INSTRUCTIONS

Detailed instructions for the online Greenhouse Gas Forms

January 2023

Check the Source Registration and Greenhouse Gas Emissions Reporting web page for additional guidance and reference material:
https://www.mass.gov/guides/massdep-source-registration

NOTICE

Facilities required to report Greenhouse Gas (GHG) Emissions used Climate Registry Information System (CRIS) software platform between 2009 and 2016. For the 2016 emissions year, MassDEP combined GHG Reporting with Source Registration (SR).

As a result of this process, three different packages have been created: SR Only, SR/GHG, and GHG Only. Instructions for SR Only and SR/GHG are combined and listed in a separate document found on the SR and GHG Reporting website https://www.mass.gov/guides/massdep-source-registration; GHG Only instructions are provided below

From time to time MassDEP will publish updates that clarify, add to, or amend these instructions. If this document is updated, it will be recorded in the Revision History below>

HELP TEXT: The "?" icons will reveal information about a particular portion of the form or question such as definitions, instructions, sources of assistance or information.

REVISION HISTORY

Update to address changes to reporting Refrigerant emissions	**Aug 2018**
Update to clarify emission units for GHG reporting	**Sept 2018**
Update to reflect promulgated changes to 310 CMR 7.71	**January 2023**

Contents

Overview of Greenhouse Gas (GHG) Program

PURPOSE OF GREENHOUSE GAS (GHG) PROGRAM

The Massachusetts **Global Warming Solutions Act (GWSA)**, which became law in 2008, required the Department of Environmental Protection (MassDEP) to promulgate mandatory greenhouse gas (GHG) reporting regulations. MassDEP responded by issuing **310 CMR 7.71**, which identifies the facilities that need to report, establishes methodologies for calculating and verifying emissions, and allows voluntary reporting by facilities for which it is not mandatory.

WHO MUST FILE THIS FORM?

Reporting of greenhouse gas emissions is required of any person owning, operating or controlling a facility that meets the requirements listed in **310 CMR 7.71** - See **310 CMR 7.00: Air Pollution Control** for details.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

One package is required for the entire facility. The Greenhouse Gas emissions report must include information on all emission units, emission processes, and fugitive GHG emissions, unless specifically exempt.

WHAT IF MY FACILITY ALSO NEEDS TO REPORT A SOURCE REGISTRATION PACKAGE

- If you are required to submit a Source Registration Package **annually**, do not use this GHG Only package. Return to My eDEP. Find "SR and Greenhouse Gas (GHG)" and click <Start Transaction>
- If you are required to submit a Source Registration Package **triennially** and this is the year your SR is due, do not use this GHG Only package. Follow the information for the first bullet above.
- If you are required to submit a Source Registration Package **triennially** and this is NOT the year your SR is due, you can continue to work in this GHG Only Package

NOTE: for facilities that also need to submit SR emission triennially, any changes to emission unit or fuel information OR adding new emission units in your GHG Only submittal, will also be available when you are required to create your SRGHG package.

WHAT IF MY FACILITY'S CLASSIFICATION CHANGED, DO I STILL REPORT?

If your facility is subject to 310 CMR 7.75 and has not received an exemption under 310 CMR 7.75(3)(b), then you must submit a GHG emission report.

WHY CAN'T I LOGIN USING MY FACILITY'S TIN?

Sometimes the Tax Identification Number (TIN) we have on file is not correct – this is particularly common for facilities that have not yet filed in the new online system. In such cases, we have assigned a temporary TIN – this temporary TIN was included in the Reminder Letter mailed to the facility. Once you login with the temporary TIN, you must correct the TIN on the Facility Information form.

WHAT UNITS MUST BE REPORTED?

Please report GHG emissions for all stationary emission sources, as defined in 310 CMR 7.71 (link above).
If a unit has been permanently removed and not previously reported as being removed but is listed on the Overview Form as part of the facility please provide a decommissioning date for that unit. This notifies the Air Quality Program that the unit has been permanently removed.

WILL MASSDEP REVIEW WHAT I HAVE SUBMITTED?

Yes. We have automated Quality Assurance programs that search all of the submittals for missing, unusual or inconsistent data. In addition, MassDEP staff will also review individual packages in more detail from time to time.

If a problem is found, the owner/operator of the facility or the preparer may be contacted If you are reporting anything unusual (such as a reorganization of your emission units), it is good to explain this in the notes section.

BAW Greenhouse Gas (GHG) Overview Form

PURPOSE	To create or amend a Greenhouse Gas Emissions Package.
WHO MUST FILE THIS FORM?	This form must be completed by the owner/operator/preparer submitting their package.
HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?	Submit one form for the whole facility.
NOTE FOR REPEAT FILERS:	Most of the information on this form will have been auto filled by eDEP. You may check the boxes to identify what changes will be made to your package. The information in the emission unit (EU) name field displays your facility's existing data PRIOR to this package being submitted. Any changes made to the EU forms will not be displayed here until this package has been submitted.

A. CREATE A GREENHOUSE GAS PACKAGE

1. Select existing or New Facility – check one:

• Existing Facilities	Used by existing facilities to create a package.
• Check if you added emission units or stacks since your last report.	Provides the preparer the ability to create additional forms, by means of a check box, for any new units added since the previous submittal. Checking this box will create the "New Unit Creator Form (New Form Creator)".
• New Facilities	Used by new facilities to create a package. This will automatically create the "New Unit Creator Form (New Form Creator)" allowing the preparer to create the appropriate number of forms for the submittal.
Note concerning "New Unit Creator Form (New Form Creator)"	Once the "New Unit Creator Form (New Form Creator)" is validated, the appropriate types and number of forms are created. If it becomes necessary to create additional form(s) for overlooked unit(s) at a later time, any individual "new unit" forms that have been previously validated will need to be re-validated. **NOTE**: it is better to overestimate the number of forms needed. Any unused new forms can be deleted on the <Transaction Overview page>.

B. AMEND A PACKAGE

Form/Unit to be amended:	It may become necessary to amend a previously submitted package for several reasons. Some examples of issues that may require amendments are: a typographical mistake while entering fuel usage (which impacts a specific emission unit and the total emissions summary); a new emission unit was entirely overlooked (which impacts a specific emission unit and the total emissions summary); the facility contact has changed (which impacts the Facility Information form); or other reasons.

HOW TO AMEND A PREVIOUSLY SUBMITTED PACKAGE	First, in the Preform, (this form appears after selecting start transaction), you needed to identify the reporting year of your package. **NOTE**: The Reporting Year selected will be present in each form header of your package. On the Overview form, unselect A.1 Existing Facility and put a check mark by the units that you want to amend. Or if you need to add a unit, check the box under A.1 "check if you added emission units". The system is flexible enough that you only need to submit the forms you want to correct rather than the entire package again. **IMPORTANT**: Before amending your package for the current reporting year, email BAW.eDEP@mass.gov to confirm that your submittal has been accepted by MassDEP.
Facility Information	This form is required. This box is automatically checked enabling updates to the facility mailing information, facility contact information, Certification Section, etc. to be amended
TES (Total Emissions Statement)	Checking this box enables the total facility emissions to be updated/validated. This form is required if this submittal contains the GHG Form.
New Unit Creator Form (New Form Creator)	Checking the box "Check here to add new units" allows the creation of new forms for added units.
Emission Units	Checking a specific emission unit enables information for that unit, such as fuel usage, emission restrictions, SCC, etc., to be amended. Specific changes may require the TES form to be amended and validated.

Validate the form by selecting [Error Check]. This will create the package or the specific areas that have been requested to be amended and take you to the <Transaction Overview page> where you can begin preparing your submittal.

BAW GHG New Unit Creator Form (New Form Creator)

PURPOSE	To create individual GHG forms for emission units that have been added since your last submittal.
WHO MUST FILE THIS FORM?	This form must be completed by the owner/operator/preparer submitting their package for any emission units or stacks added since your last submittal.
NOTE TO NEW FACILITIES OR FIRST TIME SUBMITTERS	If you are a new facility, or this is your first submittal, you must complete a form for each emission unit.

1. Enter the number of new units to add to this package

GHG	Entering a number here will add that number of GHG forms for the number of new or replacement GHG units being added to the facility. **NOTE**: Once the "New Unit Creator Form (New Form Creator)" is validated, the appropriate type and number of forms are created. If it becomes necessary to create additional form(s) for overlooked unit(s) at a later time, any individual "new unit" forms that have been previously validated will need to be re-validated. It is better to overestimate the number of form needed. Any unused new forms can be deleted on the <Transaction Overview page>.

Validate the form by selecting [Error Check]. This will create the specified number of requested forms and return you to the <Transaction Overview page> where you can proceed to the next form.

BAW AQ Facility Information Form

PURPOSE

This form provides contact and basic descriptive information about the facility.

WHO MUST FILE THIS FORM?

This form must be completed by the owner/operator/preparer submitting their package.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for the whole facility.

IN WHAT ORDER SHOULD I COMPLETE THIS PACKAGE?

Complete this form first because it contains information that will populate the other forms in the Source Registration Package.

NOTE: Although you will be filling in certification statement information at the end of the form, the statement will not be certified until the Responsible Official (RO) completes STEP 2 of the eDEP electronic filing process "Signature". That step happens after all of the required forms have been filled in and validated.

NOTE FOR REPEAT FILERS:

Most of the information on this form will have been auto-filled by eDEP based on your prior submittal. You may make changes to most fields.

A. FACILITY INFORMATION

HOW TO CHANGE LOCKED FIELDS?

Facility Name and street address: You must contact your Regional Facility Maintenance File (FMF) Data Manager to change the facility name and/or address.

The list of MassDEP regional offices and the FMF Data Manager's phone numbers can be found on the Source Registration website: https://www.mass.gov/guides/massdep-source-registration under MassDEP Bureau of Air & Waste: Source Registration Contacts.

The Facility AQ Identifier is a permanent identifying number assigned by MassDEP to a particular location. If you believe this number is incorrect (e.g. it is not the facility's AQID number shown on prior Source Registration) contact BAW.eDEP@mass.gov

The MassDEP Site Account Number / FMF Facility # is assigned by MassDEP. If you believe the number is wrong (e.g. it is different from the number shown on your bill or permit approvals) contact your Regional FMF Data Manager. You cannot change it. The list of MassDEP regional offices and the phone numbers of the data managers can be found on the Source Registration web page: https://www.mass.gov/guides/massdep-source-registration

1. Facility

a. Facility Name

The name must uniquely identify the facility. If the parent corporation operates more than one facility, the corporate name alone is insufficient.

NOTE: you cannot change the facility name; if you need to do so you must contact your Regional MassDEP FMF Data Manager.

b-h. Facility Address

Physical address for the facility (not mailing or corporate address, if different)

b. Facility Street Address Line 1 c. Facility Street Address Line 2 d. City/Town e. State	f. Zip Code g. Facility Phone Number h. Facility Fax Number

2. Mailing Address

Address where mail regarding the greenhouse gas notifications should be sent, if different from the street address above.
Facility mailing information rather than corporate/owner information, if they are different:

a-e

a. Facility Mailing Address/PO Box Line 1 b. Facility Mailing Address/PO Box Line 2 c. City/Town	d. State e. Zip Code

3 Facility Type – check one:

- Utility
- Private
- Tribal
- Federal Government
- State Government
- Local Government

Utility: Check this box if the facility is an utility facility, regardless of ownership (i.e. private, tribal, federal, state, local government)
Private: If the facility is an electrical utility facility, do not check this box, check the utility box
Tribal: If the facility is an electrical utility facility, do not check this box, check the utility box
Federal: If the facility is an electrical utility facility, do not check this box, check the utility box

State: If the facility is an electrical utility facility, do not check this box, check the utility box
Local Government: If the facility is an electrical utility facility, do not check this box, check the utility box

4. ORIS Facility Code

This only applies to large electrical utility facilities.

5. ID Numbers

These are assigned by MassDEP and cannot be changed.

a. DEP Account Number

This is the unique identification number, assigned by MassDEP, to represent your entire facility in its information management systems.

b. Facility AQ Identifiers –ID Number

This is the ID number, assigned by MassDEP, to identify your facility in MassDEP's computer system.

6. Location

Latitude/Longitude (Lat/Long) Coordinates

a. Latitude

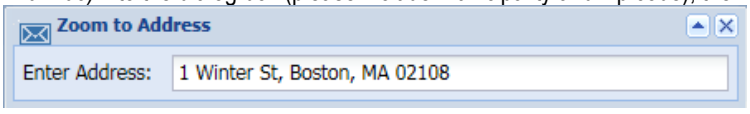
b. Longitude:

Valid Lat/long Ranges

- Latitude: 42.9 – 41.2
- Longitude: West 73.5° – 69.8° (enter positive values only)

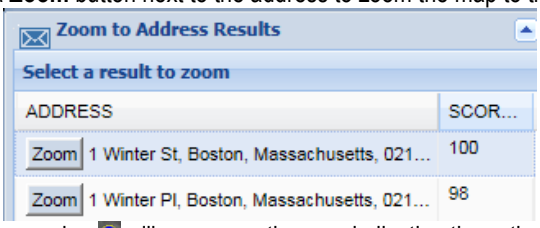
HOW DO YOU FIND / VERIFY THE LATITUDE/LONGITUDE FOR YOUR FACILITY?

Lat/Long coordinates online:
[1]Go to MassDEP Online Map Viewer: https://maps.massgis.digital.mass.gov/images/dep/omv/wetviewer.htm
[2] In Map Tools, click on icon that looks like an envelope (zoom to address).
[3] A dialog box opens on the map. Enter a complete street address for your facility *(example: 1 Winter St Boston, MA 02108)* into the dialog box (please include municipality and zip code), then click **Submit**.

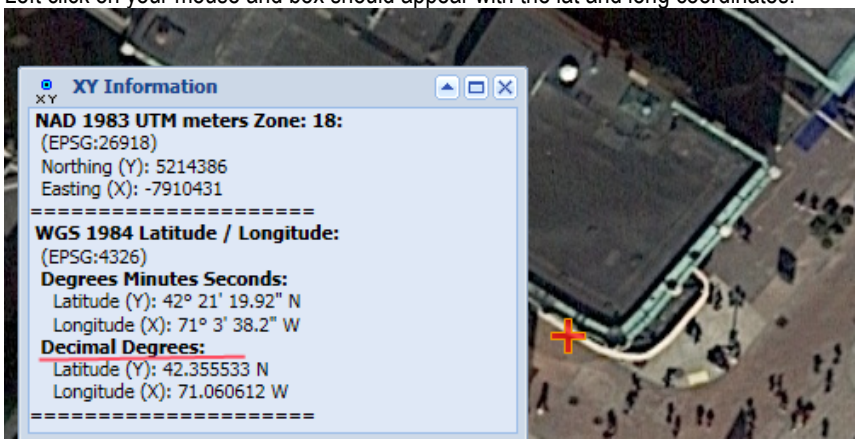


[4] A pop-up window will appear with the address search results and a score indicating locational quality.

The higher the value the higher the confidence in locational accuracy.
[5] Click a **Zoom** button next to the address to zoom the map to that address result.



An address marker will appear on the map indicating the estimated location of the address. [6] In Map Tools, click on "xy" icon (XY Information), then click on the map where the front door of the facility.
[7] A pop-up window will appear with coordinate information for that location and an orange cross will be displayed at the point where the map was clicked. If the location of the front door does not appear accurate, use the **Clear** button in the lower right corner of the XY Information pop-up to clear XY markers from the map. Then repeat Step 6.
Left click on your mouse and box should appear with the lat and long coordinates.



[8] From the XY Information pop-up window, using the **Decimal Degrees version** of the Lat (Y) / Long (X) coordinates enter (copy & paste) the values into their corresponding fields on the form

7. North American Industry classification code(s) NAICs

The six-digit code that an owner/operator uses to classify their facility, by the type(s) of products they produce. It can be found on your facility's Federal IRS forms.

Your facility may be engaged in more than one line of business. You can list up to 4 different codes in the spaces provided. Enter your facility's Primary NAICS Code in field A.7.a.

HOW TO FIND NAICS CODES?

NAICS codes are six digit codes used to classify facilities by the types of products they produce. These are submitted on your Federal IRS forms. Additional information about NAICS codes can be found at the U.S. Census Bureau Website http://www.census.gov/epcd/www/naics.html.

8. Facility description

What is being produced and how it is being produced. *e.g. Screen printed tee shirts.*

9. Facility's normal hours of operation

a. Start time
b. End Time

Typical start and end times for the facility.

c. Continuous – 24x7x52

Check this box, if the facility typically operates twenty-four hours a day, seven days a week, and 52 weeks a year. If continuous is checked, all of the fields for the days of the week in question A.9.d will automatically become checked.

d. Which days is the facility open?

- S(unday)
- M(onday)
- T(uesday)
- W(ednesday)
- T(hursday)
- F(riday)
- S(aturday)

Check the days of the week that the facility is *typically* operating.

HOW TO COUNT THE NUMBER OF EMPLOYEES

10. Number of Employees

The maximum number of employees that worked at the facility any time during the Year of Record. Include in this count only those employees who meet both of the following conditions: The employee worked at least 17 hours a week and more than 20 weeks per year.

WHO IS THE OWNER?

11. Facility Owner

The owner is the individual or entity which has the care, charge, or control of a facility that is reported on your Federal Employer Tax Identification Number.

Name of corporation, partnership, etc. if separate from facility. If facility owner's address is the same as the facility's mailing address, check this box and the mailing address information will be filled in automatically;

Report the facility information as reported on the Tax Identification Number (TIN) Form for your facility. TIN is also referred to as Federal Employee Identification Number (FEIN) or Employee Identification Number (EIN).

Please contact your MassDEP Regional Office if the ownership of this facility has changed.

Name of corporation, partnership, etc. if separate from facility.

a. Owner or Corporation Name	g. Country
b. Mailing Address Line 1	h. Owner TIN (Taxpayer Identification Number)
c. Mailing Address Line 2	i. Owner Phone Number
d. City/Town	j. Extension
e. State	k. Owner Fax Number
f. Zip Code	l. Owner E-mail Address

COUNTRY – FOREIGN OWNERS

If the facility owner has an address other than USA or Canada, please enter the facility's address in Q.11 and then put the correct owner address in the Notes field at the end of the form.

OWNER TIN – PLEASE CORRECT YOUR TIN

If this number is not the TIN of the facility owner, please enter the correct TIN – we will update our records before the next reporting cycle.

12. Facility contact information contact

The name of the individual who should be contacted for further information about the facility.

If contact name and/or address was listed previously, check appropriate box and the information you provided will be filled in automatically;

Otherwise provide the requested information:

a. Facility Contact First Name and Last Name	g. Country
b. Mailing Address Line 1	h. E-mail Address
c. Mailing Address Line 2	i. Phone Number
d. City/Town	j. Extension
e. State	k. Fax Number
f. Zip Code	

13. Air emissions information contact

Not Applicable for Greenhouse Gas Only Package

14. GHG emissions information contact

The name of the individual who should be contacted for further information about greenhouse gas emissions.
If contact name and/or address was listed previously, check appropriate box and the information you provided will be filled in automatically;

Otherwise provide the requested information:

a. GHG Emissions Contact First Name and Last Name	g. Country
b. Mailing Address Line 1	h. E-mail Address
c. Mailing Address Line 2	i. Phone Number
d. City/Town	j. Extension
e. State	k. Fax Number
f. Zip Code	

B. PREPARER

1. Contact information for preparer of this submittal

The name of the individual who should be contacted for further information about this submittal.
If contact name or address were the same as one listed previously, check appropriate box and the information you provided will be filled in automatically;

Otherwise, provide the requested information:

a. Preparer Contact First Name and Last Name	g. Country
b. Mailing Address Line 1	h. E-mail Address
c. Mailing Address Line 2	i. Phone Number
d. City/Town	j. Extension
e. State	k. Fax Number
f. Zip Code	

C. NOTES

Information that will help MassDEP understand your submission.

D. CERTIFICATION

NOTE: The certification statement won't be "signed" and certified until the second step of the eDEP reporting process: "2. Signature"

The Responsible Official (RO) completes the "Signature" step, and by so doing "signs" the certification statement. When that is done, you will be able to proceed to step 3 "Submit".

If you are not the RO you must "Share" the completed package with that individual so that they can complete the signature step. They will have to create a user ID and provide their 'nickname' to allow you to share the package with them.

SIGNATURE OF RESPONSIBLE OFFICIAL (RO), SIGNED UNDER PAINS AND PENALTIES OF PERJURY WITH SUBMISSION DATE

This Certification statement must be reviewed and signed under the pains and penalties of perjury by a RO at the location. If an agent has been designated to complete this form, the RO must review the forms and sign the certification statement.

CAUTION: In order to be considered a "RO" an individual must meet the criteria listed in Appendix A: Definitions or see below.

eDEP will insert the signature and date when the form has been signed electronically.

WHO IS A RESPONSIBLE OFFICIAL?

*For a *Sole Proprietorship*: The RO is the sole proprietor.

*For a *Partnership:* The RO is a general partner with the authority to bind the partnership.

*For *a Corporation or a non-profit corporation:* The RO is a corporate official with authority to bind the corporation such as a:

1) President,
2) Secretary,
3) Treasurer,
4) Vice president of the corporation in charge of a business function, or
5) Any other person who performs similar policymaking or decision-making functions of the corporation.

*For a *Municipality or other public agency:* The RO is any one of the following individuals:

(1) A principal executive officer or
(2) A ranking elected official who is empowered to enter into contracts on.

WHAT IF YOU ARE NOT A RESPONSIBLE OFFICIAL?

When a preparer is not a RO, he or she can complete and validate the forms but cannot sign or submit the package. Instead, the preparer **must return** to the <Transaction Overview page> and "**share**" **the completed package with a RO** who in turn completes the signature phase (signs the package) and submits it to MassDEP.

HOW DO I SHARE THIS PACKAGE?

To share your package:

1. From the <Transaction Overview page>, select Share Transaction.
2. On the Share Submittal page, select the Add button
3. When Add button selected, enter the RO's nickname in the "Share With" field, for "Role" select Editor&Signer (this allows the RO to edit, sign & submit the package), and include an end date for sharing the submittal.
4. Select the Add button again at the bottom of the page
5. The RO's first and last name with the role will appear in the Shared With field.
6. Once you have confirmed that the RO contact information is correct, select the back button (at the

bottom of the form) to return to the <Transaction Overview page>. **REMEMBER**: never use your browser's back button.

NOTE: a "RO", must register with eDEP before the preparer can share the package.

Responsible Official information:	a. Print First Name	d. Phone Number
	b. Print Last Name	e. E-mail Address
	c. Title	

Validate the form by selecting [Error Check]; the system will identify and require correction of any mistakes before it will accept the form and return you to the <Transaction Overview page>. From there, you can move on to the next form.

BAW GHG Form Emission Unit Instructions

PURPOSE

This form describes equipment (emission unit), fuel/material/product/waste use, and GHG emissions for all applicable emission units during the year for which emissions are being reported. Sources of emissions must be reported if 40 CFR Part 98 includes a method for calculating greenhouse gas emissions from that source, regardless of 40 CFR Part 98 applicability.

WHEN IS THIS FORM APPLICABLE?

Since the majority of sources for emissions reporting (i.e. equipment & fuel use) are used for both Source Registration (SR) & GHG programs, information for GHG emissions reporting is provided based on the information MassDEP received from prior SR submittals. The GHG form consists of the information that is present on three "shortened versions" of the Source Registration emissions forms:

- Fuel Burning Device (AP1) Form;
- Process (AP2) Form; and
- Incinerator (AP3) Form.

However, not all emission units and/or fuels/materials/products/waste types that are required for SR emissions reporting are required to report GHG emissions. MassDEP has tried to identify these instances and not display their information.

NOTE: If you are missing information, please contact us at BAW.eDEP@mass.gov

IMPORTANT: Reporting of fugitive GHG emissions from the natural gas distribution system is required, but the activity type is not subject to SR emissions reporting.; i.e. fugitive emissions for Natural Gas Distribution System. In this situation, the response in Question A.2.f: Emission Unit Category is "**GHG-ONLY**". If you are also subject to SR Reporting and use GHG-ONLY, then your SRGHG Package will also contain a GHG Form.

For Question B1.a Source Classification Code (SCC) use the following new code to report your "GHG Only" emissions:

- 99999999 - GHG Source Categories - Unspecified Technology - Natural Gas Distribution System - Fugitive Emissions

HOW DOES THE GHG FORM FUNCTION?

To create the GHG form, MassDEP combined "shortened versions" of the SR three emission forms: 1) Fuel Burning Device (AP1); 2) Process (AP2); 3) Incinerator (AP3); and, created 4) GHG-ONLY when GHG emission reporting is required but this information is not subject to SR emissions reporting, i.e. fugitive emissions for Natural Gas Distribution System..

The response present (or added for a new form) in **Question A.2.f: Emission Unit Category** will determine how the remaining fields in the GHG form will function. Because the responses to some questions will function differently depending on the category response in A.2.f, the GHG Form Emission Unit instructions is broken into four separate sections:

1. Fuel Burning Device (AP1);
2. Process (AP2);
3. Incinerator (AP3); and
4. GHG-ONLY.

CAUTION: FOR FILERS WITH NEW GHG EMISSION UNIT SINCE THEIR LAST SUBMITTAL

You must create a new emission unit form for any new emission unit. If you have not already created the new emission unit (when first opening your source registration package), you must either:

1) Under Transaction Overview, open the first form labeled <Greenhouse Gas (GHG) Package>;

- Under Section A, Q.1 – check the box that indicates new equipment has been added;
- Under Transaction Overview, select <New Unit Form Creator (New Form Creator)>;
- Choose the appropriate form and enter the number of new units;
- Validate the form by selecting Error Check;
- Follow subsequent instructions.

----Or----

2) You must create a new eDEP partial Greenhouse Gas (GHG) package for that emission unit. Once you have submitted the package you are working on:

- Return to "Start New";
- Select "Greenhouse Gas (GHG)Package";
- In Overview Form: unselect Existing Facility and put a check mark by the units that you want to amend. Or if you need to add a unit, check the box under A.1 "check if you added emission units";
- Follow subsequent instructions pertaining to the New Unit Form Creator (New Form Creator).

IMPORTANT: Before amending your package for the current reporting year, email BAW.eDEP@mass.gov to confirm that your submittal has been accepted by MassDEP.

CAUTION: If you realize in the midst of completing this package that you need to create additional forms, DO NOT return to the Overview form UNLESS you are willing to revalidate each previously validated form. Revalidation requires that you open and revalidate every form in the package – you don't lose any of the data you have entered, but the process can be time consuming, particularly for a facility with numerous validated forms.

The best way to add emission units AFTER you have completed much of your package may be by submitting a supplemental package (Option 2 above).

BAW GHG Form Emission Unit Instructions: Fuel Burning Device

IMPORTANT: The response present in Question A.2.f: Emission Unit Category (or added for a new form) will determine how the remaining fields in the "**Fuel Burning Device**" version of the GHG Form will function.

If your facility is also required to report Source Registration (SR) emissions triennially, any changes or additions to emission unit or fuel information in your GHG Only submittal will be available when you are required to report your SR and GHG (SRGHG) emissions.

NOTE: references to SR are to assist if you are also required to report Source Registration (SR) emissions triennially.

Following the information in this section will also assist you when you are required to complete the remaining questions present in the SRGHG version of the "Fuel Burning Device (AP1) Form".

PURPOSE

The "**Fuel Burning Device**" version of the GHG Form describes equipment (emission unit), fuel use, and associated air pollution emissions at the facility during the calendar year being reported from all combustion processes, except waste incineration and air pollution control equipment "combustion devices", such as flares or afterburners.

WHEN IS THIS FORM APPLICABLE?

This form version applies to any fuel burning emission units at your facility excluding:

- Waste incineration and their auxiliary burners; reported as an Incinerator
- Process heaters, dryers, ovens usually reported as a Process,
- GHG-Only where GHG emission reporting is required but this information is not subject to SR emissions reporting; reported as GHG-ONLY and
- Air pollution control equipment reported on the appropriate form for the units controlled. (Questions related to control equipment are not present in the GHG Only package; however, if you also report Source Registration emissions triennially questions related to control equipment are present in the SRGHG package)

Source Registration reporting applies to any owner/operator of a facility if such facility meets any of the criteria in 310 CMR 7.12(1)(a)1-11

1. Has a facility-wide maximum energy input capacity in BTU/hour from fuel utilization facilities equal to or greater than the following size thresholds:
    a. All Fuels 40,000,000;
    b. Residual Fuel Oil 10,000,000;
    c. Solid Fuel 3,000,000;
    d. Used Oil Fuel 3,000,000; or
    e. Landfill Gas 3,000,000.
2. Has a maximum energy input capacity in Btu/hour from any fuel utilization facility emission unit that combusts natural gas, propane, butane, or distillate oil equal to or greater than the 10,000,000 Btu/hour.
7. Is or contains a stationary reciprocating internal combustion engine (except for emergency or standby engines) with a maximum energy input capacity of 3,000,000 Btu per hour or greater (burning any fuel).

NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for each boiler, furnace, internal combustion engine *(e.g., diesels or turbines),* or other combustion unit. You may combine reporting for more than one fuel burning unit on a single form. (see combined units for further guidance). You must include any fuel utilization units added or decommissioned since your last submittal.

A. EQUIPMENT DESCRIPTION

NOTE: In general the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. via the Climate Registry Information System (CRIS) was not historically stored in the Air Quality database. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

1. Facility Identifiers

a. Facility Name

b. DEP Account number

c. Facility AQ Identifier

The name and identifying numbers of the facility that you are reporting.
This will be pre-populated from the information on your BAW AQ Facility Information Form.
NOTE: You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

2. Emission unit identifiers

a. Facility's choice of emission unit name- edit as needed.

If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it.
If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.

A unique name of your choice that will allow you to recognize this unit on future reports

b. Facility's emission unit number / code – edit as needed.

A unique number or code of your choice that will allow you to recognize this unit on future reports. Example: Boiler #1, Emergency Generator #2, Fire Pump #3 etc.

c. DEP emission unit #

This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports
If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number.
If this is an existing Emission Unit, the information will be pre-populated for existing emission units.

CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS?

eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change this field.

d. ORIS id # – for large electrical utilities only

This information will be populated from the BAW AQ Facility Information form.

e. Combined units- enter number of individual units	Total number of individual units combined on this form.
COMBINED UNIT HELP TEXT	1. Fuel burning units (except Incinerators) can be combined as one emission unit IF EACH INDIVIDUAL UNIT is of the same type AND uses the same fuel(s) AND is below the following thresholds: Distillate oil -- 10 MBTU per hour or 72 gal per hour; Residual oil – 5 MBTU per hour or 32 gal per hour; Natural gas – 10 MBTU per hour or 100 Therms per hour; Solid fuel – 3 MBTU per hour; Used oil fuel –3 MBTU per hour or 19 gal per hour; Landfill gas – 3 MBTU per hour or 180,000 cf per hour 2. Process related equipment can be combined as one emission unit IF: Similar pieces of equipment that are used interchangeably to create the same product may be reported on one form as a combined emission unit; OR Similar pieces of equipment may be combined as one emission unit IF EACH INDIVIDUAL UNIT has the same applicable requirements AND is below the following reporting thresholds: Particulate matter – 2 tons per year; Organic material – 10 tons per year; Lead – 0.5 tons per year; Hazardous air pollutants – 10 tons of any individual HAP or 25 tons of total HAPs 3. Incinerators can NOT be combined.
WHAT ARE COMBINED UNITS AND WHEN CAN INDIVIDUAL UNIT OPERATIONS BE REPORTED AS COMBINED UNITS?	Fuel burning units can be combined as one emission unit and identified in question A.2.f Emission Unit Category as "Fuel Burning Device". This is to make it easier to report large numbers of small units. The number of units in a combined unit must be entered in the "combined units" field. Combustion units may be combined subject to certain restrictions below. **Restrictions on Combined Units** Each individual unit within a combined unit must: 1. be of the same general type (not necessarily identical); including the use of same general type of air pollution control (APC) devices (not necessarily identical), if applicable. **NOTE**: The GHG Form does not have control equipment questions as they are not relevant for GHG reporting. However if you are also required to report SR emissions at a later time, you need to consider if your EU has control equipment 2. use the same fuel(s) 3. be subject to the same regulatory restrictions 4. be below the following maximum input thresholds: *Distillate oil* -- 10 MMBtu / hour or 72 gal / hour; *Residual oil* – 10 MMBtu / hour or 64 gal / hour; *Natural gas* – 10 MMBtu / hour or 100 Therms / hour; *Solid fuel* – 3 MMBtu / hour; *Used oil fuel* – 3 MMBtu / hour or 19 gal / hour; *Landfill gas* – 3 MMBtu / hour or 6,000 cf / hour 5. AND the total heat input of all units in the combined unit does not exceed 40 MMBtu/hour.

HOW DO YOU ENTER DATA FOR COMBINED UNITS?

When entering data for combined units use these guidelines:

- Manufacturer/Model No – use the most common manufacturer/model or enter "combined".
- Installation Date – enter the install date for the oldest of the individual units.
- Max capacity– enter the sum of the maximum capacities of all of the individual units as the maximum capacity for the combined unit.
- Decommission date – do not decommission until the last individual unit is gone; if you need to add or subtract units from the combined unit, then increase or decrease the value in the Combined Units field to reflect the change and explain in the Notes field.
- Air Pollution Controls (APC) Devices: In Section C: Notes - enter the APC devices and associate it with the appropriate emission unit. Include: APC device type, manufacturer, model number, Facility's ID for this Device, installation date, pollutant(s) and percent efficiencies.

  NOTE: The GHG Form does not have control equipment questions as they are not relevant for GHG-only reporting. However, if you are also required to report SR emissions at a later time, you need to consider if your EU has control equipment.
- Explain in Section C: Notes field which units have been combined (list them), and any issues or oddities about the combined unit. Include the locations of the combined units if they are not in the same building at the facility.

NOTE: For each individual unit that has been combined on this form, enter in Section C: Notes the following information: manufacturer, model number, max input ratings-MMBtu, if applicable, installation date, APC devices, if applicable (include: APC device type, manufacturer, model number, Facility's ID for this Device, installation date, pollutant(s) and percent efficiencies), and location of units if the units are not located together

f. Emission Unit Category

If this is a new Emission Unit, the field is blank. You must select "Fuel Burning Device" from the drop down list.
If this is an existing Emission Unit, the information will be pre-populated with "Fuel Burning Device" and locked.

g. Is GHG emissions reporting required for this emission unit?

A GHG emission reporting is required for all combustion units. A "Yes" response is present and this field is locked.

HOW SHOULD OVENS AND/OR DRYERS BE REPORTED?

Ovens and dryers should be reported as one EU Category (A.2.f). If the oven or dryer has no emissions other than those from fuel combustion (the oven or dryer is used to drive off water and produces water vapor only), then Fuel Burning Device should be used. However, if other emissions are present, such as solvents that are baked off, then the oven or dryer should be identified in A.2.f as "Process".

3. Emission unit installation and decommission dates	Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.
a. Installation dates – estimate if unknown (mm/dd/yyyy)	The date on which the unit became operational. Do not leave blank: Estimate if unknown.
b. Decommission dates – If applicable (mm/dd/yyyy)	Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.
DELETE A UNIT HELP TEXT	Enter a decommission date in 3.b IF the unit is being permanently taken out of service. For fuel burning devices or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.
HOW / WHEN TO DELETE A UNIT?	Enter a decommission date in 3.b IF the unit is being **permanently taken out of service**. For Fuel Burning Devices (including those associated with Process equipment) or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed. If the decommissioned unit operated in the year of record, the emissions from that unit must be included. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT package however. **NOTE:** If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the maximum input rating (MMBtu/hr), annual fuel usage, and actual emissions. **NOTE:** In cases where you have combined units, and took one (or more) out of service DO NOT enter a decommission date. Simply change the number of combined units in the combined unit's field. Do not decommission the EU unless ALL of the combined units are taken out of service.

4. Emission unit replacement

a. Is this unit replacing another emission unit?	Check the appropriate box, yes or no. If Yes, then complete 4.b. Otherwise, continue on to Question 5.
b. DEP's emission unit number and facility unit name.	Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.
HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?	Line A.4.b. "DEP's emission unit number and facility's name for emission unit" are mandatory fields when the "yes" box is checked. However the unit being replaced **will not appear as a choice** on the drop down menu **until it is decommissioned**. You will not be able to complete and error check the form for a replacement unit until you have first entered a decommission date and completed an error check of the form for the unit it is replacing. If this unit is replacing another unit that has NOT been "decommissioned", you must 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, 4) complete the error check for the form for the decommissioned unit before you can complete the form for the unit it is replacing.
WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?	If one new emission unit is replacing several units, pick one of the units being replaced on the pick list and note the others in Section C Notes

5. Equipment

a. Equipment Type:

WHAT TO DO IF DATA UNKNOWN OR NOT AVAILABLE?	Do not leave blank: if date or numeric field – estimate; for other fields enter UNKNOWN, if unknown.
EPA Unit Type Code	Choose from drop-down menu
EPA UNIT TYPE CODE HELP TEXT	Unit Type Code is a field required by US EPA for the National Emissions Inventory. Please select the most appropriate category from the drop menu. If none are close for your unit, choose one of the "Other…" or "Unclassified" type codes and provide additional information in field A.5.a Other EPA Unit Type (describe). This field allows for 50 characters.
EPA Unit Type (describe):	This field will be locked and should be the same response that is present in the EPA Unit Type Code field, except when the EPA Unit Type Code is OTHER COMBUSTION OR UNCLASSIFIED. When one of these responses is present in the EPA Unit Type Code field then Type field is unlocked to allow for a description of the equipment type; this field allows for 50 characters.
b. Manufacturer	Firm that built the unit, information can be usually found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.
c. Model number	Information can be found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.

d. Maximum input rating MMBtu/hr	Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit. Do not leave blank. **Tip:** The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in Table C.1.2-2. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

B. FUELS AND EMISSIONS (PARENT AND SECTION B CHILD FORMS)

	With certain exceptions, which will be noted, the preparer can edit any information listed below.
Is GHG emissions reporting required for this fuel, waste or raw material/finished product?	Check the appropriate box, yes or no. If Yes, then complete Section B. **NOTE**: all fuels associated with a fuel burning device are required to report GHG emissions. The response to this field should be Yes and the field will be locked.
Is this fuel, waste, or raw material/finished product an input, output or fuel?	Check the appropriate box: input, output or fuel. **NOTE**: when the response to A.2.f is "Fuel Burning Device", then the response to this field should be Fuel and the field will be locked. **NOTE**: Raw Material would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**. **For example**: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output.** The natural gas used by the dryer would be considered a **Fuel**. **NOTE**: If this information is inaccurate, please contact us at BAW.eDEP@mass.gov
Add a New Fuel:	Check the box if you need to add a fuel that you did not previously report (eDEP will add a blank Section B form to this form when you successfully validate it.) Any additional fuels/materials/products will automatically appear when you error check this form so you do not need to check this field to make additional forms appear if they have been reported on in a previous submittal. You can see the number of records that already exist for this unit in the field: "Number of fuels for this unit (previous records)". Use this check box only for NEW fuels for this unit which you have never reported before.

WHEN TO NOT CHECK "ADD A NEW FUEL" BOX	Any additional fuels will automatically appear when you error check this form so you do not need to check this field to make additional fuels appear if they have been reported on already in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". This check box is only for NEW fuels which you have never reported before.
Delete this fuel:	Check the box if you stopped using this fuel in this emission unit. You must still report for the year of record even if amount is "0" – this fuel will be removed from the unit for the next report cycle. **NOTE**: If you ceased using this fuel and "Number of fuels for this unit…." is 1, do not check "delete this fuel" unless you also check "Add a new fuel". This form requires one active fuel/material/product to function properly. **NOTE**: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".
Number of fuels for this unit (previous records):	This field identifies the number of existing fuels that are associated with this EU. This information will be provided by the system. For new emission units: This question is not applicable.
HOW DOES EDEP HANDLE MULTIPLE FUELS?	In eDEP, a separate Section B form is automatically created for each additional fuel on record based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following: 1) If you need to add a new fuel and "Number of fuels for this unit…." is greater than 1, wait to see the other fuels before checking this box, or 2) If you ceased using this fuel and "Number of fuels for this unit…." is 1, do not check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly. **NOTE**: "Add a New Fuel" and "Delete this fuel" are present in all Section B forms
1. DEP Fuel #:	This is a unique number assigned by MassDEP that allows the system to recognize this fuel associated with this emission unit on future reports. If this is a new Fuel, the field is blank and locked – MassDEP will assign this number. If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.
CAN I CHANGE THE DEP FUEL IDENTIFIER?	This ID number is a MassDEP assigned number and cannot be changed
a. Source Classification Code (SCC)	The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions for each unit.
SCC Description	If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

HOW DOES EDEP USE SOURCE CLASSIFICATION CODES (SCC)?

SCC are standard codes EPA uses to identify different operations/activities and their associated emissions factors, if available. The SCC you select will be used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system and to help analyze the data. The SCC also identifies the Units per hour which are used for your response to B.2.b: Annual usage, and the B.3 Emission Factor Units (in pounds per unit). The list of SCC's used in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form is wrong, enter the correct code.
If the form will not accept the SCC you are entering, contact MassDEP at BAW.eDEP@mass.gov

WHAT SCC SHOULD BE USED FOR A RESIDENTIAL BOILERS/WATER HEATER AT A COMMERCIAL/ INSTITUTIONAL FACILITY?

Use the following SCC Codes:

Residual Oil (No. 6 Oil)	10300403
Distillate Oil (No. 2 Oil)	10300503
Natural Gas	10300603
Other fuels	same family of SCC Codes

b. Fuel/Material/Waste Type:

This response is determined based on the SCC. If the SCC is pre-populated, this field will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the type when the form is validated.

NOTE: If multiple types of fuel are used in this emission unit you must check the "Add a New Fuel" check box to add additional Section B forms for each fuel used. Once you successfully validate the current form the system will generate a blank Section B which will be found under this form as listed on the <Transaction Overview page>.

c. Fuel/Process Description:

Your choice of a unique name for this fuel.

2. Annual usage:

a. Total actual amount used for year of record

The actual amount of fuel used in this emission unit during the calendar year being reported. Enter "0" if fuel was not used in the year of record.

IMPORTANT - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.

b. Units

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Units when the form is validated.

UNITS HELP TEXT

Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.

Prior year (Annual usage)

This information will be provided by the system based on your last submittal. For new emission units: This question is not applicable

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

B. GREENHOUSE GAS EMISSIONS

For facilities required to report Greenhouse Gas (GHG) emissions, all emission units that burn fuel are required to report GHG emissions.

3. Total emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

CO2	CH4	N20	SF6	Refrigerants-CO2e
CO2e-CO2	CO2e-CH4	CO2e-N2O	CO2e-SF6	CO2e-Refrigerants

Other GHG Pollutant
CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions unless you check the box to manually enter emissions for each specific pollutant.

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

The form will calculate emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

WHY YOU MAY WANT TO CALCULATE YOUR OWN EMISSIONS VALUES?

The EPA emission factors are generic and conservative – they may overestimate your emissions. Because they are generic, the EPA SCC emission factors are not applicable in all situations.

NOTE: see Appendix C for more guidance how to calculate your own emissions.

WHAT ARE "ACTUAL EMISSIONS"?

Actual emissions are an estimate of the total tons of each pollutant (gas) emitted by the emission unit during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant.

NOTE: Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This question is not applicable.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

WHAT ARE EMISSION FACTORS?

Emissions factors are the amount of pollution (gas) generated per unit of operation. For fuels, total tons of emissions are obtained by **multiplying [EF in #/fuel unit] x [fuel usage/year] x [conversion to tons (1 Ton/2000#)] = Tons per year (TPY) of emissions.**

If you allow eDEP to calculate your emissions, this field will be auto-filled with EPA's default emission factors, if available, based on the SCC chosen for this emission unit and fuel combination. If you choose to calculate your own emissions, you must enter the emission factor that you used and select the Calculation Method from the drop down list. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

Because they are generic, EPA's emission factors are not the best choice in all situations. They may overstate emissions for facilities. See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor (EF)

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC chosen for this emission unit and fuel combination.

WHAT EF AND EF UNITS SHOULD BE USED TO REPORT SF6 AND REFRG-CO2E EMISSIONS?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units, listed in pounds per unit, must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected should match the unit present in the response to B.2.b.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you must choose from the following in a drop down list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-EPA EF	EPA GHG Emission Factor (40 CFR Part 98)

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

For HFC and/or PFC emissions report those emissions in the Refrigerants-CO2e field. Include the Emission Calculation in the "C. Notes" field showing the species, GWP, and total CO2e for that species. Do not report HFC or PFC emissions in the "specify other pollutant" field.

For questions regarding HFC and PFC reporting, please contact both the SR-GHG Help Desk (baw.edep@mass.gov) and the Climate Strategies mailbox (climate.strategies@mass.gov).

CO2e for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This question is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

4 Total CO2e emissions

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.

CO2e for previous year

This information will be provided by the system.
For new emission units: This question is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

C. NOTES

This section is to provide any additional information for any of your responses on this form.

You must click [Error Check] to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections.

To continue your work on this emission unit, click on the next form (i.e. Section B Child Form for this EU <Greenhouse Gas (FUEL#....)> or Section D Child Form for this EU <GHGSecD (Total Emissions)> or next EU form < Greenhouse Gas (DEP#....)> or click [Next] found at the end of the <Transaction Overview page> to continue your work on this package.

D. TOTAL EMISSIONS FOR EMISSION UNIT

WHAT ARE TOTAL EMISSIONS FOR THIS EMISSION UNIT?	This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e for this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
1. Total Emissions for this emission unit in tons per year	Calculations: This form automatically calculates this emission unit's total actual emissions and total carbon dioxide equivalent (CO2e) for each specific pollutant (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.
Actual (in Tons) for previous year	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
Actual (in Tons) Emissions	The actual emissions for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).
CO2e for previous year (in Tons)	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record (in Tons)	The CO2e for each specific pollutant for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).
2 Total CO2e emissions	Calculations: This form automatically calculates this emission unit's Total CO2e. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
CO2e for previous year	This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record	The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To

continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

BAW GHG Form Emission Unit Instructions: Process

IMPORTANT: The response present in Question A.2.f: Emission Unit Category (or added for a new form) will determine how the remaining fields in the "**Process**" version of the GHG Form will function.

If your facility is also required to report Source Registration (SR) emissions triennially, any changes or additions to emission unit or fuel information in your GHG submittal will be available when you are required to report your SR and GHG (SRGHG) emissions.

NOTE: references to SR are to assist if you are required to report Source Registration (SR) emissions triennially.

Following the information in this section will also assist you when you are required to complete the remaining questions present in the SRGHG version of the "Process (AP2) Form".

PURPOSE

The "**Process**" version of the GHG form describes equipment (emission unit), "fuel use" in the form of fuel, raw material or finished product, and associated air pollution emissions at the facility during the calendar year being reported from non-combustion related production processes except for any EUs where GHG emission reporting is required but this information is not subject to SR emissions reporting; i.e. fugitive emissions from the natural gas distribution system.

WHEN IS THIS FORM APPLICABLE?

This form version applies to all emission units at your facility that release any air contaminants from any process except:

- Combustion units are generally reported on a Fuel Burning Device form EXCEPT where the combustion is part of a process unit's function, such as an oven for curing paint on part; in such a case the oven is reported as a Process with combustion fuel use and emissions reported as one segment (Section B) and paint curing material use and emissions reported as separate segment (Section B) on this Process form);
- Waste incineration (reported as an Incinerator); reported as A.2.f: Incinerator;
- GHG-Only where GHG emission reporting is required but this information is not subject to SR emissions reporting; reported as GHG-ONLY
- Insignificant activities ⓘ. (See definition in 310 CMR 7.00 Appendix C(5)(i).)

Source Registration reporting applies to any owner/operator of a facility if such facility meets any of the criteria in 310 CMR 7.12(1)(a)1-11

3. Has non-combustion federal potential[1] to emit (facility-wide) equal to or greater than:
    a. Particulate Matter — two tons per year;
    b. Oxides of Sulfur — 2.5 tons per year;
    c. Organic Material — ten tons per year;
    d. Nitrogen Dioxide — 4.4 tons per year; or
    e. Hazardous Air Pollutants — ten tons of any individual HAP per year or 25 tons of total HAPs per year

NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

[1] Non-combustion potential emissions excludes emissions from motor vehicles, incinerators and products of combustion from fuel utilization facilities.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for each process emission unit, including those that you have added or decommissioned since your last submittal.

An emission unit is any unit operation that releases an air contaminant. Any particular production line is a series of unit operations: activities or processes used to produce a product. A unit operation is generally a piece of equipment or a step in the production process. Identical pieces of equipment that are used interchangeably to create the same product may be reported on one form.

For example, if the facility has three different coating operations, one Process (AP-2) Form is required for each. However, two coating lines using the same equipment (including air pollution control devices) and raw materials, operated in tandem to produce the same product, can be considered one emission unit and combined on one Process (AP-2) Form.

A. EQUIPMENT DESCRIPTION

With certain exceptions, which will be noted, the preparer can edit any information listed below.

HOW SHOULD OVENS AND/OR DRYERS BE REPORTED?

If the oven or dryer has fuel combustion emissions only (the oven or dryer is used to drive off water and produces water vapor only), then the EU should be reported as a Fuel Burning Device. However, if other emissions are present, such as solvents that are baked off, then the oven or dryer should be reported as Process.

The combustion emissions should be reported as one material throughput (segment), and the material being baked off as a separate material throughput (segment).

IMPORTANT: If you have an oven or dryer that is currently identified as a Fuel Burning Device that needs converted to a Process, contact the BAW.eDEP@mass.gov and request that the form be converted prior to your continued work on this form.

1. Facility Identifiers

a. Facility Name

b. DEP Account number

c. Facility AQ Identifier

The name and identifying numbers of the facility that you are reporting.
This will be pre-populated from the information on your BAW AQ Facility Information Form.

NOTE: You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

2. Emission unit identifiers	If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it. If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.
a. Facility's choice of emission unit name- edit as needed.	A unique name of your choice that will allow you to recognize this unit on future reports
b. Facility's emission unit number / code – edit as needed.	A unique number or code of your choice that will allow you to recognize this unit on future reports. *Example: Degreaser #1, Coater#3*
c. DEP emission unit #	This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number. If this is an existing Emission Unit, the information will be pre-populated for existing emission units.
CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS?	eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change this field.
d. ORIS id # – for large electrical utilities only	This information will be populated from the BAW AQ Facility Information form.
e. Combined units- enter number of individual units	Total number of individual units combined on this form.

COMBINED UNIT HELP TEXT

1. Fuel burning units (except Incinerators) can be combined as one emission unit IF EACH INDIVIDUAL UNIT is of the same type AND uses the same fuel(s) AND is below the following thresholds: Distillate oil -- 10 MBTU per hour or 72 gal per hour; Residual oil – 5 MBTU per hour or 32 gal per hour; Natural gas – 10 MBTU per hour or 100 Therms per hour; Solid fuel – 3 MBTU per hour; Used oil fuel –3 MBTU per hour or 19 gal per hour; Landfill gas – 3 MBTU per hour or 180,000 cf per hour

2. Process related equipment can be combined as one emission unit IF: Similar pieces of equipment that are used interchangeably to create the same product may be reported on one form as a combined emission unit; OR Similar pieces of equipment may be combined as one emission unit IF EACH INDIVIDUAL UNIT has the same applicable requirements AND is below the following reporting thresholds: Particulate matter – 2 tons per year; Organic material – 10 tons per year; Lead – 0.5 tons per year; Hazardous air pollutants – 10 tons of any individual HAP or 25 tons of total HAPs

3. Incinerators can NOT be combined.

WHAT ARE COMBINED UNITS AND WHEN CAN INDIVIDUAL UNIT OPERATIONS BE REPORTED AS COMBINED UNITS?

Similar pieces of equipment that are used interchangeably to create the same product may be reported on one form as a combined emission unit. The number of units in a combined unit must be entered in the "combined units" field.

Restrictions on Combined Units Each individual unit within a combined unit must:

1. be of the same general type (not necessarily identical);
2. have the same type of air pollution controls;
   NOTE: The GHG Form does not have control equipment questions as they are not relevant for GHG reporting. However if you are also required to report SR emissions at a later time, you need to consider if your EU has control equipment
3. be subject to the same regulatory restrictions
4. individually be below the reporting thresholds in 310 CMR 7.12 (1)(a)(3) (https://www.mass.gov/regulations/310-CMR-700-air-pollution-control) shown below:

   Has non-combustion federal potential to emit (facility-wide) equal to or greater than:

   a. Particulate Matter — two tons per year;
   b. Oxides of Sulfur — 2.5 tons per year;
   c. Organic Material — ten tons per year;
   d. Nitrogen Dioxide — 4.4 tons per year; or
   e. Hazardous Air Pollutants — ten tons of any individual HAP per year or 25 tons of total HAPs per year

   NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

HOW DO YOU ENTER DATA FOR COMBINED UNITS?

When entering data for combined units use these guidelines:

- Manufacturer/Model No – use the most common manufacturer/model or enter "combined".
- Installation Date – enter the install date for the oldest of the individual units.
- Max capacity– enter the sum of the maximum capacities of all of the individual units as the maximum capacity for the combined unit.
- Decommission date – do not decommission until the last individual unit is gone; if you need to add or subtract units from the combined unit, then increase or decrease the value in the Combined Units field to reflect the change and explain in the Notes field.
- Air Pollution Controls (APC) Devices: In Section C: Notes - enter the APC devices and associate it with the appropriate emission unit. Include: APC device type, manufacturer, model number, Facility's ID for this Device, installation date, pollutant(s) and percent efficiencies.

  NOTE: The GHG Form does not have control equipment questions as they are not relevant for GHG-only reporting. However, if you are also required to report SR emissions at a later time, you need to consider if your EU has control equipment.
- Explain in Section C: Notes field list the units that have been combined any issues or oddities about the combined unit. Include the locations of the combined units if they are not in the same building at the facility.

NOTE: For each individual unit that has been combined on this form, enter in Section C: Notes the following information: manufacturer, model number, max input ratings-MMBtu, if applicable, installation date, APC devices, if applicable (include: APC device type, manufacturer, model number, Facility's ID for this Device, installation date, pollutant(s) and percent efficiencies), and location of units if the units are not located together

f. Emission Unit Category

If this is a new Emission Unit, the field is blank. You must select "Process" from the drop down list.
If this is an existing Emission Unit, the information will be pre-populated with "Process" and locked.

g. Is GHG emissions reporting required for this emission unit?

Check the appropriate box, yes or no. If Yes, then continue on to Question 3. Otherwise, validate this form; no GHG emissions data is required for this EU.

NOTE: If Section B contains a fuel, then GHG emissions' reporting is **ALWAYS** required for this unit. If this unit also has multiple raw materials or finished products, a similar question is present in Section B to prevent GHG emissions reporting for any raw materials or finished products that do not have GHG emissions.

HOW SHOULD OVENS AND/OR DRYERS BE REPORTED?

Ovens and dryers should be reported as one EU Category (A.2.f). If the oven or dryer has no emissions other than those from fuel combustion (the oven or dryer is used to drive off water and produces water vapor only), then Fuel Burning Device should be used. However, if other emissions are present, such as solvents that are baked off, then the oven or dryer should be identified in A.2.f as "Process".

3. Emission unit installation and decommission dates

Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.

a. Installation dates – estimate if unknown (mm/dd/yyyy)

The date on which the unit became operational. Do not leave blank: Estimate if unknown.

b. Decommission dates – If applicable (mm/dd/yyyy)

Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.

DELETE A UNIT HELP TEXT

Enter a decommission date in 3.b IF the unit is being permanently taken out of service. For fuel burning devices or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.

HOW / WHEN TO DELETE A UNIT?

Enter a decommission date in 3.b IF the unit is being **permanently taken out of service**. For Fuel Burning Devices (including those associated with Process equipment) or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.

If the decommissioned unit operated in the year of record, the emissions from that unit must be included. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT package however.

NOTE: If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the maximum input rating (MMBtu/hr), annual fuel usage, and actual emissions.

NOTE: In cases where you have combined units, and took one (or more) out of service DO NOT enter a decommission date. Simply change the number of combined units in the combined unit's field. Do not decommission the EU unless ALL of the combined units are taken out of service.

4. Emission unit replacement

a. Is this unit replacing another emission unit?	Check the appropriate box, yes or no. If Yes, then complete 4.b. Otherwise, continue on to Question 5.
b. DEP's emission unit number and facility unit name.	Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.
HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?	Line A.4.b. "DEP's emission unit number and facility's name for emission unit" are mandatory fields when the "yes" box is checked. However the unit being replaced **will not appear as a choice** on the drop down menu **until it is decommissioned**. You will not be able to complete and error check the form for a replacement unit until you have first entered a decommission date and completed an error check of the form for the unit it is replacing. If this unit is replacing another unit that has NOT been "decommissioned", you must 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, 4) complete the error check for the form for the decommissioned unit before you can complete the form for the unit it is replacing.
WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?	If one new emission unit is replacing several units, pick one of the units being replaced on the pick list and note the others in Section C Notes

5. Equipment

a. Equipment Type:

WHAT TO DO IF DATA UNKNOWN OR NOT AVAILABLE?	Do not leave blank: if date or numeric field – estimate; for other fields enter UNKNOWN, if unknown.
EPA Unit Type Code	Choose from drop-down menu
EPA UNIT TYPE CODE HELP TEXT	Unit Type Code is a field required by US EPA for the National Emissions Inventory. Please select the most appropriate category from the drop menu. If none are close for your unit, choose one of the "Other…" or "Unclassified" type codes and provide additional information in field A.5.a Other EPA Unit Type (describe). This field allows for 50 characters.
EPA Unit Type (describe):	This field will be locked and should be the same response that is present in the EPA Unit Type Code field, except when the EPA Unit Type Code is OTHER BULK MATERIAL EQUIPMENT; OTHER COMBUSTION; OTHER EVAPORATIVE SOURCES; OTHER FUGITIVE; OTHER PROCESS EQUIPMENT; OR UNCLASSIFIED. When one of these responses is present in the EPA Unit Type Code field then Type field is unlocked to allow for a description of the equipment type; this field allows for 50 characters.
b. Manufacturer	Firm that built the unit, information can be usually found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.
c. Model number	Information can be found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.

d. Maximum input rating MMBtu/hr	**A response is required** if EPA Unit Type Code is a PROCESS HEATER; KILN; CALCINER; DRYER: DIRECT-FIRED OR UNKNOWN IF DIRECT OR INDIRECT OR INDIRECT-FIRED; FLARE; or OTHER COMBUSTION. Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit. Otherwise, leave this field blank. **Tip:** The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in Table C.1.2-2. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

B. FUELS AND EMISSIONS (PARENT AND SECTION B CHILD FORMS)

	With certain exceptions, which will be noted, the preparer can edit any information listed below.
Is GHG emissions reporting required for this fuel, waste or raw material/finished product?	Check the appropriate box, yes or no. If Yes, then complete Section B. Otherwise, validate this form; no GHG emissions' reporting is required for this Section B. **NOTE**: if the response is Fuel for question "Is this fuel, waste, or raw material/finished product an input, output or fuel?", then the response to this question is Yes.
Is this fuel, waste, or raw material/finished product an input, output or fuel?	Check the appropriate box: input, output or fuel. **NOTE**: when the response to A.2.f is "Process" and if EPA Unit Type Code is a PROCESS HEATER; KILN; CALCINER; DRYER: DIRECT-FIRED OR UNKNOWN IF DIRECT OR INDIRECT OR INDIRECT-FIRED; FLARE; or OTHER COMBUSTION, then a Fuel response is required for one Section B. **NOTE**: Raw Material would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**. **For example**: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output.** The natural gas used by the dryer would be considered a **Fuel**. **NOTE**: If this information is inaccurate, please contact us at BAW.eDEP@mass.gov
Add a New Fuel:	Check the box if you need to add a fuel/material/product that you did not previously report (eDEP will add a blank Section B form to this form when you successfully validate it.) Any additional fuels/materials/products will automatically appear when you error check this form so you do not need to check this field to make additional forms appear if they have been reported on in a previous submittal. You can see the number of records that already exist for this unit in the field: "Number of fuels for this unit (previous records)". Use this check box only for NEW fuels for this unit which you have never reported before.

WHEN TO NOT CHECK "ADD A NEW FUEL" BOX	Any additional fuels will automatically appear when you error check this form so you do not need to check this field to make additional fuels appear if they have been reported on already in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". This check box is only for NEW fuels which you have never reported before.
Delete this fuel:	Check the box if you stopped using this fuels/materials/products in this emission unit. You must still report for the year of record even if amount is "0" – this fuel/material/product will be removed from the unit for the next report cycle. **NOTE**: If you ceased using this fuel/material/product and "Number of fuels for this unit…." is 1, do not check "delete this fuel" unless you also check "Add a new fuel". This form requires one active fuel/material/product to function properly. **NOTE**: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".
Number of fuels for this unit (previous records):	This field identifies the number of existing fuels that are associated with this EU. This information will be provided by the system. For new emission units: This question is not applicable.
HOW DOES EDEP HANDLE MULTIPLE FUELS?	In eDEP, a separate Section B form is automatically created for each additional fuel/material/product on record based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following: 1) If you need to add a new fuel and "Number of fuels for this unit…." is greater than 1, wait to see the other fuels before checking this box, or 2) If you ceased using this fuel and "Number of fuels for this unit…." is 1, do not check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly. **NOTE**: "Add a New Fuel" and "Delete this fuel" are present in all Section B forms
1. DEP Fuel #:	This is a unique number assigned by MassDEP that allows the system to recognize this fuel associated with this emission unit on future reports. If this is a new Fuel, the field is blank and locked – MassDEP will assign this number. If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.
CAN I CHANGE THE DEP FUEL IDENTIFIER?	This ID number is a MassDEP assigned number and cannot be changed
a. Source Classification Code (SCC)	The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions for each unit.
SCC Description	If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

HOW DOES EDEP USE SOURCE CLASSIFICATION CODES (SCC)?

SCC are standard codes EPA uses to identify different operations/activities and their associated emissions factors, if available. The SCC you select will be used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system and to help analyze the data. The SCC also identifies the Units per hour which are used for your response to B.2.b: Annual usage, and the B.3 Emission Factor Units (in pounds per unit). The list of SCC's used in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form is wrong, enter the correct code.
If the form will not accept the SCC you are entering, contact MassDEP at BAW.eDEP@mass.gov

WHAT SCC SHOULD BE USED TO REPORT SF6 EMISSIONS?

Use the following SCC Codes:

- 31306502: Industrial Processes - Electrical Equipment - Semiconductor Manufacturing - Cleaning Process: Plasma Process: Specify Gas Used
- 31306510: Industrial Processes - Electrical Equipment - Semiconductor Manufacturing - Chemical Vapor Deposition: General: Specify Gas Used
- 31306520: Industrial Processes - Electrical Equipment - Semiconductor Manufacturing - Diffusion Process: Deposition Operation: Specify Gas Used
- 31306531: Industrial Processes - Electrical Equipment - Semiconductor Manufacturing - Etching Process: Plasma/Reactive Ion: Specify Gas Used

b. Fuel/Material/Waste Type: This response is determined based on the SCC. If the SCC is pre-populated, this field will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the type when the form is validated.

NOTE: when the response to A.2.f is "Process" and if the response is not "Fuel" to question B. Is this fuel, waste, or raw material/finished product an input, output or fuel?, then a drop down list of other material types is available to choose from if the SCC value is not an appropriate response.

NOTE: If multiple types of fuel are used in this emission unit you must check the "Add a New Fuel" check box to add additional Section B forms for each fuel used. Once you successfully validate the current form the system will generate a blank Section B which will be found under this form as listed on the <Transaction Overview page>.

c. Fuel/Process Description: Your choice of a unique name for this fuel.

2. Annual usage:

a. Total actual amount used for year of record	The actual amount of fuels/materials/products used in this emission unit during the calendar year being reported. Enter "0" if fuels/materials/products was not used in the year of record. **IMPORTANT** - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.
b. Units	This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Units when the form is validated.
UNITS HELP TEXT	Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.
Prior year (Annual usage)	This information will be provided by the system based on your last submittal. For new emission units: This question is not applicable **TIP:** Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

B. GREENHOUSE GAS EMISSIONS

3. Total emissions for this fuel only in tons per year:	Provide the following information for all pollutants emitted by the emission unit for this fuel only CO2 CH4 N20 SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants Other GHG Pollutant CO2e- Other GHG Pollutant
CALCULATIONS: READ FIRST	The form will automatically calculate the actual emissions unless you check the box to manually enter emissions for each specific pollutant. The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option. The form will calculate emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

WHY YOU MAY WANT TO CALCULATE YOUR OWN EMISSIONS VALUES?	The form will calculate emissions from your annual throughput, and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant name (eDEP will calculate the emissions for any pollutant where you do not check the box). The EPA emission factors are generic and conservative – they may overestimate your emissions. Because they are generic, the EPA SCC emission factors are not applicable in all situations. **NOTE**: see Appendix C for more guidance how to calculate your own emissions.
WHAT ARE "ACTUAL EMISSIONS"?	Actual emissions are an estimate of the total tons of each pollutant (gas) emitted by the emission unit during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. **NOTE**: Please see Appendix C for more detailed information on calculating actual emissions.
Actual (in Tons) for previous year	For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
Actual (in Tons) for year of record	Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box. **NOTE**: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero
WHAT ARE EMISSION FACTORS?	Emissions factors are the amount of pollution (gas) generated per unit of operation. For fuels, total tons of emissions are obtained by **multiplying [EF in #/fuel unit] x [fuel usage/year] x [conversion to tons (1 Ton/2000#)] = Tons per year (TPY) of emissions.** If you allow eDEP to calculate your emissions, this field will be auto-filled with EPA's default emission factors, if available, based on the SCC chosen for this emission unit and fuel combination. If you choose to calculate your own emissions, you must enter the emission factor that you used and select the Calculation Method from the drop down list. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration. Because they are generic, EPA's emission factors are not the best choice in all situations. They may overstate emissions for facilities. See Appendix C for more information about using emissions factors to calculate emissions.
Emission factor (EF)	Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC chosen for this emission unit and fuel combination.

WHAT EF AND EF UNITS SHOULD BE USED TO REPORT SF6 AND REFRG-CO2E EMISSIONS?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units, listed in pounds per unit, must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected should match the unit present in the response to B.2.b.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor.

If you are calculating the actual emissions for the pollutant yourself, you must choose from the following in a drop down list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-EPA EF	EPA GHG Emission Factor (40 CFR Part 98)

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

For HFC and/or PFC emissions report those emissions in the Refrigerants-CO2e field. Include the Emission Calculation in the "C. Notes" field showing the species, GWP, and total CO2e for that species. Do not report HFC or PFC emissions in the "specify other pollutant" field.

For questions regarding HFC and PFC reporting, please contact both the SR-GHG Help Desk (baw.edep@mass.gov) and the Climate Strategies mailbox (climate.strategies@mass.gov).

CO2e for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This question is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

4 Total CO2e emissions	The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.
CO2e for previous year	This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record	The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

C. NOTES

This section is to provide any additional information for any of your responses on this form.

You must click [Error Check] to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. Once you have made all of the required corrections you will be returned to the <Transaction Overview page>.

To continue your work on this emission unit, click on the next form (i.e. Section B Child Form for this EU <Greenhouse Gas (FUEL#....)> or Section D Child Form for this EU <GHGSecD (Total Emissions)> or next EU form < Greenhouse Gas (DEP#....)> or click [Next] found at the end of the <Transaction Overview page> to continue your work on this package.

D. TOTAL EMISSIONS FOR EMISSION UNIT

WHAT ARE TOTAL EMISSIONS FOR THIS EMISSION UNIT?	This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e for this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
1. Total Emissions for this emission unit in tons per year	Calculations: This form automatically calculates this emission unit's total actual emissions and total carbon dioxide equivalent (CO2e) for each specific pollutant (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.
Actual (in Tons) for previous year	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
Actual (in Tons) Emissions	The actual emissions for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).
CO2e for previous year (in Tons)	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record (in Tons)	The CO2e for each specific pollutant for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

2 Total CO2e emissions	Calculations: This form automatically calculates this emission unit's Total CO2e. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
CO2e for previous year	This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record	The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

BAW GHG Form Emission Unit Instructions: Incinerator

IMPORTANT: The response present in Question A.2.f: Emission Unit Category (or added for a new form) will determine how the remaining fields in the "**Incinerator**" version of the GHG Form will function.

If your facility is also required to report Source Registration (SR) emissions triennially, any changes or additions to emission unit or fuel information in your GHG Only submittal will be available when you are required to report your SR and GHG (SRGHG) emissions.

NOTE: references to SR are to assist if you are also required to report Source Registration (SR) emissions triennially.

Following the information in this section will also assist you when you are required to complete the remaining questions present in the SRGHG version of the "Incinerator (AP3) Form".

PURPOSE

The "**Incinerator**" version of the GHG Form describes equipment (emission unit), fuel use, and associated air pollution emissions at the facility during the calendar year being reported from all combustion processes, except incineration units used as air pollution control equipment (e.g., flares or thermal oxidizers).

WHEN IS THIS FORM APPLICABLE?

This form version applies to any waste incineration emission units and their auxiliary burners at your facility excluding:

- Air pollution control equipment reported on the appropriate form for the units controlled. (Questions related to control equipment are not present in the GHG Only package; however, if you also report Source Registration emissions triennially questions related to control equipment are present in the SRGHG package)

Source Registration reporting applies to any owner/operator of a facility if such facility meets any of the criteria in 310 CMR 7.12(1)(a)1-11

4. Is or contains a hazardous waste incinerator, regardless of size.
5. Is or contains an incinerator with the capacity to reduce 50 pounds per hour or more of waste.

NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

One form is required for each incinerator unit, including those that you have added or decommissioned since your last submittal

NOTE: You may NOT combine reporting for more than one incinerator on a single form.

A. EQUIPMENT DESCRIPTION

With certain exceptions, which will be noted, the preparer can edit any information listed below.

1. Facility Identifiers
a. Facility Name
b. DEP Account number
c. Facility AQ Identifier

The name and identifying numbers of the facility that you are reporting.
This will be pre-populated from the information on your BAW AQ Facility Information Form.
NOTE: You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

2. Emission unit identifiers	If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it. If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.
a. Facility's choice of emission unit name- edit as needed.	A unique name of your choice that will allow you to recognize this unit on future reports
b. Facility's emission unit number / code – edit as needed.	A unique number or code of your choice that will allow you to recognize this unit on future reports. Example: INCINERATOR #1+WASTE HEAT BOILER, MUNICIPAL WASTE COMBUSTOR, PATHOLOGICAL INCINERATOR, etc.
c. DEP emission unit #	This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number. If this is an existing Emission Unit, the information will be pre-populated for existing emission units.
CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS?	eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change this field.
d. ORIS id # – for large electrical utilities only	This information will be populated from the BAW AQ Facility Information form.
e. Combined units- enter number of individual units	Total number of individual units combined on this form.
COMBINED UNIT HELP TEXT	1. Fuel burning units (except Incinerators) can be combined as one emission unit IF EACH INDIVIDUAL UNIT is of the same type AND uses the same fuel(s) AND is below the following thresholds: Distillate oil -- 10 MBTU per hour or 72 gal per hour; Residual oil – 5 MBTU per hour or 32 gal per hour; Natural gas – 10 MBTU per hour or 100 Therms per hour; Solid fuel – 3 MBTU per hour; Used oil fuel –3 MBTU per hour or 19 gal per hour; Landfill gas – 3 MBTU per hour or 180,000 cf per hour 2. Process related equipment can be combined as one emission unit IF: Similar pieces of equipment that are used interchangeably to create the same product may be reported on one form as a combined emission unit; OR Similar pieces of equipment may be combined as one emission unit IF EACH INDIVIDUAL UNIT has the same applicable requirements AND is below the following reporting thresholds: Particulate matter – 2 tons per year; Organic material – 10 tons per year; Lead – 0.5 tons per year; Hazardous air pollutants – 10 tons of any individual HAP or 25 tons of total HAPs 3. Incinerators can NOT be combined.
f. Emission Unit Category	If this is a new Emission Unit, the field is blank. You must select "**Incinerator"** from the drop down list. If this is an existing Emission Unit, the information will be pre-populated with "**Incinerator"** and locked.

g. Is GHG emissions reporting required for this emission unit?	A GHG emission reporting is required for all combustion units. A "Yes" response is present and this field is locked. **NOTE**: The auxiliary burners use fuel; therefore a "Yes" response is present and this field is locked
3. Emission unit installation and decommission dates	Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.
a. Installation dates – estimate if unknown (mm/dd/yyyy)	The date on which the unit became operational. Do not leave blank: Estimate if unknown.
b. Decommission dates – If applicable (mm/dd/yyyy)	Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.
DELETE A UNIT HELP TEXT	Enter a decommission date in 3.b IF the unit is being permanently taken out of service. For fuel burning devices or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.
HOW / WHEN TO DELETE A UNIT?	Enter a decommission date in 3.b IF the unit is being **permanently taken out of service**. For Fuel Burning Devices (including those associated with Process equipment) or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed. If the decommissioned unit operated in the year of record, the emissions from that unit must be included. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT package however. **NOTE:** If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the maximum input rating (MMBtu/hr), annual fuel usage, and actual emissions.

4. Emission unit replacement

a. Is this unit replacing another emission unit?	Check the appropriate box, yes or no. If Yes, then complete 4.b. Otherwise, continue on to Question 5.
b. DEP's emission unit number and facility unit name.	Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.
HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?	Line A.4.b. "DEP's emission unit number and facility's name for emission unit" are mandatory fields when the "yes" box is checked. However the unit being replaced **will not appear as a choice** on the drop down menu **until it is decommissioned**. You will not be able to complete and error check the form for a replacement unit until you have first entered a decommission date and completed an error check of the form for the unit it is replacing. If this unit is replacing another unit that has NOT been "decommissioned", you must 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, 4) complete the error check for the form for the decommissioned unit before you can complete the form for the unit it is replacing.

5. Equipment

a. Equipment Type:

WHAT TO DO IF DATA UNKNOWN OR NOT AVAILABLE?	Do not leave blank: if date or numeric field – estimate; for other fields enter UNKNOWN, if unknown.
EPA Unit Type Code	Choose from drop-down menu: "Incinerator" **NOTE**: If response present in Question A.2.f: Emission Unit Category (or added for a new form) is "**Incinerator**", then EPA Unit Type Code is Incinerator and field is locked
EPA UNIT TYPE CODE HELP TEXT	Unit Type Code is a field required by US EPA for the National Emissions Inventory. Please select the most appropriate category from the drop menu. If none are close for your unit, choose one of the "Other…" or "Unclassified" type codes and provide additional information in field A.5.a Other EPA Unit Type (describe). This field allows for 50 characters.
EPA Unit Type (describe):	If response present in Question A.2.f: Emission Unit Category (or added for a new form) is "**Incinerator**", this field changes to a drop down list with the following choices of incinerator description types: Commercial; Cremation-Animal; Cremation-Human; Industrial; Medical; Metal Recovery; Municipal; or Sludge.
b. Manufacturer	Firm that built the unit, information can be usually found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.
c. Model number	Information can be found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.

d. Maximum input rating MMBtu/hr	Information can be found on metal nameplate on unit. Otherwise, leave this field blank. **Tip:** The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr). **NOTE**: The GHG emissions report is only looking for a value that can be reported as MMBtu/hr. If response present in Question A.2.f: Emission Unit Category (or added for a new form) is "**Incinerator**", the maximum operating capacity is based on the incinerator type, excluding the auxiliary burners, and can be reported in one of three ways: 1. In **MMBtu per hour**; or 2. In pounds of steam per hour; or 3. In pounds of waste per hour or tons of waste per hour. **IMPORTANT**: The only time your facility will see questions where the units for #2 or #3 above will be present on the form is if your facility is required to submit a SRGHG package.

B. FUELS AND EMISSIONS (PARENT AND SECTION B CHILD FORMS)

	With certain exceptions, which will be noted, the preparer can edit any information listed below.
Is GHG emissions reporting required for this fuel, waste or raw material/finished product?	Check the appropriate box, yes or no. If Yes, then complete Section B. Otherwise, validate this form; no GHG emissions' reporting is required for this Section B. **NOTE**: if the response is Fuel for question "Is this fuel, waste, or raw material/finished product an input, output or fuel?", then the response to this question is Yes.
Is this fuel, waste, or raw material/finished product an input, output or fuel?	Check the appropriate box: input, output or fuel. **NOTE**: Raw Material (or incinerator waste) would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**. **For example**: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output.** The natural gas used by the dryer would be considered a **Fuel**. **NOTE**: If this information is inaccurate, please contact us at BAW.eDEP@mass.gov

Add a New Fuel:	Check the box if you need to add a fuel/material/product that you did not previously report (eDEP will add a blank Section B form to this form when you successfully validate it.) Any additional fuels/materials/products will automatically appear when you error check this form so you do not need to check this field to make additional forms appear if they have been reported on in a previous submittal. You can see the number of records that already exist for this unit in the field: "Number of fuels for this unit (previous records)". Use this check box only for NEW fuels for this unit which you have never reported before. **NOTE**: Check box is locked, if A.2.f: Incinerator, AND the response is 3 to this question -- Number of fuels for this unit (previous records): 3. Facility is allowed to add a new secondary chamber fuel to the EU if Number of fuels for this unit (previous records): 2 **NOTE**: If A.2.f: Incinerator and this is a new GHG Parent Form, ("parent" form includes Section A), then "Add a New Fuel" must be checked so facility can report GHG emissions for the primary chamber
WHEN TO NOT CHECK "ADD A NEW FUEL" BOX	Any additional fuels will automatically appear when you error check this form so you do not need to check this field to make additional fuels appear if they have been reported on already in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". This check box is only for NEW fuels which you have never reported before.
Delete this fuel:	Check the box if you stopped using this fuels/materials/products in this emission unit. You must still report for the year of record even if amount is "0" – this fuel/material/product will be removed from the unit for the next report cycle. **NOTE:** If response present in Question A.2.f: Emission Unit Category (or added for a new form) is "Incinerator", then this field is locked. For an incinerator, you MUST decommission the emission unit by entering a response to A.3.b.
Number of fuels for this unit (previous records):	This field identifies the number of existing fuels that are associated with this EU. This information will be provided by the system. For new emission units: This question is not applicable.
HOW DOES EDEP HANDLE MULTIPLE FUELS?	In eDEP, a separate Section B form is automatically created for each additional fuel/material/product on record based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following: 1) If you need to add a new fuel and "Number of fuels for this unit…." is greater than 1, wait to see the other fuels before checking this box, or 2) If you ceased using this fuel and "Number of fuels for this unit…." is 1, do not check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly. **NOTE**: "Add a New Fuel" and "Delete this fuel" are present in all Section B forms

1. DEP Fuel #:	This is a unique number assigned by MassDEP that allows the system to recognize this fuel associated with this emission unit on future reports. If this is a new Fuel, the field is blank and locked – MassDEP will assign this number. If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.
CAN I CHANGE THE DEP FUEL IDENTIFIER?	This ID number is a MassDEP assigned number and cannot be changed
a. Source Classification Code (SCC)	The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions for each unit.
SCC Description	If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.
HOW DOES EDEP USE SOURCE CLASSIFICATION CODES (SCC)?	SCC are standard codes EPA uses to identify different operations/activities and their associated emissions factors, if available. The SCC you select will be used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system and to help analyze the data. The SCC also identifies the Units per hour which are used for your response to B.2.b: Annual usage, and the B.3 Emission Factor Units (in pounds per unit). The list of SCC's used in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration If the SCC listed on the form is wrong, enter the correct code. If the form will not accept the SCC you are entering, contact MassDEP at BAW.eDEP@mass.gov
b. Fuel/Material/Waste Type:	If this is a new Emission Unit, the field is blank. If response present in Question A.2.f: Emission Unit Category (or added for a new form) is "Incinerator", this field changes to a drop down list with the following choices of incinerator waste types: BODY, LIQUID WASTE; MEDICAL WASTE; METAL, REFUSE; REFUSE DERIVED FUEL; SLUDGE, SOLID WASTE OR VOCS **NOTE**: when the response to A.2.f is "Incinerator" and if the response is not "Fuel" to question B.1 Is this fuel, waste, or raw material/finished product an input, output or fuel?, then a drop down list of incinerator waste types is available to choose from if the SCC value is not an appropriate response.
c. Fuel/Process Description:	Your choice of a unique name for this fuel.
d. Is this a Primary chamber auxiliary burner?	Check the appropriate box, yes or no. If Yes, then this Section B information is associated with the primary chamber auxiliary burner. If No, then this Section B information is associated with the secondary chamber auxiliary burner **NOTE**: This field is only present on the Section B Child Forms.
2. Annual usage:	

a. Total actual amount used for year of record	The actual amount of fuels/materials/products used in this emission unit during the calendar year being reported. Enter "0" if fuels/materials/products was not used in the year of record. **IMPORTANT** - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.
b. Units	This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Units when the form is validated.
UNITS HELP TEXT	Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.
Prior year (Annual usage)	This information will be provided by the system based on your last submittal. For new emission units: This question is not applicable **TIP:** Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

B. GREENHOUSE GAS EMISSIONS

3. Total emissions for this fuel only in tons per year:	Provide the following information for all pollutants emitted by the emission unit for this fuel only CO2 CH4 N20 SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants Other GHG Pollutant CO2e- Other GHG Pollutant
CALCULATIONS: READ FIRST	The form will automatically calculate the actual emissions unless you check the box to manually enter emissions for each specific pollutant. The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option. The form will calculate emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

WHY YOU MAY WANT TO CALCULATE YOUR OWN EMISSIONS VALUES?	The form will calculate emissions from your annual throughput, and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant name (eDEP will calculate the emissions for any pollutant where you do not check the box). The EPA emission factors are generic and conservative – they may overestimate your emissions. Because they are generic, the EPA SCC emission factors are not applicable in all situations. **NOTE**: see Appendix C for more guidance how to calculate your own emissions.
WHAT ARE "ACTUAL EMISSIONS"?	Actual emissions are an estimate of the total tons of each pollutant (gas) emitted by the emission unit during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. **NOTE**: Please see Appendix C for more detailed information on calculating actual emissions.
Actual (in Tons) for previous year	For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
Actual (in Tons) for year of record	Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box. **NOTE**: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero
WHAT ARE EMISSION FACTORS?	Emissions factors are the amount of pollution (gas) generated per unit of operation. For fuels, total tons of emissions are obtained by **multiplying [EF in #/fuel unit] x [fuel usage/year] x [conversion to tons (1 Ton/2000#)] = Tons per year (TPY) of emissions.** If you allow eDEP to calculate your emissions, this field will be auto-filled with EPA's default emission factors, if available, based on the SCC chosen for this emission unit and fuel combination. If you choose to calculate your own emissions, you must enter the emission factor that you used and select the Calculation Method from the drop down list. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration. Because they are generic, EPA's emission factors are not the best choice in all situations. They may overstate emissions for facilities. See Appendix C for more information about using emissions factors to calculate emissions.
Emission factor (EF)	Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC chosen for this emission unit and fuel combination.

WHAT EF AND EF UNITS SHOULD BE USED TO REPORT SF6 AND REFRG-CO2E EMISSIONS?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units, listed in pounds per unit, must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected should match the unit present in the response to B.2.b.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor.

If you are calculating the actual emissions for the pollutant yourself, you must choose from the following in a drop down list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-EPA EF	EPA GHG Emission Factor

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

For HFC and/or PFC emissions report those emissions in the Refrigerants-CO2e field. Include the Emission Calculation in the "C. Notes" field showing the species, GWP, and total CO2e for that species. Do not report HFC or PFC emissions in the "specify other pollutant" field.

For questions regarding HFC and PFC reporting, please contact both the SR-GHG Help Desk (baw.edep@mass.gov) and the Climate Strategies mailbox (climate.strategies@mass.gov).

CO2e for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This question is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

4 Total CO2e emissions	The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.
CO2e for previous year	This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record	The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

C. NOTES

This section is to provide any additional information for any of your responses on this form.

You must click [Error Check] to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. Once you have made all of the required corrections you will be returned to the <Transaction Overview page>.

To continue your work on this emission unit, click on the next form (i.e. Section B Child Form for this EU <Greenhouse Gas (FUEL#....)> or Section D Child Form for this EU <GHGSecD (Total Emissions)> or next EU form < Greenhouse Gas (DEP#....)> or click [Next] found at the end of the <Transaction Overview page> to continue your work on this package.

D. TOTAL EMISSIONS FOR EMISSION UNIT

WHAT ARE TOTAL EMISSIONS FOR THIS EMISSION UNIT?	This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e for this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
1. Total Emissions for this emission unit in tons per year	Calculations: This form automatically calculates this emission unit's total actual emissions and total carbon dioxide equivalent (CO2e) for each specific pollutant (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.
Actual (in Tons) for previous year	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
Actual (in Tons) Emissions	The actual emissions for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).
CO2e for previous year (in Tons)	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record (in Tons)	The CO2e for each specific pollutant for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

2 Total CO2e emissions	Calculations: This form automatically calculates this emission unit's Total CO2e. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
CO2e for previous year	This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record	The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

BAW GHG Form Emission Unit Instructions: GHG-ONLY

IMPORTANT: The response present in Question A.2.f: Emission Unit Category (or added for a new form) will determine how the remaining fields in the "**GHG-ONLY**" version of the GHG Form will function.

If your facility is also required to report Source Registration (SR) emissions triennially, any changes or additions to emission unit or fuel information in your GHG submittal will be available when you are required to report your SR and GHG (SRGHG) emissions.

NOTE: references to SR are to assist if you are also required to report Source Registration (SR) emissions triennially.

PURPOSE

The "**GHG-ONLY**" version of the GHG Form describes equipment (emission unit), "fuel use" in the form of raw material or finished product, and associated air pollution emissions at the facility during the calendar year being reported for GHG emissions equipment, except for any emission units (EUs) that are subject to SR emissions reporting: i.e. Fuel Burning Devices, Process or Incinerators.

WHEN IS THIS FORM APPLICABLE?

The "**GHG-ONLY**" version of the GHG Form applies in instances where reporting of fugitive GHG emissions from the natural gas distribution system is required, but the activity type is not subject to SR emissions reporting. In this situation, the response in Question A.2.f: Emission Unit Category is "**GHG-ONLY**". If you are also subject to SR Reporting and use GHG-ONLY, then your SRGHG Package will also contain a GHG Form.

For Question B1.a Source Classification Code (SCC) use the following new code to report your "GHG Only" emissions:

- 99999999 - GHG Source Categories - Unspecified Technology - Natural Gas Distribution System - Fugitive Emissions

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HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for each GHG emission unit. You must include any GHG emission units added or decommissioned since your last submittal.

A. EQUIPMENT DESCRIPTION

With certain exceptions, which will be noted, the preparer can edit any information listed below.

1. Facility Identifiers

a. Facility Name

b. DEP Account number

c. Facility AQ Identifier

The name and identifying numbers of the facility that you are reporting.
This will be pre-populated from the information on your BAW AQ Facility Information Form.

NOTE: You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

2. Emission unit identifiers	If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it. If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.
a. Facility's choice of emission unit name- edit as needed.	A unique name of your choice that will allow you to recognize this unit on future reports
b. Facility's emission unit number / code – edit as needed.	A unique number or code of your choice that will allow you to recognize this unit on future reports. *Example:* Natural gas pipeline
c. DEP emission unit #	This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number. If this is an existing Emission Unit, the information will be pre-populated for existing emission units.
CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS?	eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change this field.
d. ORIS id # – for large electrical utilities only	This information will be populated from the BAW AQ Facility Information form.
e. Combined units- enter number of individual units	Total number of individual units combined on this form. **NOTE**: For the "**GHG-ONLY**" version of the GHG Form do not combine emission units. List each of the fugitive emission units for Natural Gas Distribution System, individually.
f. Emission Unit Category	If this is a new Emission Unit, the field will be blank. You must select "Process" from the drop down list. If this is an existing Emission Unit, the information will be pre-populated with "Process" and locked.
g. Is GHG emission reporting required for this emission unit?	Check the appropriate box, yes or no. If Yes, then continue on to Question 3. Otherwise, validate this form; no GHG emission data is required for this EU. **NOTE**: If A.2.f is "GHG ONLY" then a Yes response is required.

3. Emission unit installation and decommission dates	Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.
a. Installation dates – estimate if unknown (mm/dd/yyyy)	The date on which the unit became operational. Do not leave blank: Estimate if unknown.
b. Decommission dates – If applicable (mm/dd/yyyy)	Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.
DELETE A UNIT HELP TEXT	Enter a decommission date in 3.b IF the unit is being **permanently taken out of service.**
HOW / WHEN TO DELETE A UNIT?	
	Enter a decommission date in 3.b IF the unit is being **permanently taken out of service**. If the decommissioned unit operated in the year of record, the emissions from that unit must be included. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT package however. **NOTE:** If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the maximum input rating (MMBtu/hr), annual fuel usage, and actual emissions.
4. Emission unit replacement	
a. Is this unit replacing another emission unit?	Check the appropriate box, yes or no. If Yes, then complete 4.b. Otherwise, continue on to Question 5.
b. DEP's emission unit number and facility unit name.	Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.
HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?	Line A.4.b. "DEP's emission unit number and facility's name for emission unit" are mandatory fields when the "yes" box is checked. However the unit being replaced **will not appear as a choice** on the drop down menu **until it is decommissioned**. You will not be able to complete and error check the form for a replacement unit until you have first entered a decommission date and completed an error check of the form for the unit it is replacing. If this unit is replacing another unit that has NOT been "decommissioned", you must 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, 4) complete the error check for the form for the decommissioned unit before you can complete the form for the unit it is replacing.
WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?	If one new emission unit is replacing several units, pick one of the units being replaced on the pick list and note the others in Section C Notes
5. Equipment	
a. Equipment Type:	

WHAT TO DO IF DATA UNKNOWN OR NOT AVAILABLE?	Do not leave blank: if date or numeric field – estimate; for other fields enter UNKNOWN, if unknown.
EPA Unit Type Code	Choose from drop-down menu: "OTHER FUGITIVE"
EPA UNIT TYPE CODE HELP TEXT	Unit Type Code is a field required by US EPA for the National Emissions Inventory. Please select the most appropriate category from the drop menu. If none are close for your unit, choose one of the "Other…" or "Unclassified" type codes and provide additional information in field A.5.a Other EPA Unit Type (describe). This field allows for 50 characters.
EPA Unit Type (describe):	This field will be locked and should be the same response that is present in the EPA Unit Type Code field, except when the EPA Unit Type Code is OTHER BULK MATERIAL EQUIPMENT; OTHER COMBUSTION; OTHER EVAPORATIVE SOURCES; **OTHER FUGITIVE**; OTHER PROCESS EQUIPMENT; OR UNCLASSIFIED. When one of these responses is present in the EPA Unit Type Code field then Type field is unlocked to allow for a description of the equipment type; this field allows for 50 characters.
b. Manufacturer	Firm that built the unit, information can be usually found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.
c. Model number	Information can be found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.
d. Maximum input rating MMBtu/hr	**A response is required** if EPA Unit Type Code is a PROCESS HEATER; KILN; CALCINER; DRYER: DIRECT-FIRED OR UNKNOWN IF DIRECT OR INDIRECT OR INDIRECT-FIRED; FLARE; or OTHER COMBUSTION. Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit. Otherwise, leave this field blank. **Tip:** The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in Table C.1.2-2. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

B. FUELS AND EMISSIONS (PARENT AND SECTION B CHILD FORMS)

	.
	With certain exceptions, which will be noted, the preparer can edit any information listed below.
Is GHG emission reporting required for this fuel, waste or raw material/finished product?	Check the appropriate box, yes or no. If Yes, then complete Section B. Otherwise, validate this form; no GHG emission' reporting is required for this Section B. **NOTE**: If A.2.f is "GHG ONLY" then a Yes response is required.

Is this fuel, waste, or raw material/finished product an input, output or fuel?	Check the appropriate box: input, output or fuel. **NOTE**: Raw Material would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**. **For example**: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output.** The natural gas used by the dryer would be considered a **Fuel**. **NOTE**: If this information is inaccurate, please contact us at BAW.eDEP@mass.gov
Add a New Fuel:	Check the box if you need to add a fuel/material/product that you did not previously report (eDEP will add a blank Section B form to this form when you successfully validate it.) Any additional fuels/materials/products will automatically appear when you error check this form so you do not need to check this field to make additional forms appear if they have been reported on in a previous submittal. You can see the number of records that already exist for this unit in the field: "Number of fuels for this unit (previous records)". Use this check box only for NEW fuels for this unit which you have never reported before.
WHEN TO NOT CHECK "ADD A NEW FUEL" BOX	Any additional fuels will automatically appear when you error check this form so you do not need to check this field to make additional fuels appear if they have been reported on already in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". This check box is only for NEW fuels which you have never reported before.
Delete this fuel:	Check the box if you stopped using this fuels/materials/products in this emission unit. You must still report for the year of record even if amount is "0" – this fuel/material/product will be removed from the unit for the next report cycle. **NOTE**: If you ceased using this fuel/material/product and "Number of fuels for this unit…." is 1, do not check "delete this fuel" unless you also check "Add a new fuel". This form requires one active fuel/material/product to function properly. **NOTE**: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".
Number of fuels for this unit (previous records):	This field identifies the number of existing fuels that are associated with this EU. This information will be provided by the system. For new emission units: This question is not applicable.

HOW DOES EDEP HANDLE MULTIPLE FUELS?

In eDEP, a separate Section B form is automatically created for each additional fuel/material/product on record based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following:
1) If you need to add a new fuel and "Number of fuels for this unit…." is greater than 1, wait to see the other fuels before checking this box, or
2) If you ceased using this fuel and "Number of fuels for this unit…." is 1, do not check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: "Add a New Fuel" and "Delete this fuel" are present in all Section B forms

1. DEP Fuel #:

This is a unique number assigned by MassDEP that allows the system to recognize this fuel associated with this emission unit on future reports.
If this is a new Fuel, the field is blank and locked – MassDEP will assign this number.
If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.

CAN I CHANGE THE DEP FUEL IDENTIFIER?

This ID number is a MassDEP assigned number and cannot be changed

a. Source Classification Code (SCC)

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions for each unit.

SCC Description

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

HOW DOES EDEP USE SOURCE CLASSIFICATION CODES (SCC)?

SCC are standard codes EPA uses to identify different operations/activities and their associated emissions factors, if available. The SCC you select will be used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system and to help analyze the data. The SCC also identifies the Units per hour which are used for your response to B.2.b: Annual usage, and the B.3 Emission Factor Units (in pounds per unit). The list of SCC's used in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form is wrong, enter the correct code.
If the form will not accept the SCC you are entering, contact MassDEP at BAW.eDEP@mass.gov

WHAT SCC SHOULD BE USED TO REPORT EMISSIONS FROM A NATURAL GAS DISTRIBUTION SYSTEM?

Use the following SCC Code:

- 99999999 - GHG Source Categories - Unspecified Technology - Natural Gas Distribution System - Fugitive Emissions

b. Fuel/Material/Waste Type:

This response is determined based on the SCC. If the SCC is pre-populated, this field will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the type when the form is validated.

NOTE: If multiple types of fuel are used in this emission unit you must check the "Add a New Fuel" check box to add additional Section B forms for each fuel used. Once you successfully validate the current form the system will generate a blank Section B which will be found under this form as listed on the <Transaction Overview page>.

c. Fuel/Process Description:

Your choice of a unique name for this fuel.

2. Annual usage:

a. Total actual amount used for year of record

The actual amount of fuels/materials/products used in this emission unit during the calendar year being reported. Enter "0" if fuels/materials/products was not used in the year of record.

IMPORTANT - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Units when the form is validated.

b. Units

Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.

UNITS HELP TEXT

This information will be provided by the system based on your last submittal. For new emission units: This question is not applicable

Prior year (Annual usage)

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

B. GREENHOUSE GAS EMISSIONS

3. Total emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

CO2	CH4	N20	SF6	Refrigerants-CO2e
CO2e-CO2	CO2e-CH4	CO2e-N2O	CO2e-SF6	CO2e-Refrigerants

Other GHG Pollutant
CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions unless you check the box to manually enter emissions for each specific pollutant.

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

The form will calculate emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

WHY YOU MAY WANT TO CALCULATE YOUR OWN EMISSIONS VALUES?

The form will calculate emissions from your annual throughput, and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The EPA emission factors are generic and conservative – they may overestimate your emissions. Because they are generic, the EPA SCC emission factors are not applicable in all situations.

NOTE: see Appendix C for more guidance how to calculate your own emissions.

WHAT ARE "ACTUAL EMISSIONS"?

Actual emissions are an estimate of the total tons of each pollutant (gas) emitted by the emission unit during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant.

NOTE: Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This question is not applicable.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

WHAT ARE EMISSION FACTORS?

Emissions factors are the amount of pollution (gas) generated per unit of operation. For fuels, total tons of emissions are obtained by **multiplying [EF in #/fuel unit] x [fuel usage/year] x [conversion to tons (1 Ton/2000#)] = Tons per year (TPY) of emissions.**

If you allow eDEP to calculate your emissions, this field will be auto-filled with EPA's default emission factors, if available, based on the SCC chosen for this emission unit and fuel combination. If you choose to calculate your own emissions, you must enter the emission factor that you used and select the Calculation Method from the drop down list. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

Because they are generic, EPA's emission factors are not the best choice in all situations. They may overstate emissions for facilities. See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor (EF)

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC chosen for this emission unit and fuel combination.

WHAT EF AND EF UNITS SHOULD BE USED TO REPORT SF6 AND REFRG-CO2E EMISSIONS?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units, listed in pounds per unit, must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected should match the unit present in the response to B.2.b.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor.

If you are calculating the actual emissions for the pollutant yourself, you must choose from the following in a drop down list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-EPA EF	EPA Emission Factor (40 CFR Part 98)

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.
For HFC and/or PFC emissions report those emissions in the Refrigerants-CO2e field. Include the Emission Calculation in the "C. Notes" field showing the species, GWP, and total CO2e for that species. Do not report HFC or PFC emissions in the "specify other pollutant" field.

For questions regarding HFC and PFC reporting, please contact both the SR-GHG Help Desk (baw.edep@mass.gov) and the Climate Strategies mailbox (climate.strategies@mass.gov).

CO2e for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This question is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

4 Total CO2e emissions	The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.
CO2e for previous year	This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record	The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

C. NOTES

This section is to provide any additional information for any of your responses on this form.

You must click [Error Check] to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. Once you have made all of the required corrections you will be returned to the <Transaction Overview page>.

To continue your work on this emission unit, click on the next form (i.e. Section B Child Form for this EU <Greenhouse Gas (FUEL#....)> or Section D Child Form for this EU <GHGSecD (Total Emissions)> or next EU form < Greenhouse Gas (DEP#....)> or click [Next] found at the end of the <Transaction Overview page> to continue your work on this package.

D. TOTAL EMISSIONS FOR EMISSION UNIT

WHAT ARE TOTAL EMISSIONS FOR THIS EMISSION UNIT?	This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e for this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
1. Total Emissions for this emission unit in tons per year	Calculations: This form automatically calculates this emission unit's total actual emissions and total carbon dioxide equivalent (CO2e) for each specific pollutant (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.
Actual (in Tons) for previous year	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
Actual (in Tons) Emissions	The actual emissions for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).
CO2e for previous year (in Tons)	The actual emissions for the prior year reported For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record (in Tons)	The CO2e for each specific pollutant for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

2 Total CO2e emissions	Calculations: This form automatically calculates this emission unit's Total CO2e. It calculates these values from the data you entered in Section B: Emissions for each fuel. **NOTE**: Manual calculating of these values is not an option.
CO2e for previous year	This information will be provided by the system. For new emission units: This question is not applicable.
CO2e for year of record	The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

BAW AQ GHG Total Emissions Statement (TES) Instructions

PURPOSE

This summarizes the annual GHG emissions for the facility.

WHO MUST FILE THIS FORM?

This form must be completed for each facility's package.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

One form is necessary when the submittal contains a -form for an emission unit. If the submittal is amending/correcting information on the Facility Information form, the Total Emission Statement form is not necessary.

WHEN IS THIS FORM APPLICABLE?

A. ANNUAL TOTAL EMISSIONS STATEMENT

Most of the information below will have been calculated automatically based on the information you provided on the GHG forms. If you need to correct your emissions, return to the individual emission unit forms to correct those numbers.

1. Facility Identifiers

The name and identifying numbers of the facility that is reporting.

a. Facility Name
b. DEP Account number
c. Facility AQ Identifier

This will be pre-populated from the information on your Facility Information Form.

NOTE: You cannot change the facility name on this form. To change your facility's name, you must contact your MassDEP Regional Office FMF Data Manager.

2. Total Emissions

The form automatically calculates the total actual emissions, totals for each individual GHG expressed as carbon dioxide equivalent (CO_2e) and the facility's Total CO_2e by adding the emissions data entered in the form for each emission unit. . You must validate the forms for each emission unit before total values can be calculated.

Actual for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This question is not applicable.

Actual for year of record

The information will have been calculated automatically on the basis of the information you provided on the Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and GHG Only

CO_2e for previous year

For repeat filers: This information will be provided by the system.
For new emission units: This information is not applicable.

CO_2e for year of record

The information will have been calculated automatically on the basis of the information you provided on the Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and GHG Only

2. Total CO2e Emissions

Actual for previous year	For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.
Actual for year of record	The information will have been calculated automatically on the basis of the information you provided on the Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and GHG Only

How are total emissions calculated?

When you open this form, eDEP sums the emission data from all of the emission units at this facility for which you have submitted data for the current year of record.

These fields are locked; you cannot edit these values.

The values displayed in the table will not reflect total facility emissions until all emission units at your facility are updated for the current year of record.

B. NOTES AND ATTACHMENTS

This section is to provide any additional information for any of your responses on this form. If you are including a document, please provide a brief summary.

If the material can be sent electronically, check the box for the appropriate form.

If paper information must be submitted, list the titles of the documents being submitted on the lines provided and mail them to:

Department of Environmental Protection,
Climate Strategies, GHG Reporting
100 Cambridge Street, STE 900
Boston, MA 02114

COMPLETION OF YOUR SUBMITTAL

RESPONSIBLE OFFICIALS SIGNATURE

Once the Total Emissions Statement (TES) Form has been validated, it will be necessary for the Responsible Official (RO) to electronically sign the document. In most cases, this will require the preparer to share the document with the RO.

SHARING A PACKAGE

The Share feature allows you to assign rights to edit, sign, or submit a package

To share your package:

1. From the <Transaction Overview page>, select Share Transaction.
2. On the Share Submittal page, select the add button
3. When Add button selected, enter the Responsible Official's nickname in the "Share With" field, for "Role" select Editor&Signer (this allows the RO to edit, sign & submit the package), and include an end date for sharing the submittal.
4. Select the Add button again at the bottom of the page
5. The RO's first and last name with the role will appear in the Shared With field.
6. Once you have confirmed the RO contact information is correct, select the back button to return to the <Transaction Overview page>.

NOTE: In order for the RO to sign and submit the package, assign the role of Editor & Signer

To electronically sign the package, the RO will need to sign in using his own username and password. Once signed in, he can access source registration package from his home page. It should be a package with the status "Work in Progress". Once the "Active" package is opened, the RO will need to "click" on "Step 2 Acceptance (Signature)".

ELECTRONICALLY SIGNING THE GHG REPORTING PACKAGE

Once inside the Step 2 process, the RO needs to click on the checkbox "CERTIFICATION FOR ALL FORMS IN THIS GHG REPORTING PACKAGE." By checking this box, you are certifying that the information contained within the submittal is complete and correct to the best of your knowledge. The RO will then need to type his name in the appropriate area. The date should be have pre-populated in with the correct date; however, if not type in the correct date. The RO will then need to "Accept" the submittal.

SUBMITTING THE GHG REPORTING PACKAGE.

After accepting the submittal, the RO can proceed to Step 3 and submit the GHG package by clicking on "Step 3 Submit".

This completes the GHG reporting process.

There is only one job left to complete. Print out or electronically save a copy of the submittal so that it is readily accessible if it is ever necessary to reference the document. This can be done by clicking on the link "Download" found on your "My eDEP" page and following the instructions listed on that page. Because the documents are processed to be printed in the order the requests are received, it may take a while to complete this task. You can log out and sign back in at a later date to finish printing a copy, saving an electronic copy, or both.

PRINTING A COPY/SAVING AN ELECTRONIC COPY

IMPORTANT: You may be requested to present your GHG emissions report during an inspection of your facility or at any other time upon request by MassDEP.

APPENDICES

GREENHOUSE GAS ONLY PACKAGE

APPENDIX A: DEFINITIONS

ACTUAL EMISSIONS

Emissions emitted from the facility or emission unit for the specified time period.

AIR CONTAMINANT

An air pollutant regulated by MassDEP.

CALCULATION METHOD TYPE

The method used to determine the Greenhouse Gas emissions.
The methods are assigned the following codes:

CODE	DESCRIPTION
GHG-EPA EF	EPA GHG Emission Factor (40 CFR Part 98)
GHG-EPA EF	EPA GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-User EF	User Provided GHG Emission Factor

EMISSION UNIT (EU)

Any individual piece of equipment from which any air contaminant is emitted to the ambient air space, for example, an individual boiler, a single degreaser, etc.

GHG ONLY

When GHG emission reporting is required but this activity is not subject to SR emissions reporting; i.e. fugitive emissions for Natural Gas Distribution System.

GLOBAL WARMING POTENTIAL (GWP)

Global Warming Potential is a measure of the heat-trapping capacity of a given greenhouse gas relative to that of carbon dioxide. Carbon dioxide has a GWP of 1. The GWPs used for 310 CMR 7.71 are based on the GWPs found in Table A-1 to Subpart A of Part 98 (https://www.ecfr.gov/current/title-40/part-98/subpart-A/appendix-Table%20A-1%20to%20Subpart%20A%20of%20Part%2098).

Numbering Stacks, Points, and Segments

MassDEP's computer system that stores source registration data, automatically assigns numbers to a facility's stacks, points (emission units) and segments (fuels, organic materials, and other raw materials used in the emission unit).
The numbers the database assigns are always sequential and are automatically updated if a point, stack or segment is added at the facility. As a result, the number assigned to a particular point, stack or segment will not change from year to year, if a facility alters its equipment or raw materials.
However segment numbering is a little different than point and stack numbering. Points and stacks are assigned a unique number: there is only one stack assigned the number "1", only one stack assigned the number "2" etc. Similarly, regardless of what stack the point is assigned to, there is only one point assigned the number "1", only one point assigned the number "2", etc. However, segment numbering happens WITHIN a point, so a given segment number can be repeated.

For example:
The facility above uses one degreasing chemical: "Clene-Sol"; three different paints in the "Roll Coater": "red paint", "green paint" and "blue paint"; and two paints in "Spray Coater B" "yellow paint" and the same "red paint" that is used in the "Roll Coater".
Point #1 "Degreaser" would have one segment, numbered in the following way:
Segment #1: "Clene-Sol"
Point #2 "Roll Coater" would have three segments, numbered in the following way
Segment #1: "red paint"

Segment #2: "green paint"
Segment #3: "blue paint"
Point #3 "Spray Coater B" would have two segments, numbered as follows:
Segment #1: "yellow paint"
Segment #2:"red paint"

NOTE: The example illustrates three important points.

1. Note that three different segments were assigned the number "1", and two different segments were assigned the number "2".
2. Note that even though the "red paint" is the exact same formulation, it still shows up as two different segments because it is used in two different emission units.
3. Note that even though the "red paint" is the exact same formulation, it can be assigned two different segment numbers. (It could just as easily have been assigned # 1 in both Point #2 and Point #3, however, because "red paint" was entered first when the data for Point #2 was entered into the database, and was entered second when the data for Point #3 was entered intothe database, "red paint" became Segment #1 in Point #2, and Segment #2 in Point #3.

POINT

An emission unit.

RESPONSIBLE OFFICIAL (RO)

IF THE FACILITY HAS THIS TYPE OF OWNERSHIP:	**THE RO MUST BE:**
Sole proprietorship	The sole proprietor
Partnership	A general partner with the authority to bind the partnership
Corporation or a non-profit corporation	A corporate official with authority to bind the corporation such as a: ✓ President, ✓ Secretary, ✓ Treasurer, ✓ Vice president of the corporation in charge of a business function, ✓ Any other person who performs similar policymaking or decision-making functions of the corporation.
Municipality or other public agency	A principal executive officer A ranking elected official who is empowered to enter into contracts on behalf of the municipality or public agency.

SEGMENT

The fuel, organic material, or other raw material that is used in an emission unit, and whose use results in the release of air contaminants.

APPENDIX B: LIST OF ACRONYMS

ACRONYM	DEFINITIONS / EXPLANATIONS / COMMENTS
AP- 42	Reference to manual containing emission factors (https://www.epa.gov/chief)
APCE	Air Pollution Control Equipment
AQ	Air Quality
AQCR	Air Quality Control Region
BACT	Best Achievable Control Technology
BAW	Bureau of Air & Waste
BTU or Btu	British Thermal Unit - a measure of energy
BWP AQ 01	Limited Plan Approval permit application
BWP AQ 02	Non-Major Comprehensive Plan Approval permit application
BWP AQ 03	Major Comprehensive Plan Approval permit application
BWP AQ 09	Restricted Emission Status Plan Approval permit application
BWP AQ CAA- HAPS	CAA List of hazardous air pollutants by chemical name with CAS#
BWP AQ Form	Air Pollution reporting form or permit/plan approval application
CAA	Clean Air Act
CAS	Chemical Abstract Service
CFC(s)	Chlorofluorocarbons - Class I ODC
CFR	Code of Federal Regulation
CF	Cubic Feet
CMR	Code of Massachusetts Regulations
CO	Carbon Monoxide
CPA	Comprehensive Plan Approval
DEP	Department of Environmental Protection - Massachusetts
DEQE	Department of Environmental Quality Engineering, now MassDEP
EF	Emission Factor
ENF	Environmental Notification Form
EPA	Environmental Protection Agency - Federal
EPCRA	Emergency Planning and Community Right-to-Know Act
EU	Emission Unit
FC(s)	Fluorocarbons
FIL	Filterable
FIP	Federal Implementation Plan
FPS	Feet per Second
FR	Federal Register
FT	Feet
FUE	Fuel Utilization Equipment
FUF	Fuel Utilization Facility
GHG	Greenhouse Gas
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
HCFC	Hydrochlorofluorocarbons - Class II ODS
HVLP	High Volume Low Pressure
HOC	Halogenated Organic Compounds
HYC	Hydrocarbons
ID	Identification
LAER	Lowest Achievable Emission Rate
LBS	Pounds
LCON	Code for the Regional Office
LPA	Limited Plan Approval

MACT	Maximum Achievable Control Technology
MassDEP	Massachusetts Department of Environmental Protection (DEP)
MMBtu	Million British Thermal Units
MMCF	Million Cubic Feet
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NESHAPS	National Emission Standard for Hazardous Air Pollutants
NH3	Ammonia
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides - "knocks"
NSPS	New Source Performance Standard
ODS	Ozone Depleting Substances
OP	Operating Permit (310 CMR 7.00 (Appendix C))
PB	Chemical abbreviation for Lead
PCBTF	Parachlorobenzotrifluoride
PM	Particulate Matter
PM10	Particulate Matter, 10 microns or smaller
PM2.5	Particulate Matter, 2.5 microns or smaller
PPM	Parts per Million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act: program that establishes hazardous waste management rules
REC	Recorder
RES	Restricted Emission Status (310 CMR 7.02(9))
RVP	Reid Vapor Pressure (for gasoline)
SCC	Source Classification Code
SEG	Segment
SIC	Standard Industrial Classification
SIP	State Implementation Plan -- the federally approved regulations, permits and programs that implement the Federal Clean Air Act in the State.
SNAP	Significant New Alternative Policy
SO2	Sulfur Dioxide – chemical abbreviation
SOX	Sulfur Oxides - "socks"
SR	Source Registration
SRGHG	Source Registration and Greenhouse Gas
TPY	Tons per Year
TSP	Total Suspended Particulates
TURA	Toxics Use Reduction Act
USGS	United States Geological Survey
VMS	Volatile Methyl Siloxanes
VOC(S)	Volatile Organic Compounds
WGT	Weight
YR	Year

APPENDIX C: CALCULATIONS

SECTION C.1: ESTIMATING EMISSIONS

SECTION C.1.1: BASIC METHODOLOGY

Apply the formula below to calculate potential and actual emissions

ACTUAL EMISSIONS for ALL facilities are determined from the following equation:

> ACTUAL EMISSIONS = [APPROPRIATE EMISSION FACTOR] x [ACTUAL RAW MATERIALS USED or ACTUAL HOURS OF OPERATION]

Example Calculations: Formulas and Example calculations for Process Emissions are provided in Section C.1.2 below. Section C.1.3 has formulas, emission factors, and sample calculations for fuel utilization facilities.

SECTION C.1.2: EXAMPLE CALCULATIONS FOR PROCESS EMISSIONS:

- Section C.1.2.1 Example Calculations for Other Process Emissions.

SECTION C.1.2.1: EXAMPLE CALCULATIONS FOR OTHER PROCESS EMISSIONS

TABLE C.1.2.1: **Formulas For "Other Process Emissions":** **NOTE: You must obtain the applicable emission factors from stack testing, your permit or plan approval for emission units, the applicable regulations, or, if no other information is available, from EPA's AP-42/FIRE Emission Factors** https://www.epa.gov/chief

SECTION C.1.2: FORMULAS AND SAMPLE CALCULATIONS FOR FUEL BURNING DEVICES

- Section C.1.2.1: Formulas for Estimating Emissions from FUEL Burning Devices using Emission Factors

SECTION C.1.2.1: FORMULAS FOR ESTIMATING EMISSIONS FROM FUEL UTILIZATION FACILITIES USING EMISSION FACTORS

Table C.1.2-1 presents formulas using emissions factors to estimate potential emissions from fuel utilization facilities.

TABLE C.1.2-1

Formulas for calculating Actual Emissions from Fuel Utilization Facilities using Emission Factors

Air Contaminant	Formula for Estimating Emissions
CO2, CH4, N2O ACTUAL EMISSIONS	[EMISSION FACTOR] x [gallons of fuel used during the year / 1000] x [1 ton / 2000 lbs.] = Tons of Contaminant per year

SECTION C.1.2-2 OIL HEAT VALUES

TABLE C.1.3-2

Oil Heat Values

FUEL TYPE	SULFUR CONTENT % by weight	(S) lbs. per million MMBTU	HEAT VALUE BTU per gallon
NO. 6	1%	0.55	147,000
	2.2%	1.21	150,000
	0.5%	0.28	142,000
NO. 4 or 5	0.5%	0.28	142,000
NO. 5	1%	0.55	147,000
NO. 1 or 2	0.3%	.17	140,000