenever you click on "Forgot Password" you will be emailed a temporary password. Upon logging in with a temporary password, you will be directed to request a Security Access Code and then create your own password.

Updating Your Account Information

Click on the "My Account" tab to view your account information (Figure 3-8).

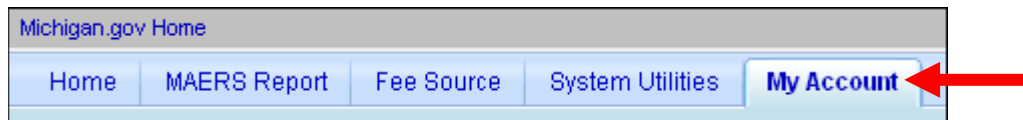



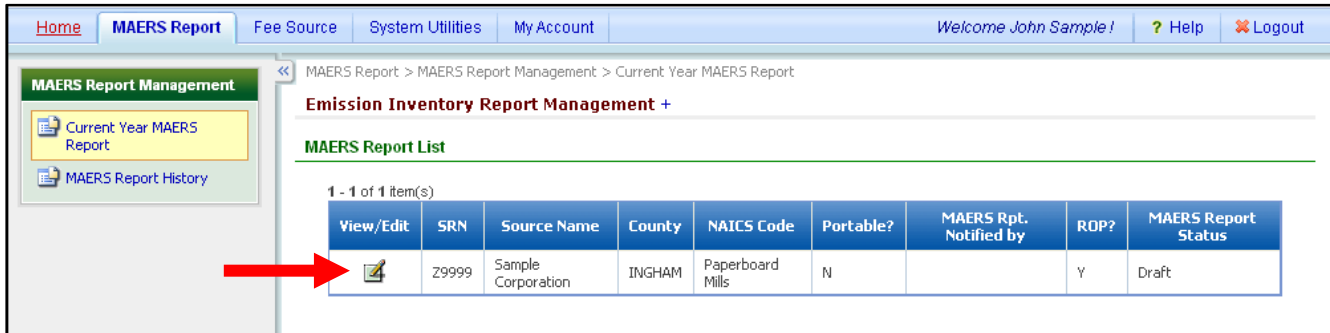
Figure 3-8: My Account Tab

This page is used to keep your MAERS account information up-to-date and change your password, PIN and security questions and answers. Any time you want to change any of your security information, you will need to click the "Request Access Code" button first. You will receive an email with a Security Access Code, that when entered, will allow you to change any of your security information. The Primary Preparer role is the only role that will have the ability to update the PIN and security questions and answers. The PIN and answers are used to submit the report. The Primary Preparer is the only MAERS user role that can submit. When you are finished entering your information, click on "Save My Account."

Accessing a MAERS Report

Click on the MAERS Report tab to view all sources that have been assigned to you (Figure 3-9). One or more may appear on this screen.

To view a MAERS Report, click on the view/edit icon . The MAERS Report will open on the Source Form.




View/Edit	SRN	Source Name	County	NAICS Code	Portable?	MAERS Rpt. Notified by	RDP?	MAERS Report Status
	Z9999	Sample Corporation	INGHAM	Paperboard Mills	N		Y	Draft

Figure 3-9: MAERS Report List

What if No Sources Appear on this Screen?

- For a Primary Preparer, it means the AQD has not yet posted the MAERS Reports. The MAERS Reports will be posted by early January and all Primary Preparers will be notified when this occurs. If you receive notification that a MAERS Report is ready to view but no report appears in the MAERS Report List (Figure 3-9), send an e-mail to InfoMAERS@michigan.gov.
- For a Secondary Preparer, Consultant, or Reviewer, it means that the Primary Preparer has not yet assigned you to their source; or your source may not be required to report. You should contact the Primary Preparer for the source to request that you be associated to it. See Associating User Instructions below. If questions remain as to whether a source has been asked to participate in the MAERS, contact the appropriate AQD District Office.

What if an Incorrect Source Appears in the MAERS Report List?

- Send an e-mail detailing the issue to InfoMAERS@michigan.gov.

Associating User Instructions

Secondary Preparers, Consultants and Reviewers will not be able to access the MAERS data for the source unless they are registered MAERS users and then associated with the source by the Primary Preparer.

Step 1: Go to the System Utilities tab and select Manage Users (Figure 3-10). *Note: Only those registered as a Primary Preparer have access to this function.*

Step 2: Click on the “Associate User” button.

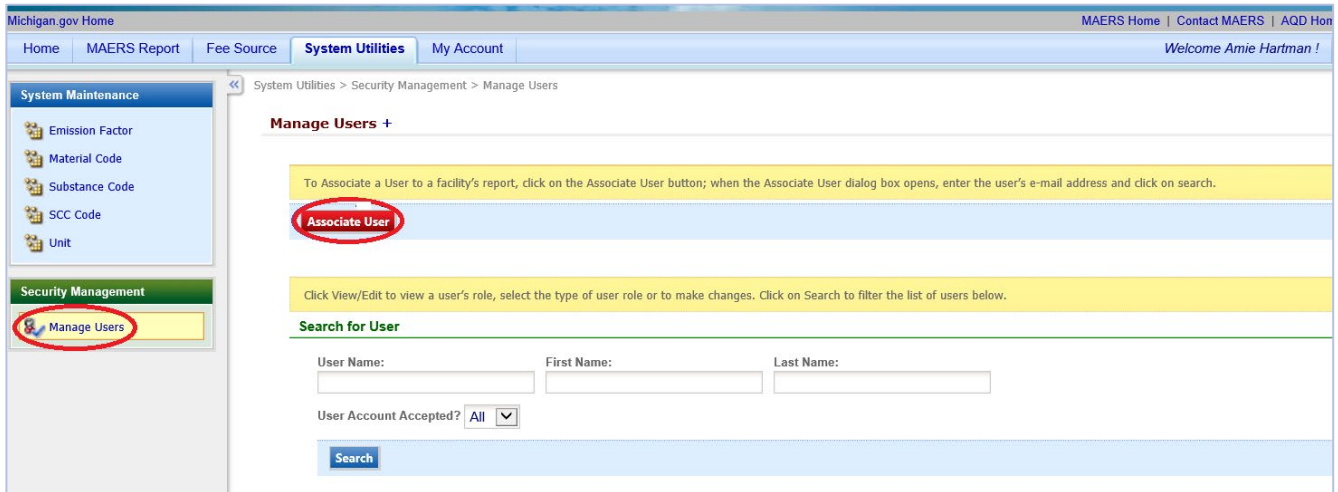


Figure 3-10: Manage Users

Step 3: Enter the e-mail address of the registered MAERS user that would like access to your source and click **Search** (Figure 3-11). If the person you want to grant access to is a registered MAERS user, their information will appear.

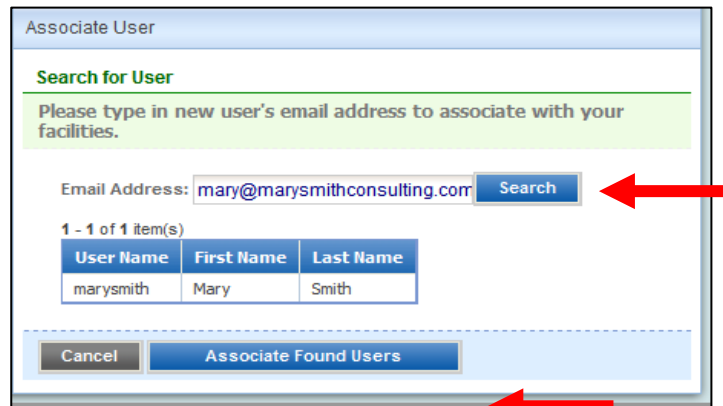


Figure 3-11: Search for User

Step 4: Click on “Associate Found Users” (Figure 3-11). The added user will appear in the search results on your “Manage User” screen (Figure 3-12).

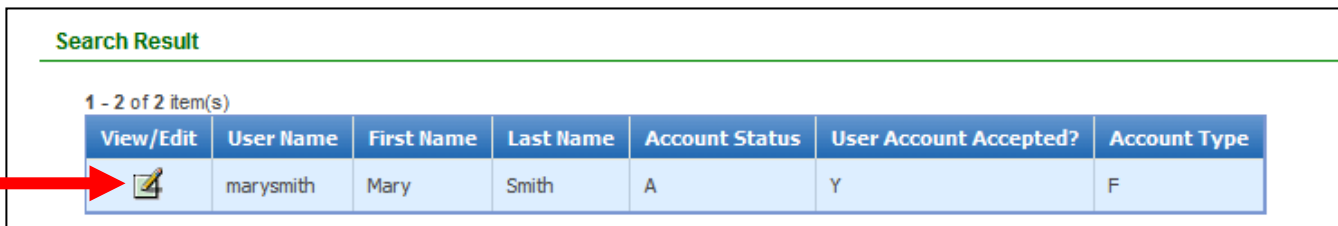


Figure 3-12: User List

Step 5: Click on the View/Edit icon next to the user to be added. You can view their account information.

Step 6: Click on the “Associate Facilities” tab. Check the facility you would like to give this user access to and assign a user role (Preparer or Reviewer) by clicking the drop down under “User Role” (Figure 3-13).

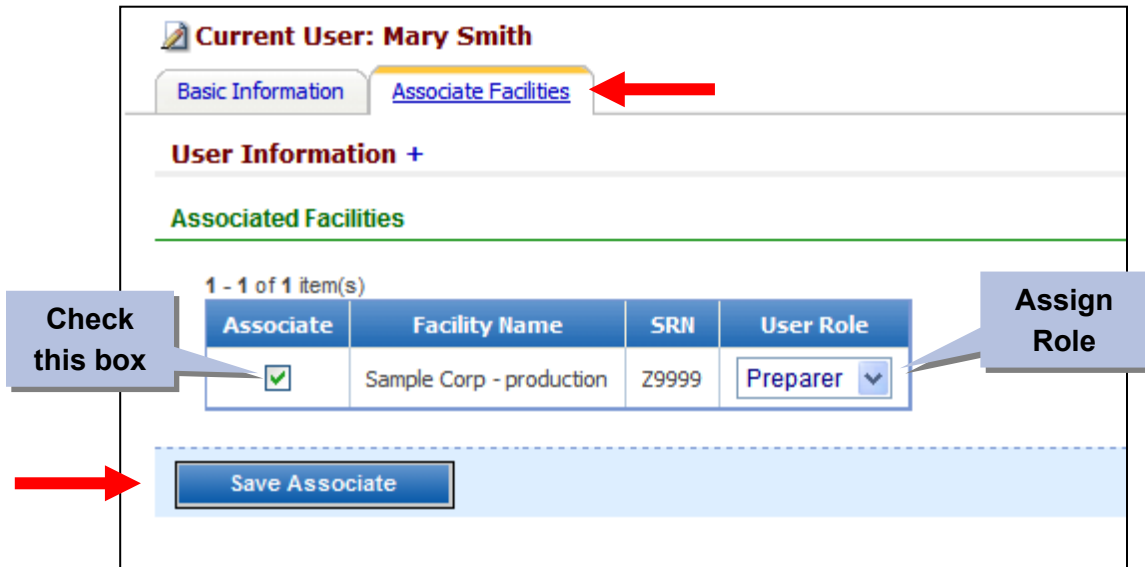


Figure 3-13: Associate User with Facility

Step 7: Click on “Save Associate.” The user is now associated with the facility. The facility’s MAERS data will now appear under their MAERS Report tab when the assigned user logs into MAERS.

NOTE: The user you have assigned will remain assigned to the facility every year until you disassociate them. If you no longer want to give a user access to the facility’s MAERS data; uncheck the box referenced in Step 6 and click on “Save Associate.”

4 Helpful Features

Viewing Historical MAERS Data

You can view MAERS Reports submitted in previous years by clicking on MAERS Report History, located under the MAERS Report tab (Figure 4-1).

Sharing a Draft of Your Report with the Air Quality Division

Your MAERS Report cannot be viewed by the AQD until it has been submitted. If you would like to share the draft version of your report with the AQD staff, go to the Source Form and click on the “Share Draft MAERS Report with AQD Staff?” box located at the top right side of the page (Figure 4-2). Users may choose to use this function if they are requesting help from the AQD on a specific issue and want to share the report as is. When the box is unchecked the AQD will no longer be able to view the draft MAERS Report.



Figure 4-1: MAERS Report

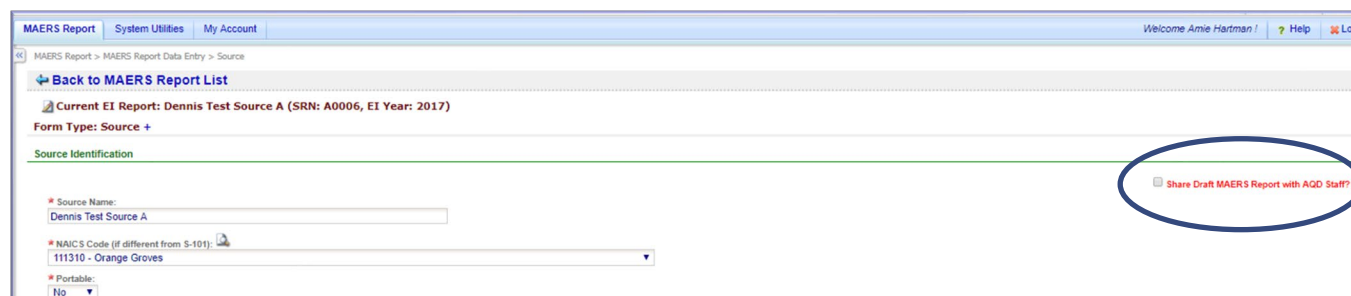


Figure 4-2: Share Draft MAERS Report

Reporting Issues/Problems in MAERS

Send an e-mail to InfoMAERS@michigan.gov if you encounter a problem while using the MAERS.

5 MAERS Report Form Completion

Forms Overview

The MAERS consists of six web-based forms. Each form can be accessed from the menu on the left pane (Figure 5-1). Most data entered in MAERS during the previous year will be imported into the forms for the current reporting year. It is worthwhile to verify the completeness and accuracy of the pre-filled data. Any corrections should be addressed before the MAERS Report is certified and submitted by the Primary Preparer.

Required fields in the forms are marked with a red star. An error will be displayed after you save the form if any required information is missing. You will need to resolve any errors (indicated in red) prior to submitting the MAERS Report. Each form is briefly described below:



Figure 5-1: Form Menu

- **Source Form:** This form records the source location and owner information (see page 19). Every source must complete this form.
- **Contact Form:** This form records the contact information (see page 23). Every source must complete the contact information on this form. The fee contact is only required if the source is fee subject (see [Appendix B](#)).
- **Stack Form:** This form applies to stacks connected to an emission unit reported on the EU-101 Emission Unit form. For each stack that must be reported, complete a Stack Form (see page 25). See the threshold levels in Table 8-1 to determine which stacks need to be reported.
- **Emission Unit Form:** This form records information concerning the operation of an emission unit (see page 30). An Emission Unit form must be completed for each emission unit that must be reported. Page 31 provides guidance on how to determine whether an emission unit should be included your MAERS Report.
- **Reporting Group Form:** This **optional** form records a grouping of emission units that is created for simplification of reporting emissions (see page 40). The new system does not have the option of reporting emissions in groups. Activities must be reported for each emission unit in the new system. **If you have RGs in your current report, we encourage you to report activities at the EU level and remove RGs from your report.**
- **Activity and Emission Form:** This form has two parts that collect activity detail information (e.g., operating schedules, material information and throughput) and actual emissions information for each mission unit or reporting group for the reporting year (see page 41). Sources must complete an Activity and Emission form for each emission unit unless it is a part of a reporting group. The activity would then be captured at the reporting group level.

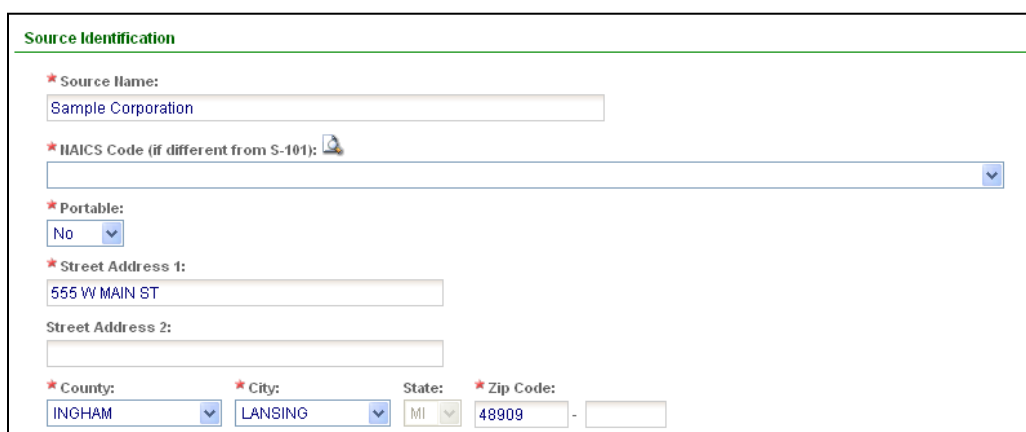
NOTE: Be sure to click on the “save” button after making edits to a form. The save button is located at the bottom of each form.

6 Source Form

The Source Form collects basic information about the facility including location and ownership. For facilities that submitted a MAERS Report during a previous year, this form should be entirely pre-filled. If information has changed or needs to be updated, edit the appropriate fields. If all the information is accurate and no editing is necessary, continue to the Contact form. For facilities submitting a MAERS Report for the first time, this form will be partially completed.

Source Identification Section

Complete the required fields in this section if information needs to be updated or new information needs to be entered (Figure 6-1). Follow the steps below.



Source Identification

* Source Name:
Sample Corporation

* NAICS Code (if different from S-101):


* Portable:
No

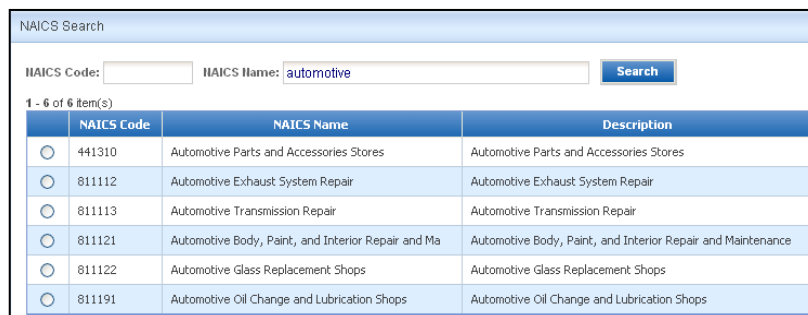
* Street Address 1:
555 W MAIN ST

Street Address 2:

* County: INGHAM * City: LANSING State: MI * Zip Code: 48909

Figure 6-1: Source Identification

- 1. Source Name:** Enter the name of the source. For portable sources, enter the name of the company that owns the portable source.
- 2. NAICS Code:** From the drop-down list, select the North American Industrial Classification System (NAICS) code that best describes the major product produced or service provided by your source (Figure 6-2). Click on the lookup icon  to search and select appropriate NAICS Codes.



NAICS Search

NAICS Code: NAICS Name: automotive Search

1 - 6 of 6 item(s)

	NAICS Code	NAICS Name	Description
<input type="radio"/>	441310	Automotive Parts and Accessories Stores	Automotive Parts and Accessories Stores
<input type="radio"/>	811112	Automotive Exhaust System Repair	Automotive Exhaust System Repair
<input type="radio"/>	811113	Automotive Transmission Repair	Automotive Transmission Repair
<input type="radio"/>	811121	Automotive Body, Paint, and Interior Repair and Ma	Automotive Body, Paint, and Interior Repair and Maintenance
<input type="radio"/>	811122	Automotive Glass Replacement Shops	Automotive Glass Replacement Shops
<input type="radio"/>	811191	Automotive Oil Change and Lubrication Shops	Automotive Oil Change and Lubrication Shops

Figure 6-2: NAICS Search

NOTE: Some NAICS have been updated for the new reporting year. Please verify that the selected code describes the source. If not, select the appropriate NAICS from the list.

3. Portable: From the drop-down list, select “Yes” if the source is portable (e.g. concrete crusher or asphalt batch plant). Select “No” if this is a stationary source; most sources reporting to the MAERS are stationary sources.

4. Source Address

Street Address 1: This is the street number and name where the emission unit(s) is located. DO NOT use a post office box number. For portable sources, enter the address of the home or main office.

County: From the drop-down list, select the county where the source is located. For portable sources, select the county where the home or main office is located.

City: From the drop-down list, select the city where the source is located. For portable sources, select the city where the home or main office is located.

Zip Code: Enter the zip code. The zip code must represent the city where the source is located. For portable sources, enter the zip code of the city selected in the previous field.

The screenshot shows a web form for source identification. Fields include:

- Latitude: 42.72539000
- Longitude: -84.55930000
- Horizontal Collection Method: 030 The geographic coordinate determination method is based on a digital map source (TIGER).
- Horizontal Accuracy Measure: 25 Meters
- Horizontal Reference Datum: 02 North American Datum of 1983
- Reference Point Code: 102 Center of a Facility/System.
- Principal Product: Automobile Parts
- Number of Employees: 102
- Employer Federal ID Number: 123456789
- Share Draft MAERS Report with AQD Staff?

 A blue callout box points to the Latitude and Longitude fields, stating: "Latitudes and longitudes that have been verified by AQD staff will be grayed out and cannot be modified. If a verified latitude or longitude is incorrect, send an e-mail to InfoMAERS@michigan.gov".

Figure 6-3: Source Identification Section (continued)

5. Latitude: Enter the source’s latitude in decimal degrees or in Degree:Minute:Second format. Use the “Deg:Min:Sec Format” button to toggle the formats.

6. Longitude: Enter the source’s Longitude in decimal degrees or in Degree:Minute:Second format. Use the “Deg:Min:Sec Format” button to toggle the formats.

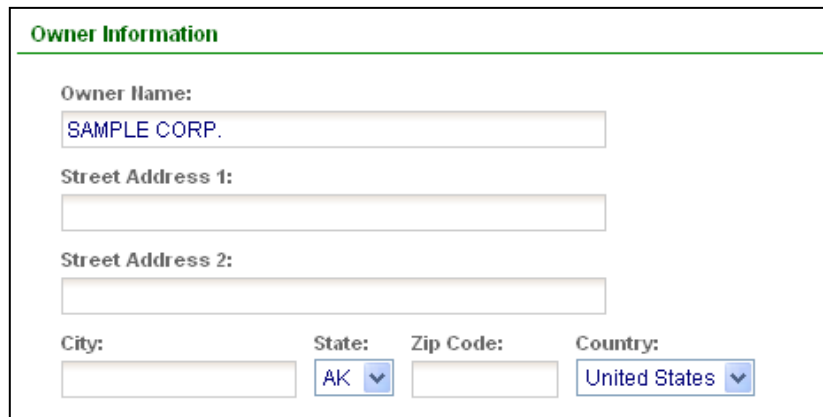
NOTE: To verify the coordinates entered it is recommended that you use an online mapping tool such as **Google Maps**, which displays latitude and longitude after entering a location.

- 7. Horizontal Collection Method:** From the drop-down list, select the collection method used to determine the latitude and longitude listed.
- 8. Source Map Scale:** Enter the scale of the map used. This field is only required if the horizontal collection method code entered is "The geographic coordinate determination method based on interpolation-map."
- 9. Horizontal Accuracy:** Enter the accuracy measure of the collection method and report in meters, based on the map or GPS used. If you are using a website, enter 25 meters.
- 10. Horizontal Reference Datum:** From the drop-down list, select the datum code used to determine the latitude and longitude. If you are using a GPS, please select the applicable code; it should be listed in the instruction booklet.
- 11. Reference Point Code:** From the drop-down list, select the point that best describes the location where the latitude and longitude were taken. For instance, if you are using horizontal collection method code "The geographic coordinate determination method based on address matching-house number," reference point code "Entrance of a facility or station" may be used. If you are using a GPS, choose the point closest to where you were standing when reading the GPS, such as code "Center of a facility or station."
- 12. Number of Employees:** Enter the average number of people employed at this location.
- 13. Principal Product:** Enter the principal product produced at the source (e.g., "Large Appliances").
- 14. Employer Federal ID Number:** Enter the source's Federal Employer Identification Number. Do not use Social Security Numbers. For accounting purposes, the federal employer identification number is required. This number is usually obtained at your payroll office.

Owner Information Section

Complete the required fields in this section if information needs to be updated or new information needs to be entered (Figure 6-4).

- 15. Owner Name:** Enter the name of the owner of the source or the parent/holding company.
- 16. Owner Address:** If the owner's address is identical to the source address, leave these fields blank. If the owner's address is different than the source address, complete these fields. Fill out the name and address exactly as it should appear on all correspondence.



The screenshot shows a form titled "Owner Information" with a green header. It contains the following fields:

- Owner Name:** A text input field containing "SAMPLE CORP."
- Street Address 1:** An empty text input field.
- Street Address 2:** An empty text input field.
- City:** An empty text input field.
- State:** A dropdown menu with "AK" selected.
- Zip Code:** An empty text input field.
- Country:** A dropdown menu with "United States" selected.

Figure 6-4: Owner Information Section

Sharing a Draft of your Report with the Air Quality Division

Your MAERS Report cannot be viewed by the Air Quality Division (AQD) until it has been submitted. If you need assistance and would like the AQD staff to view your draft report, you can click on the "Share Draft MAERS Report with AQD Staff?" When the box is unchecked the AQD will no longer be able to view the draft MAERS report.

7 Contact Form

The Contact form collects information for the emission inventory contact person and the fee invoice contact person. The emission inventory contact person is the person who the Air Quality Division (AQD) will contact if they have questions about the submitted MAERS Report information. In addition, the annual notification in January will be sent to the emission inventory contact person. Information for a secondary contact person may be provided. It will be used by the AQD when the primary contact person may not be available.

The AQD will contact the fee invoice contact person for information relating to fees. Only sources that are subject to fees are required to include fee invoice contact information.

Emission Inventory Contact Section

For sources that submitted a MAERS Report in a previous year, this form should be entirely prefilled. If information needs to be updated, complete the required fields in this section (Figure 7-1). If the pre-filled information is accurate continue to the Stack form. Contact information may be different than User information. An update to user accounts does not update contact information. Updates to contact information do no update user account information.

1. Primary Contact Information: A source contact, not a consultant, law firm, etc., must be identified. The address entered is where future MAERS correspondence will be sent.

Enter the name, mailing address, telephone number (including extension and fax number), and e-mail address.

2. Secondary Contact Information: A secondary contact may or may not be identified. This person must be a source contact, not a consultant, law firm, etc. This address is where future MAERS correspondence will be sent when the primary contact cannot be reached.

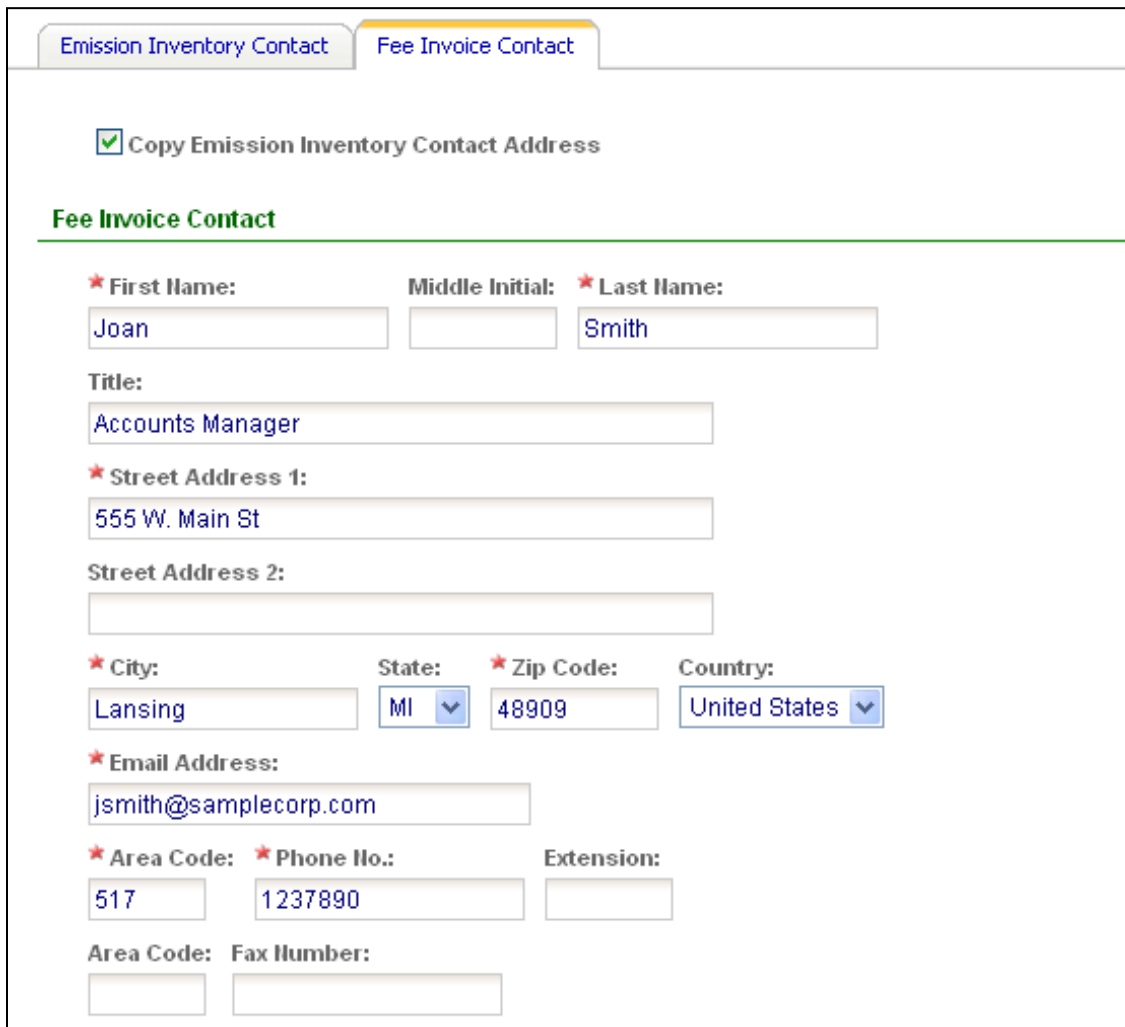
Enter the name, mailing address, telephone number (including extension and fax number), and e-mail address.

Figure 7-1: Emission Inventory Contact

Fee Invoice Contact Section

Fee subject sources must complete this area. If information needs to be, complete the required fields in this section (Figure 7-2).

Enter the name, mailing address, telephone number (including extension and fax number), and e-mail address. This person should be from the source (i.e., not a consultant, law firm, etc.). This address is where all invoices will be sent for payment processing.



Emission Inventory Contact **Fee Invoice Contact**

Copy Emission Inventory Contact Address

Fee Invoice Contact

* First Name: Middle Initial: * Last Name:
Joan [] Smith

Title:
Accounts Manager

* Street Address 1:
555 W. Main St

Street Address 2:
[]

* City: State: * Zip Code: Country:
Lansing MI 48909 United States

* Email Address:
jsmith@samplecorp.com

* Area Code: * Phone No.: Extension:
517 1237890 []

Area Code: Fax Number:
[] []

Figure 7-2: Fee Invoice Contact

8 Stack Form

The Stack Form collects information about stacks that are connected to emission units listed on the Emission Unit Form. Not all existing stacks need to be included in the MAERS; however, if an emission unit does not have an associated stack in MAERS, its emission will be considered fugitive.

Stack information must be reported for all stacks that have actual emissions of any pollutant equal to or greater than the threshold levels listed in Table 8-1. These threshold levels refer to the amount of emissions per emission unit, not per stack. For example, if one emission unit has two stacks and individually each stack is below the threshold levels, but combined the threshold levels are exceeded, both the stacks must be reported. Additionally, if more than one emission unit exhausts through one stack and each emission unit is below the threshold levels, but the combined amount exceeds the threshold levels, the stack must be reported (Figure 8-1).

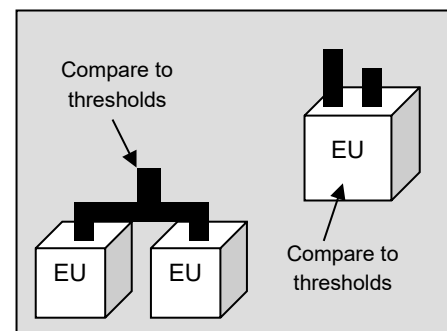


Figure 8-1: Stack Thresholds

If an existing stack that was entered during a previous year falls below the threshold levels during the current reporting year, it can be deleted from the MAERS by clicking the "Delete" icon for this stack. However, this means that only the Stack Form does not have to be completed – all the other MAERS forms are still required. This is not a recommended option for two reasons: (1) the emissions for the current reporting year will be interpreted as fugitive, and (2) if the stack triggers the threshold in subsequent years, you will have to add the stack back into MAERS. It is easier to leave stacks in the system once they trigger the requirement as long as they are still in place at the facility; see the Dismantle Date information below for stacks that have been removed from the facility.

Table 8-1: Stack Reporting Threshold Levels

POLLUTANT	THRESHOLD LEVEL (tons per year)
Carbon monoxide (CO)	100
Nitrogen oxides (NO _x)	40*
Sulfur dioxide (SO ₂)	40
Particulate matter (PM)	25
Particulate matter (PM _{2.5})	10
Particulate matter < 10 microns (PM ₁₀)	15
Volatile organic compounds (VOC)	10
Lead (Pb)	0.5

*25 TPY for sources in Ozone Nonattainment areas

NOTE: If you are unsure whether your emission unit exceeds the thresholds listed in Table 8-1, wait to complete this form until after you have completed the Activity and Emissions Form. The Emissions Form provides the emissions data needed to compare to the thresholds.

Note: It is required that sources subject to the ROP program report all stacks with applicable requirements. Stacks with applicable requirements must be reported in the ROP renewal application. If these stacks are reported in MAERS you will not have to complete Stack forms in your ROP application.

Stack Form Completion Instructions

If a stack at your facility exceeds the thresholds in Table 8-1, it must be identified on a Stack Form. If the stack was added during a previous year, this information will be pre-filled. If you do not have any stacks that exceed the thresholds in Table 8-1 or if the information pre-filled is still accurate, you do not need to complete this form and may proceed to the Emission Unit form. If any information about any stack is incorrect, enter the correct information in the Stack Identification Section. Following is an explanation of each section of the Stack Form, as well as step-by-step instructions on how to complete the required fields.

Stack List

A source can have any number of stacks to report/stack forms to complete. Before accessing data for a specific stack, MAERS will present a **stack list** displaying all the stack records currently in the MAERS Report for the source (Figure 8-2). Click the "View/Edit" icon to enter a specific Stack Form to review and edit an existing stack, click the "Delete" icon to delete an existing stack, or click the "Add New Stack" button to add a new stack for this source (Figure 8-2)

Stack List

Items per page: 100

1 - 7 of 7 item(s)

View/Edit	Stack ID	Description	Dismantle Date	Delete
	SV-BOILER	BOILER STACK		
	SV-COAT1-1	COATING LINE 1, BOOTH 1 STACK		
	SV-COAT1-2	COATING LINE 1, PAINT BOOTH 2 STACK		
	SV-COAT1-3	COATING LINE 1, BOOTH 3 STACK		
	SV-COAT2	COATING LINE 2 STACK		
	SV-OVEN1	OVEN 1 STACK		
	SV-OVEN2	OVEN 2 STACK		

Export to Excel

Add New Stack

Figure 8-2: Stack List/Add a stack

Stack Identification Section

If you choose to edit an existing stack or add a new stack, the stack detail page will display (Figure 8-3). Complete the fields in this section for new stacks or to make changes to old information.

Stack Identification

* Stack ID: x Dismantle Date:

Stack Description:

* Actual Stack Height Above Ground: feet * Inside Stack Diameter: inches

* Exit Gas Temperature: degrees Fahrenheit * Actual Exit Gas Flow Rate: cubic feet per minute Exit Velocity of Gas: feet per second

Stack Orientation:

Latitude:

Longitude:

Horizontal Collection Method:

Horizontal Accuracy Measure: meters Horizontal Reference Datum:

Source Map Scale: Reference Point Code:

Bypass Stack Only: If Yes, Main Stack ID:

Figure 8-3: Section of Stack Identification

1. **Stack ID:** Enter a unique ID for each stack that must be reported. Stack IDs begin with an “SV” prefix plus any combination of up to 14 letters, numbers, or keyboard characters. Spaces are not allowed within the ID. Stack IDs may have already been established in an ROP or Permit to Install. If so, be sure to use the ID that is in the permit. If a Stack ID does not already exist, create an ID that is easy to associate with the stack that it represents (e.g., SV-STACK#1, SV-BOILER#3).
2. **Dismantle Date:** If the stack was dismantled or rendered permanently inoperable during the reporting year, enter the date that this occurred. Although the stack has been dismantled, the remainder of the fields must still be completed. If a dismantle date is entered, do not delete this stack from the stack list (Figure 8-2) because a dismantled

stack may still require emissions reporting for this year. If this is a portable source, the dismantle date should be left blank.

3. **Stack Description:** Provide a brief description of the stack.
4. **Actual Stack Height Above Ground:** Enter the height of the stack - in feet - from the ground up to the discharge point.
5. **Inside Stack Diameter:** If the stack is circular, enter the inside top stack diameter. If the stack is rectangular, convert the area inside of the stack to a circular diameter using the following procedure:
 - (a) Obtain the length and width in inches.
 - (b) Calculate the area by multiplying the length times the width.
 - (c) Divide the area by 3.14.
 - (d) Take the square root of the value from step (c) to obtain the radius.
 - (e) Calculate the diameter by multiplying the radius from step (d) by 2.
 - (f) Enter the diameter from step (e) in item 5.
6. **Exit Gas Temperature:** Enter the stack exit gas temperature in degrees Fahrenheit.
7. **Actual Exit Gas Flow Rate:** Enter the stack exhaust volume in actual cubic feet per minute, at actual operating load and temperature.
8. **Stack Orientation:** From the drop-down list, select the most appropriate orientation.

NOTE: For steps 9 through 15, smaller sources can use the same coordinate information that was entered on the Source Form. Larger sources should enter the specific coordinates for each stack. These fields are not required for portable

9. **Latitude:** Enter the source's latitude in decimal degrees or in Degree:Minute:Second format. Use the "Use Deg:Min:Sec Format" button to toggle the formats. If you do not know the facility's latitude, use an online mapping tool such as [Google Maps](https://www.google.com/maps) (www.google.com/maps).
10. **Longitude:** Enter the source's Longitude in decimal degrees or in Degree:Minute:Second format. Use the "Use Deg:Min:Sec Format" button to toggle the formats. If you do not know the facility's latitude, use an online mapping tool such as [Google Maps](https://www.google.com/maps).
11. **Horizontal Collection Method:** From the drop-down list, select the collection method used to determine the latitude and longitude listed.

- 12. Source Map Scale:** Enter the scale of the map used. This field is only required if the horizontal collection method code entered is "The geographic coordinate determination method based on interpolation-map."
- 13. Horizontal Accuracy:** Enter the accuracy measure of the collection method and report in meters, based on the map or GPS used. If you are using a website, enter 25 meters.
- 14. Horizontal Reference Datum:** From the drop-down list, select the datum code used to determine the latitude and longitude. If you are using a GPS, the code should be listed in the instruction booklet.
- 15. Reference Point Code:** From the drop-down list, select the point that best describes the location where the latitude and longitude were taken. For instance, if using horizontal collection method code "The geographic coordinate determination method based on address matching-house number," reference point code "Point where substance is released" may be used. If using a GPS, choose the point closest to where you were standing when reading the GPS.
- 16. Bypass Stack Only:** From the drop-down list, select "Yes" if this stack is used only when emissions are bypassing the emission control equipment. Otherwise, select "No."

If Yes, Main Stack ID: If "Yes" was selected for Step 16, select the Stack ID of the stack that this vent bypasses. Otherwise, leave this field blank.

Deleting a Stack

If the stack was physically dismantled or rendered permanently inoperable during the last reporting year do NOT delete the stack; instead, enter a dismantle date (within the reporting year) on the stack's form. Dismantled stacks will not appear in subsequent MAERS reporting years.

If you have stack information that you would like to delete, follow the steps below.

1. In the stack list, click the "Delete" icon to delete a stack (Figure 8-2).
2. If this stack is newly added this year, the stack will be directly deleted. If this stack has been reported in a previous reporting year, follow the instructions in the pop-up windows to delete this stack.

9 Emission Unit Form

The Emission Unit Form identifies and describes a facility's emission units.

Important Terms

Emission Unit: A device or group of devices that operate together with a dependency between devices and emit or have the potential to emit an air contaminant. An emission unit contains at least one process device and may contain control devices and related stacks.

Examples of an emission unit include:

- a single degreaser (degreaser only)
- a topcoat painting line (booths, ovens, incinerator, stacks)
- a chemical manufacturing process (reactors, condensers, dryers, baghouse, stacks)
- a coal-fired boiler (boiler, stack)

NOTE: Sources may have hundreds or even thousands of process devices on site. It would be difficult for these sources to report emissions of air contaminants from each individual process device. To simplify the reporting of air contaminants from all these devices, the Air Quality Division has introduced the concept of the emission unit. Sources are required to report their emissions of air contaminants in the MAERS by emission unit. An emission unit contains at least one process device, zero or more control devices, and zero or more stack devices.

Rule 201 Exempt Emission Unit: An emission unit that is specifically exempted from Rule 201 in Rules 280 –291 of the Michigan Air Pollution Control Rules and not subject to Rule 278.

NOTE: Rule 201 of the Michigan Air Pollution Control Rules requires that a Permit to Install be obtained prior to the installation, construction, or modification of a source of air contaminants or any emission unit. An emission unit is considered “Rule 201 exempt” (i.e., not subject to Rule 201) if it meets *all* the following:

- The emission unit is identified in one of the rules that exempt insignificant sources of air contaminants from having to obtain a Permit to Install under (i.e., Rules 280 through 291 of the Michigan Air Pollution Control Rules, see Appendix C).
- The emission unit is not subject to Rule 278 (see Appendix C for the rule). If an emission unit will result in a significant net emission increase as defined in Rule 278, the permit exemptions in Rules 280-291 do not apply. In other words, the facility must apply for a Permit to Install. Contact the Environmental Assistance Program at 800-662-9278 if you need more information about Rule 278.

Which Emission Units Need to be Reported?

The Emission Unit Form is used to report information about the emission units at your source; however, not all emission units may need to be reported. There are five methods identified below as steps to help you determine if the EU needs to be included in your MAERS Report. If after completing Steps 1-5, you are still not certain if the EU needs to be reported, please contact your district inspector or InfoMAERS@Michigan.gov.

- Step 1: Determine if the EU is specifically identified in your Renewable Operating Permit (ROP), Opt-Out permit, or your Permit to Install? Example EU101, EUBoiler, EUTurbine1. If the EU is in one of the permits, report the EU and you do not need to review any further methods for determination.

If the EU is not listed in the permit use Steps 2-5 to determine if the EU should be reported.

- Step 2: If the EU is *not* Rule 201 exempt [this includes grandfathered (installed and not changed prior to August 1967) emission units] it must be reported, and you do not need to review any further methods for determination. If the EU is Rule 201 exempt, proceed to Step 3 for instructions.
- Step 3: If the EU is Rule 201 exempt, refer to Table 9-1 to determine the emissions that must be reported for the EU. An EU is Rule 201 exempt if it meets an exemption in Rule 280-Rule 291 and is not subject to Rule 278. If you do not have to report the EU using the methods described in steps 1-3, proceed to review Step 4 and Step 5 to make your determination.
- Step 4: If the EU emissions are >10% of the significant level determined in Rule 119(e) (figure amounts shown in Table 9-2), you must report it. If the EU emissions are <10% of the significant level you do not have to report the EU due to this step, proceed to Step 5.
- Step 5: If the EU is subject to a process specific emission limit or standard that has an applicable limit or restriction (e.g.: MACT/NSPS standard) you must report it.

Note: A Synthetic Minor or Opt-Out Permit is a type of permit that sets legally enforceable limits on a facility's potential to emit. Sources that would otherwise be subject to the ROP Program use the Opt-Out Permit to set limits on their emissions and stay below the threshold that would require them to obtain a ROP.

Table 9-1 specifies the emissions Rule 201 exempt emission units must report in MAERS. Consider the following example: If a non-ROP facility has three cold cleaners that are exempt from the Permit to Install requirement under Rule 281(2)(h), but during the reporting year had an aggregate annual throughput of 1,500 gallons of cleaner, they must be reported. If the cold cleaners had an annual aggregate throughput of 600 gallons, the emissions would not have to be reported.

Table 9-1: Rule 201 Exempt Emission Units that must be reported in MAERS*

RULE 201 EXEMPTION	REPORTING REQUIREMENT
Rule 281(2)(h)	Only report emissions of applicable criteria pollutants for cold cleaners having a total annual throughput greater than 1,000 gallons of cleaner. (aggregate of all cold cleaners combined) <i>Total annual throughput of cleaner = (cleaner used) – (cleaner reclaimed as waste)</i>
Rule 282(2)(b)	Only report emissions of applicable criteria pollutants from fuel burning equipment that have a total annual throughput equal to or greater than any of the following: 50,000,000 cubic feet of gases in Rule 282(2)(b)(i), 400,000 gallons of fuel oil in Rule 282(2)(b)(ii), and 1,000 tons of wood in Rule 282(2)(b)(iii).
Rule 283(2)(c)	Report all emissions of applicable criteria pollutants if the testing medium contains a VOC.
Rule 283(2)(d)	Report all emissions of applicable criteria pollutants if the testing medium contains a VOC.
Rule 284(2)(e)	Report all emissions of applicable criteria pollutants.
Rule 284(2)(f)	Report all emissions of applicable criteria pollutants.
Rule 285(2)(g)	Only report emissions of applicable criteria pollutants for engines with 300 horsepower and larger. Exclude emergency generators whose sole function is to provide back-up power when local utility service is interrupted.
Rule 285(2)(l)(vi)(C)	Only report emissions of applicable criteria pollutants for equipment operating at a rate of 30,000 cubic feet per minute or higher.
Rule 285(2)(p)	Only report emissions of applicable criteria pollutants for annual grain throughputs equal to or greater than 4,000,000 bushels.
Rule 285(2)(r)(iv)	Only report emissions of applicable criteria pollutants for cleaners having a total annual throughput greater than 1,000 gallons of cleaner. (aggregate of all cleaners combined) <i>Total annual throughput of cleaner = (cleaner used) – (cleaner reclaimed as waste)</i>
Rule 285(2)(aa)	Report all emissions of applicable criteria pollutants.
Rule 286(2)(b)	Report emissions of applicable criteria pollutants when 3,000 tons or more of plastic is processed annually (aggregate of all plastic processes combined).
Rule 287(2)(c)	Report all emissions of applicable criteria pollutants.
Rule 290	Report all emissions of applicable criteria pollutants.
Rule 291	Report all emissions of applicable criteria pollutants.

*Rules 280 through 291 can be accessed at Michigan.gov/Air (click on “State Air Laws and Rules” then “Part 2 Exemptions”).

Note: If “Report all emissions of applicable criteria pollutants” appears after the rule in Table 9-1 (e.g., Rule 287(2)(c) and Rule 290), it means that an Emission Unit Form and Activity and Emissions Form must be completed for that emission unit, regardless of throughput.

Table 9-2: Significant Levels

Pollutant	Significant Level (Rule 119(e)) tons/year	10% of Significant Level tons/year
Carbon monoxide (CO)	100	10
Nitrogen oxides (NO _x)	40	4
Sulfur dioxide (SO ₂)	40	4
Particulate matter (PM)	25	2.5
Particulate matter (PM _{2.5})	10	1
PM-10	15	1.5
Volatile organic compounds (VOC)	40	4
Lead (Pb)	0.6	0.06

Rule 201 exempt emission units that are not required to be included in your MAERS Report can still be included on the Emission Unit Form; however, throughput and annual emissions information, normally provided on the Activity and Emissions Form, will not have to be entered. You may want to retain a Rule 201 exempt emission unit that does not have to be reported in MAERS for recordkeeping purposes, should the throughput exceed the reporting thresholds in future reporting years.

Emission Unit Form Completion Instructions

For emission units that were added in previous years, the information will already be pre-filled. If any information has changed, edit the appropriate fields. If no emission units were added during the reporting period and if all the information that is pre-filled is accurate, you may proceed to the Reporting Group Form or the Activity and Emission Form.

If an emission unit was added to your facility during the reporting period and it must be reported, add it to the Emission Unit Form by clicking the "Add New Emission Unit" button and completing all required fields.

Emission Unit List

This section lists all the reported emission units for this source (Figure 9-1). Click the "View/Edit" icon to edit an emission unit, the "Delete" icon to delete an emission unit, or the "Add New Emission Unit" button to access a blank form and add a new emission unit.

Emission Unit List

Items per page: 100

1 - 7 of 7 item(s)

View/Edit	Emission Unit ID	Emission Unit Desc	Installed Date	Dismantle Date	Delete
	EU-BOILER	80,000,000 BTU/HR. NATURAL GAS FIRED BOILER	05/01/1990		
	EU-COAT1	MAIN COATING LINE, 3 SPRAY BOOTHS	05/15/1990		
	EU-COAT2	SECONDARY PAINT LINE, 1 SPRAY BOOTH	06/25/1990		
	EU-COLDCLEAN	2 COLD CLEANERS	06/02/1994		
	EU-OVEN1	DRY OFF OVEN FOR COATING LINE 1. NATURAL GAS FIRED. 700,000 BTU/HR	05/20/1990		
	EU-OVEN2	DRY OFF OVEN FOR COATING LINE 2. NATURAL GAS FIRED. 100,000 BTU/HR	01/01/2010		
	EU-PURGE/CLEAN	CLEAN UP AND PURGE OPERATIONS THROUGHOUT FACILITY	07/08/1990		

Figure 9-1: Emission Unit List

Emission Unit Identification Section

Complete the fields in this section for new emission units or to make changes to the previous year's report (Figure 9-2). Follow the steps below.

Emission Unit Identification

* Emission Unit ID:

* Emission Unit Type:


NAICS Code (if different from S-101):

* Installation Date: Dismantle Date:

* Emission Unit Description:

Figure 9-2: Emission Unit Identification Section

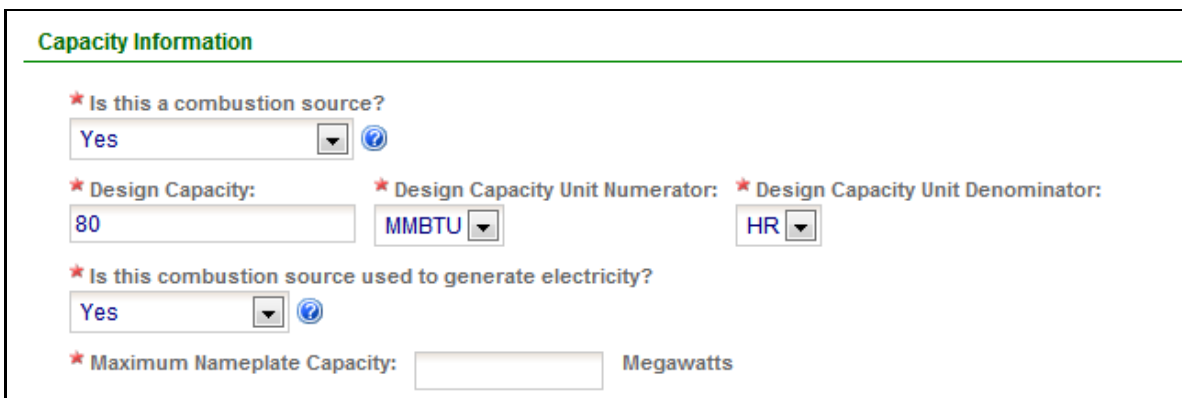
- 1. Emission Unit ID:** Enter a unique ID for this emission unit. Emission Unit IDs must begin with an "EU" prefix plus any combination of up to 14 letters, numbers, or keyboard characters. Spaces are not allowed within the ID. Make the emission unit ID specific and easy to associate with the emission unit(s) it represents (e.g., EU-PAINTBOOTHS, EU-BOILER#2).
- 2. Emission Unit Type:** Choose the most appropriate emission unit type from the drop-down list.

3. **NAICS Code:** If the North American Industrial Classification System (NAICS) code for this emission unit is different than the NAICS code that was identified on the Source Form, select from the drop-down list the NAICS code that best describes the major product produced or service provided by your source. Please click  to search and select appropriate NAICS Codes.
4. **Installation Date:** Enter the date that the emission unit was first installed using the date format provided (MM/DD/YYYY).
5. **Dismantle Date:** If the emission unit was physically dismantled or rendered permanently inoperable during the reporting year, enter the date that this occurred. Although the emission unit has been dismantled, the remaining fields must still be completed. If this is a portable source, the dismantle date should be left blank. Do not complete this field if it is not applicable to the emission unit.


NOTE: If the emission unit was physically dismantled or rendered permanently inoperable during the last reporting year do NOT delete the emission unit; enter a dismantle date on the form for that emission unit. Report any pollutants that were emitted during the reporting year on the Activity and Emissions Form. If the unit did not operate, you should report the throughput as "0" and any associated emission as "0."

6. **Emission Unit Description:** Enter a brief narrative description of the emission unit. Make sure that this description is specific and will help to identify the emission unit, especially if there are several emission units that are alike.


Capacity Information Section



Capacity Information

* Is this a combustion source?
 

* Design Capacity: * Design Capacity Unit Numerator: * Design Capacity Unit Denominator:

* Is this combustion source used to generate electricity?
 

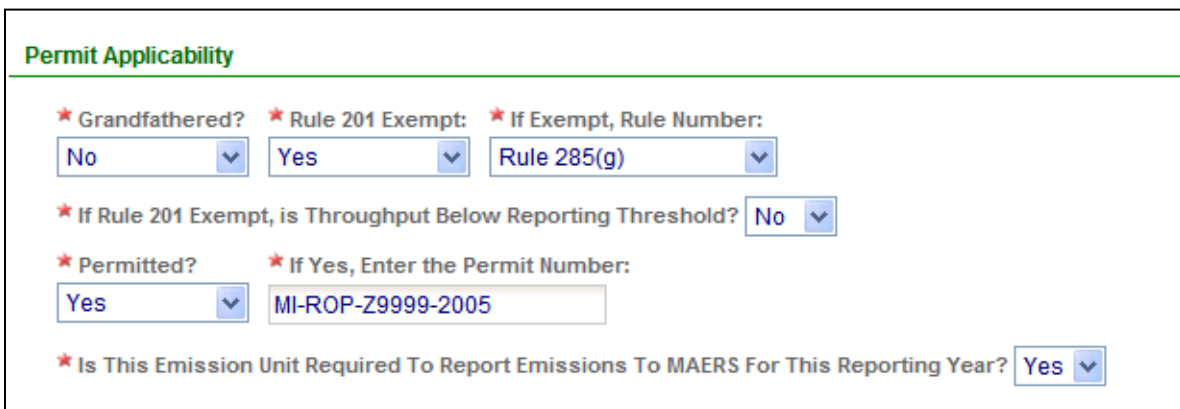
* Maximum Nameplate Capacity: Megawatts

Figure 9-3: Capacity Information Section

7. **Is this a Combustion Source?** If the emission unit is a source of combustion (e.g., a boiler, turbine, or engine) choose "Yes" from the drop-down list. If the emission unit is not a combustion source, choose "No" from the drop-down list.

- 8. Design Capacity:** Only complete this field if the emission unit is a combustion source. Enter the design capacity of the combustion source.
- 9. Design Capacity Numerator and Denominator:** Only complete these fields if you completed the Design Capacity field in Step 8.
- Design Capacity Unit Numerator: Choose the appropriate code from the drop-down list. If the emission unit is a boiler, the numerator should be BTUs (BTU), Million BTUs (MMBTU) or Horsepower (HP).
 - Design Capacity Unit Denominator: Choose the appropriate code from the drop-down list. If the emission unit is a boiler, report the denominator as Hour (HR). (If the numerator is Horsepower (HP), the denominator does not apply. Leave this field blank.)
- 10. Is this combustion source used to generate electricity:** Choose “Yes” if this emission unit is used to generate electricity.
- 11. Maximum Nameplate Capacity:** Only complete this field if this emission unit is used to generate electricity. Report the electric generator’s rated design capacity at 100% (maximum) operation in megawatts.

Permit Applicability Section



Permit Applicability

* Grandfathered? * Rule 201 Exempt: * If Exempt, Rule Number:

* If Rule 201 Exempt, is Throughput Below Reporting Threshold?

* Permitted? * If Yes, Enter the Permit Number:

* Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?

Figure 9-4: Emission Unit Identification Section

- 12. Grandfathered?** Select “Yes” if this emission unit is “Grandfathered.” To be a Grandfathered emission unit, it must have been installed prior to August 15, 1967, never been modified, reconstructed, or relocated after August 15, 1967, and not Rule 201 exempt.
- 13. Rule 201 Exempt:** Select “Yes” if this is a Rule 201 exempt emission unit (see page 30 for the definition of “Rule 201 Exempt Emission Unit”). Select “No” if the emission unit is not a Rule 201 exempt emission unit. If “No” is selected, skip Steps 14 and 15.
- 14. If Yes, Rule Number:** The drop-down list provides rule citations for the exemptions listed in Table 9-1. If “Yes” was selected in the previous field, select the specific rule under which the

emission unit is considered exempt. For example, if this is a Rule 201 exempt cold cleaner pursuant to Rule 285(2)(r)(iv) of the Michigan Air Pollution Control Rules, select "Rule 285(2)(r)(iv)." If a specific rule is not listed, select "Other" and provide the correct rule number in the "Operator's Emission Unit Description" field.

15. If Rule 201 Exempt, is Throughput Below Reporting Threshold? Compare the annual throughput to the specific rule listed in Table 9-1. If the throughput is below the threshold, select "Yes." If the emission unit exceeded the threshold listed under the exemption in Table 9-1 select "No" and continue. For some exemptions, it is required that all emissions be reported (e.g., Rule 287(2)(c) and Rule 290). If the emission unit is exempt under one of these rules, select "No" as well.

16. Permitted? Select "Yes" if this emission unit is identified in a permit (i.e., Permit to Install or Renewable Operating Permit). If this emission unit is not permitted, select "No."

17. If Yes, Enter the Permit Number: If "Yes" was selected in the previous field (Step 16), enter the appropriate permit number (e.g. 115-87 or 115-87A, MI-ROP-Z9999-2007).

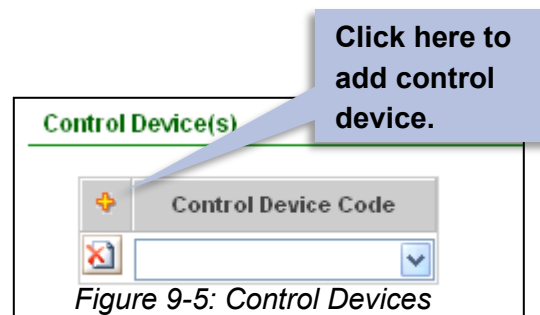
18. Is This Emission Unit Required to Report Emissions to MAERS For This Reporting Year? Refer to, "What Emission Units Need to be Reported." Select "Yes" if the emission unit is any of the following:

- Not Rule 201 exempt (this includes grandfathered emission units).
- Rule 201 exempt and included in a Permit to Install, Opt-Out Permit, or ROP.
- If an ROP source, Rule 201 exempt and subject to a process-specific limitation or standard (e.g., MACT or NSPS)
- If an ROP source, Rule 201 exempt and the actual emissions exceed 10 percent of significant level.
- Rule 201 exempt where emissions reporting is required (see Table 9-1).

If this emission unit does not need to be reported select "No." If "No" is a selected, no other forms need to be completed for this emission unit.

Control Device Section

19. Control Device Code: If there is a control device associated with the emission unit; select the most appropriate control device from the drop-down list (Figure 9-5). If there is more than one control device per emission unit, you will need to fill out a Control Device Detail supplemental spreadsheet. This form is not a part of the MAERS system, but can be found on the MAERS webpage



If there is more than one control device, do the following to add a control device.

- (a) Click the "+" icon in the grid view.
- (b) Another drop-down field will appear. Select another control device.

Emission Unit Stack Section

20. Operator's Stack ID: Click on this field and a drop-down list will appear containing the Stack IDs that were created on the Stack Form (Figure 9-6). If a stack that was reported on the Stack Form is associated with the emission unit, select the appropriate Stack ID. Every Stack ID that was created on the Stack Form must be listed on at least one Emission Unit Form.

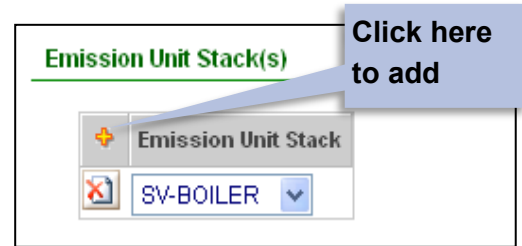


Figure 9-6: EU Stacks

one

If more than one reported stack is associated with the emission unit, additional Stack IDs may be added. Follow the steps below to enter additional Stack IDs.

- (a) Click the "+" icon in the grid view.
- (b) Another field will appear. Select another Stack ID.

An Emission Unit without an associated stack will be considered a fugitive source of emissions. Additionally, an emission unit cannot be listed as having a stack in the Supplemental Control Template if it was not included here.

Deleting an Emission Unit

Note: Think carefully when you delete an emission unit. Even if emissions are below the thresholds for this reporting year, you may want to keep the emission unit in your MAERS Report. The emissions may exceed the thresholds in future years.

Follow these steps to delete emission unit information:

1. In the emission list (Figure 9-7), click the "Delete" icon to delete an emission unit.
2. If this emission unit was newly added this year, it will be directly deleted. If this emission unit has been reported in a previous reporting year, follow the instructions in the pop-up window to delete this emission unit.

Emission Unit List

Items per page: 100

1 - 7 of 7 item(s)

View/Edit	Emission Unit ID	Emission Unit Desc	Installed Date	Dismantle Date	Delete
	EU-BOILER	80,000,000 BTU/HR NATURAL GAS FIRED BOILER	05/01/1990		
	EU-COAT1	MAIN COATING LINE, 3 SPRAY BOOTHS	05/15/1990		
	EU-COAT2	SECONDARY PAINT LINE, 1 SPRAY BOOTH	06/25/1990		
	EU-COLDCLEAN	2 COLD CLEANERS	06/02/1994		
	EU-OVEN1	DRY OFF OVEN FOR COATING LINE 1. NATURAL GAS FIRED. 700,000 BTU/HR	05/20/1990		
	EU-OVEN2	DRY OFF OVEN FOR COATING LINE 2. NATURAL GAS FIRED. 100,000 BTU/HR	01/01/2010		
	EU-PURGE/CLEAN	CLEAN UP AND PURGE OPERATIONS THROUGHOUT FACILITY	07/08/1990		

Click here to delete

Figure 9-7: Delete Emission Unit

10 Reporting Group Form

The Reporting Group Form is used to combine emission units into reporting groups to simplify emission calculations. This is an **OPTIONAL FORM** – facilities are not required to create reporting groups. If this form is used, the Activity & Emission Form will be completed at the reporting group level. **It is recommended to discontinue using this form for reporting year 2022. The system that is replacing MAERS does NOT support reporting groups. We encourage you to report an activity for every emission unit. If you remove reporting groups from you MAERS report, it will make the transition to the new system much easier for you.**

Important Terms

Reporting Group: Reporting groups are created for simplification of reporting emissions for a group of like emission units that have like activities. Not every facility will have reporting groups in its MAERS Report.

Example: Consider three coating lines that are each a separate emission unit. Assume that each coating line uses the same materials for the same purpose. If the company kept records for all three lines combined, it would be easier to report emissions for all three lines combined instead of at the emission unit level. The three emission units can be combined into a single reporting group and the emissions can be reported for the combination of the lines instead of for each one individually.

Reporting Group Form Completion Instructions

If a reporting group was created during a previous reporting year, the fields in this form should be pre-filled. Check to ensure that all the information is accurate. If any information needs to be

changed, follow the instructions below and edit the appropriate fields. **Consider removing all reporting groups from your 2022 report. The system replacing MAERS does not support reporting groups. When you remove a reporting group, you will have to add an activity for every emission unit within the reporting group.**

Reporting Group List

This section lists all the reporting groups at this source (Figure 10-1). Click the "View/Edit" icon to edit a reporting group, the "Delete" icon to delete a reporting group, or the "Add New Reporting Group" button to add a new reporting group.

Reporting Group List			
1 - 1 of 1 item(s)			
View/Edit	Reporting Group ID	Reporting group Desc	Delete
	RG-OVENS/BOILER	FUEL BURNING EMISSION UNITS	

Figure 10-1: Reporting Group List

Reporting Group Identification

Complete the fields in this section for new reporting groups or to make changes to the previous year's report (Figure 10-2).

Reporting Group Identification

* Reporting Group ID:

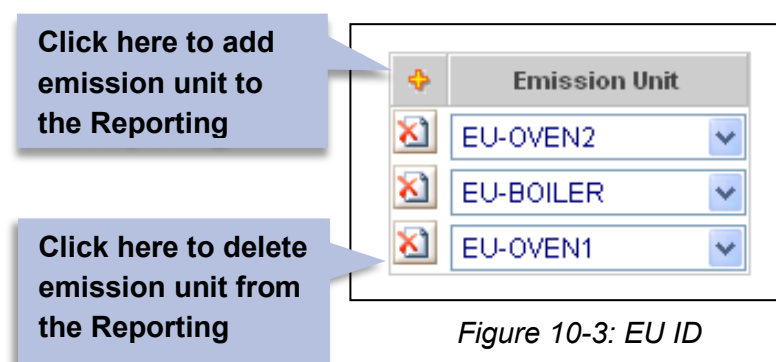
* Reporting Group Description:

Emission Unit(s) Associated with the Reporting Group

Emission Unit	
	EU-OVEN2
	EU-BOILER
	EU-OVEN1

Figure 10-2: Reporting Group Form

- 1. Reporting Group ID:** Enter a unique ID for this reporting group. Reporting Group IDs must begin with an "RG" prefix plus any combination of up to 14 letters, numbers, or keyboard characters. Spaces are not allowed within the ID. Make the reporting group ID specific and easy to associate with the reporting group it represents (e.g., RGPIOILERS).
- 2. Reporting Group Description:** Provide a brief narrative description of the reporting group.
- 3. Emission Unit ID:** To add an emission unit to this list, click the "+" sign in the grid view, then select the Emission Unit ID to be included in this reporting group (Figure 10-3). Repeat this step to add more emission units. Click the "x" sign to delete an emission unit from this reporting group.



11 Activity and Emission Form

The Activity and Emission Form contains three tabs (Figure 11-1).



- The Activity Detail tab is used to describe operating schedules and material information and throughput for an emission unit or reporting group. Activity detail must be completed for each reporting group, each emission unit that is not part of a reporting group, and each Rule 201 exempt emission unit that must be reported. **WE HIGHLY RECOMMEND ADDING AN ACTIVITY FOR EVERY EMISSION UNIT AND REMOVING REPORTING GROUPS FROM YOUR 2022 MAERS REPORT.**

2. The Emissions tab is used to report emissions of applicable pollutants emitted from the selected activity. At least one criteria pollutant must be reported for each activity. The reporting of non-criteria pollutants is optional.
3. The Attachment tab is used to upload attachments to support the emission data that is reported.

Important Terms

Source Classification Code (SCC): An SCC describes an air polluting activity and links the activity to an “approved” set of materials, units and emission factors. SCCs and the MAERS emission factors can be viewed under the “System Utilities” tab.

The SCC is an eight-digit, numeric code that characterizes an air polluting activity by source type; device type; related raw material, fuel, or product; control device; and release location and type. The code is divided into four fields that represent the categories shown in Figure 11-2 below.

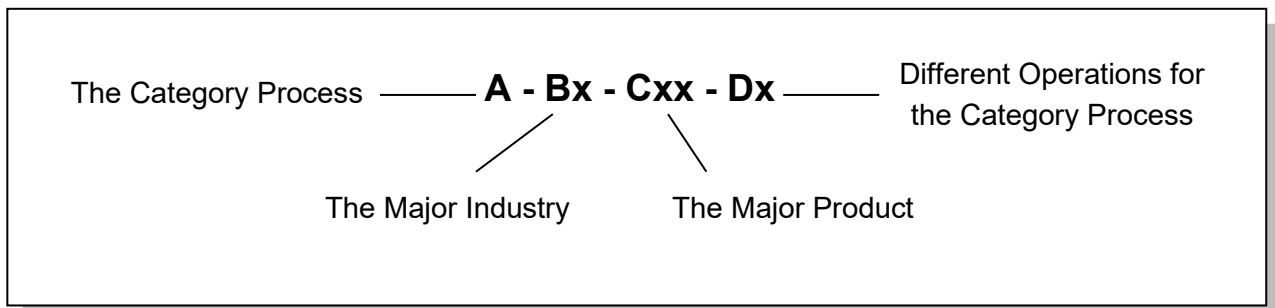


Figure 11-2: SCC Structure

Emission Unit and Reporting Group List

This section lists all the activities in this source. Click the "View/Edit" icon to edit an activity, or the "Delete" icon to delete an activity. (Figure 11-3).

If the emission unit or reporting group did not operate during the entire year, then you can check the "Did Not Operate This Year" box. If this box is checked the throughput and emissions data for that activity will automatically be set to "0."

Emission Unit and Reporting Group List

Items per page: 100

1 - 6 of 6 item(s)

Did Not Operate This Year	View/Edit	EU/RG ID	Emission Unit Desc	Installed Date	SCC Code	Activity Desc	Material Code	Throughput	Delete
<input checked="" type="checkbox"/>		EU-COAT1	MAIN COATING LINE, 3 SPRAY BOOTHS	05/15/1990	40200101	SOVENT BASED PAINTING COATING	COATING	0	
<input type="checkbox"/>		EU-COAT2	SECONDARY PAINT LINE, 1 SPRAY BOOTH	06/25/1990	40200110	SOVENT BASED COATING	COATING		
<input type="checkbox"/>		EU-COLDCLEAN	2 COLD CLEANERS	06/02/1994	40100251	DEGREASING OPERATIONS	STODDARD		
<input type="checkbox"/>		EU-PURGE/CLEAN	CLEAN UP AND PURGE OPERATIONS THROUGHOUT FACILITY	07/08/1990	40200918	FACILITY PURGE AND CLEANUP OPERATIONS	METH ETH KET		
<input type="checkbox"/>		EU-PURGE/CLEAN	CLEAN UP AND PURGE OPERATIONS THROUGHOUT FACILITY	07/08/1990	40200920	FACILITY CLEAN UP OPERATIONS	MINERAL SPIR		
		RG-OVENS/BOILER	FUEL BURNING EMISSION UNITS						

If the SCC for an emission unit or a reporting group is blank, there is currently no activity assigned to this emission unit or reporting group. To add an activity for this emission unit or reporting group, click the "View/Edit" icon to enter Activity and Emission Details.

Figure 11-3: Emission Unit and Reporting Group List

Activity Detail Completion Instructions

Complete activity detail information for each activity associated with the emission unit or reporting group displayed in the emission unit and reporting group list (Figure 11-4).

All activity information that was entered for emission units in previous years will be pre-filled, **except the material throughput information. Material throughput is a required field that must**

be updated every reporting year. If any other information needs to be updated, edit the proper fields. If no other information needs to be added and if all the information that is pre-filled is still accurate, all you need to do is enter the proper material throughput information for the activity and move on to the Emissions tab. Following are step-by-step instructions on how to complete the required fields.

Figure 11-4: Activity Detail

- 1. SCC:** For a new activity, click on the "+" icon and a listing of all SCCs will appear (Figure 11-5). SCCs associated with a specific emission unit may also be identified in a Permit to Install or ROP. Select the SCC that most accurately describes the activity from the drop-down list. If more than one activity takes place at the emission unit or reporting group, select an SCC for each of the activities that take place at the emission unit/reporting group. To add a new activity, simply click the "Add New Activity" button. You cannot use the same SCC more than once for the same emission unit or reporting group.

Figure 11-5: SCC Lookup

NOTE: To change an existing SCC, you will need to add a new activity record with the new SCC **then** delete the existing activity record.

2. **Activity Description:** Provide a brief description for the process that best represents this activity.
3. **Seasonal Material Usage Schedule:** Enter the percentage of material used per season. The breakdown is as follows: January, February, and December of the reporting year; March through May; June through August; and September through November. The total of all four seasonal percentages must equal 100%. If no material was used in the reporting year, you may enter "0" in each of these fields.
4. **Hours per Day:** Enter the hours this emission unit or reporting group normally operates per day based on an annual average.
5. **Days per Week:** Enter the days this emission unit or reporting group normally operates per week based on an annual average.
6. **Days per Year:** Enter the days this emission unit or reporting group operated over the reporting year.

Material Information

Complete this section for the material identified for the SCC in Step 1 (Figure 11-6).

The screenshot shows a form titled "Material Information" with the following fields:

- * Material Code:** A dropdown menu with "NATURAL GAS" selected.
- * Material Throughput:** An empty text input field.
- * Unit Code:** A dropdown menu with "MMCF" selected.
- Material Description:** A large empty text input field.
- VOC Content (Coatings or solvent):** A text input field followed by "% by Weight".
- Density:** A text input field followed by a dropdown arrow.
- BTUs (fuel):** A text input field followed by a dropdown arrow.
- Sulfur Content (fuel):** A text input field followed by "% by Weight".
- Ash Content (fuel):** A text input field followed by "% by Weight".

Figure 11-6: Material Information Section

7. **Material Code:** This field is automatically pre-filled if the SCC selected in Step 1 has a material associated with it. If this field is not pre-filled, it means the SCC selected does not have a material associated with it. Click on the field and a drop-down list with a selection of material codes will be displayed. Select the most appropriate material for the SCC. To make your search easier you may want to refer to the Material Code section under the System Utilities tab.

Certain SCCs do not have assigned materials. These will exhibit "Any Material". Units associated with "Any Material" are "Each Year". If you choose such an SCC, please use **the Material Description Box to describe the actual material that you are reporting the annual use of.**

8. Material Throughput: Enter the amount of material identified in Step 7 that was processed, produced, applied, or combusted during the reporting year. For example, if “Natural Gas” is identified in the Material Code field, enter how many million cubic feet (MMCF) was combusted during the reporting year. Be sure that the throughput entered in this field matches the unit code that is pre-filled. If you are reporting use of “Any Material” then your throughput is how much of this material, you used in the reporting year. Provide a description of the units associated with your throughput in the Material Description Box.

NOTE: For Rule 201 exempt emission units that contain a number of identical process devices, add together the material throughputs of all the devices to obtain an overall material throughput for the emission unit.

9. Unit Code: This field should be pre-filled if Step 1 and Step 8 were completed.

10. Material Description: Provide a brief description of the material that is processed, produced, applied, or combusted.

11. VOC Content: This field is only required if the material is a coating, solvent, or ink. Enter the weight percent of the volatile organic compounds (VOC) contained in the throughput material, “as applied.” “As applied” refers to the composition of the throughput material at the point of application. If thinners are added to the throughput material, the VOC content of the thinner must be considered when calculating the weight percent of VOC “as applied.”

Weight percentages for all the components in a material may be found on an MSDS, environmental data sheet, or other technical data sheet supplied by the manufacturer. Details for calculating the weight percent of VOC are found in the “Coating Operations Emission Calculation Fact Sheet.”

12. Density: Density is required for materials that have a mass throughput. In the first field, enter the density of the throughput material at standard temperature and pressure. Click on the second field and a drop-down list with unit options will appear. Select the appropriate units. For liquids, use pounds per gallon (LB/GAL). For solids and gases, use pounds per cubic foot (LB/FT3). Table 11-1 lists the densities of some common materials.

Table 11-1: Common Material Densities

Material	Density	Southern Pine	40 LB/FT3
Paint	10-15 LB/GAL	White Oak	48 LB/FT3
Varnish	7 LB/GAL	Sugar Maple	43 LB/FT3
Water	8.33 LB/GAL	Elm	35 LB/FT3

Material	Density
----------	---------

13. BTUs (fuel): This field is required only if the material identified in Step 7 is a fuel. Enter the average heat content in BTUs in the first field. Click on the second field and select the appropriate unit code. Tables 11-2(a-c) list typical values for heat content, sulfur content, and ash content for the more common fuels.

Table 11-2a: Typical Fuel Values – SOLID FUELS

Type of Fuel	Heating Value BTU	% Sulfur (by wt.)*	% Ash (by wt.)
Bituminous Coal	13,000/LB	0.6-5.4	4-20
Anthracite Coal	12,300/LB	0.5-1.0	7-16
Lignite (at 35% moisture)	7,200/LB	0.7	6.2
Wood (at 40% moisture)	5,200/LB	N	1-3
Bagasse (at 50% moisture)	4,000/LB	N	1-2
Bark (at 50% moisture)	4,500/LB	N	1-3**
Coke (by product)	13,300/LB	0.5-1.0	0.5-5.0

Table 11-2b: Typical Fuel Values – LIQUID FUELS

Type of Fuel	Heating Value BTU	% Sulfur (by wt.)*	% Ash (by wt.)
Residual Oil	150,000/GAL	0.5-4.0	0.05-0.1
Distillate Oil	140,000/GAL	0.2-1.0	N
Diesel	137,000/GAL	0.4	N
Gasoline	130,000/GAL	0.03-0.04	N
Kerosene	135,000/GAL	0.02-0.05	N
Liquid Petroleum Gas	94,000/GAL	N	N

Table 11-2c: Typical Fuel Values – GASEOUS FUELS

Type of Fuel	Heating Value BTU	% Sulfur (by wt.)*	% Ash (by wt.)
Natural Gas	1,050/FT3(S)	N	N
Coke Oven Gas	590/FT3(S)	0.5-2.0	N
Blast Furnace Gas	100/FT3(S)	N	N

* N= Negligible (numeric value not required to be reported, leave the field blank)

** Ash content may be considerably higher when sand, dirt, etc. are present.

14. Sulfur Content: This field is required only if the material identified in Step 7 is a fuel. Enter the sulfur content in weight percent. Table 11-3 provides acceptable sulfur content ranges for common fuels (the system will not accept sulfur content values outside of these ranges).

Table 11-3: Sulfur Content Ranges

Type of Fuel	% Sulfur (by wt)
Anthracite or Bituminous Coal	0.02-7.00
Distillate	0.01-2.00
Natural Gas	0.00-0.05
Residual Oil	0.01-5.00
Wood or Wood & Bark	0.02-5.00
Other Miscellaneous Fuels	0.01-7.00

15. Ash Content: This field is required only if the material identified in Step 7 is a fuel. Enter the ash content in weight percent. Table 11-4 provides acceptable ash content ranges for common fuels (the system will not accept ash content values outside of these ranges).

Table 11-4: Ash Content Ranges

Type of Fuel	% Ash (by wt)
Anthracite Coal	0.01-11.00
Bituminous Coal	0.01-25.00
Natural Gas	0.00-0.05
Other Miscellaneous Fuels	0.01-25.00

Portable Material Usage Schedule

If this is a portable source, the Activity Form will have an additional section: Portable Material Usage Schedule (Figure 11-7). **These fields will only appear if the source was identified as a “portable source” on the Source Form** (see page 19).

16. County Name: Click the "+" icon to add a new county or click the "x" icon to delete a county from the list.

17. Percentage of Throughput: Enter the percentage of throughput for each county for the SCC code listed above. The totals of these percentages must equal 100%.

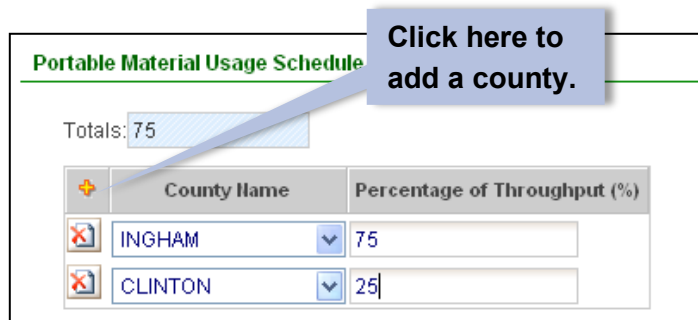


Figure 11-7: Portable Material Usage Schedule Section

Emissions Information Completion Instructions

The Emissions tab is used to report all emissions of criteria pollutants greater than 20 pounds per year at the SCC level. Criteria pollutant emissions of less than 20 pounds per year may be reported as zero. An emissions record must be completed for each emission unit or reporting group identified on the emission unit and reporting group forms.

Click on the "Emissions" Tab to view and enter emission information for the selected activity (Figure 11-8). Any criteria pollutants that are associated with the SCC selected in the Activity Detail section will automatically appear in the emission list (Figure 11-9). The criteria pollutants appear grayed out and cannot be deleted since they must be reported.

At least one criteria pollutant estimate must be reported or each emission unit with a reported activity and material. If no pollutants appear in the Emission List, you must manually add a pollutant by clicking the "+" icon below "Emission List" (in the **gray area** of Figure 11-9).



Figure 11-8: "Emissions" tab

Activity List

1 - 1 of 1 item(s)

Select	EU/RG ID	Emission Unit Desc	Installed Date	SCC Code	Activity Desc	Material Code	Throughput	Throughput
<input type="checkbox"/>	RG-OVENS/BOILER	FUEL BURNING EMISSION UNITS		10200602	NATURAL GAS FIRED OVENS AND BOILER	NATURAL GAS	300	MMCF

Activity & Emission Information

Activity Detail | **Emissions** | Attachment

Emission List +

	Pollutant	Annual Emission	Unit	Emission Basis	Emission Factor	Exponent	Emission Factor Unit	Control Efficiency (%)	System Calculated Value	Use System Calculated Value
<input type="checkbox"/>	AMMONIA		LB	MAERS EmissionFactor	3.2	0	LBMMCF			<input type="checkbox"/>
<input type="checkbox"/>	CO		LB	MAERS EmissionFactor	8.4	1	LBMMCF			<input type="checkbox"/>
<input type="checkbox"/>	LEAD		LB	MAERS EmissionFactor	5	-4	LBMMCF			<input type="checkbox"/>
<input type="checkbox"/>	NOX		LB	MAERS EmissionFactor	1	2	LBMMCF			<input type="checkbox"/>
<input type="checkbox"/>	PM10,PRIMARY		LB	MAERS EmissionFactor	7.6	0	LBMMCF			<input type="checkbox"/>
<input type="checkbox"/>	PM2.5,PRIMARY		LB	MAERS EmissionFactor	7.6	0	LBMMCF			<input type="checkbox"/>
<input type="checkbox"/>	SO2		LB	MAERS EmissionFactor	6	-1	LBMMCF			<input type="checkbox"/>
<input type="checkbox"/>	VOC		LB	MAERS EmissionFactor	5.5	0	LBMMCF			<input type="checkbox"/>

Save Calculate Emission

Criteria Pollutants

Figure 11-9: Emission List

What Emissions Must Be Reported?

Sources are required to report criteria pollutants to the MAERS. The reporting of non-criteria pollutants, such as toxic air pollutants, is optional. When a new activity is created, or when an activity having been reported in previous years is accessed for the first time during the current year, all the criteria pollutants associated with the chosen SCC will automatically be displayed in the emission list. These pollutants are required to be reported. If there are also toxic air pollutants associated with the chosen SCC, those will be calculated and reported as well. A source may opt to include their own calculations or allow the system to calculate the estimated emissions.

To report additional pollutants for an activity, in the Emission List, click the "+" icon next to "Emission List" label (in the **white** area, NOT in the gray area) to load the emission factor window (Figure 11-10).

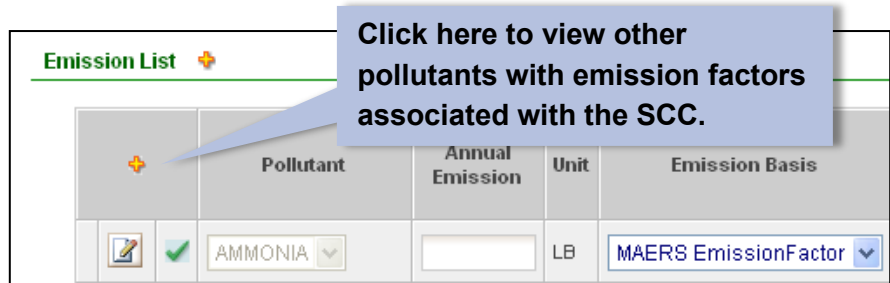


Figure 11-10: Adding Emissions

To see system calculated toxic air pollutants estimates, view the Emission Comparison Report—SCC Detail Report under Report Management/Other Reports.

SCC/Pollutant List

1 - 10 of 59 item(s)

	Pollutant Code	Unit Code	Factor	Exp	Material Code	Unit Code	Control Device 1	Control Device 2	Emission Factor Type
<input type="radio"/>	PYRENE	LB	5	-6	12967	LB/MMCF			Generic
<input type="radio"/>	BARIIUM	LB	4.4	-3	12967	LB/MMCF			Generic
<input type="radio"/>	NITROUS OXID	LB	6.4	-1	12967	LB/MMCF	Low NOX Burners		Generic
<input type="radio"/>	NAPHTHALENE	LB	6.1	-4	12967	LB/MMCF			Generic
<input type="radio"/>	ZINC	LB	2.9	-2	12967	LB/MMCF			Generic
<input type="radio"/>	FLUORANTHENE	LB	3	-6	12967	LB/MMCF			Generic
<input type="radio"/>	TOLUENE	LB	3.4	-3	12967	LB/MMCF			Generic
<input type="radio"/>	ETHANE	LB	3.1	0	12967	LB/MMCF			Generic
<input type="radio"/>	MANGANESE	LB	3.8	-4	12967	LB/MMCF			Generic
<input type="radio"/>	BENZO(A)PYRE	LB	1.2	-6	12967	LB/MMCF			Generic

1 2 3 4 5 6

Cancel OK

Figure 11-11: Emission Factor Table with SCC Code and Pollutant List

In the SCC/Pollutant List (Figure 11-11), some of the criteria pollutants have additional emission factors that do not have a radio button. These are “controlled” emission factors, which can be used to calculate default control efficiency. The system will not allow you to select a “controlled” emission factor.

Reporting Emissions Using the MAERS Emission Factors

By default, any criteria pollutants with emission factors will automatically be displayed in the emissions list. These are MAERS emission factors and are generally applicable. Sources may choose to use these factors or other, site-specific methods to calculate emissions for a given activity. The AQD encourages the use of the best available, site-specific information for estimating emissions. This section explains how to calculate and report emissions using the MAERS emission factors provided. If you would like to use another method to calculate and report emissions (e.g., mass balance, stack test, CEM, etc.) then you should read "[Reporting Emissions Using Methods other than a MAERS Emission Factor](#)" on page 52.

A source may choose to use a MAERS emission factor to report one pollutant and another method to report emissions of a different pollutant from the same activity.

Follow the instructions below to calculate and report emissions using MAERS Emission Factors:

- 1. Control Efficiency (%) (if applicable).** Enter the control efficiency percent of the control device(s) for the pollutant being reported (this could be a combination of capture and destruction efficiencies). Control efficiencies may be listed on the equipment, in the equipment documentation, or by contacting the equipment supplier. If you do not have a control efficiency for your equipment, leave this field blank. Control efficiency is pollutant specific, so you may have control efficiency for particulate matter but not for carbon monoxide. If you reported a control efficiency in a previous year, it will carry over for the next reporting year. Please verify the accuracy of the pre-filled information as it's possible you will have changes.
- 2. Calculate Emissions.** Click the "Calculate Emission" button at the bottom of the emission list (Figure 11-12). When the calculation is completed, the "System Calculated Value" column will be populated in the grid view. If a control efficiency was entered in Step 1, the system will consider the control efficiency entered.

Activity Detail Emissions Attachment

Emission List

	Pollutant	Annual Emission	Unit	Emission Basis	Emission Factor	Exponent	Emission Factor Unit	Control Efficiency (%)	System Calculated Value	Use System Calculated Value
	AMMONIA		LB	MAERS EmissionFactor	3.2	0	LB/MMCF		960.00 LB	<input type="checkbox"/>
	CO		LB	MAERS EmissionFactor	8.4	1	LB/MMCF		25,200.00 LB	<input type="checkbox"/>
	LEAD		LB	MAERS EmissionFactor	5	-4	LB/MMCF		0.15 LB	<input type="checkbox"/>
	NOX		LB	MAERS EmissionFactor	1	2	LB/MMCF		30,000.00 LB	<input type="checkbox"/>
	PM10,PRIMARY		LB	MAERS EmissionFactor	7.6	0	LB/MMCF		2,280.00 LB	<input type="checkbox"/>
	PM2.5,PRIMARY		LB	MAERS EmissionFactor	7.6	0	LB/MMCF		2,280.00 LB	<input type="checkbox"/>
	SO2		LB	MAERS EmissionFactor	6	-1	LB/MMCF		180.00 LB	<input type="checkbox"/>
	VOC		LB	MAERS EmissionFactor	5.5	0	LB/MMCF		1,650.00 LB	<input type="checkbox"/>

Save Calculate Emission

Figure 11-12: System Calculated Value for Emission

3. **Use System Calculated Value.** If the System Calculated Value is verified to be correct, click the checkbox under "Use System Calculated Value." The Annual Emission field will auto-fill with the system calculated value (Figure 11-13).

	Pollutant	Annual Emission	Unit	Emission Basis	Emission Factor	Exponent	Emission Factor Unit	Control Efficiency (%)	System Calculated Value	Use System Calculated Value
	AMMONIA	960.00	LB	MAERS EmissionFactor	3.2	0	LB/MMCF		960.00 LB	<input checked="" type="checkbox"/>
	CO	25200.00	LB	MAERS EmissionFactor	8.4	1	LB/MMCF		25,200.00 LB	<input checked="" type="checkbox"/>
	LEAD		LB	MAERS EmissionFactor	5	-4	LB/MMCF		0.15 LB	<input type="checkbox"/>
	NOX		LB	MAERS EmissionFactor	1	2	LB/MMCF		30,000.00 LB	<input type="checkbox"/>

Figure 11-13: Accept MAERS Calculated Values

Reporting Emissions Using Methods other than a MAERS Emission Factor

For some activities, there may not be a MAERS emission factor or a source may choose to calculate emissions using a different method that is more site specific (e.g., mass balance calculation, stack test data, etc.). In these cases, it is appropriate to calculate and report emissions using an emission basis other than the MAERS emission factors. The AQD encourages use of the best, most-site-specific information to develop emissions estimates.

Follow the instructions below to report emissions using a different emission basis:

- 1. Add Pollutants (if necessary).** If no pollutants appear in the emission list you will first need to add any pollutants that need to be reported. Manually add a pollutant by clicking the "+" icon below "Emission List" (in the gray area of Figure 11-14).
- 2. Change Emissions Basis.** If a pollutant that needs to be reported already appears in the emission list go to "Emission Basis" drop down and choose the appropriate basis on which you will be calculating emissions for that pollutant (Figure 11-14). **Emissions should be estimated using the best available site-specific data according to the hierarchy below.**

If necessary, click here to add pollutants.

	Pollutant	Initial Emission	Unit	Emission Basis	Emission Factor	Exponent	Emission Factor Unit	Control Efficiency (%)	System Calculated Value	Use System Calculated Value
	VOC		LB				LB/TON			<input type="checkbox"/>


[Save](#) [Calculate Emission](#)

[Michigan MAERS Home](#) | [Contact MAERS](#) [AQD Home](#) | [Policy](#) | [Link Policy](#) | [Security Policy](#)

Figure 11-14: Changing Emission Basis

- **CEM** - Continuous Emissions Monitoring
- **Site Specific Stack Test** - Stack test protocol approved by the AQD. Results from the most recent stack test (generally conducted less than five years previous) should be used. Stack tests must have been conducted in accordance with the U.S. EPA protocol under conditions that represent current operations.
- **PEM** - Parametric Emissions Monitoring
- **Mass Balance** - The method that allows estimation of emissions by analyzing inputs of a material to a process minus consumption, accumulation, and loss of that material during a process.
- **Tank Model** - The TANKS model is a U.S. EPA computer software program that computes estimates of volatile organic compound (VOC) emissions from fixed and floating-roof storage tanks. TANKS are based on the emission estimation procedures from Chapter 7 of the U.S. EPA's Compilation of Air Pollutant Emission Factors (AP-42), plus recent updates from the American Petroleum Institute. The TANK software can be accessed at epa.gov/chief.

- **LandGEM Model** - The Landfill Gas Emissions Model (LandGEM) can be used to estimate emission rates for methane, carbon dioxide, non-methane organic compounds, and individual toxic air pollutants from landfills. The LandGEM software can be accessed at epa.gov/chief.
- **MAERS Emission Factor** – SCCs emission factors that are in the MAERS reference table. These are either U.S. EPA or State emission factors. If you are using an emission factor not provided in the emission factor table at the bottom of the screen, you should select “Other” as the emission basis.
- **Other** - If not previously identified, select “Other,” and attach supporting documentation. Use of emission factors from the U.S. EPA’s Compilation of Air Pollutant Emission Factors (AP-42) or Factor Information Retrieval System (FIRE) that are not listed in the MAERS emission factor table should be referenced here. Both AP-42 and FIRE can be accessed at www.epa.gov/chief.

You can also click on the edit icon  next to the pollutant in the emission list to enter specific details on the emissions for that pollutant.

- 3. Emission Factor/Exponent:** These fields must be completed only if you choose an emission basis that uses an emission factor (e.g., MAERS Emission Factor, stack test). If you are using another method to calculate your emissions (e.g., Mass Balance, TANKS, etc.), leave these fields blank.

NOTE: Emission factors are expressed in scientific notation, which means that the decimal point is moved based on the exponent provided. If the exponent is negative, move the decimal point to the left. If the exponent is positive, move the decimal point to the right. If the exponent is zero, the decimal point does not move. If the emission factor is 0.001 lbs/ton then the emission factor may be reported as 1.0 and the exponent will be -3.

- 4. Control Efficiency (if applicable).** Enter the control efficiency percent of the control device(s) for the pollutant being reported (this could be a combination of capture and destruction efficiencies). Control efficiencies may be listed on the equipment, in the equipment documentation, or by contacting the equipment supplier. The control efficiency entered must be between 1.0 and 99.9. If there is no control efficiency for a pollutant, leave this field blank.
- 5. Annual Emissions.** Enter the annual emissions in the annual emissions field. This will be based on the emission basis selected and any control efficiency entered.

Supporting documentation is required when using a method other than “MAERS emission factor” to calculate emissions for a pollutant. Go to the “Attachment” tab and upload documentation to support your emissions estimate. Supporting documentation may include equations, emission factor documentation, stack test results, or some other explanation.

CONTROL EFFICIENCY

Using the Control Efficiency to Calculate Actual Emissions:

If a facility has control equipment, the actual emissions after control can be calculated by multiplying the actual uncontrolled emissions by a control factor. Calculate the control factor by subtracting the percent control efficiency (entered for Step 5) from 100 and then dividing that number by 100. Overall control efficiency is calculated by multiplying the capture efficiency by the control efficiency.

For example, if you have a control device with a capture efficiency of 85% and a control efficiency of 95%, the overall control efficiency would be $0.85 \times 0.95 = 0.8075$ (80.75%). Use the overall control efficiency to calculate the control factor $(100 - 80.75)/100 = 0.19$. Using the control factor, we can estimate the annual emissions after control. Using the control factor above, if an emission unit has actual uncontrolled emissions of 129,600 lbs/year; the actual emissions after control would be $129,600 \text{ lbs/year} \times 0.19 = 24,624 \text{ lbs/year}$ or 12.31 ton/yr. You would enter 12.31 tons into the Annual Emission filed (see step 4).

What if I Don't Know the Control Efficiency for a Pollutant?

If you do not know the control efficiency for a specific pollutant you can use the controlled emission factor from the emission factor table to calculate the "default control efficiency." You can identify a "controlled emission factor" by clicking on the "+" icon next to "Emission List" label to load the emission factor window (Figure 11-10 on page 50). Pollutants listed without a radio button next to it are "controlled" factors. The control device will be listed in the control device column. The corresponding controlled emission factor and exponent will be in the "factor" and "Exp" exponent columns.

The steps and example below explain how use this controlled emission factor to calculate a default control efficiency:

- 1) Divide the "controlled" emission factor by the "uncontrolled" emission factor;
- 2) Subtract that number from 1 and carry four decimal places; and
- 3) Multiply the final net number by 100. Enter this number as the Weight Percent Control Efficiency.

$$\text{Default Control Efficiency} = 1.0 - (\text{Controlled EF} / \text{Uncontrolled EF}) \times 100$$

EXAMPLE:

SCC = 1-02-002-04 Pollutant = PM10, FLTRBLE,
 Emission Factor (CONTROLLED) = 7.200 E -2 with BAGHOUSE
 Emission Factor (UNCONTROLLED) = 1.320 E 1 UNCONTROLLED
 Default Control Efficiency = $1.0 - (0.072/13.2) \times 100 = 99.45\%$

Note: The SCC and the pollutant MUST be identical for the two Emission Factors used to calculate the Weight Percent Control Efficiency.

12 Completeness Check

Once you have completed all the forms, click the Completeness Check function (Figure 12-1) to scan the forms. The Completeness Check ensures that there are reasonable responses in required data fields. If fields are incomplete, the system will generate warning (yellow) or error (red) messages.

The error report and messages will describe the potential problem and indicate which form and field must be corrected. The Completeness Check does not verify whether the information you have entered is correct, but rather if the information you have entered is adequate for a complete submittal.

Errors (red) generated from the Completeness Check must be corrected before the MAERS Report is submitted to the AQD. Warnings (yellow) will not prevent the MAERS Report from being submitted. After correcting the errors and warnings, run the Completeness Check again to re-assess the result of these actions. Running the Completeness Check after you make corrections will clear error messages. If you encounter any Completeness Check error messages that seem to be irresolvable, please contact the appropriate AQD district office or InfoMAERS@michigan.gov.

Please note that the Completeness Check can be run iteratively throughout the reporting process. Results can be used as a guide to address further information needs within the report.

If no error is generated from the Completeness Check, this message will display: "Passed Completeness Check" (Figure 12-2).

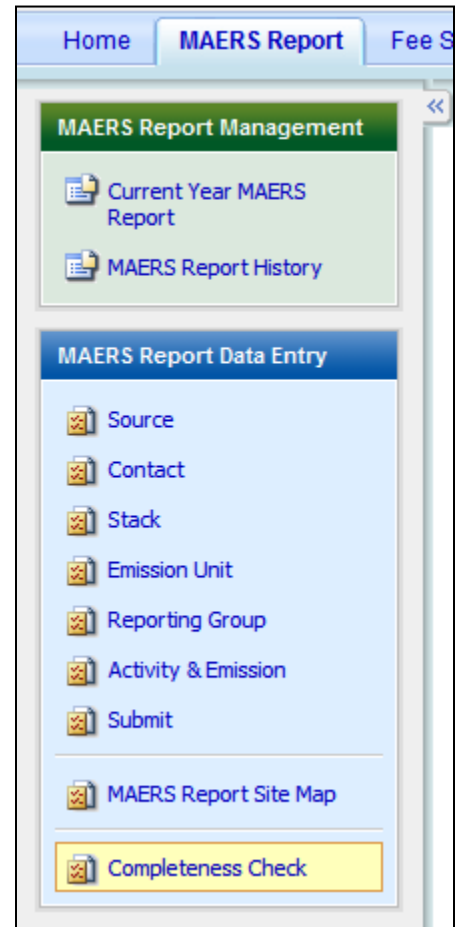


Figure 12-1: Completeness Check Function

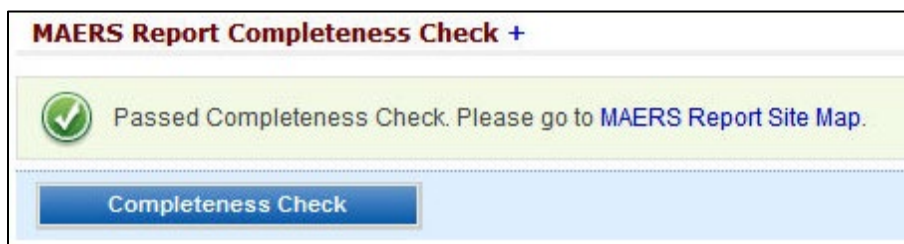


Figure 12-2: Completeness Check without Error

If errors are encountered in the Completeness Check, this message will display: "Failed Completeness Check" (Figure 12-3).

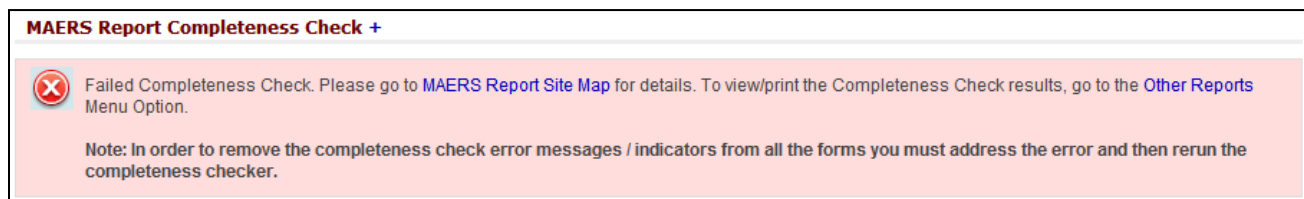


Figure 12-3: Error Report

There are three ways of viewing error or warning message details:

1. Go to the MAERS Report Site Map and hover the mouse over the data entry form with an error or warning icon (Figure 12-4). The error message is indicated using a red icon. The warning message is indicated using a yellow icon. The error or warning message will appear in the tooltips.

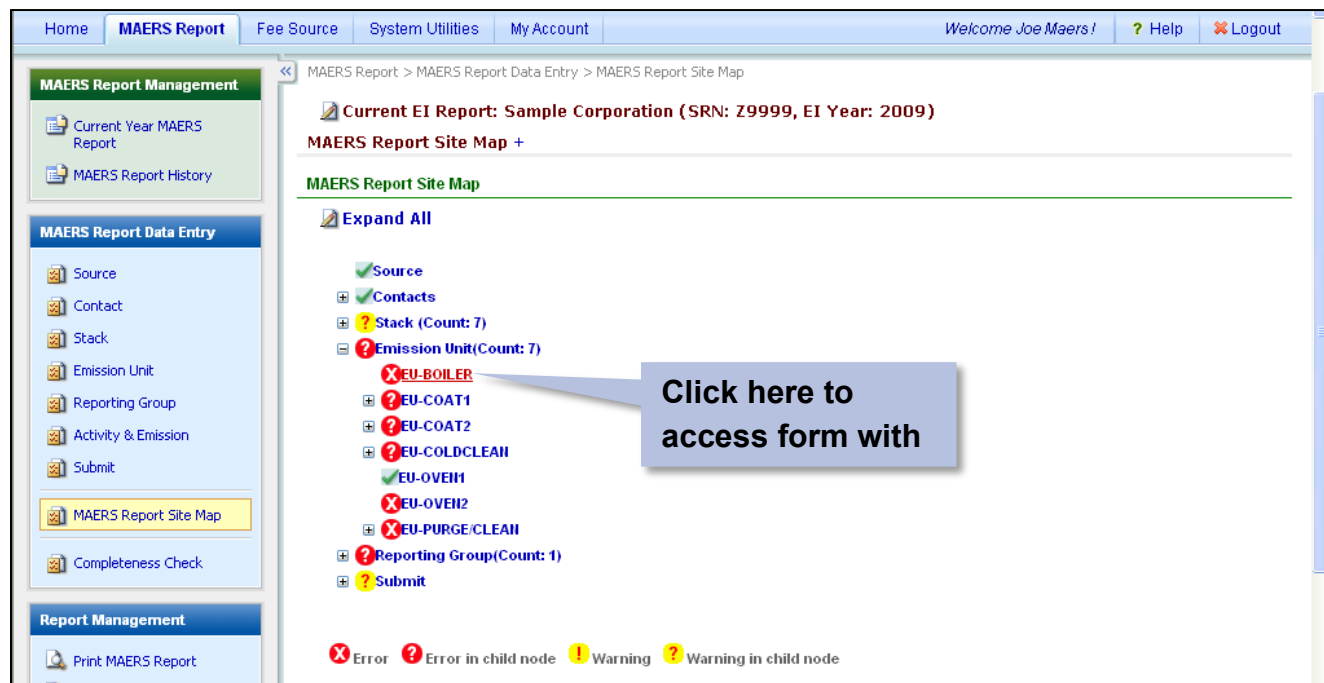


Figure 12-4: MAERS Report Site Map - Completeness Check Error/Warning Message

- In the MAERS Report Site Map, click the entry with an error or warning icon. The system will lead you to the specific Source, Contact, Stack, Emission Unit, Reporting Group, Activity & Emission, or Submit Form. The error/warning message generated from the Completeness Check will display in the upper portion of the specific form (Figure 12-5). The error message is indicated using a “red” background. The warning message is indicated using a “yellow” background.

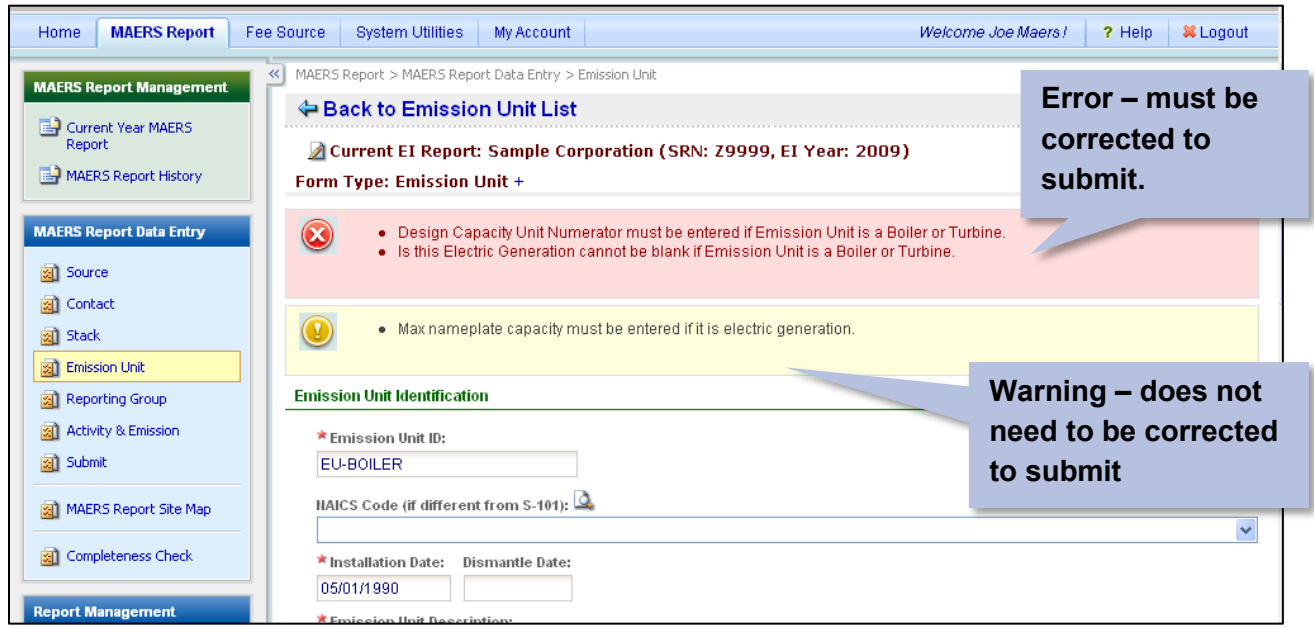


Figure 12-5: Sample: Stack Form with Completeness Check Warning/Error Displayed

- All the Completeness Check errors and warnings are compiled into a “Completeness Check Report.” This report can be accessed by clicking on “Other Reports” on the left panel then clicking on Completeness Check Report (Figure 12-6).

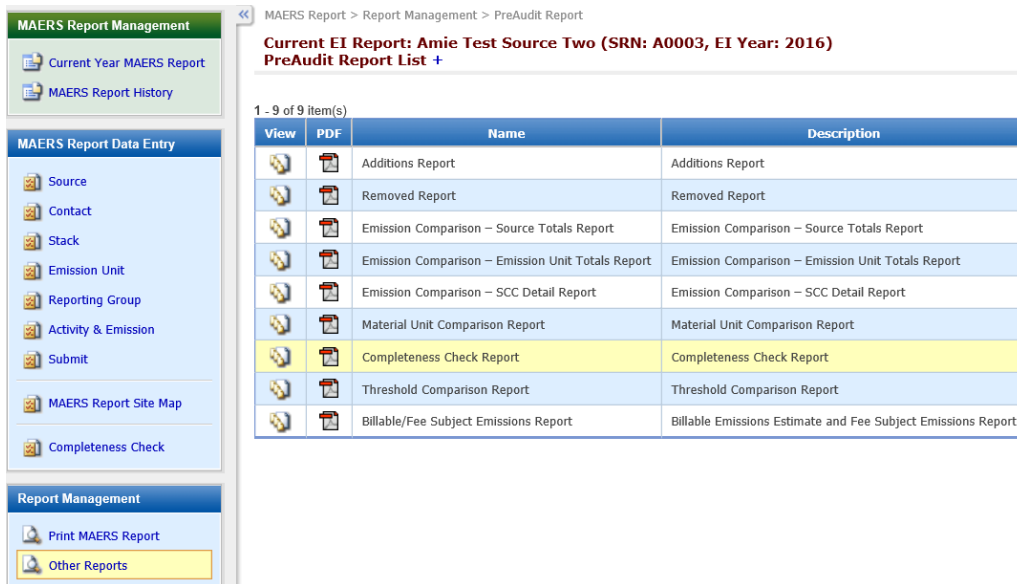


Figure 12-6: Completeness Check Report

Click the "View" icon next to "Completeness Check Report" to view the details of the report. The report will list the basic information of this source, and the error and warning messages in each form. This report will be useful in the correction of relevant forms based on the Completeness Check results.

A sample of the Completeness Check Report is shown in Figure 12-7.

MAERS Reporting - Microsoft Internet Explorer

SOURCE_RID: 20013 AQD_IND: True False View Report

1 of 2 100% Find | Next Select a format Export

**Michigan Air Emission Reporting System
(MAERS)**

Completeness Check Error Report

Source Name : Sample Corporation Reporting Year : 2009
Source Location : 555 W MAIN ST LANSING, MI 48909

Total Errors Found : 77

SV-101 STACK

Operator's Stack ID - SV-COAT1-1

- Bypass Stack Only must be Yes or No.
- Latitude must be entered.
- Longitude must be entered.
- Horizontal Collection Method must be entered.
- Horizontal Accuracy Measure must be entered.
- Horizontal Reference Datum Code must be entered.
- Reference Point Code must be entered.

Operator's Stack ID - SV-COAT1-2

- Bypass Stack Only must be Yes or No.
- Latitude must be entered.
- Longitude must be entered.
- Horizontal Collection Method must be entered.

Figure 12-7: Sample of Completeness Check Report

13 Submitting Your MAERS Report

Submittal Overview

After the report has passed the Completeness Check, only the Primary Preparer can submit the report. To submit your MAERS Report you should click on the submit button on the left panel. A form with two tabs will be displayed.

Preparer Info

This is an optional form. The Preparer List shows the current preparers and consultants who have contributed to the MAERS reporting of this source. Click "Add New Preparer" to add any preparer that is not in this list but has prepared the data entry forms (Figure 13-1).

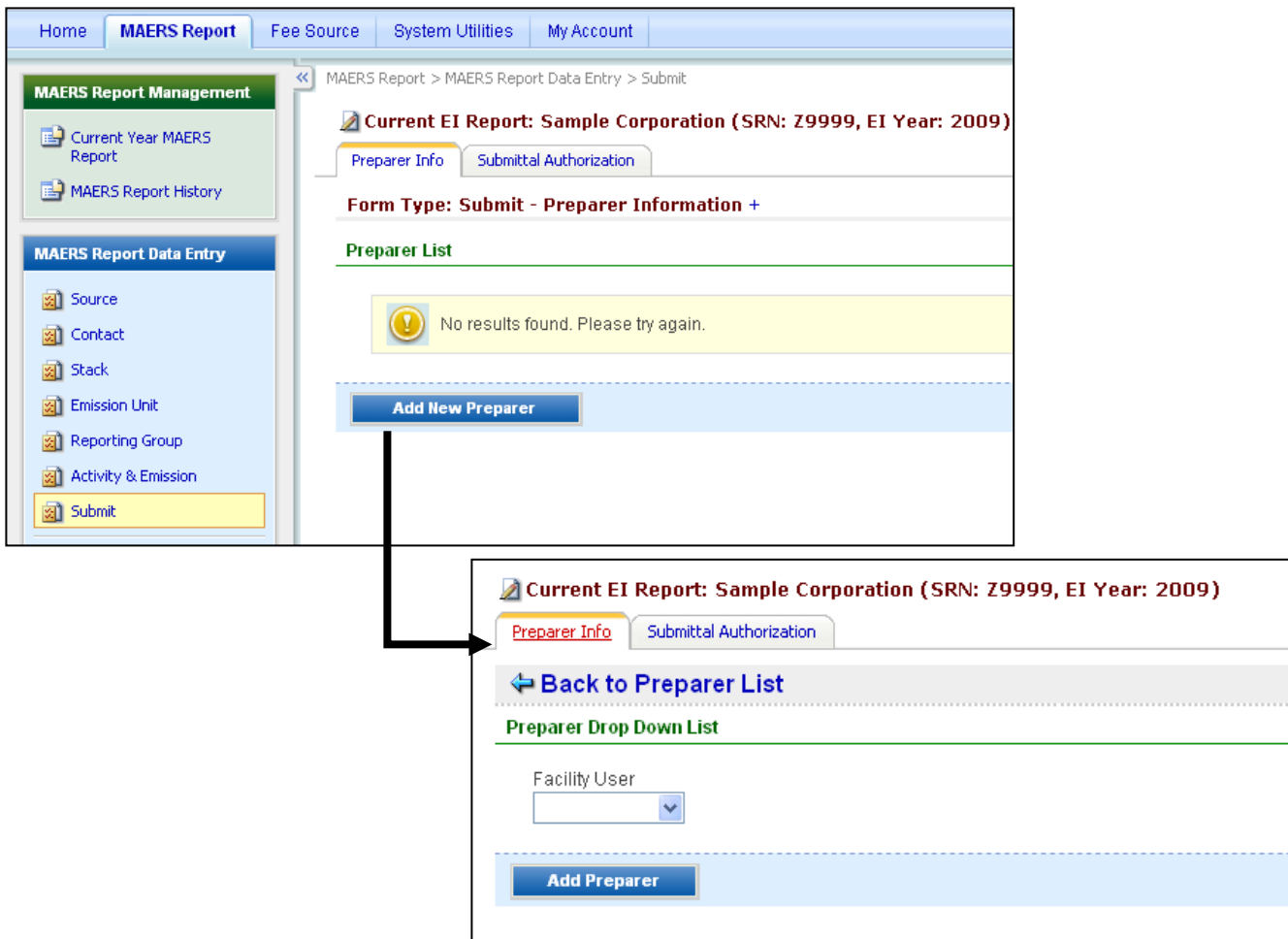


Figure 13-1: Add New Preparer

To delete a preparer that is already in the system, click the delete icon located on the right side of the Preparer Information screen. (Figure 13-2)

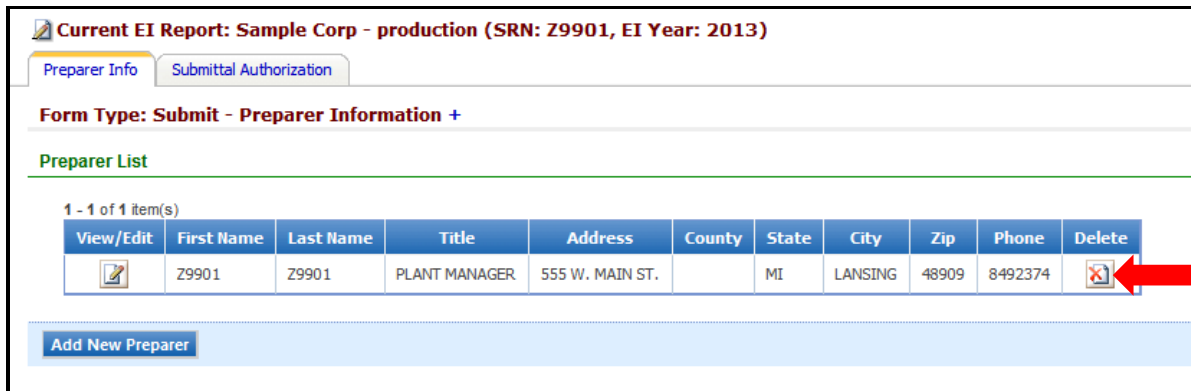
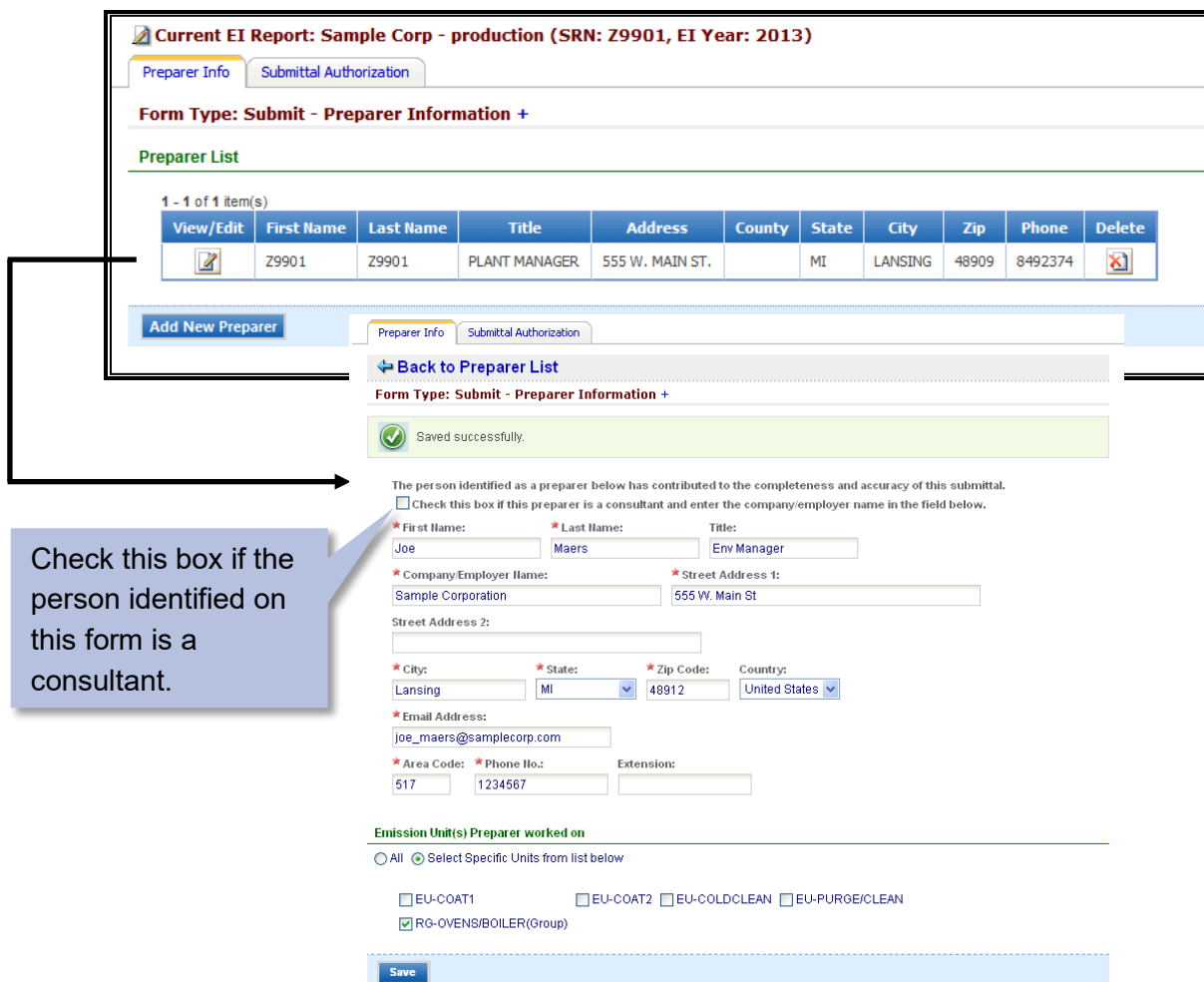


Figure 13-2: Delete a Preparer

Preparer Info Completion Instructions

Click the "View/Edit" icon to access the preparer form for a Preparer identified in the Preparer List. Complete the fields in this section for each preparer (Figure 13-3).



Submittal Authorization

Click the Submittal Authorization tab (Figure 13-4).

The screenshot displays a web form with two tabs: "Preparer Info" and "Submittal Authorization". The "Submittal Authorization" tab is active. Below the tabs, the form type is identified as "Submit - Submittal Authorization +". A yellow warning box contains a yellow exclamation mark icon and the text: "Primary preparer's job title must be entered." Below this, the "Primary Preparer" section contains several fields: "First Name" (Joe), "Last Name" (Maers), "Title" (empty), "Street Address 1" (555 W. Main St), "Street Address 2" (empty), "City" (Lansing), "State" (MI), "Zip Code" (48912), "Country" (United States), "Email Address" (joe_maers@samplecorp.com), "Area Code" (517), "Phone No." (1234567), and "Extension" (empty). A blue "Save" button is located below the fields. The "Submit MAERS Report" section includes a "PII:" field (empty), a question: "Question: What is the first and middle name of your oldest sibling?", and an "Answer:" field (empty). A checkbox is present with the text: "Based on the information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate, and complete." A yellow "Submit" button is located at the bottom of the form.

Preparer Info Submittal Authorization

Form Type: Submit - Submittal Authorization +

! • Primary preparer's job title must be entered.

Primary Preparer

* First Name: Joe * Last Name: Maers Title:

* Street Address 1: 555 W. Main St

Street Address 2:

* City: Lansing * State: MI * Zip Code: 48912 Country: United States

* Email Address: joe_maers@samplecorp.com

* Area Code: 517 * Phone No.: 1234567 Extension:

Save

Submit MAERS Report

PII:

Question: What is the first and middle name of your oldest sibling?

Answer:

Based on the information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate, and complete.

Submit

Figure 13-4: Submittal Authorization Form

Submittal Authorization Completion Instructions

- 1. Primary Preparer Contact Information:** The Primary Preparer's contact information should be prefilled into this section.
- 2. PIN:** Enter the PIN. You created your PIN when completing the registration process. If you forgot your PIN, you can click on the "My Account" tab and request a Security Access Code by clicking the blue "Request Access Code" button. You will receive an email with a Security Access Code. After you enter the code you can create a new PIN (Figure 13-5)The PIN was sent to the Primary Preparer during registration. If you forgot your PIN you can find it under the "My Account" tab.

The screenshot shows a web form with three main sections:

- Access Code:** A yellow header bar. Below it, a text box for "Security Access Code:" and a blue button labeled "Request Access Code".
- Change Password:** A yellow header bar. Below it, a text box for "Old Password:", and two text boxes for "New Password:" and "Confirm New Password:".
- Pin and Security Questions:** A yellow header bar. Below it, a text box for "PIN:" and a text box for "Confirm New Pin".

Figure 13-5: Password Change

- 3. Security Question & Answer:** A randomly picked security question will display for the certifier to answer. Enter the user-defined answer to this question. The security questions and answers will be set when the user logs into MAERS for the first time. If you do not remember the answers to your security questions, you can reset them by clicking on the "My Account" tab and requesting a Security Access Code by clicking on the blue "Request Access Code" button. You will receive an email with the Security Access Code, after you enter the code, you can reset your security questions and answers.
- 4. Submit:** When everything in the data entry form is verified, click the checkbox "Based on the information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate, and complete." Click the "Submit" button to submit the MAERS Reports to AQD.

Completeness Check Executed by the System When a Report is Submitted

When a MAERS Report is submitted, a completeness check will be executed by the system on all data entry forms. If the completeness check failed, the error message(s) will display in the upper portion of page (Figure 13-6).

The screenshot shows a web interface with two tabs: "Preparer Info" and "Submittal Authorization". Below the tabs, the text "Form Type: Submit - Submittal Authorization +" is displayed. A prominent red error message box contains a red 'X' icon and the text: "Completeness Check Failed! Please go to MAERS Report Site Map to review errors." Below the error message, the text "Primary Preparer" is visible.

Figure 13-6: Submittal Completeness Check

Go to the MAERS Report Site Map (on the left navigation panel) to review the form errors and make applicable corrections to ensure the validity of submitted data.

If the Completeness Check is passed, an Emissions Inventory (EI) Report submission successful message will display in the upper portion of page.

See Section 12 for more information on Completeness Check

14 Copy of Record

Submitted Report Information

After you submit the MAERS Report, the system will record specific report information and a Copy of Record (COR). To view the COR, click on the "View Report" link. If you notice any errors, you can revise and resubmit the report. After March 15, see next paragraph. The COR will be updated with new information from the resubmittal.

COR Review and Repudiation

If you request changes to your MAERS Report after the AQD has finalized the report, the date of the request, the Repudiated Date and comments from the AQD will be displayed. After the AQD has verified and made the revisions, you will be able to view the corrected document. (Figure 14-1). The original report that you submitted will still be found at "View Report" under "Submitted Report Information" The revised report can be viewed by clicking on "View" under "COR Review and Repudiation."

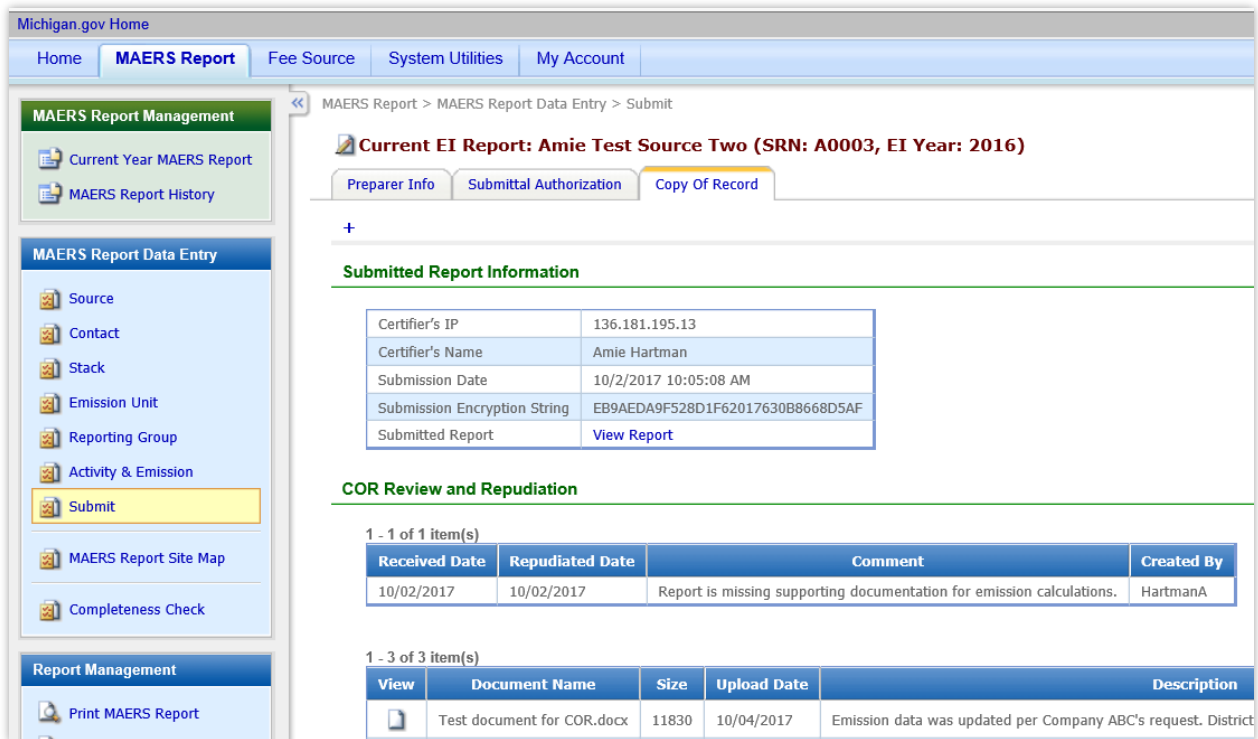
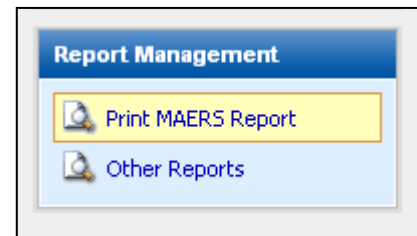


Figure 14-1 Copy of Record

15 Reports

The Report Management section includes two types of reports: Print MAERS Report and Other Reports.



View MAERS Report

Clicking on Print MAERS Report will display two types of reports to view.

- Source Summary Report
- MAERS Data Entry Forms

1 - 2 of 2 item(s)

View	PDF	Name	Description
		Source Summary Report	Source Summary Report
		MAERS Data Entry Forms	MAERS Data Entry Forms

- 1. Source Summary Report:** The Source Summary Report lists user-entered source, contact, emission unit, stack, activity, and emission data, presented in a summarized table formats (Figure 15-1).

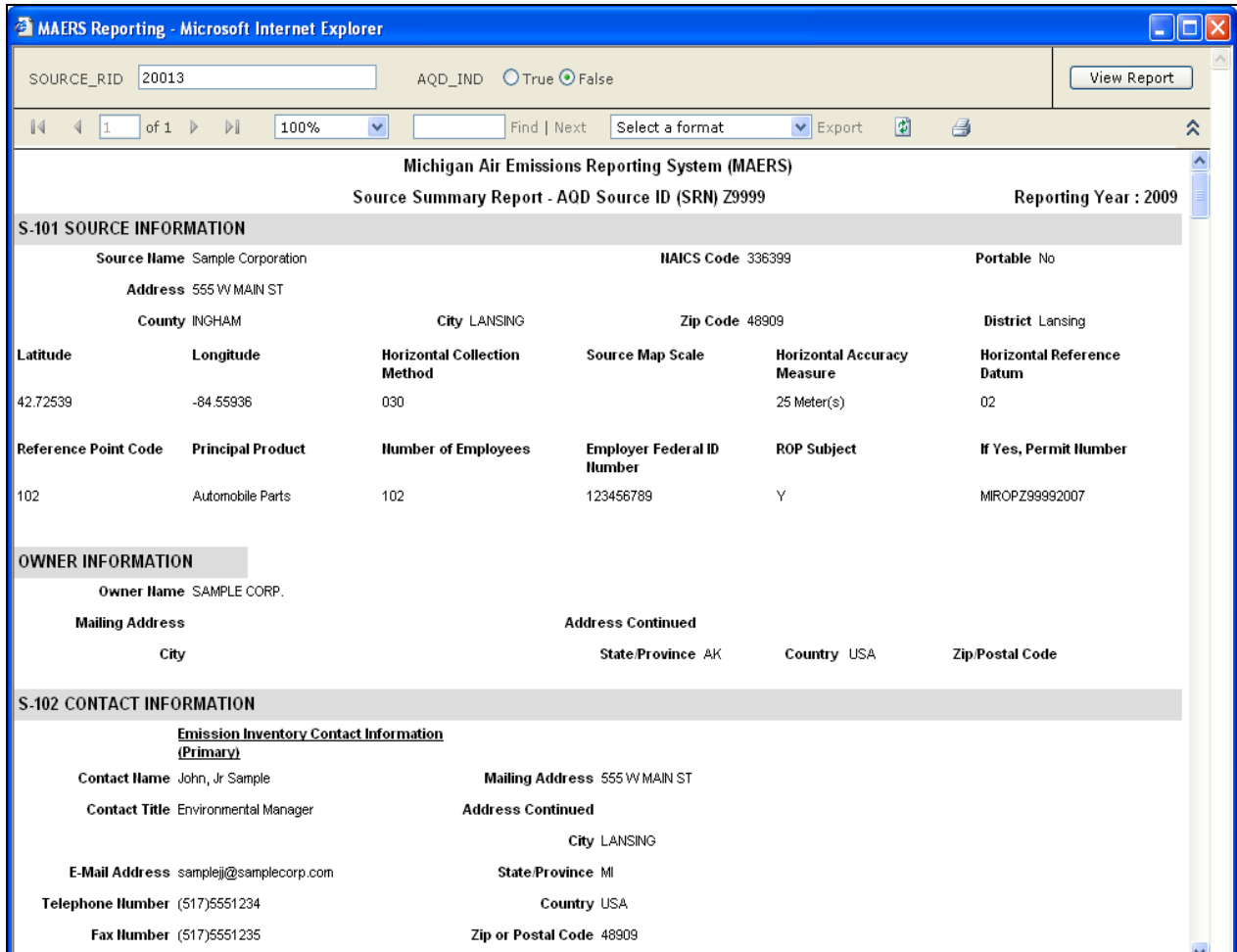


Figure 15-1: Sample of Source Summary Report

2. **MAERS Data Entry Forms Report:** The MAERS Data Entry Form Report displays the user-entered source, contact, emission unit, stack, activity, emission, preparer, and certifier data in the format of “paper” EI forms. (Figure 15-2).

EGLE Michigan Department of Environment, Great Lakes and Energy - Air Quality Division Michigan Air Emissions Reporting System (MAERS) S-101 SOURCE		1. INVENTORY YEAR 2019
Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.		
GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form with additions or corrections as necessary. For more detailed instructions refer to the MAERS Paper Forms and Instructions Booklet. This MAERS form is used to report source information for a specific inventory year . Enter the specific inventory year in field 1.		
FORM REFERENCE		
2. Form Type S-101	3. AQD Source ID (SRN) A1234	
SOURCE IDENTIFICATION <input type="checkbox"/> Change <input type="checkbox"/> Add		
4. Source Name Sample Corp		
5. NAICS Code 336360	6. Portable <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
7A. Street Number and Name (where emission unit(s) is located) 555 W. Main St.		
7B. Address Continued		
8. County Ingham	9. City Lansing	10. Zip Code 48933
11. Latitude 42.45362145 Decimal Degrees	12. Longitude -83.12578356 Decimal Degrees	13. Horizontal Collection Method 001
14. Source Map Scale Number	15. Horizontal Accuracy Measure 100 Meters	
16. Horizontal Reference Datum Code 002	17. Reference Point Code 101	
18. Principal Product Metal Widgets	19. Number of Employees 40	
20. Employer Federal Identification Number 38-1234567		
OWNER INFORMATION <input type="checkbox"/> Change <input type="checkbox"/> Add		
20. Owner Name Joe Schwartz		

Figure 15-2: Sample of MAERS Data Entry Form Report

Other Reports

The Other Reports section includes the following reports as shown in Figure 15-3.

1 - 9 of 9 item(s)



















View	PDF	Name	Description
		Additions Report	Additions Report
		Removed Report	Removed Report
		Emission Comparison – Source Totals Report	Emission Comparison – Source Totals Report
		Emission Comparison – Emission Unit Totals Report	Emission Comparison – Emission Unit Totals Report
		Emission Comparison – SCC Detail Report	Emission Comparison – SCC Detail Report
		Material Unit Comparison Report	Material Unit Comparison Report
		Completeness Check Report	Completeness Check Report
		Threshold Comparison Report	Threshold Comparison Report
		Billable/Fee Subject Emissions Report	Billable Emissions Estimate and Fee Subject Emissions Report

Figure 15-3 Other Reports

- Additions Report:** This report displays all stacks, emission units, reporting groups, SCC activity, and preparers that have been added to the source in this reporting year. For example, if you add a new stack to the Stack Form, then that stack will appear on the Additions Report.
- Removed Report:** This report displays all emission units, reporting groups, stacks, SCC activity, and preparers that have been selected to be removed from the source in this reporting year. For example, if you delete a stack from the Stack List, then that stack will appear on the Removed Report. All emission units and stacks that have a "Dismantle Date" entered will also be listed on the Removed Report. Information that is dismantled or deleted from the system will not appear in the blank report in the following year.
- Emission Comparison – Source Totals Report:** This report displays the source reported emissions on the left and the AQD calculated emissions on the right. The source reported emissions are emissions that have been entered on the emission form. The AQD calculated emissions were generated by running the emission calculator in the application (by clicking the "Calculate Emissions" button). Criteria pollutants are positioned at the top of the list and identified in RED text. Toxic pollutants are identified in BLACK text and follow the criteria pollutants on the list.

4. **Emission Comparison – Emission Unit Totals Report:** This report displays required emissions by pollutant, as well as toxic pollutant estimates, totaled at the emission unit level. See Appendix D for more information.
5. **Emission Comparison – SCC Detail Report:** This report displays required emissions by pollutant, as well as toxic pollutant estimates totaled at the SCC Level. See Appendix D for more information.

Note: The emissions inventory that gets reported to the U.S. EPA and shared publicly includes both Source-Reported estimates that are accepted by the AQD, as well as estimates for other pollutants (generally toxics) that are only calculated by MAERS using the information provided within the report. Reviewing the **Emission Comparison – SCC Detail Report** can reveal where the AQD/MAERS calculations deviate from source-reported estimates; especially for pollutants that have not been specifically reported to the MAERS.

6. **Material Unit Comparison Report:** This report will list any SCC throughput material code and/or unit code that do not match the default SCC material code and unit code in the MAERS SCC reference table. All activities in the activity form with an invalid material code and/or unit code will be displayed.
7. **Completeness Check Report:** This report displays the data errors within the MAERS Report. The total number of data errors is located at the top of the error report. The errors will be organized by form type. Each error message will begin with the name of the field that is in error, followed by the error message and reference to an ID to help locate the record that is in error.
8. **Threshold Comparison Report:** This report displays all criteria pollutants that exceed reporting thresholds.
9. **Billable/Fee Subject Emission Report:** This report displays a billable emissions estimate for facilities which are required to pay an annual air quality fee. It provides a summary of the reported emissions which will appear on the invoice in January the following year. The estimate includes a detailed process level report of emissions of fee subject pollutants. See Appendix B for more information.

Print / Export a Report

To Print a report, click on the PDF icon next to the report you would like to print, then select the Print File icon at the bottom of the document.(Figure 15-4).

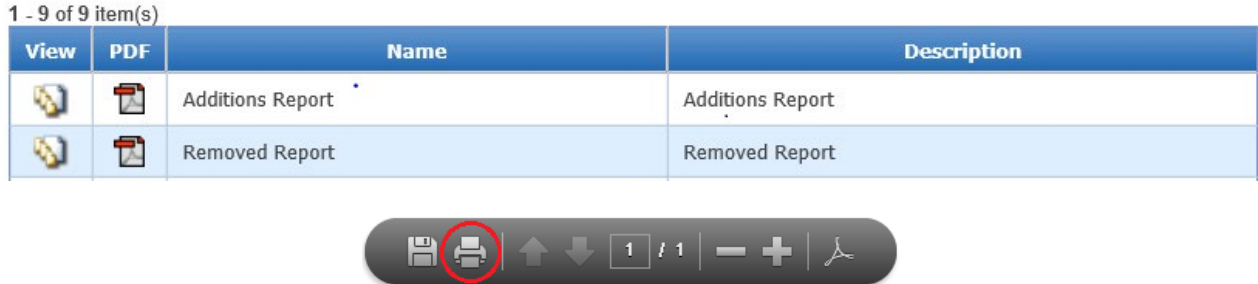


Figure 15-4 Print Icon

To select a format other than PDF, click on View. (Figure 15-5). Click “Select a format” to choose the file type you want to save and then save or print the file.

16 Reference Data Look-up

Users will use this module to find reference data for the Emission Factor, Material Code, Substance Code, SCC and Unit. To view reference data in the MAERS database, go to the System Utilities tab, then select the specific type of data under System Maintenance on the left navigation panel. Use the “Search” button to find the information (Figure 16-1).

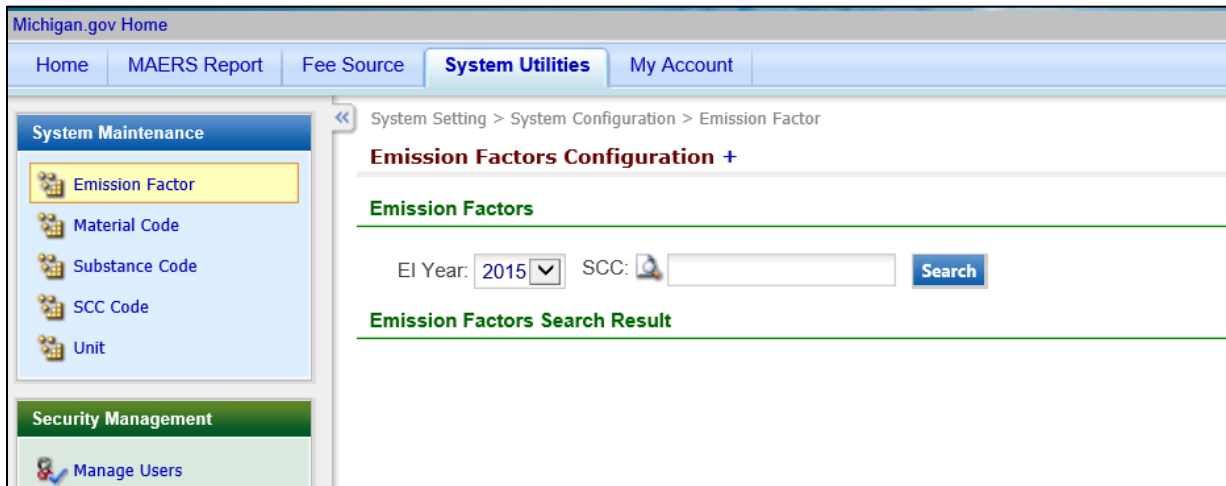


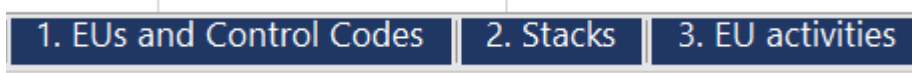
Figure 16-1: System Utilities Tab

17 Supplemental Control Template

The spreadsheet is used to gather details about the control devices in your MAERS report. MAERS does not have the available fields to collect the data, so the additional required data regarding control devices is collected on the Supplemental Control Template (SCT). Beginning reporting year 2023, the SCT spreadsheet will no longer be needed as the data will be collected in the new system. The transition to the new system will be easier if you make sure your 2022 SCT is accurate and complete.

DO:

1. Look at the Facility Info column to verify you have the correct SCT
2. Look for the What to Do and How to columns on each tab on the SCT for assistance
3. Review the data presented
4. Make edits to the pre-filled data where allowable, add or remove data
5. Submit your completed current year SCT



Tabs 1-3 are pre-filled. The data on tabs 1-3 is from the previous year MAERS report. These tabs are pre-filled prior to the AQD having **current** reporting year data. These tabs are locked on purpose and cannot be edited. See *Changing the Pre-Filled Data on the SCT* and the Tab 4 – Optional Notes section below if you need to make any edits to the locked data on Tabs 1 - 3.

REVIEWING THE PRE-FILLED DATA ON THE SCT

Tab 1 – EUs and Control Codes

The pre-filled data on this tab is the data entered in MAERS the previous reporting year. This is the data on the Emissions Unit Tab in MAERS. It includes the Emission Unit ID (name); the emission unit description; the Reporting Group ID if the emission unit is part of one; any control codes associated to the emission unit; and the control code description.

DO: Review the data on this tab for accuracy and think about the following items.

- Emission units that need to be added to or removed from your MAERS Report.
- Control devices that need to be added to or removed from any emission units.
- Do any emission units need to be added to or removed from a Reporting Group (RG)? RGs are used to group EUs with the same activities for simplifying reporting; when grouping EUs into an RG, one material throughput and one emission total for the group is used, versus reporting individual throughputs and emissions for each individual EU. Reporting Groups are optional and are not supported in MiEnviro Portal. If you remove an EU from an RG, please inform InfoMAERS@Michigan.gov when you are ready for your updated SCT.

Tab 2 – Stacks

The pre-filled data on this tab is the data entered in MAERS the previous reporting year. This is the data on the Emission Unit tab in MAERS. It includes the Emission Unit ID, Reporting Group ID and the Stack ID associated with an emission unit.

DO: Review the data on this tab for accuracy and think about the following items.

- Stacks that need to be added to or removed from your MAERS Report.
- Are the stacks associated with all the emission units that use it?

Tab 3 – EU Activities

The pre-filled data on this tab is the data entered in MAERS the previous reporting year. This is the data on the Activity & Emissions tab in MAERS. It includes the Emission Unit ID or Reporting Group ID, the Activity ID also known as the Source Classification Code (SCC), and the Activity Description.

DO: Review the data on this tab for accuracy and think about the following items.

- Is there a better activity code/SCC that describes the activity?
- Is there an additional activity the emission unit is used for that does not appear on the list?
- Does the emission unit no longer do the activity listed?

CHANGING THE LOCKED PRE-FILLED DATA ON TABS 1-3

4. OPTIONAL NOTES

The data on Tabs 1-3 is locked and cannot be edited in the Excel spreadsheet. If the data needs to be changed on the spreadsheet, the data on the **current** year MAERS Report needs to be updated.

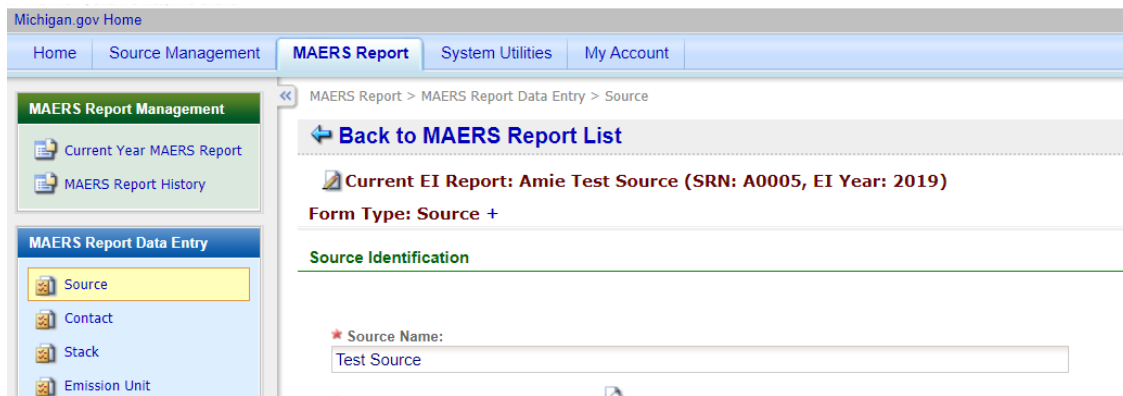
Tab 4 – Optional Notes

1. Make changes to your current year report in MAERS.
2. Submit the MAERS report if it is ready or share your draft report with the AQD. See instructions below to share your draft report.
3. Make notes using Tab 4 to indicate the changes made to the current report. This will allow the AQD to identify the changes and update the SCT faster.
4. Email InfoMAERS@Michigan.gov to request an updated SCT and specify if the report has been submitted or if the draft report is shared.

5. Attach the SCT to the email if updates were made to it. Attaching the draft SCT will allow the AQD to update it without you losing the work you may have already completed. If the SCT is not attached to the email request, the AQD will send you an updated **original** spreadsheet.

SHARE YOUR DRAFT MAERS REPORT WITH THE AQD

1. Enter the MAERS Report
2. Click on the Source tab
3. Check the box at the top right of the screen next to “Share Draft MAERS Report with AQD Staff?”
4. Scroll to the bottom of the page and click “Save Source”.



COMPLETING THE SCT



Tabs 5, 6, 7, and 8 are the worksheets you need to complete to submit the SCT to the AQD. Tab 8 was optional for 2021 emission reports but is now required information. The USEPA now requires that control efficiency for at least one pollutant be attached to a Control Device Pathway. This can be done by listing a Control Efficiency for a Control Device Pathway or for a Control Device within the Control Device Pathway. Note that the only way to use control efficiencies when calculating emissions in the new system, MiEnviro, will be if the control efficiency is attached to a control device or control device pathway. Tab 8 allows you to make this connection. For column specific instructions, hover the cursor over the red triangle at the top right corner of the cell with the column title.

	A	B
	Control Device Pathway ID	Control Device Pathway Description
1		
2		
3		

Tab 5 –CD and CP Reference

DO: Complete this tab before completing tabs 6, 7, and 8.

This tab has two sets of information on one tab. On the left is the AQD CD ID, the Control Device ID, Control Code, Control Code Description, and Control Device Comments columns. On the right side of the tab is the AQD CP ID, the Control Device Pathway ID and the Control Device Pathway Description. The purpose of this tab is to create a list of Control Device IDs and a list of Control Device Pathway IDs. The IDs created in these two columns on this tab will be used to populate drop-down lists for use on Tabs 6, 7 and 8. These are reference lists only on this tab and the lists do not relate to each other.

AQD CD ID	Control Device ID	Control Code	Control Code Description	Control Device Comments	AQD CP ID	Control Device Pathway ID	Control Device Pathway Description
CD0001	CDFilter	FLTR,FABRIC	Filter, Fabric		2	(None)	This is ONLY for Tab 7 use.
CD0002	CDRTO1	REGEN THERM	Regenerative Thermal Oxidizer		3	CP0001	CPBOILER
CD0003	CDFilter2	FLTR,FABRIC	Filter, Fabric		4	CP0002	CP01

Tab 5 - Column A – AQD CD ID – This column will contain a generic AQD ID that counts up for each control device listed. Like the AQD EU ID in MAERS, it is alphanumeric, starting with letters and then a four-digit number. For example, the first control device will have the AQD CD ID of CD0001. This information is here to keep data consistent between years should you decide to rename your control devices. This is a locked field. When a Control Device ID is added in column B, column A will remain blank. The AQD will assign a new AQD CD ID after submittal and quality assurance checks have been performed.

Tab 5 - Column B – Control Device ID – You will create this ID and enter it. It should be unique and should start with the letters CD, then followed by letters and numbers that will identify each unique control. It should be a maximum of 20 characters long. This column creates one list of control device IDs. This list populates drop-down lists on Tabs 6 and 8.

Example: CDRTO or CDRTO1 or CDRTO2

Most sources will already have information filled in from the previous reporting year. The names can be changed by selecting the cell and typing. However, the IDs need to be kept in the same order because they are associated with the data in Column A.

If you want to delete a control device, then type DELETE over the Control Device ID and it will be removed by the AQD later. Remember to make any corresponding edits in Tabs 6 and 8.

Tab 5 - Column C – Control Code - Select a control code from the drop-down list.

To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell.

The drop-down list of control codes comes from the control devices selected in the **previous** year’s MAERS Report on the Emission Unit tab/form. They also appear on *Tab 1 EUs and*

Control Codes on the SCT. If you need a code in the drop-down list that is not there, follow the steps under Changing the Locked Pre-Filled data on Tabs 1-3 above.

Tab 5 - Column D – Control Code Description

The description in this column will automatically populate when a selection is made in column B. This is a brief description of the control code. This is a locked field. Note that changing data in the pre-filled rows of Column C will not automatically change the data in Column D, as a control device does not change its type unless a previous error was made. If a new control device needs to be defined, then add it at the bottom of the list and Column D will populate correctly.

Tab 5 - Column E – Control Code Comments

Enter any comments to help further identify or clarify the control code.

Tab 5 - Column F – This black out column divides the left and right halves of the worksheet.

The halves do not relate to each other and are separated by the black column to assist visually.

Tab 5 - Column G

This column is used to identify the Excel row as is done automatically on an Excel worksheet at the far left. Due to there being two separate lists, column F reiterates the row numbering for ease of use.

Tab 5 - Column H – AQD CP ID – This column will contain a generic AQD ID that counts up for each control device pathway listed. Similar to the AQD EU ID in MAERS, it is alphanumeric, starting with letters and then a four-digit number. For example, the first control device pathway will have the AQD CP ID of CP0001 (this was previously CDP0001, but we have updated these with USEPA to have 2 letters and four numbers to match the format of the other AQD IDs). This information is here to keep data consistent between years should you decide to rename your control device pathways. This is a locked field. When a Control Device Pathway ID is added in column I, column H will remain blank. The AQD will assign a new AQD CP ID after submittal and quality assurance checks have been performed.

Tab 5 - Column I – Control Device Pathway ID - You will create this ID and enter it. It should be unique and should start with the letters CP, then followed by letters and numbers that will identify each unique control. This column creates one list of control device pathway IDs. This list populates drop-down lists on Tabs 6, 7 and 8.

Example: CPBoiler or CP01 or CP02

Most sources will already have information filled in from the previous reporting year. The names can be changed by selecting the cell and typing. However, the IDs need to be kept in the same order because they are associated with the data in Column H.

If you want to delete a control device pathway, then type DELETE over the Control Device Pathway ID and it will be removed by the AQD later. Remember to make any corresponding edits in Tabs 6, 7, and 8.

Tab 5 - Column J – Control Device Pathway Description – Enter a description of the control device pathway to help further identify or clarify the control device pathway.

Tab 6 – Control Device Pathway

This tab establishes the order in which the control devices appear within the emission unit process and the percentage of flow of emissions that go through each control device. The flow of emissions may be for a single control device or several control devices in a specific step (sequence) of the pathway.

Enter a row of data for each pathway. If a pathway has more than one control device, enter a row for the pathway for each control device. So, if a pathway has two control devices, enter two rows of data. If a pathway has four control devices, enter four rows of data.

	A	B	C	D	E	F
	Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
1						
2						
3						
4						

Tab 6 - Column A - Control Device Pathway ID

Select from the drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. If you need to add a selection to the drop-down list, go to Tab 5, Column I and enter a Control Device Pathway ID.

Tab 6 - Column B – Control Device Pathway Description

This cell will populate when a selection is made in Column A. It corresponds to Column J in Tab 5.

Tab 6 - Column C - Control Device ID

Select from the drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. If you need to add something to this drop-down list, go to Tab 5, Column B and enter a Control Device ID.

For each row, either Column C or Column D will have data, never both. If you are going to use a Child Pathway in a row, leave this column blank.

Tab 6 - Column D – Child Pathway ID

Select from the drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. If you need to add a selection to the drop-down list, go to Tab 5, Column I and enter a Control Device Pathway ID.

For each row, either Column C or Column D will have data, never both. If you are going to use a Control Device in a row, leave this column blank.

A Child Pathway is an already defined Control Device Pathway that fits within another Control Device Pathway. For example, CP1 contains a baghouse (CDBAGHOUSE1). Multiple emission units route emissions to DBAGHOUSE1, but one of the emission units (EU4) goes through a cyclone (CDCYCLONE) first. Most of the emission units would be associated with CP1, but EU4 will need a different pathway (CP2) that includes the cyclone and the baghouse. CP2 can be defined two different ways. It can be defined as CDCYCLONE followed by CDBAGHOUSE. Since CP1 is already defined as CDBAGHOUSE, then it can be interchanged into CP2. Therefore, the second way to define CP2 is to start with CDCYCLONE and follow it with the pathway CP1, which we will list under the Child Pathway column to show that it is within another pathway.

Use of Child Pathways is NOT required. It was provided as an option by the USEPA to potentially reduce data entry.

Note that if a Control Device Pathway does not appear in Column A, then it is not considered to be defined and it cannot be used as a Child Pathway in Column D.

Tab 6 - Column E – Sequence

- Enter the number that represents the order in which the control device appears in the process. If the control device appears in a series, the numbers will be in sequential order (1,2,3, etc.).
- If the control device is in parallel order with another control device, they should have matching numbers (1 & 1 or 2&2).
- It's possible for a control device to appear in series and parallel in a Control Device Pathway (1,2 & 2, 3, etc.)

Tab 6 - Column F – Control Device Apportionment

Indicate how much flow within the pathway that is going through each control in a sequence. The total should be 100% for each sequence number.

Within a pathway, the Control Device Apportionment should equal 100% for each sequence. Example: If there are 4 different control devices in the same pathway, and each of the 4 has a different sequence number, such as 1, 2, 3, 4, the Control Device Apportionment amount for each sequence should be 100%. If the sequence number is the same, such as 2 & 2, the Control Device Apportionment could be 50% for one control device and 50% for the other control device within the same pathway. For the sequence 2 & 2, the sequence needs to total 100%.

	A	B	C	D	E	F
1	Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
2	CPCOAL1	Unique control pathway for each vent from the coal handling operation.	CDFLTR1		1	100.00%
3	CPCOAL2	Unique control pathway for each vent from the coal handling operation.	CDFLTR2		1	100.00%
4	CPBLR3	Boiler 3 control pathway	CDLNB3		1	100.00%
5	CPBLR3	Boiler 3 control pathway	CDCINJ		2	100.00%
6	CPBLR3	Boiler 3 control pathway	CDLMINJ		3	100.00%
7	CPBLR3	Boiler 3 control pathway	CDFLTR3		4	100.00%
8	CPRTO1	Control pathway for topcoat RTO.	CDRTO1		1	100.00%
9	CPTOPCOAT	Control pathway for the topcoat booth.	CDWTRCRTN1		1	100.00%
10	CPTOPCOAT	Control pathway for the topcoat booth.	CDADSORB1		2	50.00%
11	CPTOPCOAT	Control pathway for the topcoat booth.	CDADSORB2		2	50.00%

The USEPA will not accept a control device apportionment less than 1%.

Tab 7 – Stack Apportionment

This tab establishes the percent of emissions going to each stack. On this tab you will enter a row of data for each activity that the EU, or RG, is recorded as doing in MAERS. Enter more than one row of data if the emissions from the activity route through more than one stack or go through more than one control device pathway. Tab 5 must be completed before Tab 7.

Tab 7 - Column A – Emission Unit ID

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from what is entered in the previous year MAERS report.

If emissions from an EU are reported through a Reporting Group, then do not enter the EU in this column.

Tab 7 - Column B – Reporting Group ID

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from what is entered in the previous year MAERS report. Not all EUs will have a Reporting Group ID. Utilizing the Reporting Group in MAERS is optional and no longer recommended.

Entries for RGs do not need to be repeated for each EU within the RG. More than one row is needed only if the RG is associated with more than one activity, pathway, or stack/release point.

Tab 7 - Column C – Activity ID

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from what is entered in the previous year MAERS report.

The activity selected should match the activities connected to the EU or RG in Tab 3. If you want to add or change an activity that is associated with an EU or RG, then you must first make the corrections in MAERS and request an updated SCT.

Tab 7 - Column D – Control Pathway ID

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from what is entered in Tab 5, Column I. If there is not a Control Device Pathway for an activity, select "(None)" from the drop-down list.

Tab 7 - Column E – Stack ID/Release Point

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from what is entered in the previous year MAERS report. Select "(Fugitive)" when there is not a stack.

"(Fugitive)" must still be selected even if there is a stack, if the stack is not associated with the EU in MAERS. For example, EU1 has a stack called SV1 associated with it in MAERS, and EU2 has none. However, at the facility, both EU1 and EU2 exhaust out SV1. Since SV1 is not associated with EU2 in MAERS, it must be listed as "Fugitive" in the SCT. A stack can be associated with an EU in MAERS through the Emission Unit tab. Once EU2 was selected, you would scroll down to the Emission Unit Stack section and add SV1 to the EU. Then you would need to follow the instructions to get an updated SCT. Once the connections have been made in MAERS, it would be acceptable to connect both EUs to the stack.

If a stack is associated with an emission unit in MAERS, but emissions from that emission unit are not release through it, then the stack should be disassociated from the emission unit in MAERS and then the SCT should be updated accordingly. To disassociate a stack from an emission unit in MAERS, navigate to the emission unit, scroll down to the Emission Unit Stack section, click the red "X" button next to the Stack ID, and save the form.

Tab 7 - Column F – Stack Apportionment

Stack apportionment should equal 100% for each activity an EU, or RG, performs (or/also at least one for each row in Tab 3). If there is only one row for the activity, then the Stack Apportionment is 100%. If there is more than one row for an activity, then the Stack Apportionment for those rows added together should equal 100%. The USEPA will not accept a stack apportionment less than 1%. If there are more than 100 entries for the activity, then please discuss the situation with the AQD.

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EUACOAL		30501008	CPCOAL1	SVCOALHAND1	50.00%
EUACOAL		30501008	CPCOAL2	SVCOALHAND2	50.00%
EUACOAL		30501049	(None)	(Fugitive)	100.00%
EUBLR3		10200202	CPBLR3	SVBLR3	100.00%
	RGCOATING	40201606	CPTOPCOAT	SVTOPRTO	50.00%
	RGCOATING	40201606	CPTOBSERVATION	SVTOPOBSERVATION	15.00%
	RGCOATING	40201606	CPCOATOVENS	SVOVENRTO	35.00%
	RGCOATING	40290013	CPRTO1	SVTOPRTO	100.00%

Note that stack apportionment is where capture efficiency is documented. Capture efficiency is when not all the generated emissions flow to the associated control device or pathway. For example, if EU1 has a hood that collects emissions and sends them to a baghouse (in control device pathway CP1) and out stack SV1, then the amount of emissions that the hood collects and routes to the baghouse would be its capture efficiency. The uncaptured emissions are usually fugitive emissions as they never get routed to a stack. If the capture efficiency is 90%, then one row for EU1 would have CP1 and SV1 with a Stack Apportionment of 90% and another row for EU1 would have “(None)” for the Control Device Pathway and “(Fugitive)” for the Stack with a Stack Apportionment of 10%.

Tab 8 – Optional Control Efficiency – Completing this tab is optional – We will use the information provided on this tab, but an SCT will not be considered incomplete if this tab is not completed. This tab is utilized to collect the percentage of a specific pollutant reduced by a control device or control device pathway. You may need to reference manufacturer’s documents on the control device or use stack test data to calculate the control efficiency.

	A	B	C	D	E	F
1	Control Device ID	Control Device Pathway ID	Pollutant Name	CAS Number	% Reduction Efficiency	Comments
2						
3						
4						
5						

It is also possible that you may have already listed a control efficiency in your MAERS report. It can be difficult to align the MAERS data with the SCT because the control efficiency in the MAERS report is associated with the emission unit’s or reporting group’s activity and not with its control device or control device pathway. We will attempt to translate the MAERS data into the SCT; however, listing it here will allow us to make sure that it is being listed for the correct control device or control device pathway.

The control efficiency can be entered as either an overall efficiency for a control device pathway or as a specific control efficiency for each control device. If no data is entered in this tab, then it will be assumed that any control efficiencies used in MAERS are the overall efficiency for the control device pathway connected to that activity.

Note that the only way to use control efficiencies when calculating emissions in the new system will be if the control efficiency is attached to a control device or control device pathway. Tab 8 allows you to make this connection. The data will be migrated to the new system from this tab.

Tab 8 - Column A – Control Device ID

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from Tab 5, Column B.

If the control efficiency is being reported as an overall efficiency for the control device pathway, then do not enter a Control Device ID.

Tab 8 - Column B – Control Device Pathway ID

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from what is entered on Tab 5, Column I.

If the control efficiency is being reported as specific control efficiencies for each control device, then do not enter a Control Device Pathway ID.

Tab 8 - Column C – Pollutant Name

Select from drop-down list. To access the drop-down list, click the cell to add data to, then click the arrow at the right of the cell to view the list, then highlight and click on the selection to populate the cell. The selections in the drop-down list are from the reference data in MAERS.

Tab 8 - Column D – CAS Number

The CAS Number will automatically populate when a selection is made in column C. Not all pollutants have a CAS Number, but they all have a Name, which is why Column C is the selectable field. The CAS Numbers are from the reference data in MAERS.

Tab 8 - Column E - % Reduction Efficiency

Enter the percentage amount the control device reduces the emission for a specific pollutant. This entry can be 5%-99.99. If there are multiple control devices that together reduce emissions of a specific pollutant by more than 5%, but one of them individually would be less than 5%, then the control efficiency should be reported at the control device pathway level.

This percentage does not include capture efficiency, it is the percentage that is reduced for the emissions that enter the control device or pathway.

Tab 8 - Column F - Comments

This field was requested by Michigan's industrial stakeholders. However, it is important to note that any information contained in this column will not be sent to the EPA. There is no associated field in the EPA's inventory system.

Tab 9 – Reverence Data

This tab is for AQD use only. It is used to assist in the function of the spreadsheet.

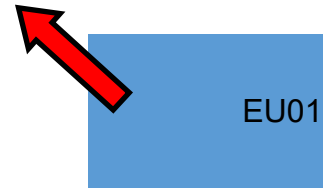
Example Facility Scenarios

Note: The following scenarios do not reflect the updated nomenclature, such as the revision to the Control Device Pathway ID to reflect two letters and four numbers. However, the concepts remain valid.

 The arrow represents the flow of emissions.

EXAMPLE 1

- One Emission Unit (EU)
- No stack
- No control device
- No control device pathway



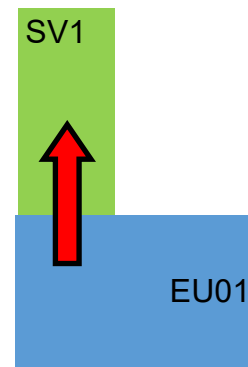
For emission units without control devices, do not fill anything out for Tabs 5, 6, or 8.

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01	Leave blank if there isn't one	300199306		Fugitive	100

EXAMPLE 2

- One EU
- One release point or stack
- No control device
- No control device pathway
- Emissions from EU to the stack



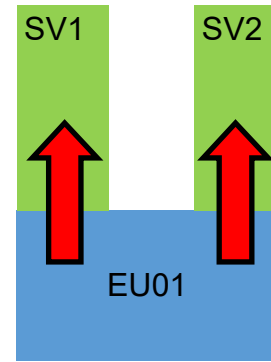
For emission units without control devices, do not fill anything out for Tabs 5, 6, or 8.

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01	Leave blank if there isn't one	300199306		SV1	100

EXAMPLE 3

- One EU
- Two release points or stacks
- No control device
- No control device pathway
- Emissions flow from the EU to both stacks.



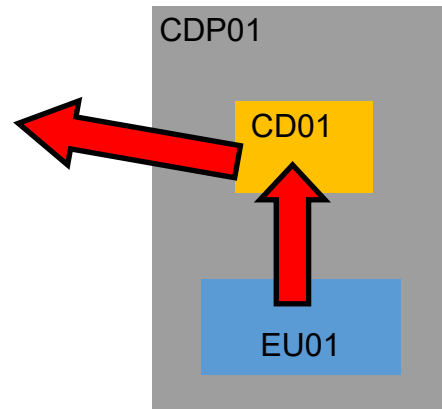
For emission units without control devices, do not fill anything out for Tabs 5, 6, or 8.

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306		SV1	50
EU01		300199306		SV2	50

EXAMPLE 4

- One EU
- One control device
- No stack or release point
- One control device pathway
- Emissions flow from the EU to the control device.



TAB 6—Control Device Pathway

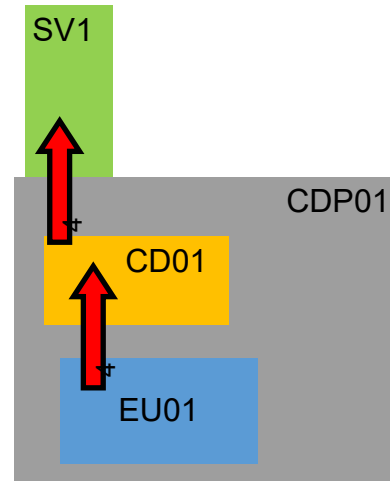
A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	Fugitive	100

EXAMPLE 5

- One EU
- One control device
- One release point or stack
- One control device pathway
- Emissions flow from the EU to the control device to the stack.



TAB 6—Control Device Pathway

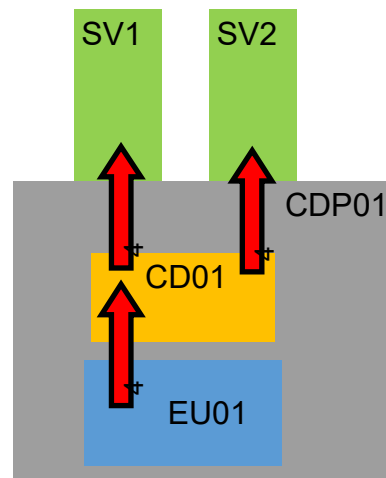
A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	SV1	100

EXAMPLE 6

- One EU
- 2 release points or stacks
- One control device
- One control device pathway
- The emissions flow from the EU to the control device to both stacks.



TAB 6—Control Device Pathway

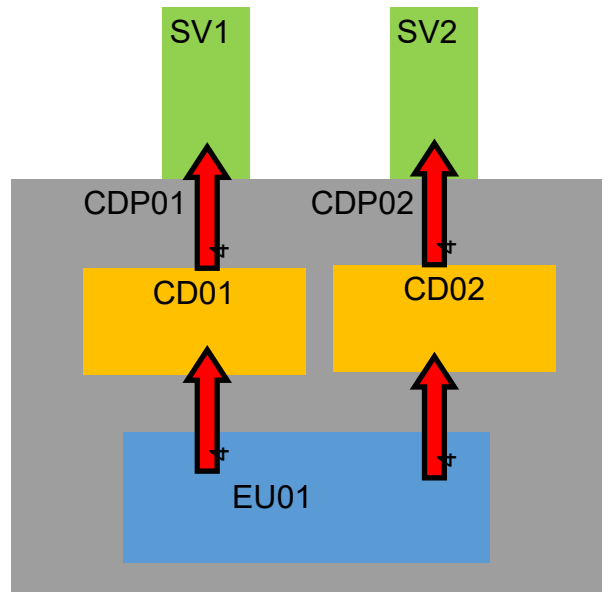
A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	SV1	50
EU01		300199306	CDP01	SV2	50

EXAMPLE 7

- One EU
- Two release points or stacks
- Two control devices
- Two control device pathways
- Emissions flow from the EU to 2 control devices then from the control devices to two stacks.



TAB 6—Control Device Pathway

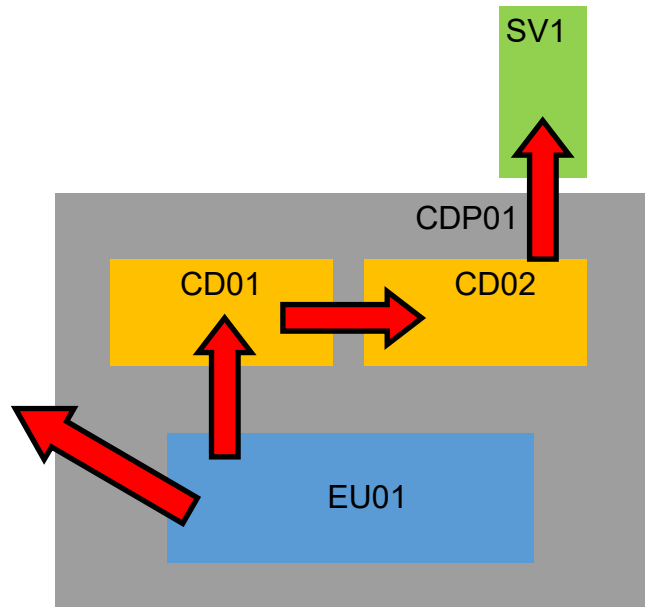
A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100
CDP02		CD02		1	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	SV1	50
EU01		300199306	CDP02	SV2	50

EXAMPLE 8

- One EU
- Two release points, one of which is a stack
- Two control devices
- One control device pathway
- Some emissions do not flow from the EU to a control device. These emissions are fugitive.
- Some emissions flow from the EU to a control, then to a second control device and then to a stack.
- The fugitive emissions plus the stack emissions should equal 100%.



TAB 6—Control Device Pathway

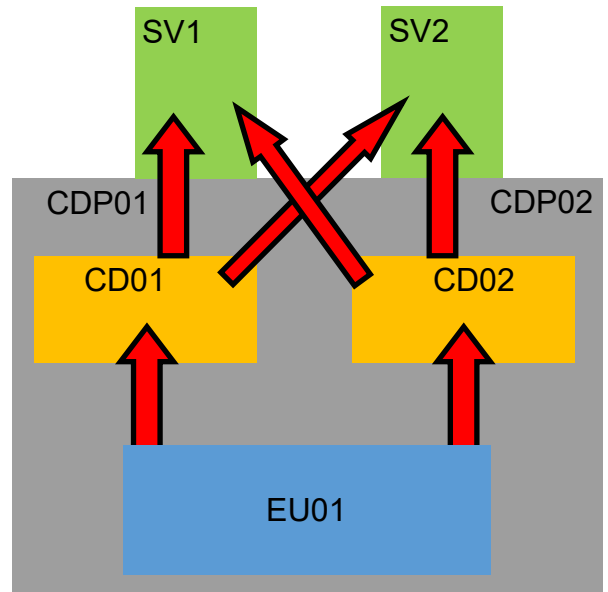
A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100
CDP01		CD02		2	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	SV1	90
EU01		300199306		Fugitive	10

EXAMPLE 9

- One EU
- Two stacks
- Two control devices
- Two control device pathways
- Emissions flow from EU to 2 control devices
- Emissions flow from each control device to two stacks



TAB 6—Control Device Pathway

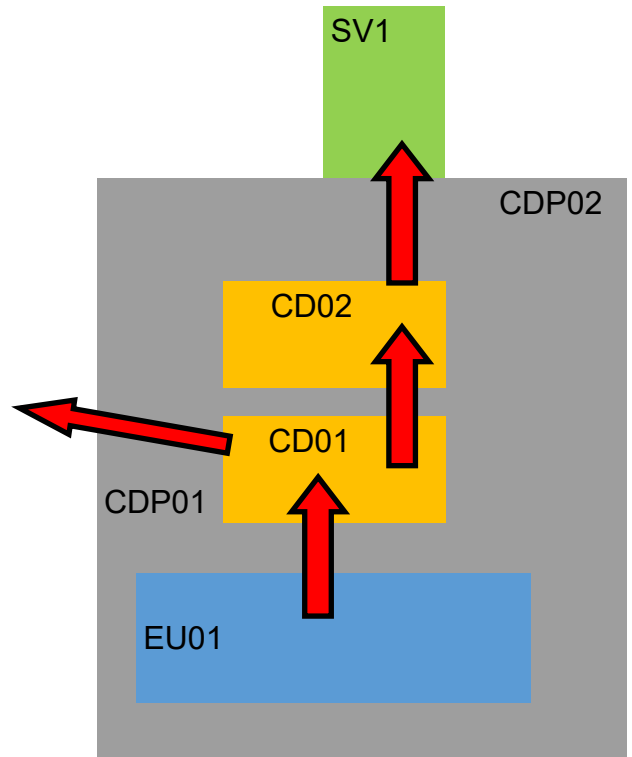
A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100
CDP02		CD02		1	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	SV1	25
EU01		300199306	CDP01	SV2	25
EU01		300199306	CDP02	SV1	25
EU01		300199306	CDP02	SV2	25

EXAMPLE 10

- One EU
- One stack
- Two control devices
- Two control device pathways
- Emissions flow from the EU to the first control device and some emissions are released as fugitive and some emissions continue to flow to a second control device
- Emissions flow from the second control device to a stack



TAB 6—Control Device Pathway

A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100
CDP02		CD01		1	100
CDP02		CD02		2	100

or

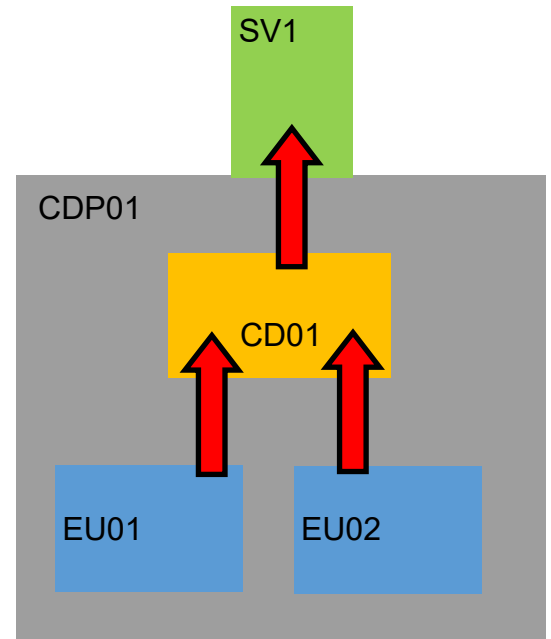
A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100
CDP02			CDP01	1	100
CDP02		CD02		2	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/ Release Point	Stack Apportionment
EU01		300199306	CDP01	Fugitive	10
EU01		300199306	CDP02	SV1	90

EXAMPLE 11

- Two EUs
- One stack
- One control device
- One control device pathway
- Emissions flow from both EUs to one control device
- Emissions flow from the control device to one stack



TAB 6—Control Device Pathway

A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	100

TAB 7—Stack Apportionment

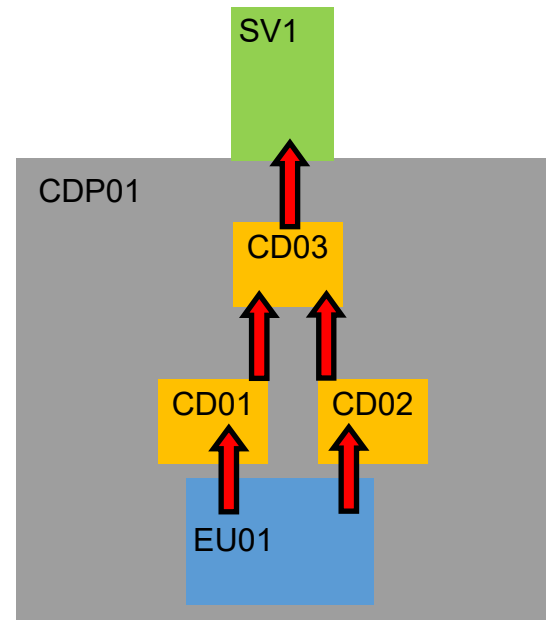
A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	SV1	100
EU02		300199306	CDP01	SV1	

The EUs can be listed separately as shown above **or** combined in a Reporting Group, if a Reporting Group was used in the MAERS report, as show below. When using a Reporting Group ID, do not enter a Emission Unit ID.

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
	RG01	300199306	CDP01	SV1	100

EXAMPLE 12

- One EU
- One stack
- Three control devices
- One control device pathway
- Emissions flow from the EU to two control devices then to a third control device
- Emissions flow from the third control device to the stack



TAB 6—Control Device Pathway

A	B	C	D	E	F
Control Device Pathway ID	Control Device Pathway Description	Control Device ID	Child Pathway ID	Sequence	Control Device Apportionment
CDP01		CD01		1	50
CDP01		CD02		1	50
CDP01		CD03		2	100

TAB 7—Stack Apportionment

A	B	C	D	E	F
Emission Unit ID	Reporting Group ID	Activity ID	Control Device Pathway ID	Stack ID/Release Point	Stack Apportionment
EU01		300199306	CDP01	SV1	100

Appendix A: Acronyms & Definitions

AQD	Air Quality Division
BTU	British Thermal Unit
CAA	Clean Air Act
CEM.....	Continuous Emission Monitor
CO	Carbon Monoxide
EGLE	Environment, Great Lakes, and Energy (Michigan Department of)
GPS	Positioning System
HAP	Hazardous Air Pollutant
MAERS.....	Michigan Air Emissions Reporting System
NAICS.....	North American Industrial Classification System
NOx	Nitrogen Oxides
Pb	Lead
ROP	Renewable Operating Permit
SCC	Source Classification Code
SRN	State Registration Number
Sox	Sulfur Oxides
USEPA	U.S. Environmental Protection Agency
UTM.....	Universal Transverse Mercator <i>Grid Coordinates</i>
VOC.....	Volatile Organic Compounds

The following definitions are provided to help you better understand the concepts in this workbook. For more information about these terms or for the legal definitions, please consult the Michigan Administrative Rules for Air Pollution Control (herein referred to as the Michigan Rules), specifically Michigan Rules R 336.1101 – R 336.1123.

Actual Emission: Amount of air contaminants emitted from a facility or emission unit over a given period of time, usually expressed as tons of air contaminant emitted per year (tons/yr).

Air Contaminant: A dust, fume, gas, mist, odor, smoke, vapor, or any combination thereof.

AQD Source ID (SRN): The alphanumeric State Registration Number (SRN) assigned by the AQD. AQD Source IDs are unique to a source and are comprised of a letter followed by four numbers; e.g. A1497.

Carbon Monoxide (CO): Colorless, odorless gas that is toxic because of its tendency to reduce the oxygen-carrying capacity of the blood. (See criteria pollutants.)

Control Device: Equipment that captures and/or destroys air contaminants, e.g. scrubber.

Criteria Pollutants: Pollutants for which National Ambient Air Quality Standards (NAAQS) are set. The following pollutants must be reported because 1) they are a criteria pollutant, or 2) they result in the formation of a criteria pollutant:

- Carbon Monoxide (CO)
- Lead (PB)
- Non-Methane Organic Compounds (NMOC)*
- Oxides of Nitrogen - NOx
- Particulate Matter (PM)
- Particulate Matter less than 10 Microns (PM10, Primary)
- Particulate Matter less than 10 Microns, Filterable not water soluble (PM10, FLTRABLE)
- Particulate Matter less than 2.5 Microns (PM2.5), Filterable not water soluble (PM2.5, FLTRBL)
- Particulate Matter less than 2.5 Microns (PM2.5), Sum of Condensables & Filterable (PM2.5, PRIMARY)
- Sulfur Dioxide (SO2)
- Total Non-Methane Organic Compounds (TNMOC)*
- Total Organic Compounds (TOC)*
- Volatile Organic Compounds (VOC) **

* These pollutants can be used as VOC surrogates if VOC emission factor is not available.

** Emissions of VOC contribute to ozone formation, for which a NAAQS has been set.

Device: Any process equipment, control equipment, or stack.

Dismantle: To physically remove or render permanently inoperable.

Emission Factor: A factor that is used to estimate air emissions by multiplying it by the material throughput expressed in the appropriate unit code.

Emission Unit: A device or group of devices that operate together with a dependency between devices and emits or has the potential to emit an air contaminant. An emission unit contains at least one process device and may contain control devices and related stacks. Examples of an emission unit include:

- a single degreaser (degreaser only)
- a topcoat painting line (booths, ovens, incinerator, stacks)
- a chemical manufacturing process (reactors, condensers, dryers, baghouse, stacks)
- a coal-fired boiler (boiler, stack)

Emission Unit Activity: The flow of material into and out of processes or between devices that may discharge to the atmosphere. Materials are related to processes by Source Classification Codes (SCC).

Fee-Subject Facility: As defined in Section 324.5501(k) of Public Act 451 of 1994, as amended, certain sources of air pollutants are required to pay fees. In practice, these include major sources subject to the Renewable Operating Permit Program; sources subject to federal

New Source Performance Standards; and area sources subject to National Emission Standards for Hazardous Air Pollutants.

Exempt Emission Unit: *(See Rule 201 Exempt Emission Unit)*

Grandfathered: With respect to Michigan permitting requirements, an emission unit installed prior to August 15, 1967, and not subsequently modified or reconstructed, is considered “grandfathered”.

Hazardous Air Pollutant (HAP): The 188 chemicals listed at 112(b) of the Clean Air Act.

Lead: A heavy metal that is hazardous to human health when breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations. (See criteria pollutants.)

Material: Any product or substance, including elements, compounds, or a mixture thereof, in any physical state (solid, liquid, gas) including more than one physical state at the same time, that flows through a process. Examples include fuel, coating, solvent, metal, grain, chemical, product.

NAICS: This code is a numerical indicator of the primary type of activity at a business.

Nitrogen Dioxide (NO₂): An oxide of nitrogen that is regulated because it can cause lung and eye irritation, can contribute to the formation of acid rain, and reacts in the atmosphere to form ozone and smog. (See criteria pollutants.)

Operator’s ID: An identification assigned by a source representative. IDs will begin with a two-letter prefix plus a combination of up to 14 letters, numbers, or keyboard characters. Any combination of letters, numbers, and keyboard characters can be used to create IDs. Spaces are not allowed within the Operator’s ID.

Operator’s ID Prefix	Represents
EU	MAERS Operator’s Emission Unit Prefix
RG	MAERS Operator’s Reporting Group ID Prefix
SV	Operator’s Stack/Vent ID Prefix

Opt-Out Permit: A Permit to Install that limits a facility’s emissions to below the major source thresholds, thus avoiding the Renewable Operating Permit (ROP) Program.

Ozone: At ground level, ozone is a noxious pollutant and is the major component of smog. The source of ozone is the chemical reaction of volatile organic compounds (VOC) and nitrogen oxides (NO_x). Health effects of ozone are breathing problems, reduced lung function, asthma, eye irritation, stuffy nose, and reduced resistance to colds and other infections. Environmental effects of ozone can damage plants and trees. Smog also causes reduced visibility. Ozone is

regulated by the control of VOCs and NO_x, which are precursors to ozone. (See criteria pollutants.)

Particulate Matter (PM): Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog found in air emissions. (See Criteria Pollutants.)

PM-10: Standard for measuring the amount of solid or liquid matter suspended in the atmosphere. PM-10 refers to the amount of particulate matter smaller than ten micrometers in diameter. The smaller PM-10 particles penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and people with respiratory diseases.

Portable Source: A facility, process, or process equipment that commences operation and is located at a geographic site for not more than twelve consecutive months. These are NOT devices that are moved around within a stationary source (e.g., welding machines).

Process Device: Equipment or activity that generates air contaminants.

Reporting Group: (See also page 40) An optional grouping of emission units created for simplification of reporting emissions. These emission units should have similar emission limits, stack parameters, operational parameters, emission factors, etc. For ROPs, the reporting groups should be consistent with the flexible group identified in the source ROP. Examples of reporting groupings include:

- A grouping of several emission units (for example, all of the coating lines or boilers) for an overall emission limit.
- A grouping of several emission units (for example, material handling systems or printing lines) with common activities and emission characteristics.

Rule 201 Exempt Emission Unit: An emission unit that is specifically exempted from Rule 201 in Rules 280 –290 of the Michigan Air Pollution Control Rules and not subject to Rule 278.

Source: A facility or plant that contains an emission unit(s). A facility is assigned a State Registration Number (SRN) and has a physical location.

Source Classification Code (SCC): An eight-digit numeric code used to describe an activity occurring at an emission unit or reporting group.

Stack: A conduit for air contaminants.

Sulfur Dioxide (SO₂): A heavy, pungent, colorless, gaseous air pollutant formed primarily by industrial fossil fuel combustion processes. (See criteria pollutants.)

Volatile Organic Compound (VOC): Any compound or mixture of compounds of carbon that participates in smog-formation reactions, except for those listed in Rule 122(f) of the Michigan Air Pollution Control Rules that do not contribute appreciably to the formation of ozone.

Appendix B: Fee Calculation

Air Quality Fee Calculations

The Clean Air Act requires each state to develop a Title V, [Renewable Operating Permit \(ROP\)](#) Program supported by air quality fees. An annual air quality fee program for Michigan, including the specific fee structure, was established by the legislature in 1993. The fee program was reauthorized by Governor Whitmer on November 14, 2019.

The Michigan legislation establishes the following formula for calculating the annual air quality fee for each fee-subject facility:

$$\text{ANNUAL FEE} = \text{FACILITY CHARGE} + \text{EMISSIONS CHARGE}$$

A **facility charge** is used in the fee formula and is based on the classification, or Category, of the facility. The categories were revised during the fee reauthorization and are as follows:

- Category A:** Facilities that are "major" under Title III of the Clean Air Act (have the potential to emit 100 tons or more per year of any pollutant) and are also Electric Providers, not including municipally-owned electric generators.
- Category B:** Facilities that are "major" under Title III of the Clean Air Act (have the potential to emit 100 tons or more per year of any pollutant) and are not Electric Providers, with the exception of municipally-owned electric generators with emissions over 646 tons per year. Municipally-owned electric generators with emissions under 646 tons per year are categorized as ordinary Category B facilities.
- Category C:** Facilities that are "major" under Title I of the Clean Air Act (have the potential to emit 10 tons of any one hazardous air pollutant or 25 tons of any combination of hazardous air pollutants).
- Category D:** Facilities that are subject to a federal New Source Performance Standard.
- Category E:** Facilities that have a Title V Opt-Out Permit.
- Category F:** Facilities which are subject to a federal Maximum Available Control Technology (MACT) standard but are not "major" under Title I or Title III. Category F facilities are assessed a \$250 facility charge with no emissions charge.

$$\text{ANNUAL FEE} = \text{FACILITY CHARGE} + \text{EMISSIONS CHARGE}$$

Category Type	Emissions Range (tons)	Facility Charge	Emissions Charge/Ton
A	≥ 6100	\$45,000.00	\$53.00
A	≥ 1000	\$30,000.00	\$53.00
A	≥ 100	\$15,750.00	\$53.00
A	≥ 60	\$12,500.00	\$53.00
A	≥ 6	\$10,500.00	\$53.00
A	≥ 0	\$5,250.00	\$53.00
B	≥ 2000	\$21,000.00	\$53.00
B	≥ 200	\$15,750.00	\$53.00
B	≥ 60	\$10,500.00	\$53.00
B	≥ 6	\$7,500.00	\$53.00
B	≥ 0	\$5,250.00	\$53.00
B - Municipal Utility Only	≥ 646	\$50,000	N/A
C	≥ 60	\$4,500.00	\$53.00
C	≥ 6	\$3,500.00	\$53.00
C	≥ 0	\$2,500.00	\$53.00
D	≥ 60	\$2,500.00	\$53.00
D	≥ 6	\$2,000.00	\$53.00
D	≥ 0	\$1,795.00	\$53.00
E	≥ 60	\$1,795.00	\$0.00
E	≥ 6	\$250.00	\$0.00
E	≥ 0	\$250.00	\$0.00
F	N/A	\$250.00	\$0.00

Please note the facility charge may vary from one year to the next depending on the actual emissions reported, even within the same fee category.

Standards for which Category F fees are assessed include any of the following:

MACT Source Categories	Code of Federal Regulations
Nonferrous Foundries: Aluminum, Copper and other Area Sources	40 CFR 63 Subpart ZZZZZZ (6Z)
Asbestos	40 CFR 61 Subpart M
Chemical Manufacturing Industry (area sources): CMAS	40 CFR 63 Subpart VVVVVV (6V)
Chromium Electroplating	40 CFR 63 Subpart N
Ethylene Oxide Emissions Standards for Sterilization Facilities	40 CFR 63 Subpart O
Halogenated Solvent Cleaning	40 CFR 63 Subpart T
Iron and Steel Foundries (area sources)	40 CFR 63 Subpart ZZZZZ
Dry Cleaning	40 CFR 63 Subpart M
Primary Nonferrous Metals Area Sources-Zinc, Cadmium and Beryllium (area sources)	40 CFR 63 Subpart GGGGGG (6G)
Secondary Aluminum	40 CFR 63 Subpart RRR

Emissions Charge

Please note the facility charge may vary from one year to the next depending on the actual emissions reported, even within the same fee category.

In addition to the facility charge, an **emissions charge** is calculated per ton of emissions reported for Category A through D facilities. This emissions charge is calculated at \$53.00 per ton of actual emissions.

For Category A and B facilities, the following caps limit the quantity of individual and total pollutants which are charged for:

- Category A - Electric Providers is 1,500 tons per pollutant or 6,100 tons total
- Category B - Major Criteria Pollutants is 1,250 tons per pollutant or 4,500 tons total

Fee-subject air pollutants are PM₁₀, NO_x, SO₂, VOCs, ozone, lead (Pb), and any air contaminant regulated under Section 111 (Standards of Performance for New Stationary Sources) or Section 112 (Hazardous Air Pollutants) of Part A, Title I of the Clean Air Act, or Title III (Hazardous Air Pollutants) of the Clean Air Act. Carbon monoxide is not a fee-subject air pollutant.

By July 1, the AQD sends a copy of the previous calendar year emission inventory information with an estimate of billable pollutants to all Category A through D facilities. The estimates provide facility owners and operators with an opportunity to review the reported emissions data for accuracy. Any changes must be submitted to the district offices by September 1 to ensure the forthcoming air quality fees are based on the correct information. Fee bills are then mailed in January.

Appendix C: Rules Cited

Note: Many of the rules provided are at the sub-rule level. You may view the complete rule by accessing the Michigan Air Pollution Control Rules via the Internet at: Michigan.gov/Air.

R 336.202 Annual reports. (11/11/86)

Rule 2. The department shall require an annual report from a commercial, industrial, or governmental source of emission of an air contaminant if, in the judgment of the department, information on the quantity and composition of an air contaminant emitted from the source is considered by the department as necessary for the proper management of the air resources. The information shall be specified by the department and shall be submitted on forms available from the department. The information shall include factors deemed necessary by the department to reasonably estimate quantities of air contaminant discharges and their significance. The report shall be submitted to the department not later than March 15 of each year following notification by the department that the report is required. The notification shall be in writing and shall be mailed to the owner or operator of the source of emission not less than 45 days before the deadline for submitting the report.

R 336.1106 Definitions; F.

Rule 106. As used in these rules

(l) **"Fugitive emissions"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

R 336.116 Definitions; P

Rule 116. As used in these rules

(m) **"Potential to Emit"** the definition of "potential to emit" can be accessed via the internet at www.michigan.gov/documents/deq/deq-aqd-air-rules-apc-PART1_314759_7.pdf.

R 336.1119 Definitions; S.

Rule 119. As used in these rules

(e) **"Significant"** means a rate of emissions for the following air contaminants which would equal or exceed any of the following:

- (i) Carbon monoxide - 100 tons per year.
- (ii) Nitrogen oxides - 40 tons per year.
- (iii) Sulfur dioxide - 40 tons per year.
- (iv) Particulate matter - 25 tons per year.

- (v) PM-10 - 15 tons per year.
- (vi) Volatile organic compounds - 40 tons per year.
- (vii) Lead - 0.5 tons per year.

R 336.1201 Permits to install.

Rule 201. (1) A person shall not install, construct, reconstruct, relocate, alter, or modify any process or process equipment, including control equipment pertaining thereto, which may emit an air contaminant, unless a permit to install which authorizes such action is issued by the department. A person who plans to install, construct, reconstruct, relocate, alter, or modify any such process or process equipment shall apply to the department for a permit to install on an application form approved by the department and shall provide the information required in R 336.1203.

(2) If the proposed equipment is of such magnitude that some phases of construction such as site clearing, foundations, and associated structures have to commence before issuance of the permit to install, the person applying for the permit to install may apply to the department for approval of the location of the proposed equipment. The department shall act on such application within a reasonable time and shall not approve the proposed location unless it is reasonably convinced that the equipment, when completed, shall be in compliance with these rules and state law and that the commencement of installation before issuance of the permit to install is not prohibited by the clean air act. Construction shall not commence without approval of the location. If a permit to install has not been requested within 3 years of the date of approval of the location pursuant to this subrule, the location approval shall become void unless otherwise authorized by the department as a condition of the location approval.

(3) A permit to install may be approved subject to any condition, specified in writing, that is reasonably necessary to assure compliance with all applicable requirements.

(4) If a person decides not to install, construct, reconstruct, relocate, alter, or modify the process or process equipment as authorized by a permit to install, the person, or the authorized agent pursuant to R 336.1204, shall notify the department, in writing, and upon receipt of the notification by the department, the permit to install shall become void. If the installation, reconstruction, relocation, or alteration of the equipment, for which a permit has been issued, has not commenced within, or has been interrupted for, 18 months, then the permit to install shall become void unless otherwise authorized by the department as a condition of the permit to install. "Commenced," for purposes of this subrule, means undertaking a continuous program of on-site fabrication, installation, erection, or modification, or having entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed within a reasonable time.

(5) Upon issuance of a permit to install, the emissions from the process or process equipment allowed by the permit to install shall be included in the potential to emit of the

stationary source. Upon the physical removal of the process or process equipment, or upon a determination by the department that the process or process equipment has been rendered inoperable, the permit to install shall become void and the emissions allowed by the permit to install shall no longer be included in the potential to emit of the stationary source.

(6) Except as provided in subrule (8) of this rule, operation of the process or process equipment is allowed by the permit to install until 1 of the following actions is taken:

(a) If the permit to install is issued for a process or process equipment located at a stationary source subject to the renewable operating permit requirements of R 336.1210, trial operation is allowed if the equipment performs in accordance with the terms and conditions of the permit to install and until the appropriate terms and conditions of the permit to install have been incorporated into the renewable operating permit as a modification pursuant to R 336.1216 or upon renewal pursuant to R 336.1217. Upon incorporation of the appropriate terms and conditions into the renewable operating permit, the permit to install shall become void.

(b) If the permit to install was issued for a process or process equipment located at a stationary source that is not subject to the renewable operating permit requirements of R 336.1210, then the permit to install remains in effect if the equipment performs in accordance with the terms and conditions of the permit. The permit to install shall become void upon either of the following actions:

(i) The process or process equipment is reconstructed, relocated, altered, or modified pursuant to subrule (1) of this rule and a new permit to install authorizing the action is approved by the department.

(ii) The process or process equipment is physically removed from the stationary source or there is a determination by the department that the process or process equipment has been rendered inoperable.

(7) The department may require as a condition of a permit to install 1 or both of the following notification requirements:

(a) Not more than 30 days after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by the permit to install, unless a different period is specified in the permit to install, the person to whom the permit to install was issued, or the authorized agent pursuant to R 336.1204, shall notify the department, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, alteration, or modification is considered to occur not later than commencement of trial operation of the process or process equipment.

(b) Within 18 months after completion of the installation, construction, reconstruction, relocation, alteration, or modification authorized by the permit to install, or 18 months after the effective date of this rule, whichever is later, unless a different period is specified in the permit to install, the person to whom the permit to install was issued, or the authorized agent

pursuant to R 336.1204, shall notify the department, in writing, of the status of compliance of the process or process equipment with the terms and conditions of the permit to install. The notification shall include all of the following:

- (i) The results of all testing, monitoring, and recordkeeping performed by the stationary source to determine the actual emissions from the process or process equipment and to demonstrate compliance with the terms and conditions of the permit to install.
- (ii) A schedule of compliance for the process or process equipment.
- (iii) A statement, signed by the person owning or operating the process or process equipment, that, based on information and belief formed after reasonable inquiry, the statements and information in the notification are true, accurate, and complete.

(8) If evidence indicates that the process or process equipment is not performing in accordance with the terms and conditions of the permit to install, the department, after notice and opportunity for a hearing, may revoke the permit to install consistent with section 5510 of the act. Upon revocation of the permit to install, operation of the process or process equipment shall be terminated. Revocation of a permit to install is without prejudice and a person may file a new application for a permit to install that addresses the reasons for the revocation.

R 336.1278 Exclusion from exemption.

Rule 278. (1) The exemptions specified in R 336.1280 to R 336.1290 do not apply to either of the following:

- (a) Any activity that is subject to 40 C.F.R. §52.21, prevention of significant deterioration regulations, or R 336.1220, nonattainment new source review regulations.
- (b) Any activity that results in an increase in actual emissions greater than the significance levels defined in R 336.1119.

For the purpose of this rule, “activity” means the concurrent and related installation, construction, reconstruction, relocation, or modification of any process or process equipment.

(2) The exemptions specified in R 336.1280 to R 336.1290 do not apply to the construction of a new major source of hazardous air pollutants or reconstruction of a major source of hazardous air pollutants, as defined in and subject to 40 C.F.R. §63.2 and §63.5(b)(3), national emission standards for hazardous air pollutants.

(3) The exemptions specified in R 336.1280 to R 336.1290 do not apply to a construction or modification as defined in and subject to 40 C.F.R. part 61, national emission standards for hazardous air pollutants.

(4) The exemptions in R 336.1280 to R 336.1290 apply to the requirement to obtain a permit to install only and do not exempt any source from complying with any other applicable requirement or existing permit limitation.

R 336.1278a Scope of permit exemptions.

Rule 278a. (1) To be eligible for a specific exemption listed in R 336.1280 through R 336.1290, any person owning or operating an exempt process or exempt process equipment shall be able to provide information demonstrating the applicability of the exemption. The demonstration shall be provided within 30 days of a written request from the department. The demonstration may include the following information:

- (a) A description of the exempt process or process equipment, including the date of installation.
- (b) The specific exemption being used by the process or process equipment.
- (c) An analysis demonstrating that R 336.1278 does not apply to the process or process equipment.

(2) The records required by this rule shall be provided in addition to any other records required within a specific exemption.

R 336.1280 – R336.1291

Rules 280 through 291 can be accessed at Michigan.gov/Air (click on “Laws and Rules” then “Air Pollution Control Rules”).

OR

Download the Permit to Install Exemption Handbook at www.michigan.gov/documents/deq/deq-ess-caap-pti-exemptionbooklet_253795_7.pdf.

Appendix D: Hazardous Air Pollutant (HAP) Emissions Calculator

Each HAP estimated in the MAERS is created following a tiered procedure. The procedure invokes each tier in series (Tier 1 – 5), once an estimate is calculated, the subsequent tiers are ignored.

Tier	Description
1	<p>Facility Specific Emission Factor</p> <p>The MAERS Coordinator can add facility specific hazardous air pollutant (HAP) emission factors for specific activities/SCC codes. Identification and approval of appropriate facility specific emissions factors is done through consultation with technical AQD staff. The emissions inventory contact or the primary preparer for a facility can identify facility specific HAP emission factors for consideration by sending the specific requests, including supporting documentation, to InfoMAERS@michigan.gov. Requests should be made as soon as possible to be considered for the next MAERS reporting season. Requests made after November 1 will <i>not</i> be included in the next MAERS Report.</p> <p>Information required for facility specific factors: SCC; Pollutant; Emission Factor; Exponent; and Supporting Documentation</p> <p>Where facility specific emission factors are supplied, the emissions calculator will use the facility specific emission factor for that pollutant.</p>
2	<p>Controlled HAP Emission Factor, SCC, pollutant, and control device match</p> <p>If there is a MAERS emission factor that matches the SCC, pollutant and control device, the emissions calculator will use the controlled emission factor instead of the uncontrolled factor.</p> <p>See MAERS System Utilities for list of controlled Emission Factors or go to MAERS On-line Resources, MAERS Reference Tables, MAERS Emission Factor Table.</p>
3	<p>Uncontrolled HAP Emission Factor using particulate matter control efficiency provided by facility user</p> <p>If there is a control efficiency entered on the Activity and Emissions Form, Emissions tab for any criteria emission form of particulates (Group A), the entered control efficiency will also be applied along with the uncontrolled emission factor for pollutants in Group B listed on page 3, if applicable.</p>
4	<p>Uncontrolled MAERS HAP Emission Factor using default control efficiency</p> <p>If there is a MAERS emission factor, the emissions calculator will use the default control efficiency for the pollutant and control device if applicable.</p> <p>See www.michigan.gov/documents/deq/deq-aqd-era-haps_tier4_default_ce_pollutant_508584_7.pdf for a list of pollutant and control device default control efficiencies. The default control efficiencies were compiled by performing a literature review.</p>
5	<p>Uncontrolled MAERS HAP Emission Factor</p> <p>If there is an uncontrolled MAERS emission factor for the specific SCC and pollutant, the emissions calculator will use the MAERS emission factor, no control efficiency is applied.</p>

See the **Emission Comparison – SCC Detail Report** under the AQD Calculated Emissions to see which tier was used to perform the HAPs emission calculation.

Michigan Air Emissions Reporting System (MAERS)																	
Emissions Comparison - SCC Details																	
AQD Source ID (SRN): Z9001										Reporting Year: 2015							
Source Name: Z9001																	
Source Locations: 555 W MAIN STREET , LANSING, MI, 48909																	
AQD Emission Unit ID	RG0015				Emission Unit ID	RG-OVENS/BOILER				Dismantle Date			Remove Date				
SCC Code	SCC Reference Description				Remove Date	Material Code				Material Throughput			Unit Code	VOC Wt%	Sulfur Wt%	Ash Wt%	Density
10200602	10-100 Million Btu/hr					NATURAL GAS				555			MMCF				
SOURCE REPORTED EMISSIONS										AQD CALCULATED EMISSIONS							
Pollutant	Amount	Unit	Emis Basis	Factor	Exp	Factor Unit	Cnt%	Tier	Pollutant	Amount	Unit	Factor	Exp	Factor Unit			
AMMONIA	1776.0000	LB	MAERS EF	3.2	0	LB/MMCF		5	AMMONIA	1776.0000	LB	3.2	0	LB/MMCF			
CO	46620.0000	LB	MAERS EF	8.4	1	LB/MMCF		5	CO	46620.0000	LB	8.4	1	LB/MMCF			
LEAD	0.2800	LB	MAERS EF	5	-4	LB/MMCF		5	LEAD	0.2800	LB	5	-4	LB/MMCF			
NOX	55500.0000	LB	MAERS EF	1	2	LB/MMCF		5	NOX	55500.0000	LB	1	2	LB/MMCF			
PM10,PRIMARY	4218.0000	LB	MAERS EF	7.6	0	LB/MMCF		5	PM10,PRIMARY	4218.0000	LB	7.6	0	LB/MMCF			
PM2.5,PRIMRY	4218.0000	LB	MAERS EF	7.6	0	LB/MMCF		5	PM2.5,PRIMRY	4218.0000	LB	7.6	0	LB/MMCF			
SO2	333.0000	LB	MAERS EF	6	-1	LB/MMCF		5	SO2	333.0000	LB	6	-1	LB/MMCF			
VOC	3052.5000	LB	MAERS EF	5.5	0	LB/MMCF		5	VOC	3052.5000	LB	5.5	0	LB/MMCF			
ACENAPHTHEN		LB						5	ACENAPHTHEN	0.0009990	LB	1.8	-6	LB/TON			
ACENAPHTHYL		LB						5	ACENAPHTHYL	0.0009990	LB	1.8	-6	LB/TON			
ANTHRACENE		LB						5	ANTHRACENE	0.001332	LB	2.4	-6	LB/TON			
ARSENIC		LB						5	ARSENIC	0.1110	LB	2	-4	LB/TON			
BENZ(A)ANTHR		LB						5	BENZ(A)ANTHR	0.0009990	LB	1.8	-6	LB/TON			

If you have questions related MAERS HAPs emission calculator, contact the Environmental Assistance Center at InfoMAERS@michigan.gov or **800-662-9278**.

SUBSTANCES SUBJECT TO PARTICULATE MATTER CONTROL EFFICIENCY

Group A

- PM10,PRIMARY
- PM10,FLTRBLE
- PM2.5,PRIMRY
- PM2.5,FLTRBL

Group B

- ANTIMONY
- ARSENIC
- ASBESTOS
- BENZ(GHI)PE
- BERYLLIUM
- CADMIUM
- CALCIUM
- CHROMIUM
- CHROMIUM VI
- COBALT
- COPPER
- LEAD
- MANGANESE
- NICKEL
- PM10,PRIMARY
- PM2.5,PRIMRY
- SELENIUM

Appendix E: MAERS Contact Information

Phone: 800-662-927

E-mail: InfoMAERS@michigan.govWeb: Michigan.gov/EGLEmaers

District Locations

Use the list below to locate the county name in which the source is physically located. For portable sources operating at locations in multiple districts, submit the report and/or contact the district office serving the county in which the company's home office is located.

Cadillac District

120 W Chapin Street, Cadillac, MI 49601-2158
231-775-3960 | Fax: 231-775-4050

E-Mail : cadmaers@michigan.gov

Counties: Benzie, Grand Traverse, Kalkaska, Lake, Leelanau, Manistee, Mason, Missaukee, Osceola, Wexford

Gaylord District

2100 West M-32, Gaylord, MI 49735-9282
989-731-4920 | Fax: 989-731-6181

E-Mail: gaymaers@michigan.gov

Counties: Alcona, Alpena, Antrim, Charlevoix, Cheboygan, Crawford, Emmet, Montmorency, Oscoda, Otsego, Presque Isle, Roscommon

Grand Rapids District

350 Ottawa Ave NW, Unit 10
Grand Rapids, MI 49503
616-356-0500 | Fax: 616-356-0202

E-Mail : grmaers@michigan.gov

Counties: Barry, Ionia, Kent, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Ottawa

Jackson District

State Office Building, 4th Floor
301 E Louis B Glick Highway
Jackson, MI 49201-1556
517-780-7690 | Fax: 517-780-7855

E-Mail : jacmaers@michigan.gov

Counties: Hillsdale, Jackson, Lenawee, Monroe, Washtenaw

Kalamazoo District

7953 Adobe Road, Kalamazoo, MI 49009-5026
269-567-3500 | Fax: 269-567-3555

E-Mail : kalmaers@michigan.gov

Counties: Allegan, Berrien, Branch, Calhoun, Cass, Kalamazoo St. Joseph, or Van Buren

Marquette District

1504 West Washington Street, Marquette, MI 49855

906-228-4853 | Fax: 906-228-4940

E-Mail : marmaers@michigan.gov

Counties: Entire Upper Peninsula

Bay City District

Saginaw Bay District Headquarters
401 Ketchum St., Suite B
Bay City, MI 48708

989-894-6200 | Fax: 989-891-9237

E-Mail : baymaers@michigan.gov

Counties: Arenac, Bay, Clare, Gladwin, Huron, Iosco, Isabella, Midland, Ogemaw, Saginaw, Sanilac, Tuscola

Lansing District

P.O. Box 30242
Constitution Hall, 525 W. Allegan St. 1S
Lansing, MI 48909-7760

517-284-6651 | Fax 517-241-3571

E-Mail: lanmaers@michigan.gov

Counties: Clinton, Eaton, Genesee, Gratiot, Ingham, Lapeer, Livingston, Shiawassee

Warren District

Southeast Michigan District Headquarters
27700 Donald Court, Warren, MI 48092-2793
586-753-3700 | Fax: 586-753-3731

E-Mail : semaers@michigan.gov

Counties: Macomb, Oakland, St. Clair

Detroit District

Cadillac Place, Suite 2-300
3058 West Grand Blvd.
Detroit, MI 48202-6058

313-456-4700 | Fax: 313-456-4692

E-Mail: detmaers@michigan.gov

Counties: Wayne