MAERS
MICHIGAN AIR EMISSIONS REPORTING SYSTEM

USER GUIDE
A Guide for Completing an Electronic MAERS Report

Michigan Department of Environmental Quality
800-662-9278

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Capacity Information Section
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). The MAERS is a Web-based application accessible to participating regulated facilities via the Internet. Participating facility access privileges are administered 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 Air Quality Division (AQD) 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 United States Environmental Protection Agency (U.S. EPA) 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.

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 below.
- Any facility receiving notification from the AQD to report.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide (CO)</td>
<td>100 tons per year</td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>40 tons per year</td>
</tr>
<tr>
<td>Sulfur dioxide (SO₂)</td>
<td>40 tons per year</td>
</tr>
<tr>
<td>Particulate matter (PM)</td>
<td>25 tons per year</td>
</tr>
<tr>
<td>Particulate matter (PM-10)</td>
<td>15 tons per year</td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>10 tons per year</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0.5 tons per year</td>
</tr>
</tbody>
</table>

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.
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 an assigned 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.

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:

**The DEQ, Office of Public Affairs and Outreach**

The Office of Public Affairs and Outreach (PAO) helps small and medium-sized 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 PAO include telephone consultations, guidance publications, and training workshops. PAO is 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 www.michigan.gov/environmentalassistance.

**DEQ MAERS Web Site**

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 www.michigan.gov/deqmaers.

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**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 Tutorials

Short video tutorials to assist you with various aspects of the MAERS are at www.michigan.gov/maers, click on “MAERS Assistance”.

InfoMAERS@michigan.gov

The AQD maintains this e-mail box to accept, track and administer MAERS-related correspondence.

2 Minimum System Requirements

Participating facilities must be able to access the MAERS web site (http://maers.state.mi.us/facility).

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
- Microsoft Internet Explorer 6.0 or higher is required and available for download at www.microsoft.com/download

3 Getting Started

Access the MAERS Website http://maers.state.mi.us/facility. 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.

![Figure 3-1 MAERS Website Login Page](image)
Self-Registration

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

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 the Environmental Assistance Center at 800-662-9278 or send your inquiry to InfoMAERS@michigan.gov.

Account Creation +

Select a Role

- **Primary Preparer**
  Primary MAERS user that manages MAERS account information and can edit and submit MAERS report. This person must be employed at the source. Each source must have ONE, and only one, Primary Preparer.

- **Secondary Preparer**
  MAERS user, other than the Primary Preparer, that can edit MAERS data and is employed at a source. Secondary Preparer cannot access facility MAERS information until assigned to the source by Primary Preparer.

- **Consultant**
  MAERS user that can edit MAERS data, but is not employed at a source. Consultant cannot access facility MAERS information until assigned to the source by the Primary Preparer.

- **Reviewer**
  MAERS user that can view but not edit MAERS data. Reviewer cannot access facility MAERS information until assigned to the source by the Primary Preparer.

Figure 3-3: Select Role in Self-Registration

- **Primary Preparer** – Each facility must have one Primary Preparer. This user must be associated with the facility and cannot be a consultant. This user manages the facility’s online MAERS account, assigns additional users, can complete or make 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 someone 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 assigns them to 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 similar to 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 assigns them to the facility. A Consultant can be associated with multiple facilities.

• **Reviewer** – This user can only view the MAERS Report once the Primary Preparer assigns them to 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).

![Figure 3-4: Account Information](image)

**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](image)
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: Complete the Electronic Signature Agreement Form (Figure 3-6).
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 and provide you a PIN. The PIN serves as the Primary Preparer’s signature and will be used to submit the MAERS Report.

Step 7: Receive e-mail confirmation.

Soon after you register, you will receive an e-mail from InfoMAERS@michigan.gov that includes your MAERS user name and password.

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 [http://maers.state.mi.us/facility](http://maers.state.mi.us/facility). 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.
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:

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

Question 2: What is your favorite book?
Answer:

Question 3: What is the name of the hospital where you were born?
Answer:

Question 4: What is your best friend’s last name?
Answer:

Question 5: What is the last name of your favorite teacher?
Answer:

Save
Step 3: Security Information

After you click the Request Access Code button you will receive an email with a 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. Primary Preparers can use this section to view their PIN and update their security questions and answers.

When you are finished entering your information, click on “Save My Account”.

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 has the ability to submit. When you are finished entering your information, click on “Save My Account.”

If you have questions or need assistance, please call the Environmental Assistance Center at 800-662-9278 or email InfoMAERS@michigan.gov.

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.

![Figure 3-9: MAERS Report List](image)

**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.
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.

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).

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).
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.

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.
Reporting Issues/Problems in MAERS

If you encounter a problem while using the MAERS send an e-mail to InfoMAERS@michigan.gov.
5 MAERS Report Form Completion

Forms Overview

The Michigan Air Emissions Reporting System (MAERS) consists of six web-based forms. Each of the forms can be accessed from the menu on the left pane (Figure 5-1). To access a form, click on the link. Most data entered in the MAERS during the previous year will be imported into the forms for the current reporting year. Even if a form is pre-filled, 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.

Below is a brief description of each of the forms.

- **Source Form**: This form records the source location and owner information (see page 16). Every source must complete this form.

- **Contact Form**: This form records the contact information (see page 19). 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 (see page 21). For each stack that must be reported, complete a Stack Form (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 24). An Emission Unit form must be completed for each emission unit that must be reported. Page 25 provides guidance on how to determine whether an emission unit should be included in 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 33). It may be used to simplify reporting for multiple emission units with common activities.

- **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 emission unit or reporting group for the reporting year (see page 35). 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.

**Tip**: 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.

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.

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**Figure 6-1: Source Identification**

![Source Identification](image)

**Figure 6-2: NAICS Search**

![NAICS Search](image)
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.

   ![Figure 6-3: Source Identification Section (continued)](image)

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.

7. **Horizontal Collection Method**: From the drop-down list, select the collection method used to determine the latitude and longitude listed.

   ![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, please send an e-mail to InfoMAERS@michigan.gov with the correct information.]

   To verify the coordinates entered it is recommended that you use an online mapping tool such as Google Maps (www.google.com/maps), which displays latitude and longitude after entering a location.

**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.
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. **Contact 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.

**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 existing information needs to be updated or new information needs to be entered, complete the required fields in this section (Figure 7-1). If the pre-filled information is accurate continue to the Stack form.

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 existing information needs to be updated or new information needs to be entered, 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.

<table>
<thead>
<tr>
<th>Fee Invoice Contact</th>
<th>Emission Inventory Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy Emission Inventory Contact Address</td>
<td></td>
</tr>
</tbody>
</table>

### Fee Invoice Contact

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>John</td>
</tr>
<tr>
<td>Middle Initial</td>
<td></td>
</tr>
<tr>
<td>Last Name</td>
<td>Smith</td>
</tr>
<tr>
<td>Title</td>
<td>Accounts Manager</td>
</tr>
<tr>
<td>Street Address 1</td>
<td>555 W. Main St</td>
</tr>
<tr>
<td>Street Address 2</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Lansing</td>
</tr>
<tr>
<td>State</td>
<td>MI</td>
</tr>
<tr>
<td>Zip Code</td>
<td>48903</td>
</tr>
<tr>
<td>Country</td>
<td>United States</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:jsmith@samplecorp.com">jsmith@samplecorp.com</a></td>
</tr>
<tr>
<td>Phone Number</td>
<td>1237880</td>
</tr>
<tr>
<td>Fax Number</td>
<td></td>
</tr>
</tbody>
</table>

*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.

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).

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 (see page 25). However, this means that only the Stack Form does not have to be completed – all the other MAERS forms are still required.

Table 8-1: Stack Reporting Threshold Levels

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>THRESHOLD LEVEL (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide (CO)</td>
<td>100</td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>40</td>
</tr>
<tr>
<td>Sulfur dioxide (SO2)</td>
<td>40</td>
</tr>
<tr>
<td>Particulate matter (PM)</td>
<td>25</td>
</tr>
<tr>
<td>Particulate matter &lt; 10 microns (PM10)</td>
<td>15</td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>10</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

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, the 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 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.

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.

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 sources.

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 (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 (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 but rather 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)

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.

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.

**What 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. The guidelines below and the decision tree on page 26 will help you decide when to include an emission unit in your MAERS Report.

1. **If the emission unit is not Rule 201 exempt:** It must be reported (this includes grandfathered emission units).

2. **If the emission unit is Rule 201 exempt:** It must be reported if it meets any one of the following:
   - The Rule 201 exempt emission unit is included in a Permit to Install, Opt-Out Permit, or Renewable Operating Permit (ROP).
   
   **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.
   
   - The facility is subject to the ROP Program and the Rule 201 exempt emission unit is subject to a process-specific emission limit or standard (e.g. Maximum Achievable Control Technology or New Source Performance Standards).
   - The facility is subject to the ROP Program and the actual emissions from the Rule 201 exempt emission unit exceed 10 percent of significant, as defined in Rule 119(e) (see Table 9-2).
   - The Rule that exempts the emission unit is identified in Table 9-1 and the emission unit capacity or material use exceeds the corresponding threshold included in the table.

**TIP:** If an emission unit is included in an ROP, it must be included in the MAERS Report.
What Emission Units Need to be Reported?

Use this decision tree to determine if an emission unit at a facility subject to MAERS reporting must be reported in MAERS.

Does the Facility have a Renewable Operating Permit (ROP)?

**NO**

- Report EU

**YES**

- Is the Emission Unit (EU) Rule 201 exempt?
  - Yes
  - No
  - Report EU

**NO**

- Is the EU in an Opt Out Permit or Permit to Install?
  - Yes
  - No
  - Not required to report EU

**NO**

- Is the EU in Table 9-1?
  - Yes
  - No
  - Report EU

**NO**

- Does the EU Meet the criteria and Table 9-1?
  - Yes
  - No
  - Not required to report EU

**NO**

- is the EU exempt in Table 9-1?
  - Yes
  - No
  - Not required to report EU

**YES**

- Is the Emission Unit (EU) Rule 201 Exempt?
  - Yes
  - No
  - Report EU

**YES**

- Is the EU in the ROP?
  - Yes
  - No
  - Report EU

**YES**

- Is the EU Subject to a process-specific emission limit or standard with applicable limit/restriction? (e.g. MACT standard)?
  - Yes
  - No
  - Report EU

**YES**

- Are the EU emissions >10% of significant?**
  - Yes
  - No
  - Not required to report EU

**YES**

- Does the EU meet the criteria in Table 9-1?
  - Yes
  - No
  - Not required to report EU

**NO**

- Report EU

---

* An EU is **Rule 201 exempt** if it meets an exemption in Rule 280 – 291 and is not subject to Rule 278. An EU that is not Rule 201 exempt should be in a permit to install or be grandfathered (installed and not changed, prior to August 1967).

** See definition of “Significant” in **Rule 119(e)**, Table 9-1
### Table 9-1: Rule 201 Exempt Emission Units that must be reported in MAERS*

<table>
<thead>
<tr>
<th>RULE 201 EXEMPTION</th>
<th>REPORTING REQUIREMENT</th>
</tr>
</thead>
</table>
| 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.  
*Total annual throughput of cleaner = (cleaner used) – (cleaner reclaimed as waste)*                                                                           |
| 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 cold cleaners having a total annual throughput greater than 1,000 gallons of cleaner.  
*Total annual throughput of cleaner = (cleaner used) – (cleaner reclaimed as waste)*                                                                           |
| 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 [www.michigan.gov/air](http://www.michigan.gov/air) (click on “State Air Laws and Rules” then “Part 2 Exemptions”).

Table 9-1 specifies when certain Rule 201 exempt emission units must be reported 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, they would not have to be reported.

**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

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Significant Level (Rule 119(e)) tons/year</th>
<th>10% of Significant Level tons/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide (CO)</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>Sulfur dioxide (SO2)</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>Particulate matter (PM)</td>
<td>25</td>
<td>2.5</td>
</tr>
<tr>
<td>PM-10</td>
<td>15</td>
<td>1.5</td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0.5</td>
<td>0.05</td>
</tr>
</tbody>
</table>

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 or needs to be updated, 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](image)
**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.

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-PAINTBOOTHES, 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.

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](image)

**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

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 25 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, additional control device codes may be added. Follow the steps below to add a control device.

(a) After the first control device code has been selected, 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.

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) After the first Stack ID has been selected, Click the "+" icon in the grid view.
(b) Another field will appear. Select another Stack ID.

**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.

If you want to delete emission unit information, follow the steps below.

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.
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.

**Important Terms**

**Reporting Group:** Reporting groups are created for simplification of reporting emissions for a group of emission units that have common 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.

**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 Identification**

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

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. RGBOILERS).

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, the 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.

- 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.

- 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](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."

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.

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 have 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.
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.
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 then 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).

![Material Information](image)

**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** (below) 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. Please provide a description of the units associated with your throughput in the Material Description Box.

![TIP: 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

<table>
<thead>
<tr>
<th>Material</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paint</td>
<td>10-15 LB/GAL</td>
</tr>
<tr>
<td>Varnish</td>
<td>7 LB/GAL</td>
</tr>
<tr>
<td>Water</td>
<td>8.33 LB/GAL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Pine</td>
<td>40 LB/FT3</td>
</tr>
<tr>
<td>White Oak</td>
<td>48 LB/FT3</td>
</tr>
<tr>
<td>Sugar Maple</td>
<td>43 LB/FT3</td>
</tr>
<tr>
<td>Elm</td>
<td>35 LB/FT3</td>
</tr>
</tbody>
</table>
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**

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

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

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

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

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

* 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**

<table>
<thead>
<tr>
<th>Type of Fuel</th>
<th>% Sulfur (by wt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthracite or Bituminous Coal</td>
<td>0.02-7.00</td>
</tr>
<tr>
<td>Distillate</td>
<td>0.01-2.00</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>0.00-0.05</td>
</tr>
<tr>
<td>Residual Oil</td>
<td>0.01-5.00</td>
</tr>
<tr>
<td>Wood or Wood &amp; Bark</td>
<td>0.02-5.00</td>
</tr>
<tr>
<td>Other Miscellaneous Fuels</td>
<td>0.01-7.00</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Type of Fuel</th>
<th>% Ash (by wt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthracite Coal</td>
<td>0.01-11.00</td>
</tr>
<tr>
<td>Bituminous Coal</td>
<td>0.01-25.00</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>0.00-0.05</td>
</tr>
<tr>
<td>Other Miscellaneous Fuels</td>
<td>0.01-25.00</td>
</tr>
</tbody>
</table>

**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 17).

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%.

![Portable Material Usage Schedule Section](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](image)

![Figure 11-9: Emission List](image)
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).

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

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 45.

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.

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.
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).

![Figure 11-13: Accept MAERS Calculated Values](image)

**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.

![Figure 11-14: Changing Emission Basis](image)
• **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 via the Internet at [www.epa.gov/chief](http://www.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 via the Internet at [www.epa.gov/chief](http://www.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](http://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.

   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.

**Required Supporting Documentation**

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 x 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 lbs/year x 0.19 = 24,624 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 45). 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.

**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) x 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 to scan the forms. (Figure 12-1). 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 appear 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).
If errors are encountered in the Completeness Check, this message will display: "Failed Completeness Check" (Figure 12-3).

![Figure 12-3: Error Report](image)

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](image)

2. 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.
3. All the Completeness Check errors and warnings are compiled into a report, “Completeness Check Report.” The “Completeness Check Report” can be accessed by clicking on “Other Reports” on the left panel then clicking on Completeness Check Report (Figure 12-6).
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.

![Sample of Completeness Check Report](image)

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).
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)
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).

![Submittal Authorization Form](image)

*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.

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).

![Figure 13-6: Submittal Completeness Check](image)

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

![Sample of Source Summary Report](image)

**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).
### 2009 Source Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Type</td>
<td>Source</td>
</tr>
<tr>
<td>AOCI Source ID (SIR)</td>
<td>Z9999</td>
</tr>
<tr>
<td>Source Identification</td>
<td></td>
</tr>
<tr>
<td>Source Name</td>
<td>Sample Corporation</td>
</tr>
<tr>
<td>NAICS Code</td>
<td>338399</td>
</tr>
<tr>
<td>Physical Address (Street Address 1)</td>
<td>555 W MAIN ST</td>
</tr>
<tr>
<td>County</td>
<td>INGHAM</td>
</tr>
<tr>
<td>City</td>
<td>LANSING</td>
</tr>
<tr>
<td>Zip Code</td>
<td>48906</td>
</tr>
<tr>
<td>Latitude</td>
<td>42.72539 Decimal Degrees</td>
</tr>
<tr>
<td>Longitude</td>
<td>-84.55936 Decimal Degrees</td>
</tr>
<tr>
<td>Horizontal Collection Method</td>
<td>0.30</td>
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<tr>
<td>Source Map Scale Number</td>
<td></td>
</tr>
<tr>
<td>Horizontal Accuracy Measure</td>
<td>25 Meters</td>
</tr>
<tr>
<td>Horizontal Reference Datum Code</td>
<td>02</td>
</tr>
<tr>
<td>Reference Point Code</td>
<td>102</td>
</tr>
<tr>
<td>Principal Product</td>
<td>Automobile Parts</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>102</td>
</tr>
<tr>
<td>Employer Federal Identification Number</td>
<td>123456789</td>
</tr>
</tbody>
</table>

### Owner Information

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner Name</td>
<td>SAMPLE CORP.</td>
</tr>
<tr>
<td>Mailing Address (Street Address 1)</td>
<td></td>
</tr>
<tr>
<td>Mailing Address (Street Address 2)</td>
<td></td>
</tr>
</tbody>
</table>

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

The Other Reports section includes the following reports: (Figure 14-3)

- Additions Report
- Removed Report
- Emission Comparison – Source Totals Report
- Emission Comparison – Emission Unit Totals Report
- Emission Comparison – SCC Detail Report
- Material Unit Comparison Report
- Completeness Check Report
- Threshold Comparison Report

---

**Figure 15-3 Other Reports**

1. **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.

2. **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.

3. **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 ultimately 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.

**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](image)

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

![Figure 15-5: View/Print/Export a Report](image)
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](image)
Appendix A: Acronyms & Definitions

AQD ................................. Air Quality Division
BTU ................................. British Thermal Unit
CAA ................................. Clean Air Act
CEM ................................. Continuous Emission Monitor
CO ................................. Carbon Monoxide
DEQ ................................. Department of Natural Resources and Environment (Michigan)
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
U.S. EPA ............................ U. S. Environmental Protection Agency
UTM ................................. Universal Transverse Mercator Grid Coordinates
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.

<table>
<thead>
<tr>
<th>Operator’s ID Prefix</th>
<th>Represents</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>MAERS Operator’s Emission Unit Prefix</td>
</tr>
<tr>
<td>RG</td>
<td>MAERS Operator’s Reporting Group ID Prefix</td>
</tr>
<tr>
<td>SV</td>
<td>Operator’s Stack/Vent ID Prefix</td>
</tr>
</tbody>
</table>
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 (NOx). 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 NOx, 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 38) 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 of carbon 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 Program that is 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. Based on this legislation, the first air quality fees were assessed in January 1995. The fee program was reauthorized by Governor Rick Snyder on June 10, 2015. Based on the current legislative requirements, annual fee assessments (invoices) are mailed to fee-subject facilities each year prior to January 15. Payment of the invoice is due within 90 days of the mailing.

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

\[ \text{Annual Fee} = \text{Facility Charge} + \text{Emissions Charge} \]

Facility Charge

The facility charge is an annual flat fee based on the facility category. Facility categories are described as follows:

**Category I Facility**

Category I facilities are those that have the potential to emit 100 tons per year of any air contaminant, including NOx, PM, SO2, VOCs, CO, lead, and hazardous air pollutants (HAPs), and utility sources subject to the acid rain provisions in Section 402 of Title IV of the CAA.

The annual air quality fee for a Category I facility is $5,250 plus the emissions charge.

**Category II Facility**

This is a major source as defined under Section 112 of Part A of Title I of the CAA. A Category II facility has the potential to emit 10 tons per year of any single hazardous air pollutant (HAP) or 25 tons per year of any combination of HAPs.

A Category II facility is also any facility subject to the requirements of Section 111 of Part A of Title I of the CAA, even if it is not a major source. These are facilities that are subject to the federal New Source Performance Standards.

The annual air quality fee for a Category II facility is $1,795 plus the emissions charge.

**Category III Facility**

Category III facilities are area sources (i.e., not a major source defined under Section 112) that are subject to a National Emission Standard for Hazardous Air Pollutants (NESHAP) or a Maximum Achievable Control Technology (MACT) standard promulgated under Section 112 of the Clean Air Act. For example, the majority of perchloroethylene dry cleaners are Category III facilities because they are area sources and subject to a NESHAP.

Category III facilities must pay an annual fee of $250. They do not pay an emissions charge.
Standards for which Category III fees are assessed include any of the following:

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

**Municipal Electrical Generating Facility**

For municipal electric generating facilities, the following municipal utility (MU) fees are charged:

- For sources that emit at least 730 but less than 5,000 tons -- $41,830

**Emissions Charge**

The emissions charge used in the fee formula is for Category I or II facilities and is calculated as $51.15 per ton of actual emissions. The emissions tonnage is calculated for the calendar year, two years preceding the year of the billing. For example, the 2016 billing, which is mailed in January 2016, will be based on actual emissions for the 2014 calendar year.

There are different caps on billable pollutants for those Category I and II facilities which are defined as "Electric providers" under the Clean, Renewable and Efficient Energy Act, PA 295 of 2008.

- For Category I and II facilities which are Electric Provider (EP) sources, a maximum of 6,100 tons per facility is subject to the charge. Therefore, the maximum emission charge is $312,015 for any one EP facility. However, if an EP facility has less than 6,100 tons of actual emissions the maximum amount subject to the fee is 1,500 tons per fee subject pollutant.
- For Category I and II facilities which are not EP sources, a maximum of 4,500 tons per facility is subject to the charge. Therefore, the maximum emission charge for any one non-EP facility is $230,175. However, if a facility has less than 4,500 tons of actual emissions the maximum amount subject to the fee is 1,250 tons per fee subject pollutant.

*Fee-subject air pollutants* are PM10, NOx, 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.

In early July, the AQD sends a copy of the previous calendar year emission inventory information and draft invoices to all Category I and II facilities. Facility owners and operators review the data to make sure it is correct and to report any change to their district offices by September 1. 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: www.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

(i) “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 www.michigan.gov/air (click on “Laws and Rules” then “Air Pollution Control Rules”).

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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.

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
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</table>
| 1    | Facility Specific Emission Factor  
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 emission 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 not be included in the next MAERS Report. Information required for facility specific factors: SCC; Pollutant; Emission Factor; Exponent; and Supporting Documentation  
Where facility specific emission factors are supplied, the emissions calculator will use the facility specific emission factor for that pollutant. |
| 2    | Controlled HAP Emission Factor, SCC, pollutant, and control device match  
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.  
See MAERS System Utilities for list of controlled Emission Factors or go to MAERS On-line Resources, MAERS Reference Tables, MAERS Emission Factor Table www.michigan.gov/documents/deq/deq-aqd-ERA-MAERS-EMISSION-FACTOR-TABLE_408342_7.xls |
| 3    | Uncontrolled HAP Emission Factor using particulate matter control efficiency provided by facility user  
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. |
| 4    | Uncontrolled MAERS HAP Emission Factor using default control efficiency  
If there is a MAERS emission factor, the emissions calculator will use the default control efficiency for the pollutant and control device if applicable.  
See www.michigan.gov/documents/deq/deq-aqd-ERA-HAPS_TIER4_DEFAULT_CE_POLLUANT_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. |
| 5    | Uncontrolled MAERS HAP Emission Factor  
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. |

See the Emission Comparison – SCC Detail Report under the AQD Calculated Emissions to see which tier was used to perform the HAPs emission calculation.
If you have questions related MAERS HAPs emission calculator, please send an e-mail to InfoMAERS@michigan.gov or call the Environmental Assistance Center at 1-800-662-9278.

**SUBSTANCES SUBJECT TO PARTICULATE MATTER CONTROL EFFICIENCY**

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
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<tbody>
<tr>
<td>PM10, PRIMARY</td>
<td>ANTIMONY</td>
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<tr>
<td>PM10, FLTRBLE</td>
<td>ARSENIC</td>
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<tr>
<td>PM2.5, PRIMARY</td>
<td>ASBESTOS</td>
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<tr>
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<td>PM2.5, PRIMRY</td>
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<td></td>
<td>SELENIUM</td>
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Appendix E: MAERS Contact Information

Phone: 800-662-9278
E-mail: InfoMAERS@michigan.gov
Web: www.michigan.gov/deqmaers

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 - Air Quality Division**
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 - Air Quality Division**
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 - Air Quality Division**
350 Ottawa Ave NW, Unit 10
Grand Rapids, MI 49503
616-356-0500 | Fax: 616-356-0202
E-Mail: grrmaers@michigan.gov
Counties: Barry, Ionia, Kent, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Ottawa

**Jackson District - Air Quality Division**
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 - Air Quality Division**
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

**Upper Peninsula District - Air Quality Division**
1504 West Washington Street
Marquette, MI 49855
906-228-4853 | Fax: 906-228-4940
E-Mail: marmaers@michigan.gov
Counties: Entire Upper Peninsula

**Saginaw Bay District - Air Quality Division**
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 - Air Quality Division**
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

**Southeast Michigan District - Air Quality Division**
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 Office – Air Quality Division**
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