Emission Inventory Guidance

NMED – Air Quality Bureau
https://www.env.nm.gov

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Introduction

The Air Emissions Inventory Reporting (AEIR) system is a web-based tool used to submit emission inventories to NMED. NMED uses this information for compliance assessment and planning purposes, to prepare statewide emissions inventory information, and to report emissions to the U.S. Environmental Protection Agency (EPA). The Air Quality Bureau (AQB) is requiring Major (Title V) and Minor sources (facilities operating under a New Source Review, General Construction Permit, or Notice of Intent) to report annual emission data for calendar year 2020.

This document contains instructions on how to use AEIR for creating a new submittal and adding equipment, if necessary, to a Notice of Intent (NOI) or General Construction Permit (GCP). All other permit types should consult with the Permitting Section to add equipment in accordance with 20.2.72 NMAC – Construction Permits.

Types of Facilities That Can/Cannot Add, Remove, and Modify New Subject Items

The facility permit type determines whether or not new equipment can be added, removed, or modified. Only facilities with NOIs, GCP2, GCP3, GCP5, or GCP6 can add, remove, or modify new equipment.

Facilities with New Source Reviews (NSRs), Title V (TV), Title V-Prevention of Significant Deterioration (TV-PSD), GCP4, GCP Oil & Gas, and Streamlines cannot add, remove, or modify new equipment.

For any permit type, existing equipment cannot be removed or modified. If the equipment at a facility is incorrect use the support request button to notify NMED-AQB. If there are changes to your permit, contact AQB's permitting section to update your permit.

Emissions Inventory Pollutants

Regulated air pollutants are required to be reported to AQB via an emissions inventory (20.2.73 NMAC – Notice of Intent and Emissions Inventory Requirements), including but not limited to, carbon monoxide (CO), nitrogen dioxide (NO_2), Sulfur dioxide (SO_2), particulate matter 10 and 2.5(PM2.5 and PM10, respectively), particulate matter condensable, lead (Pb), and volatile organic compounds (VOCs).

Total HAPs do not need to be submitted in the emissions inventory. Instead, report HAPs individually, such as benzene, xylene, formaldehyde, etc. (refer to Appendix D). AEIR can accept emission values equal to or greater than 0.001 tons/year.

A parent company is required to report greenhouse gas (GHG) emissions to the Bureau only if it is reporting these emissions to the EPA. However, all businesses with air quality permits are

encouraged to submit GHG emissions data.

Bundled and Unbundled Equipment

Actual emissions need to be reported for each emission unit at a facility. Emissions units at a facility may be grouped for reporting actual emissions for tanks, conveyers, and other non-combustion equipment. However, combustion equipment must not be bundled.

Some facilities may have existing bundled equipment in their emission inventory submittals. Enter data into AEIR according to the bundled equipment description. Requests to unbundle existing equipment can be made through the request for support button.

If the facility can add, remove, and modify new equipment (only for NOIs and GCP-2, 3, 5, and 6), then add new equipment either as unbundled or bundled, such as tanks, conveyers, and other non-combustion equipment.

Note: Leasing facilities do not need to unbundle their equipment.

Actual Emissions vs Permitted Emissions, Potential Emission Rate (PER), and Potential to Emit (PTE)

Actual emissions differ from permitted emissions. Actual emissions refer to the amount of pollutants emitted into the atmosphere from emission sources at facilities based on production, material use, or fuel use. Permitted emissions refer to the maximum allowable amounts detailed in your permit.

Permitted emissions, allowable emissions in an air quality permit, as well as PER and PTE are not acceptable values to report in this emissions inventory. Only actual emissions will be accepted.

Actual emissions can be measured or calculated using one of the methods listed below in the Methods of Calculating Actual Emissions section. Maintaining data related to operating hours, production rates, and quantities of materials processed, stored, or combusted over the calendar year for subject emission units will be useful for these calculations.

Excess Emissions, Malfunctions, and Startup, Shutdown, & Maintenance (SSMs)

All excess emissions, and emissions related to malfunctions and SSM events must be reported in the emission inventory because they are actual emissions. Report these emission events as part of the total emissions from the equipment that released the pollutants. If SSMs or malfunctions already appear separately as existing Subject Items (SIs) in the AEIR, then zero out these emissions there and report them under their corresponding equipment for the emissions inventory. The SI is defined as any emission unit at a facility under the categories of activity, area, equipment, discharge location, release point, and treatment. Refer to Appendix A for a list of all Unit Categories and Unit Types.

Fugitives

Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening (40 CFR Part 70.2 and 71.2). Fugitive emissions can be categorized in two separate ways: 1) emissions that cannot be attributed to a single source (i.e., plant fugitives), and 2) emissions that can be attributed to a single source.

1) Plant fugitives are emitted from multiple sources across an entire plant. They include flanges, valves, connectors, seals, pump seals, and other sources. Emissions from these sources cannot be attributed to any single point source and should be reported together in one SI in AEIR under Category: Release Point and Type: Fugitives (Appendix A).

2) Fugitives are also emitted from haul roads, tank vents, loading/unloading, transfer points, crushers, and other volume sources (A **Volume source** of pollution is a three-dimensional source of pollutant emissions. Essentially, it is an area source with a third dimension. For example, emissions from a haul road or a gravel crusher). Fugitive emissions from these sources can be linked to one source and should be reported using the respective Category and Type of the SI itself. Under special circumstances fugitive emissions can be routed through emission control devices, which can affect how they should be reported. For example, if fugitive emissions are controlled using a flare, the flare should be entered as a separate SI with the total emissions being reported on the flare (i.e., the original emission unit will have zero emissions while the flare contains the total emissions). Another example is the recycling or capturing of emissions using a control device such as a vapor recovery unit (VRU). Since the emissions are not being released into the atmosphere, total emissions released from the SI should be zeroed out in AEIR.

In both cases, the SI should be reported using a fugitive stack as described in the next section.

Stack Information for New Subject Items

Emission inventories require stack information for subject items (SIs) because of its importance in air dispersion modeling and EPA's submittal requirements.

When adding a new SI into the emissions inventory submittal in AEIR, include stack information for physical or fugitive stack parameters. All SIs require stack information to be entered. Stack types include (1) vertical, horizontal, goose neck, vertical with rain cap, downward facing vent, as well as (2) fugitives.

(1) When a new SI is created and has a physical stack, select the appropriate stack type (vertical, horizontal, goose neck, vertical with rain cap, or downward facing vent) and enter the variable values for height above ground in feet (ft); temperature in degrees Fahrenheit (F); flow rate in actual cubic feet per second (acfs); velocity in feet per second (ft/sec); and inside stack diameter in feet (ft). These types of stacks are considered point sources since emissions are released to the atmosphere from a single point.

(2) When a new SI is created and does not have a physical stack, select the "fugitive" stack type. Sources without a physical stack are considered volume sources since emissions emanate from the SI on all sides. For these types of sources, select 'fugitive' as the stack type. The height above ground will default to 10 feet and all other variables will grey out. If a more accurate release height is available, please delete the default 10 feet and replace it with the more accurate height. Examples of SIs with fugitive stacks include haul roads, crushers, and tanks.

AQB's Calculation Tool

Calcatenate has been developed to calculate emissions using either equipment-specific factors or general factors. If specific emission factors are not entered, then this tool will default to EPA AP-42 emission factors for that equipment.

For more information and instructions regarding Calcatenate, visit https://www.env.nm.gov/air-quality/calcatenate/. A live training session of Calcatenate can be found on the Emission Inventory Submittal webpage: https://www.youtube.com/watch?v=g-ZO8HWS5Yw

Methods of Calculating Actual Emissions

Actual emissions must be calculated or measured based on the best available method. Do not use a less preferable method if a more preferable one is available. When performing calculations, emission factors that are more specific to the equipment are more preferable to general industry factors. For example, emission factors based on compliance tests conducted on an engine are preferred to the manufacturer specifications because they relate to that particular piece of equipment. The tiers below are designed to illustrate which methods are more specific than other methods. However, other calculation methods listed in AEIR are also valid. Do not use a less

preferable method to calculate emissions if a more preferable method is available.

Methods of Calculating Actual Emissions

Tier 1 – Preferred
Actual Compliance Stack Test
Continuous Emissions Monitoring System (CEMS) Compliance Testing

Tier 2
Process Simulator
Manufacturer Specification
Vendor Supplied Emission Factors

Tier 3
EPA – Approved Emission Factor
Gas Analysis (refer to Appendix C for representative criteria)
Liquid/Oil Analysis (refer to Appendix C for representative criteria)

Tier 4
TANKS 4.09
GRI-HAPCalc 3.0 and 4.0
Vasquez Beggs
Material balance (only for construction industry)

Compliance Stack Tests must be performed in accordance with EPA reference methods.

Continuous Emission Monitoring System (CEMS) - EPA approved CEMS method and quality assurance protocols should be used. CEMS must operate under governing state/federal regulations.

Process Simulators, such as ProMax and Aspen HYSIS, can estimate the emissions of various pollutants from certain processes and emission units.

EPA-Approved Emission Factors are the basis for many calculations. These factors represent industry-wide averages and show the relationship between emissions and a measure of production or heat input. If you encounter problems finding emission factors for an emissions source, you may contact AQB for assistance. When using EPA or other emission factors, you must use the most recent version. Sources of emission factors are listed in the box below.

A **Material Balance** can only be used on specific types of emission units. It is most commonly used for construction industries.

Sources of Emission Factors

WebFIRE contains emissions factors developed by the EPA for criteria pollutants and HAP for industrial and non-industrial processes. Log on to http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main to access WebFIRE.

AP-42 COMPILATION OF AIR POLLUTANT EMISSION FACTORS is the recommended source of air pollutant emission factors, with descriptions of activities emitting criteria and hazardous air pollutants. AP-42 can be accessed from the CHIEF Internet site https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions- factors.

TANKS The Tanks 4.09D software estimates VOCs and hazardous air pollutants from vertical and horizontal fixed-roof tanks, internal and external floating-roof tanks, domed external floating roof tanks and underground storage tanks. It is based on the emissions estimation procedures presented in Section 7.1 of AP-42, 5th Edition. TANKS can be downloaded from the CHIEF web site http://www.epa.gov/ttn/chief/software/tanks/.

Calculation Spreadsheets Requirements

Supporting documentation and calculations must be included with your submittal as an attachment in AEIR. Include the following in your calculations for each type of equipment:

1) Emission factors used and their source;
2) Calculation method and its source;
3) Actual Emission Parameters used in calculations;
4) Example calculation for each type of equipment;
5) Copy of a recent Representative Liquid or Gas Analysis (refer to Appendix C for Representative Criteria); and
6) Copy of stack test results that summarize the operational conditions during the test and average emissions during the test periods.

If you are using Calcatenate, the calculation export is a valid substitution for the above requirements.

Leasing Facilities

The owner company (lessor) and the operating company (lessee) have different roles when reporting emissions. The owner company that submits and holds the permit/notice is responsible for ensuring that actual emissions are reported for the inventory. For example, if the owner company has an NOI for compressor engines and leases one or more engines to an operating company, then the owner company is held responsible for reporting actual emissions for the emissions inventory. The owner company must coordinate with the operating company to request information and supporting documentation for the emissions inventory. The owner company and the operating company can coordinate together in the submittal of the emissions inventory and avoid double reporting. However, the ultimate responsibility of emission

reporting remains on the owner company.

Portables

General Construction Permits (GCPs) are permits written to handle the needs of a specific industry. GCP numbers 2, 3 and 5 (for the Aggregate Crushers, Asphalt Plants and Concrete Batch Plants, respectively) are portable, meaning that relocations can be undertaken. These permit types are unique in the sense that they can add, modify, and remove new equipment.

Actual emissions for GCP-2, 3, and 5 facilities must be reported for entirety of the reporting year regardless of physical location.

Many GCP-2, 3, 5 owners may qualify for small business assistance. For more specific information on these industries refer to the Construction Industries section of the Emission Inventory Submittal webpage: https://www.env.nm.gov/air-quality/ei-submittal/

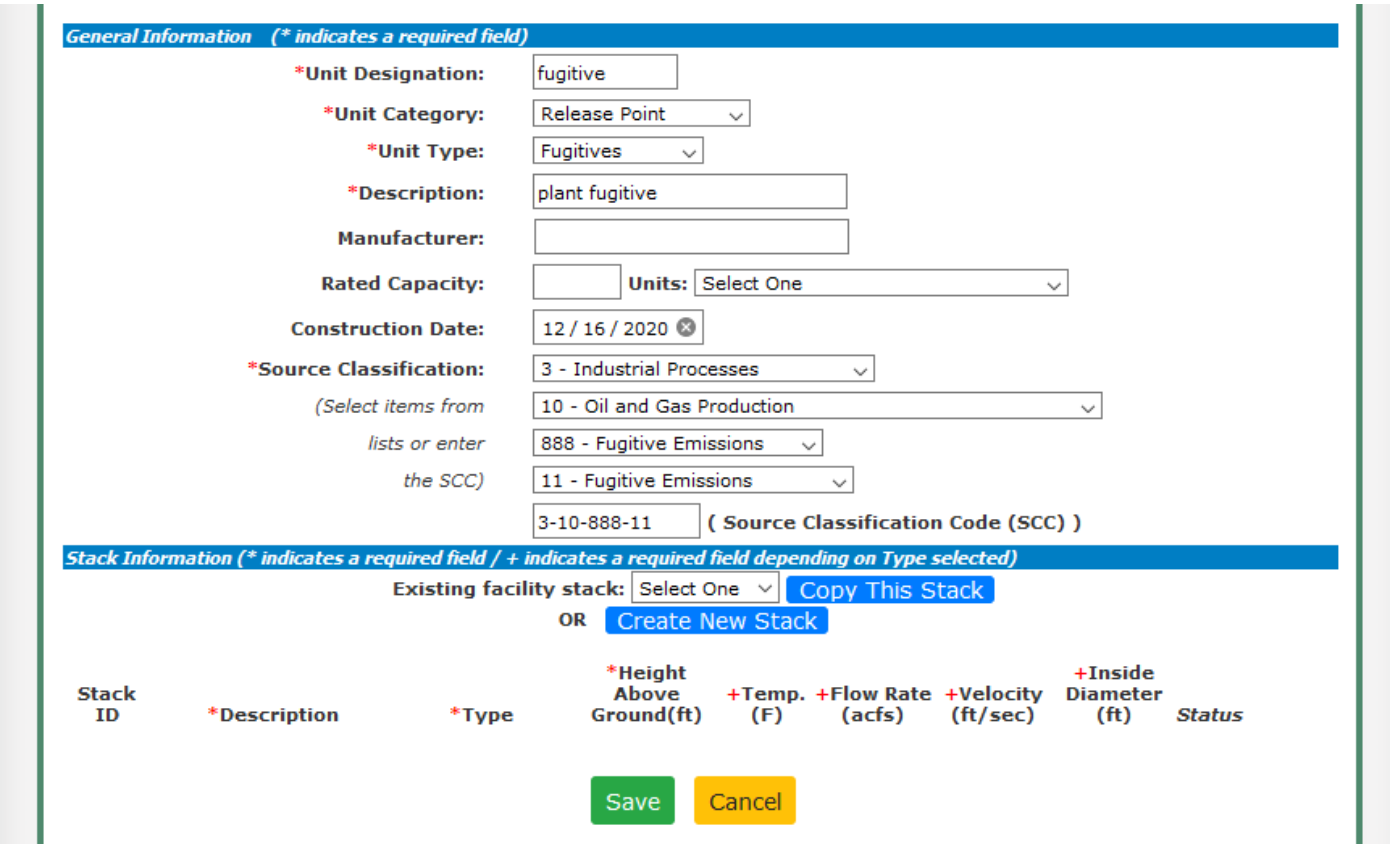
Reporting Inactive Facilities

If a facility has an active permit for any portion of the reporting year, then an emissions inventory must be submitted. This applies to facilities that did not emit pollutants during the year and to facilities that were not constructed. The scenarios below describe how to submit an inventory for facilities that have existing and for facilities that do not have equipment listed.

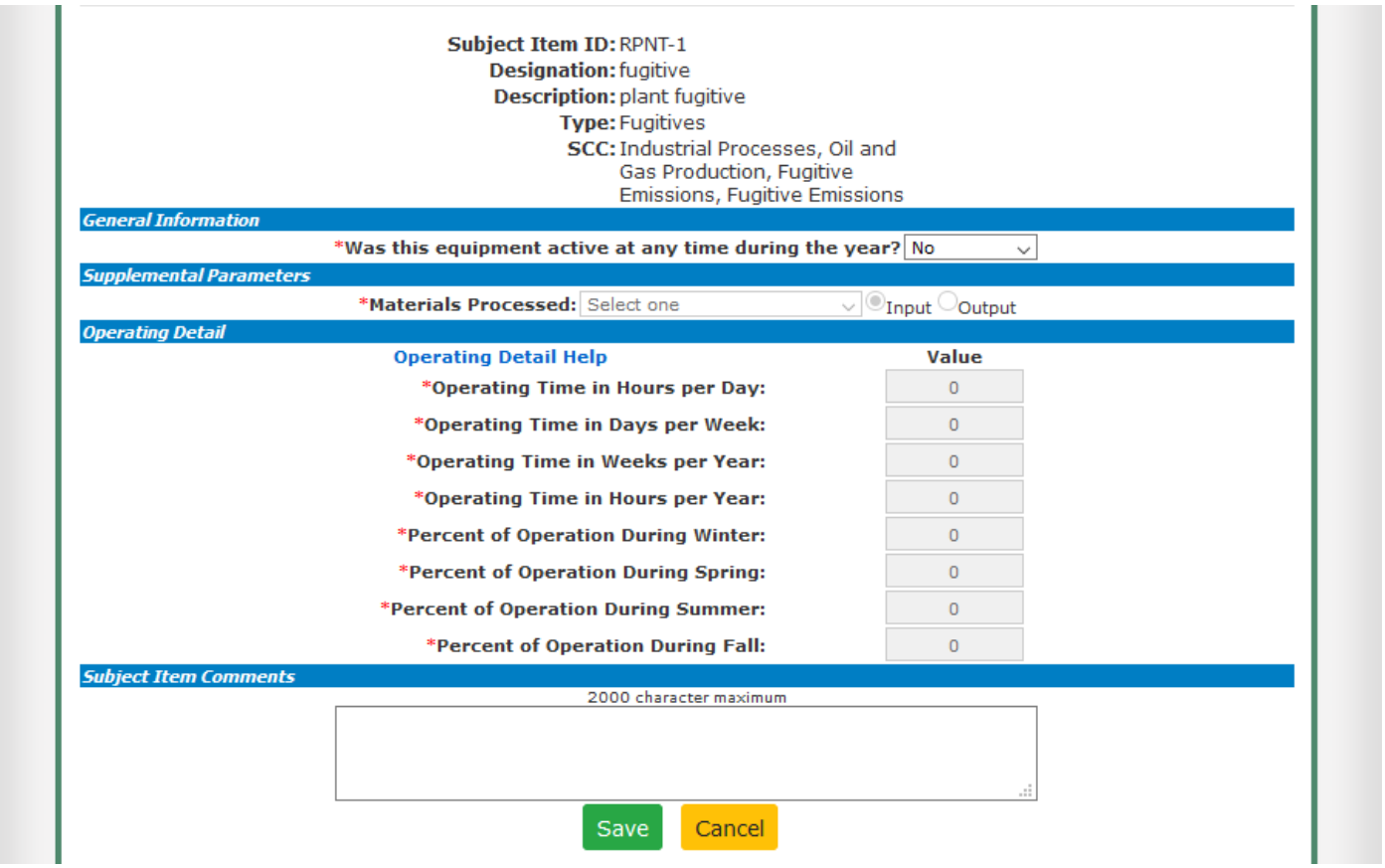
- If equipment already exists under your facility in AEIR and no pollutants were emitted during the reporting year, then an emissions inventory submittal is still required. In this scenario, mark “No” under the activity question on each subject item’s details page and select save. Then include a submittal comment that the facility did not emit pollutants or was not constructed before submitting and certifying your emissions inventory.

- If no equipment is listed under your facility in AEIR, as shown in the first snapshot below, and no pollutants were emitted during the reporting year, then an emissions inventory submittal is still required. In this scenario, a piece of equipment must be added to allow submission in AEIR. Add a fugitive subject item to your inventory using the “Add” functionality as shown in the picture below. Instructions on how to add equipment are provided under the “Adding New Subject Items to a Submittal” section in this guidance document. On the Details form for the added fugitive, mark “No” under the activity question and select save. Finally, include a submittal comment that the facility did not emit pollutants or was not constructed before submitting and certifying your emissions inventory.

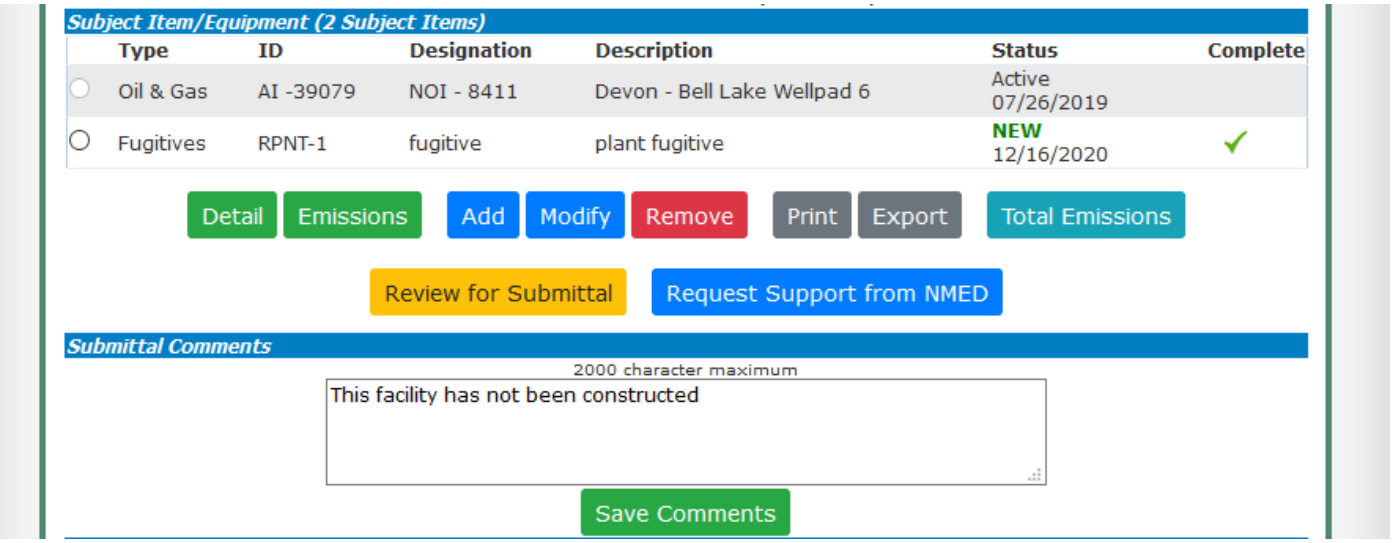
The above snapshot shows an example of a facility with no existing equipment.



The above snapshot shows an example of an added fugitive.



The above snapshot shows the activity question as "No" under general information.



The above snapshot shows an example of a submittal comment with added fugitives. This inventory is ready to be submitted.

Closed Facilities

If your facility was closed prior to the reporting year, but it is appearing in AEIR, please check the NSR Issuance Report on the Current Permitting Activities web page: www.env.nm.gov/air-quality/aqb-p_current_permitting_activites/

1) If the facility does not have closure dates listed – Complete the Permitting Administrative Multi-Form. This form is available from the Current Permitting Activities link.
    a. This form is used to close any type of permitting action at the Air Quality Bureau (NOIs, NSR, Title Vs, etc).
    b. The dates in the report are the day the closure was processed by NMED. For example, if paperwork was submitted in August 2019 to close a facility and states May 2019 as the actual closure date of the facility, then the date seen in the report will be August 2019.
2) If the facility does have closure dates listed but is still appearing in AEIR, then use the "Request Support from NMED" button within AEIR and provide as much information as possible.

Need to Update Permit?

If your permit or registration requires an update due to changes in equipment, throughput, etc., please contact the Air Quality Bureaus soon as possible to make those changes.

Changes in NAICS codes

In 2017 EPA revised some NAICS codes. If the North American Industry Classification System (NAICS) code listed in AEIR for your facility is incorrect, please use the "Request Support From NMED" button on the emissions inventory submittal form. We will help you input the correct NAICS code.

For example, Crude Petroleum and Natural Gas Extraction (2012 NAICS Code 211111) was split into two new codes in 2017. These codes are 211120 - Crude Petroleum Extraction and 211130 - Natural Gas Extraction.

Also, Natural Gas Liquid Extraction, (2012 NAICS Code 211112) is now NAICS Code 211130.

2017 NAICS U.S. Matched to 2012 NAICS U.S. (Full Concordance)

(Note: 2017 NAICS codes in bold indicate pieces of the 2017 industry came from more than one 2012 NAICS industry; 2012 NAICS codes in italics indicate the 2012 industry split to two or more 2017 NAICS industries.)

2017 NAICS Code	2017 NAICS Title	2012 NAICS Code	2012 NAICS Title (*and specific piece of the 2012 industry that is contained in the 2017 industry*)
211120	Crude Petroleum Extraction	*211111*	Crude Petroleum and Natural Gas Extraction - *crude petroleum extraction*
211130	Natural Gas Extraction	*211111*	Crude Petroleum and Natural Gas Extraction - *natural gas extraction*
211130	Natural Gas Extraction	211112	Natural Gas Liquid Extraction

Also, the 2012 NAICS Code for Lead Ore and Zinc Ore Mining (2012 NAICS Code 212231) has expanded to cover Nickel Ore and Lead Ore Mining (2012 NAICS Code 212234) in one inclusive 2017 NAICS Code: 212230.

2017 NAICS U.S. Matched to 2012 NAICS U.S. (Full Concordance)

(Note: 2017 NAICS codes in bold indicate pieces of the 2017 industry came from more than one 2012 NAICS industry; 2012 NAICS codes in italics indicate the 2012 industry split to two or more 2017 NAICS industries.)

2017 NAICS Code	2017 NAICS Title	2012 NAICS Code	2012 NAICS Title (*and specific piece of the 2012 industry that is contained in the 2017 industry*)
212230	Copper, Nickel, Lead, and Zinc Mining	212231	Lead Ore and Zinc Ore Mining
212230	Copper, Nickel, Lead, and Zinc Mining	212234	Copper Ore and Nickel Ore Mining

Refer to Appendix D for additional NAICS information.

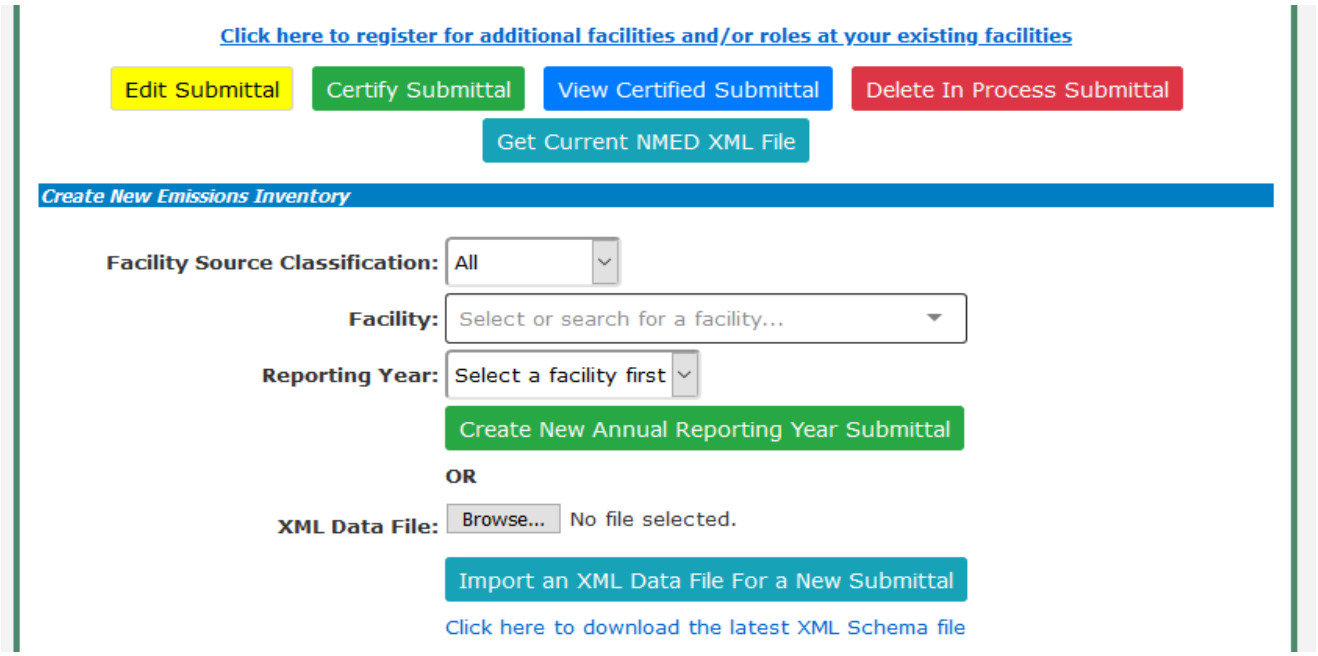
Creating an Emission Inventory Submittal Through the AEIR System

The options to create a new annual submittal, edit a submittal, certify a submittal, view a certified submittal, delete an in-process submittal, and retrieve the latest XML file is located at the bottom of the AEIR home page.

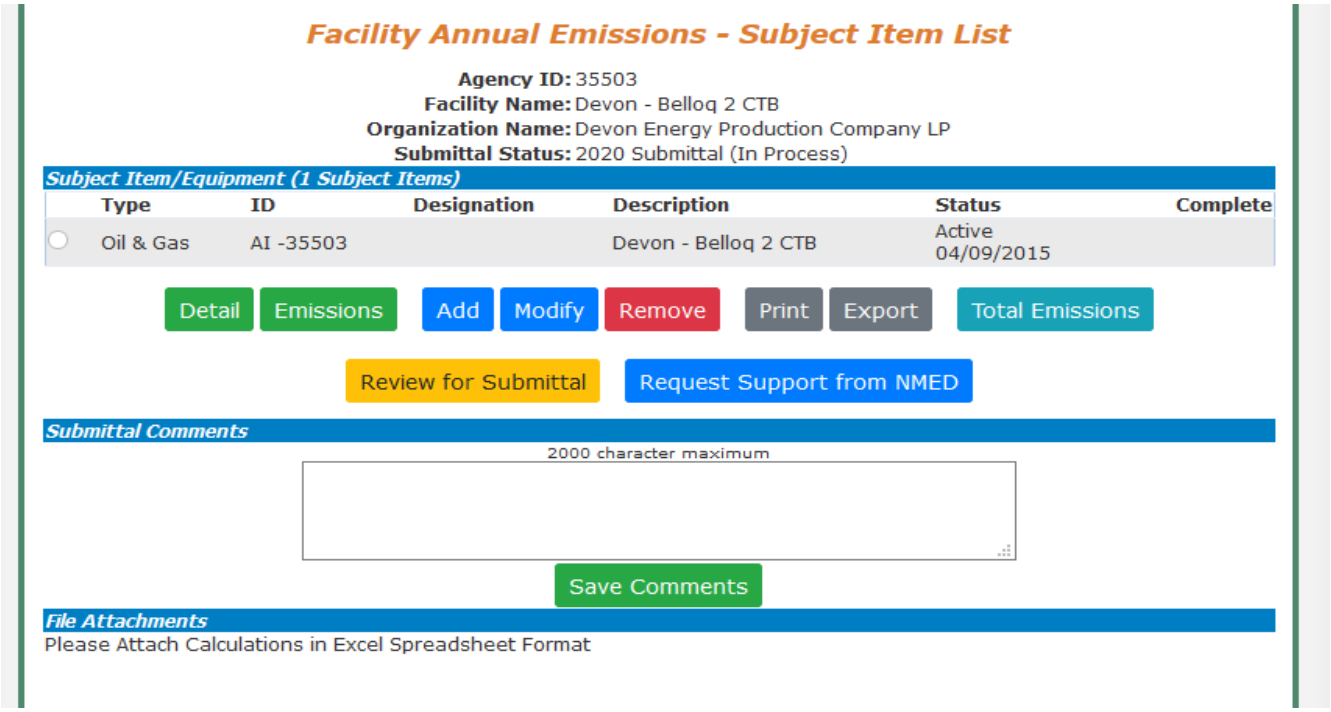
The following permit and registration types can add, modify, and remove new equipment: NOIs, GCP-2, GCP-3, GCP-5, and GCP-6. GCP O&G, GCP-4, NSRs, and TVs cannot add, modify, and remove new equipment. However, equipment that has been migrated to AEIR from our permitting database (existing equipment) cannot be removed or modified. If there are any issues, please contact NMED through the "Request Support" button.

To create a new emission inventory submittal, use the following steps:

1) Select ''ALL'' under ''Facility Source Classification.''
2) Under ''Facility'', use the drop-down filters at the bottom of the AEIR home page to select your facility.
3) Select the reporting year.
4) Click the green "Create New Annual Reporting Year Submittal" button.
5) If you do not complete the submittal, then click SAVE, and access it later by selecting the radio button located to the left of submittal on the AEIR home page, then click on the yellow "Edit Submittal" button shown below.



6) The below screen will appear once the submittal has been created for a facility. The example shown below does not have any existing equipment and can add new equipment since it is an NOI or GCP-2, -3, -5, or -6.



The Subject Item List page will appear as shown above.

On this page, you have the ability to input general and emissions data for SIs; add, modify, and remove new SIs; print and export submittal information; view total facility-level emissions; review and certify your emission inventory; and request support from NMED.

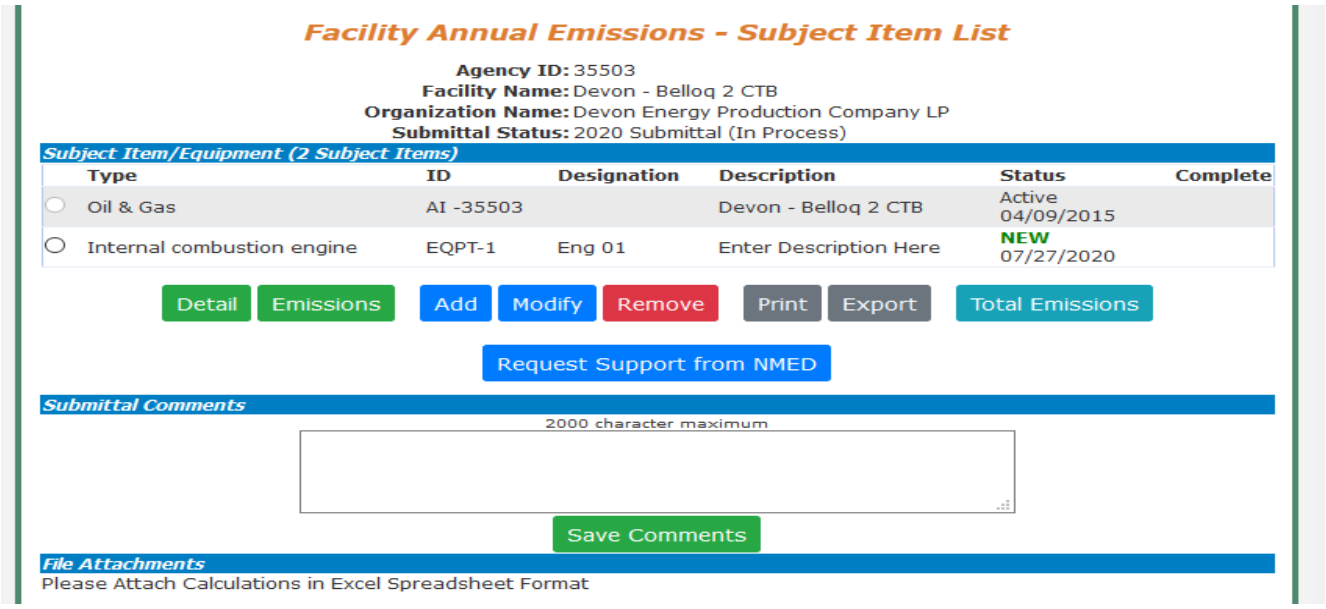
NOI and GCP facilities may or may not have existing Sis, depending on whether data was entered into the AQB database by Permitting staff. If you have SIs that are not listed on the SI List page, then follow the below instructions for adding new SIs. If existing SIs at your facility do not match the listed equipment or is different than the equipment on your permit, please contact NMED through the "Request Support" button to inform us.

Adding New Subject Items to a Submittal

The following permit and registration types can add, modify, and remove new equipment: NOIs, GCP-2, GCP-3, GCP-5, and GCP-6. GCP O&G, GCP-4, NSRs, and TVs cannot add, modify, and remove new equipment.

The three buttons that appear if you are adding equipment are: "Add," "Modify," and "Remove," as shown below.

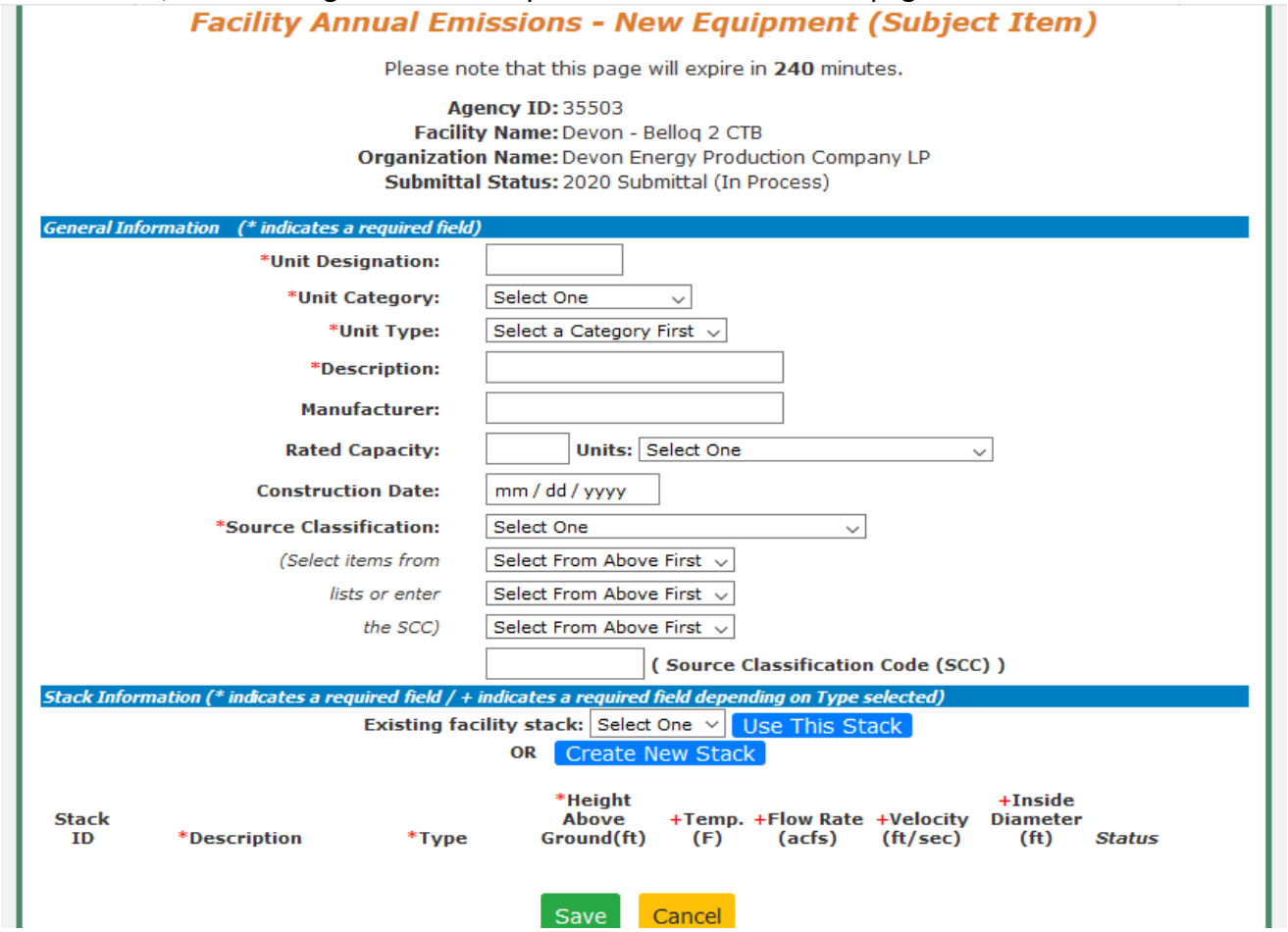
When creating SIs for engines and engine-powered equipment, enter these as separate SIs in AEIR. The engine is a combustion source, while the engine-powered equipment is not. For example, a crusher-engine combination should be entered as two separate SIs: one for the crusher and another for the internal combustion engine. The crusher does not use fuel so it is not considered to be combustion equipment and must be entered separately.



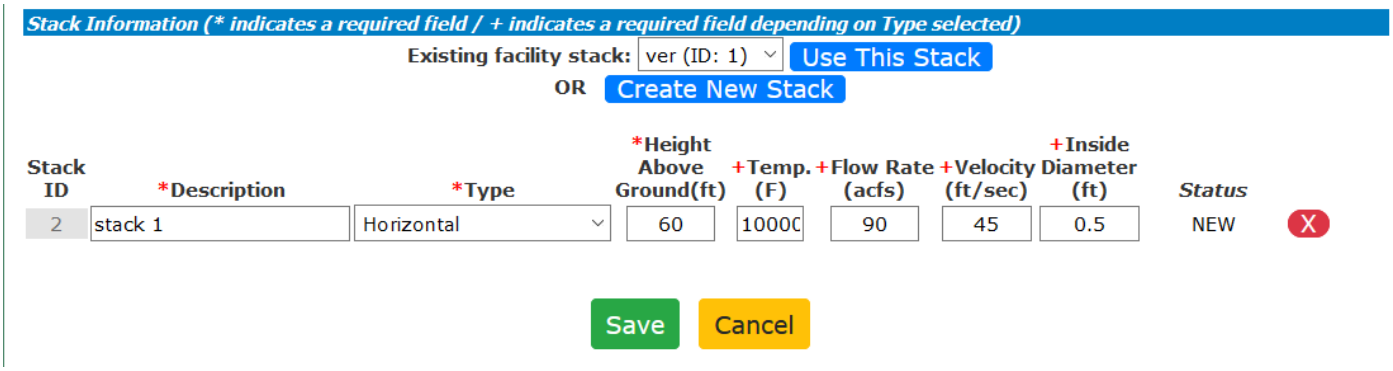
The figure shown above is an example of a facility with one newly added SI. To add SIs, follow the

below steps:

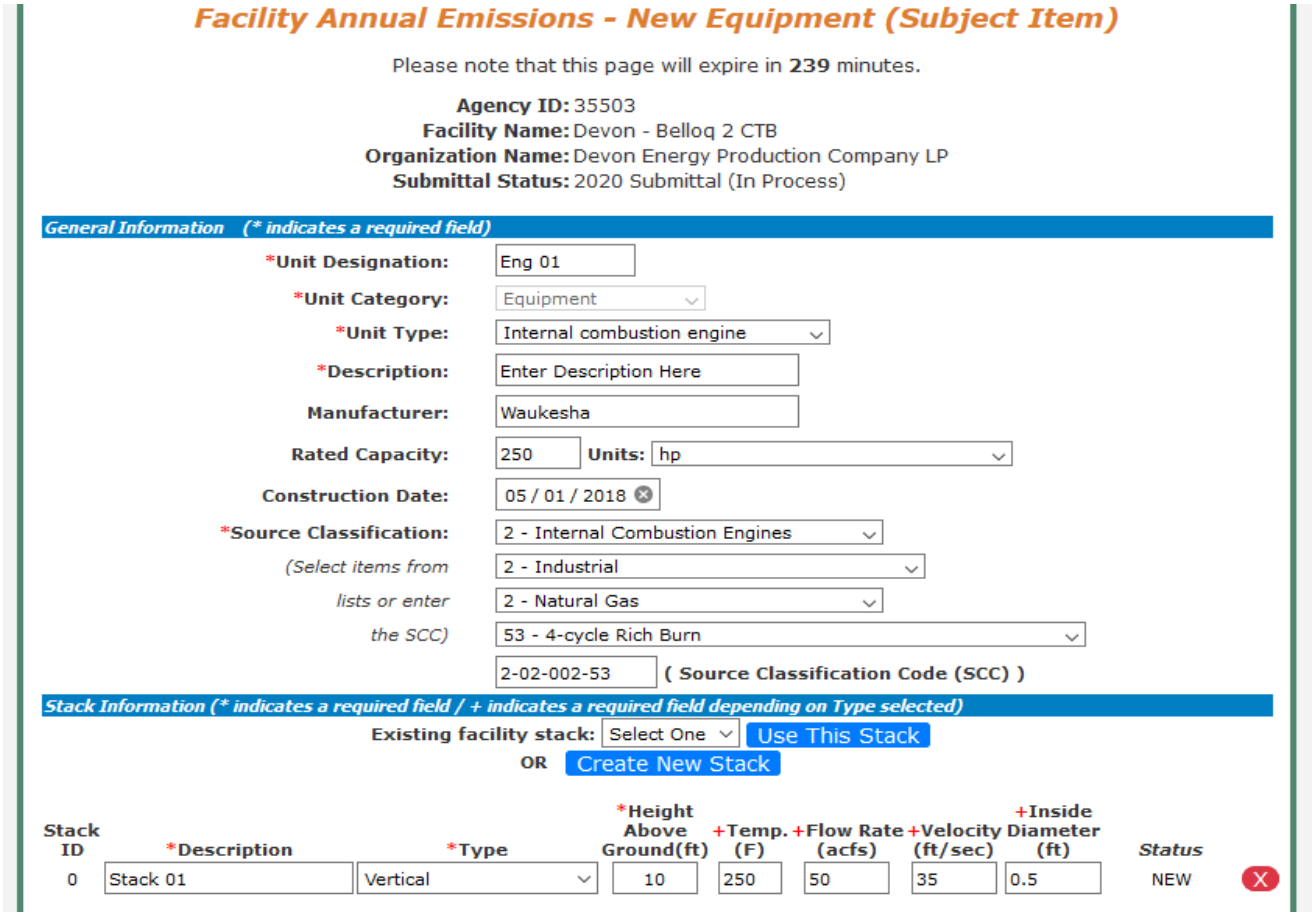
1) When the “Add” button is selected, AEIR will bring you to the following page, where you can fill out information about the subject item you are trying to add. The ones marked by a red asterisk (“*”) are required. These parameters can be edited later by selecting the radio button for the SI, then clicking on the “Modify” button on the submittal page.



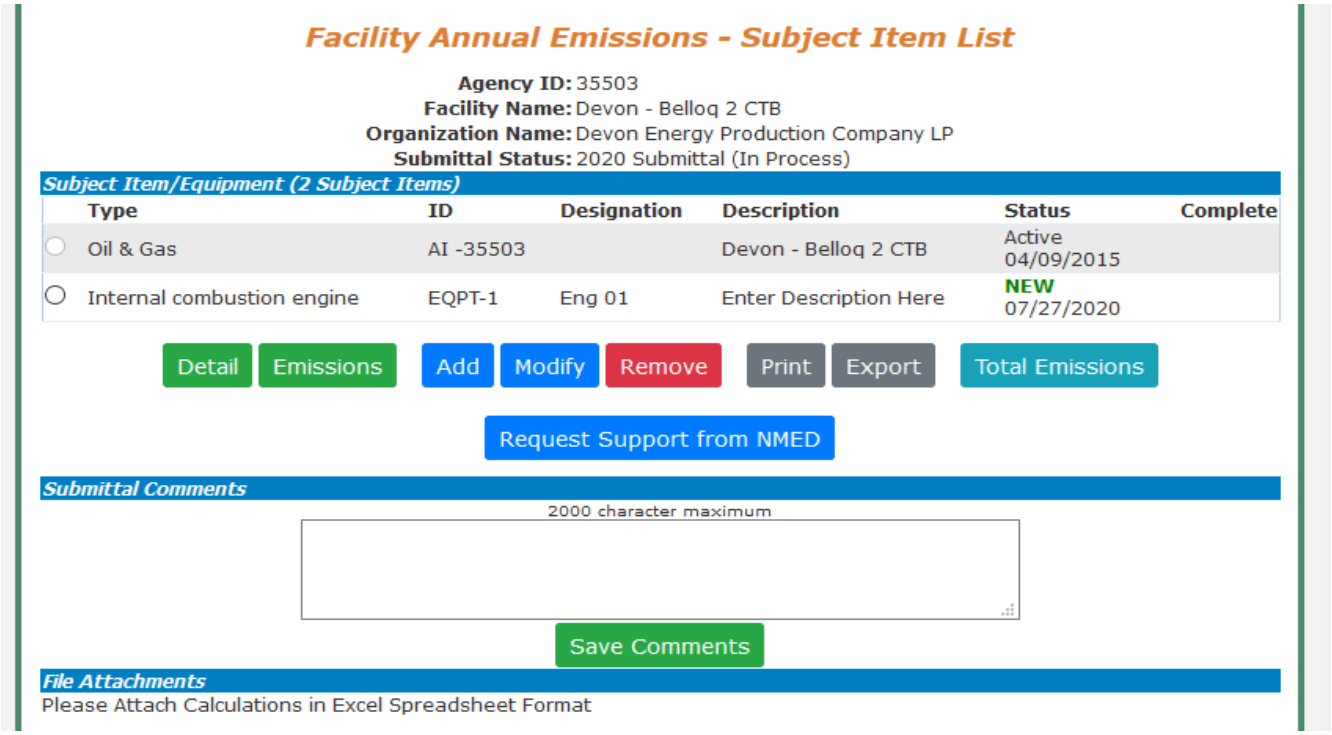
2) Unit Designation: the name or ID assigned by the company.
3) Unit Category: Select the correct category for the SI. The categories include: Activity, Area, Discharge Location, Equipment, Release Point, and Treatment. See Appendix A.
4) Unit Type: Select the Unit Type from the drop-down list, which is dependent on the Unit Category. See Appendix A.
5) Source Classification: Select or enter the Source Classification Code (SCC) for the subject item.
6) Stack Information: Each piece of equipment must have a stack. A new stack can be created by clicking on “Create New Stack”. Please provide the required information for this stack.
    - For Fugitive stacks, the description and height above ground (defaulted to 10 ft but can change) are required. For other stack types, all fields are required.



An example SI entry is illustrated below. *(Note: These are not real values. This is a fictitious example.)*



7) Click on the "Save" button when you are finished filling out information for the SI. You will be brought back to the submittal page, and you should see the new SI created. Repeat these steps for each SI you need to add to your submittal.



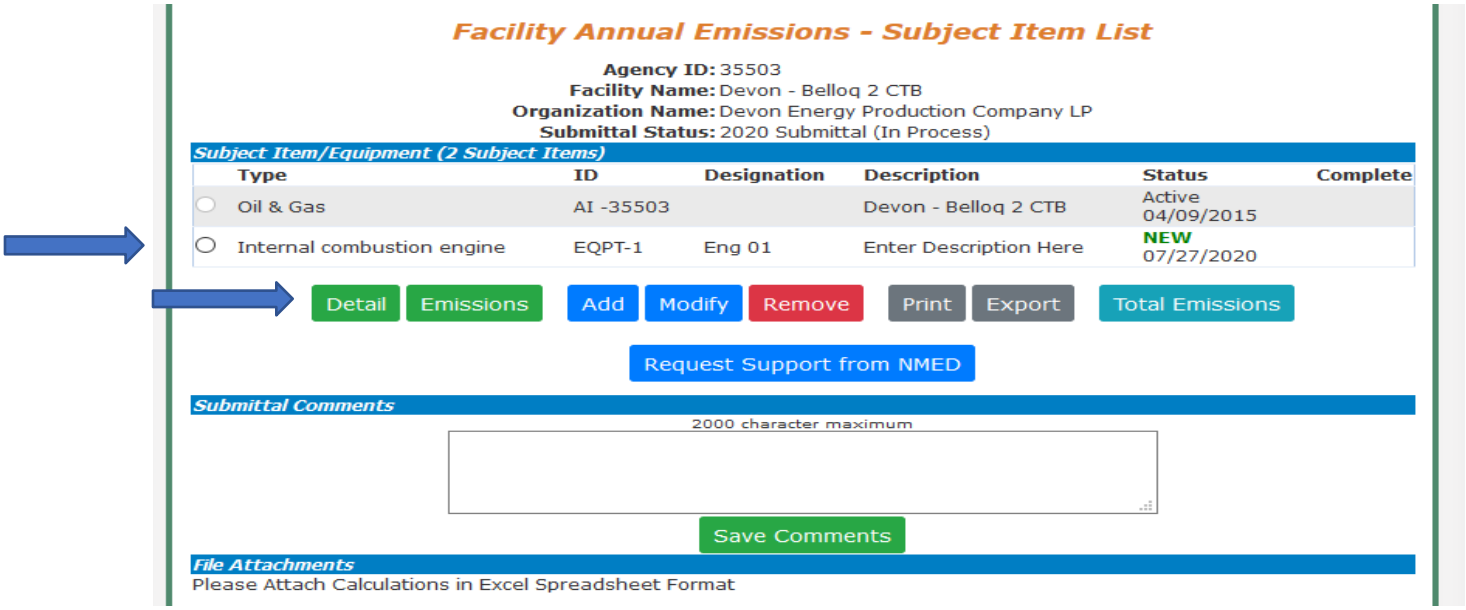
Select the “Modify” and “Remove” buttons for new equipment modification or removal. The Remove button cannot be used for permitted and/or already existing equipment in our database.

Note: Some NOI or GCP 2,3,5,6 facilities may already have SIs present in the submittal because they were entered into the Air Quality Bureau’s database during the permitting process. If these are incorrect, please contact us through the “Request Support” button.

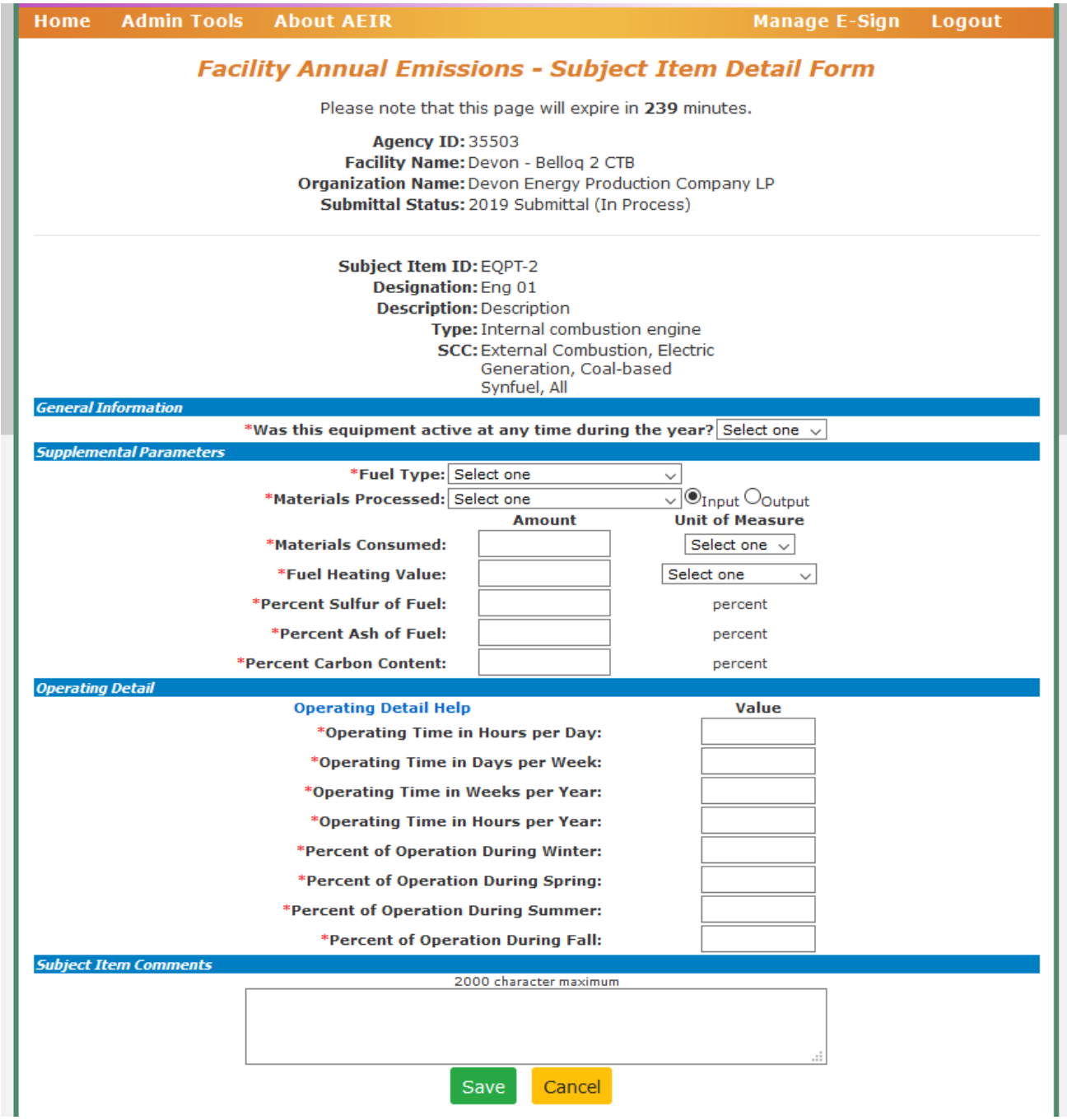
Adding Details and Emission Information to a Subject Item

Once the new equipment has been added and saved, then the details and emissions can be addressed. To add the required details and emissions to a newly created or existing SI, follow the steps below:

1) Click on the radio button for the SI of interest and click on the "Detail" button to enter data.



The Facility Annual Emissions Subject Item Detail page (below) will appear requesting General Information, Supplemental Parameters, and Operating Details for the SI. You may also enter any comments regarding your submittal in the comment field.



2) General Information:

Indicate whether the SI was active during the submittal year:

- If "Yes" is selected, please complete the information on the Details Form, as well as the Emissions Form in the next step.
- If "No" is selected, all other fields will be greyed out. Click on "Save" then "Close" on the following Emissions Form to complete the SI entry.

3) Supplemental Parameters

- Fuel Type: Select the fuel type that the subject item used.
- Materials Processed: Select the material that was processed through the subject item.
- Materials Consumed: Indicate how much material was processed through the subject item.
- Fuel Heating Value: Indicate the fuel heating value
- Percent Sulfur of Fuel: mol %
- Percent Ash of Fuel: mol %
- Percent Carbon Content: mol %

Operating Parameters

AEIR requires the operating details for each piece of equipment. The operating details are listed below with sample scenarios.

1) Operating Time in Hours per Day: Enter the actual average number of hours the process operated during a normal workday for the reporting year. The number should not exceed 24.
2) Operating Time in Days per Week: Enter the actual average number of days the process operated during a normal workweek for the reporting year. The number should not exceed 7.
3) Operating Time in Weeks per Year: Enter the actual number of weeks the process operated during the reporting year. The number should not exceed 52.
4) Operating Time in Hours per Year: The hours per year should be consistent with the values entered for hours/day, days/week, and weeks/year, as entered. For certain pieces of equipment that do not run on a constant schedule, enter the precise total runtime throughout the year. In general, if equipment does not run at consistent intervals throughout the year, estimate the above three fields and mark an accurate representation of the actual yearly runtime in this field.
5) Winter - January, February & December (%)
6) Spring - March, April & May (%)
7) Summer - June, July & August (%)
8) Fall - September, October & November (%): For each of the four meteorological seasons, specify the percentage of the total operating time attributable to each season. Estimates are acceptable. The total for all four seasons should equal 100%.

Example: ACME Corporation operated 8 hours per day, 5 days per week from Mar 1 – Nov 30, and 4 hours per day, 5 days per week from Jan 1 – Feb 28 and from Dec 1 – Dec 31.

Actual Operating Rate/Schedule			
Average Hours/Day	**Average Days/Week**	**Average Weeks/Year**	**Actual Hours For Year**
7	5	52	1820
Seasonal Operations			
January, February & December (%)	**March, April & May (%)**	**June, July & August (%)**	**September, October & November (%)**
14.2	28.6	28.6	28.6

(8 hrs/day) x (5 days/week) *x* (13 weeks/quarter) = (520 hours/quarter) *x* (3 quarters/year) = 1,560 hours

(4 hrs/day) x (5 days/week) x (13 weeks/quarter) = (260 hours/quarter) x (1 quarter/year) = 260 hours Total hours operated = 1,820 hours

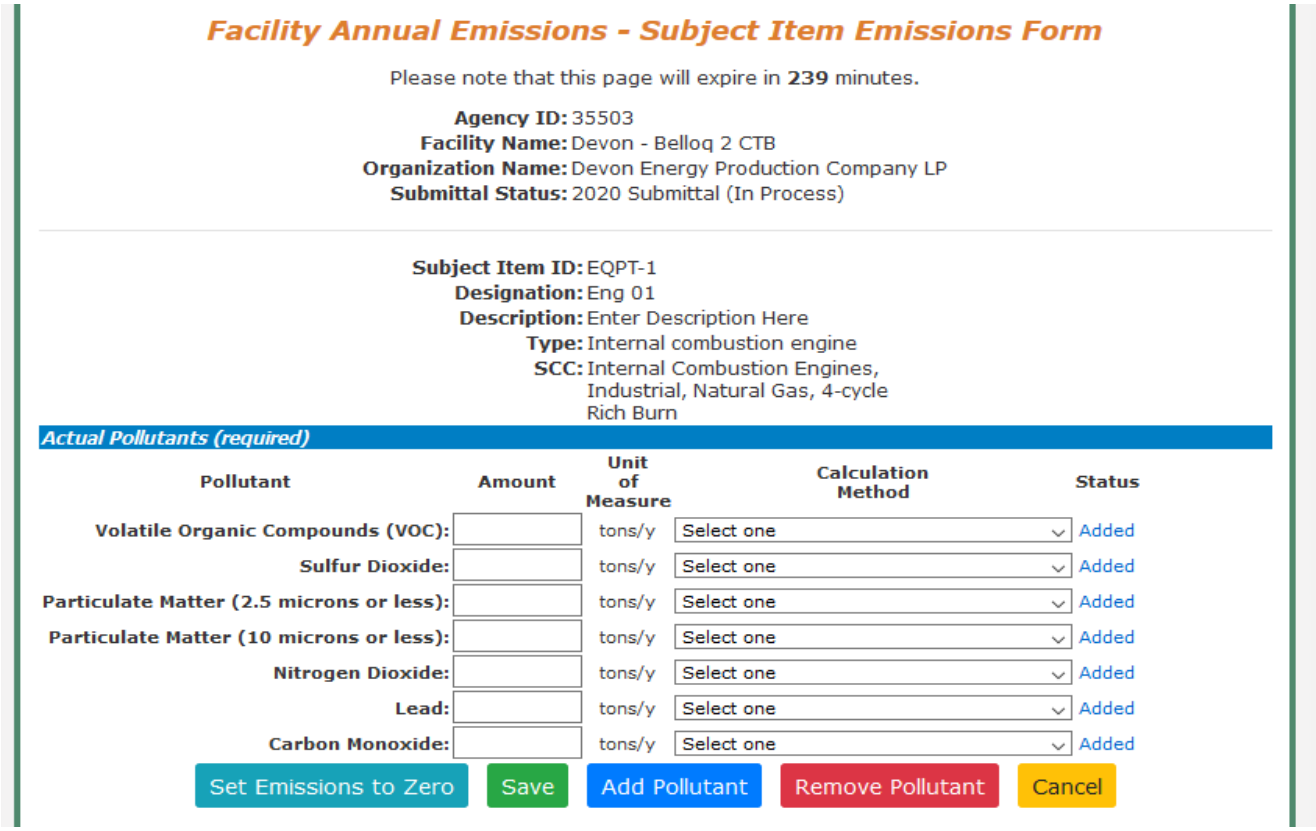
Jan, Feb & Dec = 260 hrs/1,820 hrs *x* 100 = 14.2%

Mar, Apr & May = 520 hrs/1,820 hrs *x* 100 = 28.6%

Jun, Jul & Aug = 520 hrs/1,820 hrs *x* 100 = 28.6%

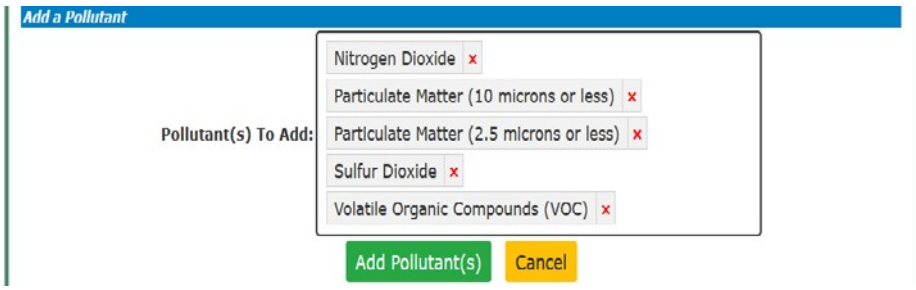
Sep, Oct & Nov = 520 hrs/1,820 hrs *x* 100 = 28.6%

4) After clicking “Save” on the Subject Item Detail Form, you will be brought to the Subject Item Emissions Form. Fill out pollutants, emission amounts, and calculation methods used for each SI during the submittal year. By default, the criteria pollutants are added onto each new SI.



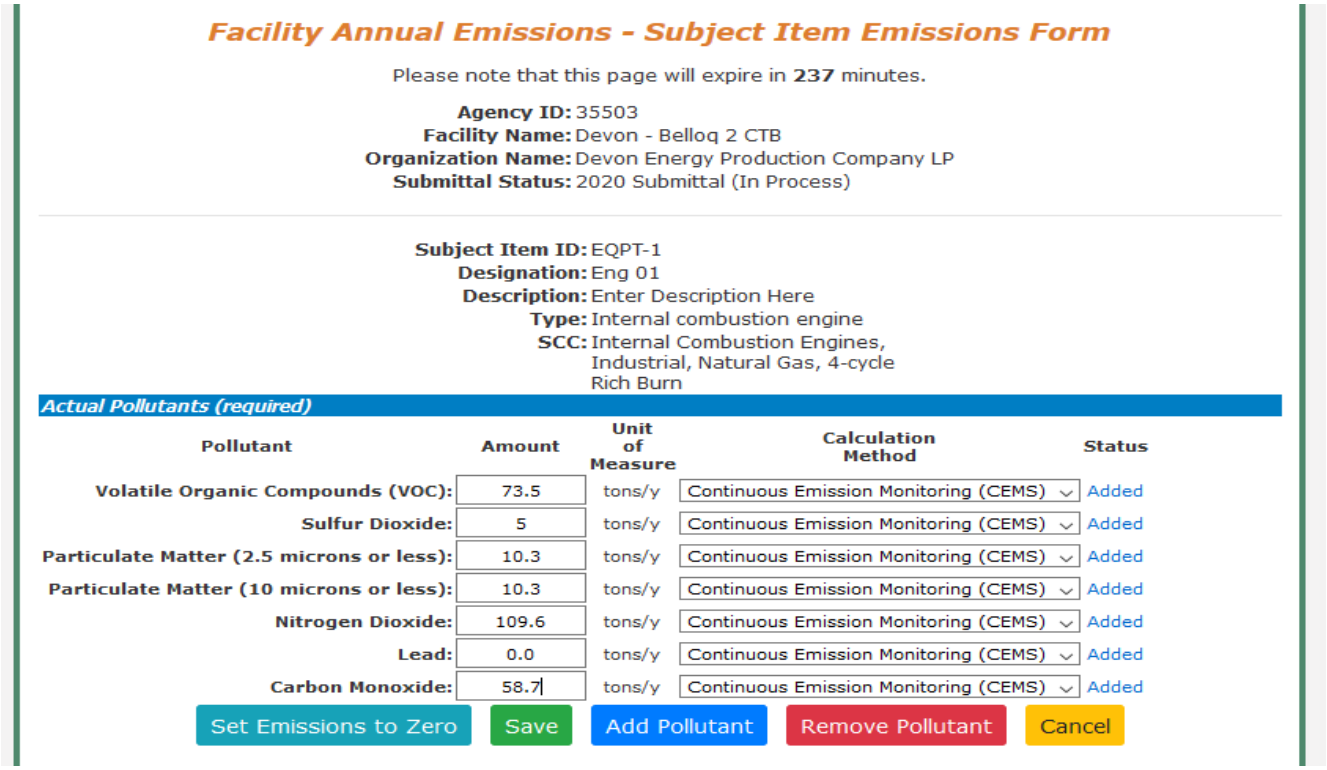
To add additional pollutants, click on the "Add Pollutant" button, and to remove pollutants, click on the "Remove Pollutant" button. You can also set all emissions to zero. Be sure to select the appropriate calculation method from the drop-down menu.

By default, the criteria pollutants and VOCs are added onto each new subject item for convenience. For certain pieces of equipment that do not emit a specific pollutant, then simply remove that pollutant in AEIR. For example, tanks do not emit NO_2 but it will appear if this is an added piece of equipment, so use the 'Remove Pollutant' button to remove NO_2 for the tanks.



5) Click on the "Save" button when you are finished filling out your emissions data.

An example of a filled out Subject Item Emissions Form is shown below.



Facility Annual Emissions - Subject Item Emissions Form

Please note that this page will expire in **237** minutes.

Agency ID: 35503
Facility Name: Devon - Belloq 2 CTB
Organization Name: Devon Energy Production Company LP
Submittal Status: 2020 Submittal (In Process)

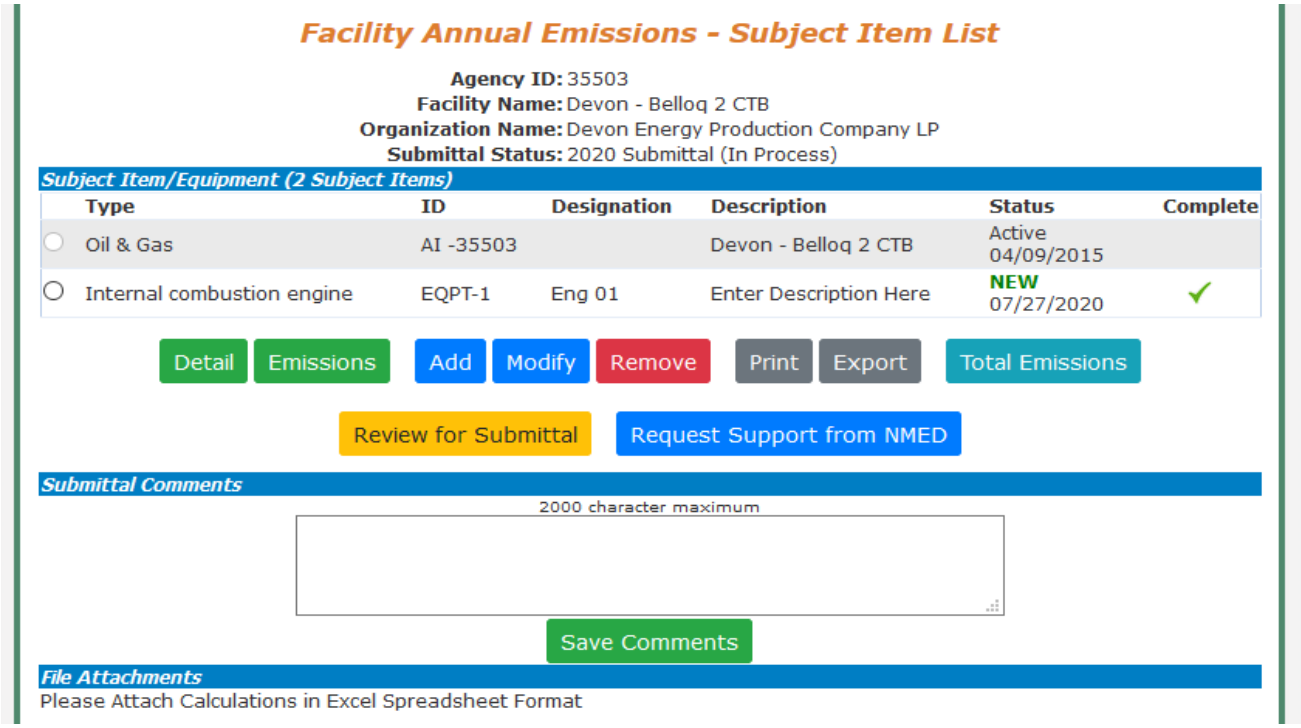
Subject Item ID: EQPT-1
Designation: Eng 01
Description: Enter Description Here
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, 4-cycle Rich Burn

Actual Pollutants (required)

Pollutant	Amount	Unit of Measure	Calculation Method	Status
Volatile Organic Compounds (VOC):	73.5	tons/y	Continuous Emission Monitoring (CEMS)	Added
Sulfur Dioxide:	5	tons/y	Continuous Emission Monitoring (CEMS)	Added
Particulate Matter (2.5 microns or less):	10.3	tons/y	Continuous Emission Monitoring (CEMS)	Added
Particulate Matter (10 microns or less):	10.3	tons/y	Continuous Emission Monitoring (CEMS)	Added
Nitrogen Dioxide:	109.6	tons/y	Continuous Emission Monitoring (CEMS)	Added
Lead:	0.0	tons/y	Continuous Emission Monitoring (CEMS)	Added
Carbon Monoxide:	58.7	tons/y	Continuous Emission Monitoring (CEMS)	Added

Set Emissions to Zero | Save | Add Pollutant | Remove Pollutant | Cancel

After clicking “Save” on both the Details and Emissions Forms, a green check mark will appear in the “Complete” column next to your SI on your submittal page. This indicates that all necessary information has been filled out for that subject item. If the green check mark does not appear, please doublecheck that all your information has been filled out correctly.



At this point, the 'Review for Submittal' button appears, and the submittal is ready for the next level of review and subsequent Certification.

Manage E-Sign

In order to certify emission inventory submittals, the Certifier must register under Manage E-Sign. Signing up for Manage E-Sign is a requirement for new and existing Certifiers. For new Certifiers, part of the process will involve identity verification. Be careful when entering information to identity proof yourself because only one attempt is possible under the current system. If online identity proofing fails, use an Electronic Subscriber Application and Agreement (ESAA) form to identity proof yourself. Refer to the images below for more information.

Use the resources available on the Emission Inventory Submittal webpage (https://www.env.nm.gov/air-quality/ei-submittal/) under the heading "Instructions to Certify Completed Inventory" to successfully sign-up for Manage E-Sign. AQB's recorded training also demonstrates the Manage E-Sign signup process (https://www.youtube.com/watch?v=g-ZO8HWS5Yw).

Certifiers should register for Manage E-Sign as soon as possible. A registration is required before certifying emission inventory submittals.

Manage E-Sign – Certifiers Only

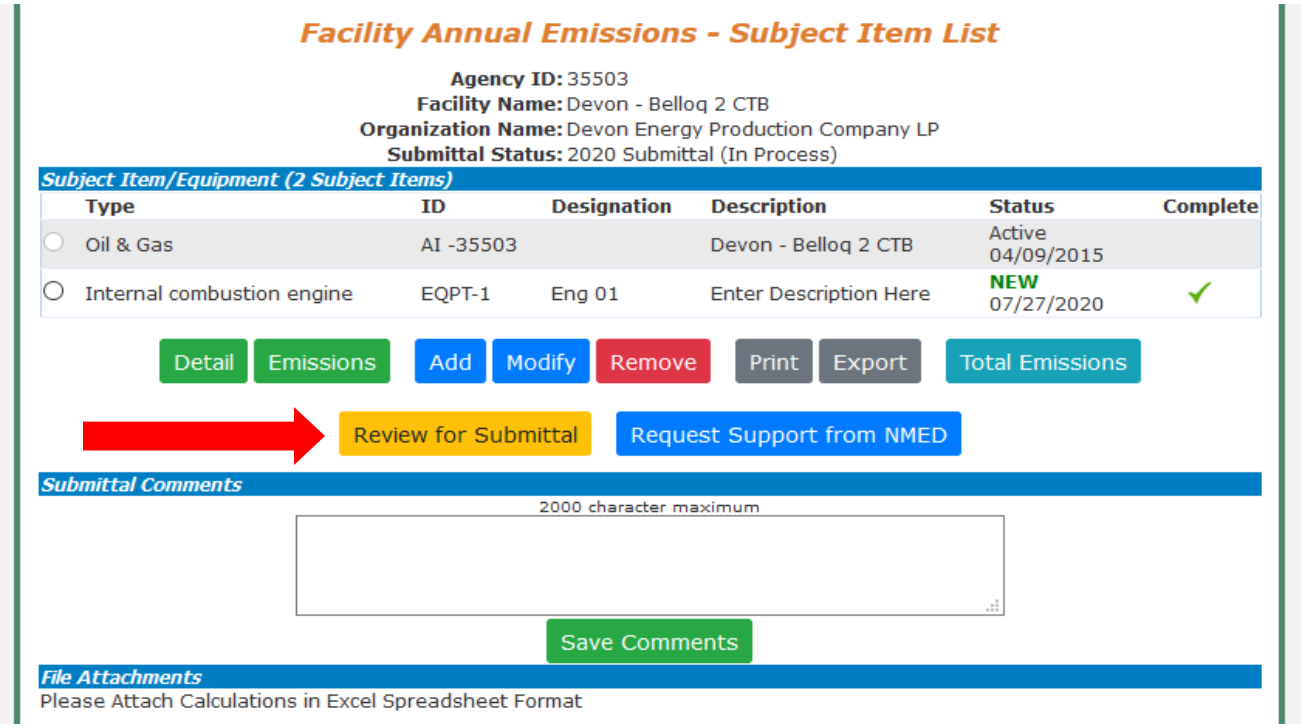
- New certifiers
  - Identify verification
  - set up e-sign password
  - select challenge questions/answers.
- Existing certifiers (certified in the past in AEIR or AQBCR)
  - set up e-sign password
  - select challenge questions/answers.

Pass Identify Verification

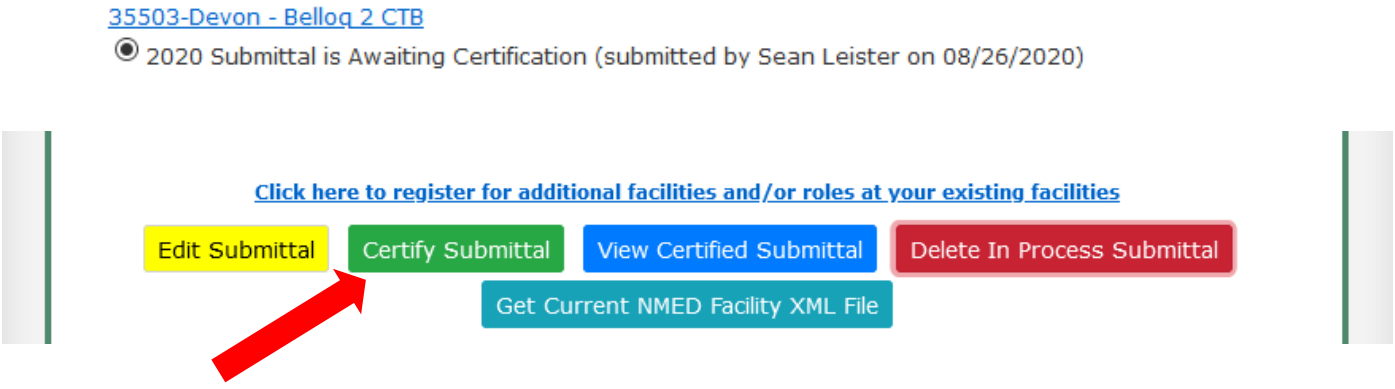
- You get one chance to pass identify verification!
- Use personal address & phone number, not business!
- Take your time, use the help menu.
- Select a password you will enter each time you certify.
- Select challenge questions and answers – you will enter one each time you certify

Certification

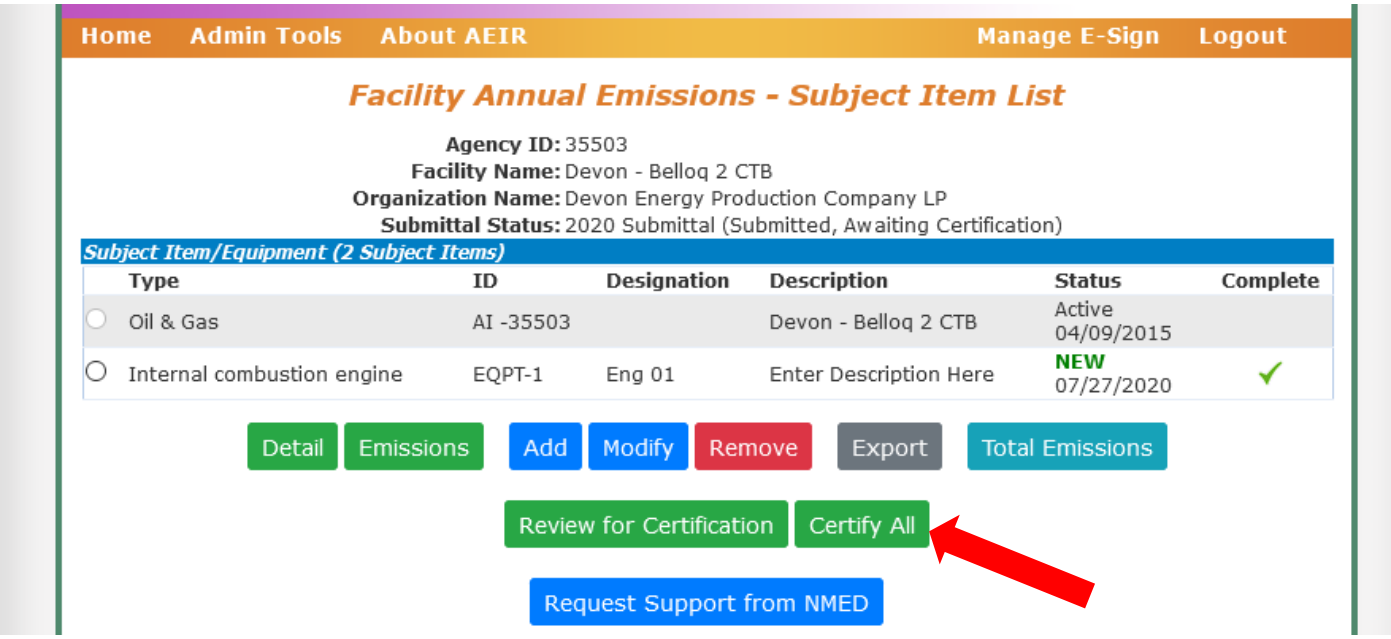
Once information has been successfully entered for every SI at a facility, resulting in a green check mark indicating completion, the “Review for Submittal” button will appear. At this time, new SIs can still be added, modified, or removed as necessary. If the submittal is complete, then select the “Review for Submittal” button to review your data in preparation for certification.

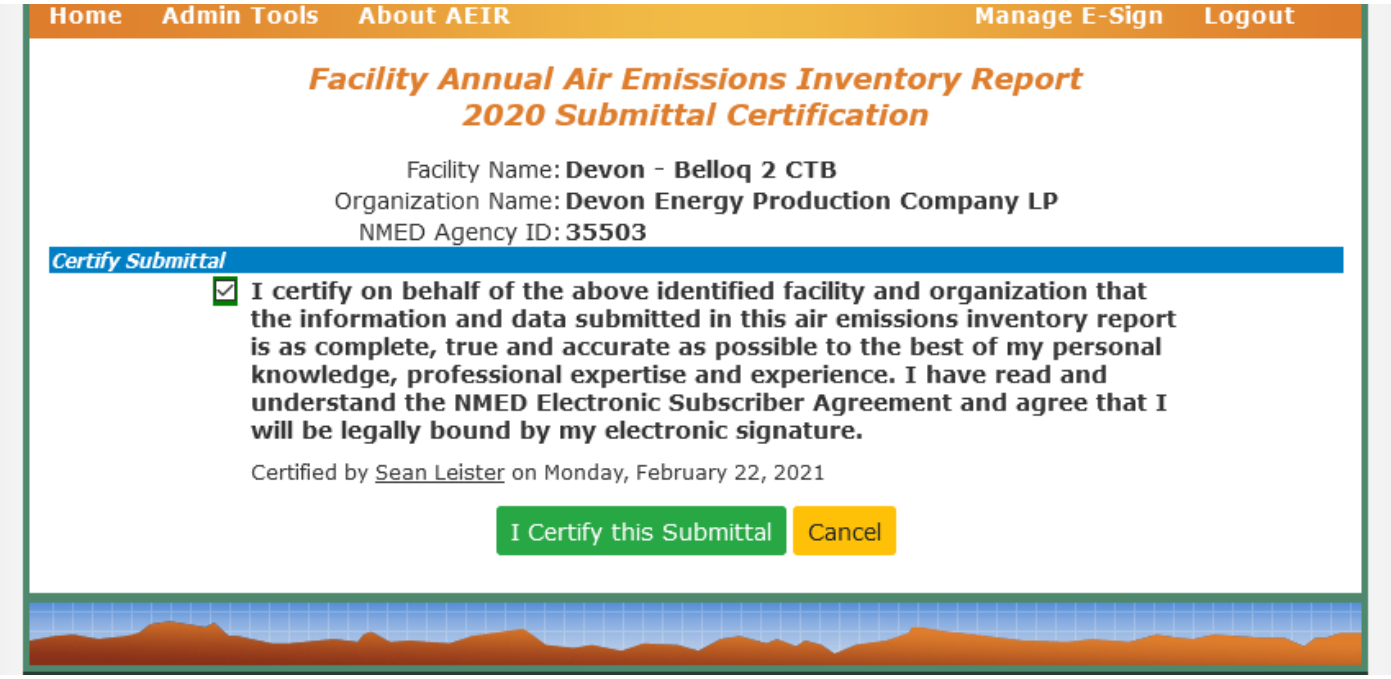


After review, you will be brought back to the AEIR home page, where you can select the radio button next to your reviewed facility and select the “Certify Submittal” button at the bottom of the home page.

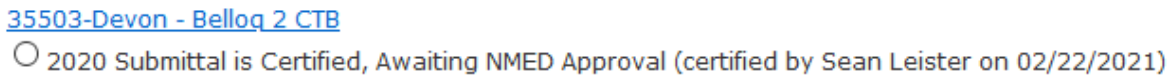


You will be brought to your emissions inventory submittal. To continue the certification process, select the “Certify All” button and agree to the statement.





After agreeing to the statement by checking the box, select “I Certify this Submittal” to be transferred to Manage E-Sign. You will then be asked to download a Copy of Record (COR) for your records. In Manage E-Sign, enter your password, challenge question answer, and select the option to certify to officially submit your emissions inventory.



After a successful certification, the AEIR home page will appear, and the status next to the certified submittal should read “Certified, Awaiting NMED Approval” as shown above. The submittal has been successfully submitted. If there are any questions with the submittal, the Bureau will be in contact.

GHG Reporting Instructions

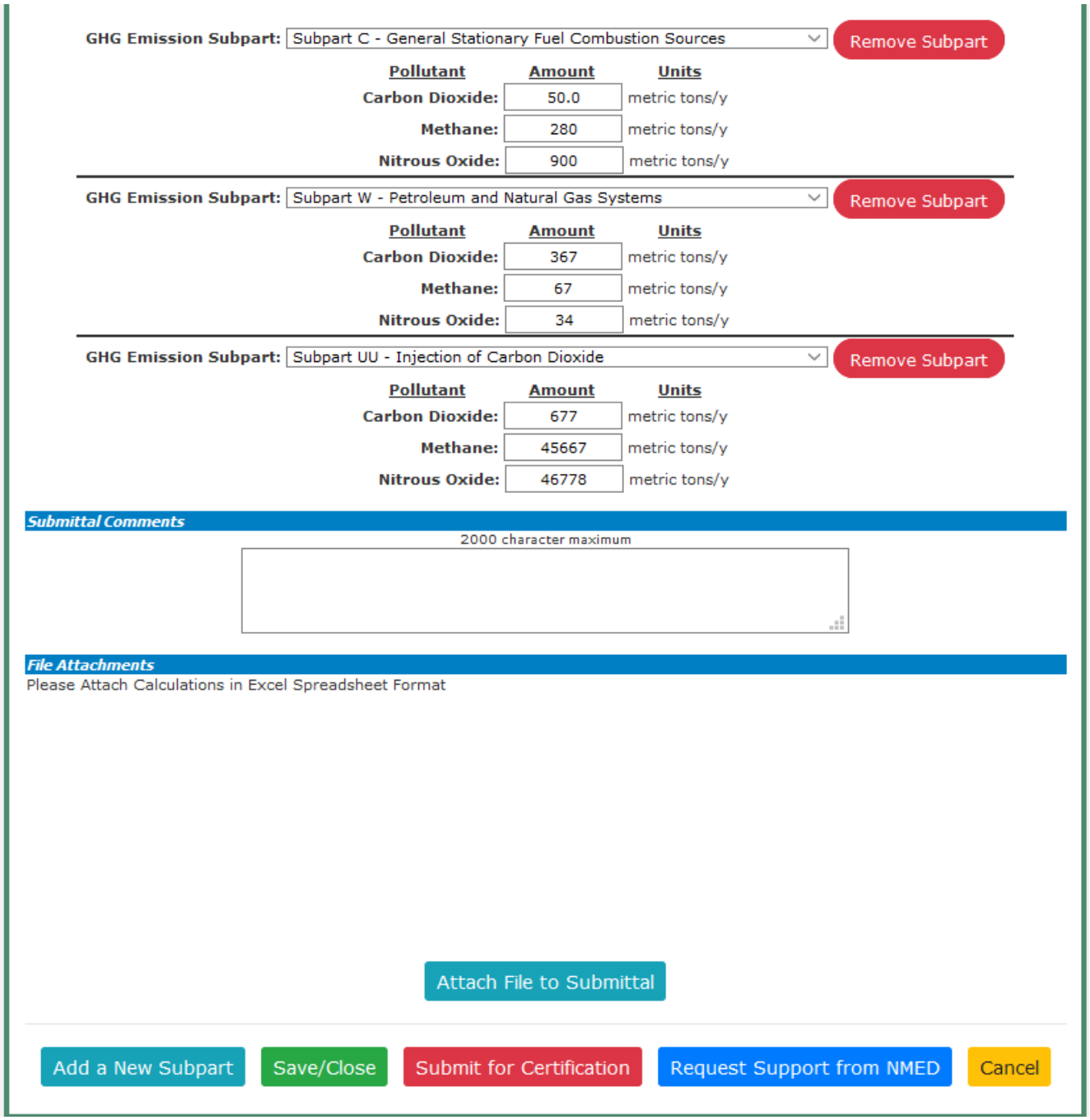
If an organization is reporting GHG emissions data to the EPA, then they are required to report GHG data to the Air Quality Bureau as well. However, we encourage all companies to report GHG data to the Air Quality Bureau through AEIR even if not reporting to the EPA.

AQB requires the submittal of GHG emissions data at the organization level by subpart and only for those facilities that are within New Mexico. The three collected gases are:

- Carbon Dioxide (CO_2)
- Methane (CH_4)
- Nitrous Oxide (N_2O)

Creation of a new GHG submittal is separate from the existing facility submittal creation functionality. Instructions on how to create and fill out a GHG submittal are given below:

1. Begin by selecting your organization in the "Create New Greenhouse Gas Emissions Inventory Submission" section of AEIR as indicated above. Select the reporting year and click the green "Create New GHG Annual Reporting Year Submittal" to create the submittal as shown below.



2. Add an appropriate subpart from the dropdown menu and enter in your calculated GHG emissions for that subpart. If additional subparts are relevant to your submission, then select the “Add a New Subpart” button and enter in your information.
3. Add any relevant comments into the Submittal Comments box
4. Attach your calculation file as an Excel Spreadsheet Format or XML file
5. At any time, click the “Save/Close” button to save your inventory for later review or completion. To resume your GHG submittal click on the radio button next to your in process submittal on AEIR’s homepage as shown in the figure below and click on the yellow “Edit Submittal” button.

6. Once complete, click on “Submit for Certification” to begin the certification process

Extensible Markup Language (XML)

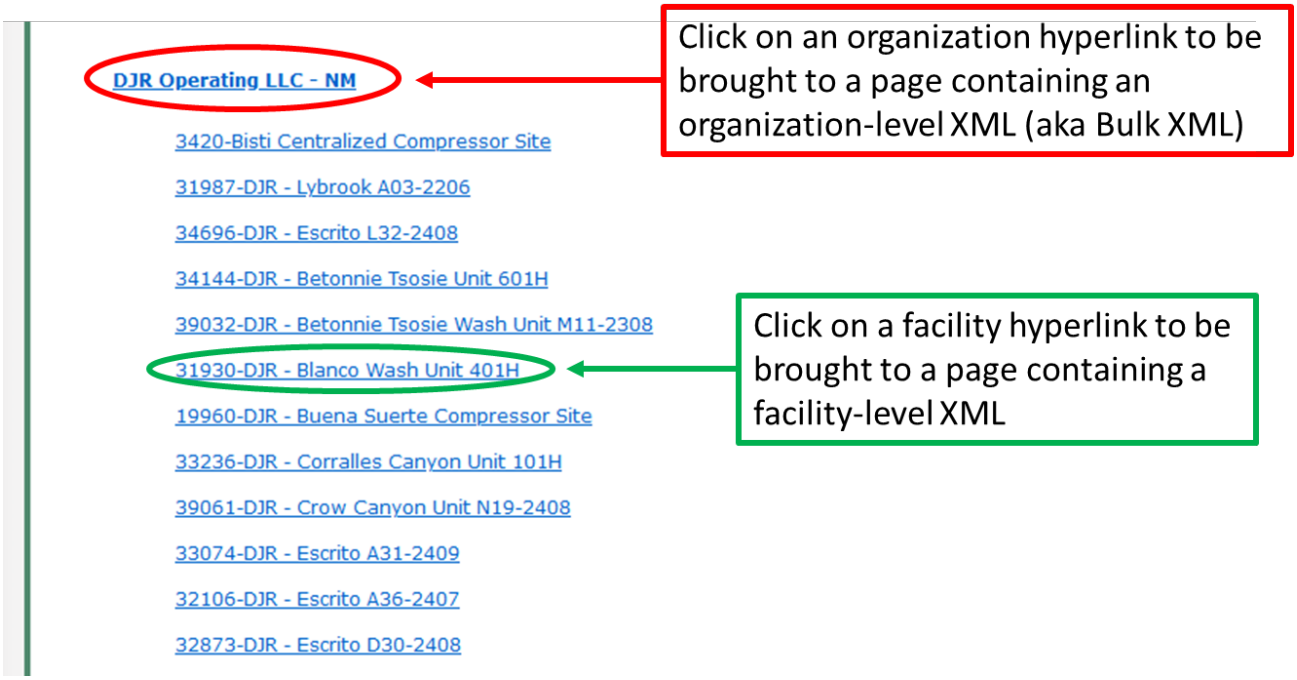
XML files can be used to upload emission inventories through AEIR. This enhancement is intended for organizations with numerous facilities to expedite the process, but small companies can also utilize XML for reporting emissions.

When building XML files, refer to Appendices A and B as they contain information required for equipment. Appendix A provides information about valid subject item categories and types for a valid XML submission. Appendix B provides information about required general parameters for different subject item types.

Retrieving an XML from AEIR

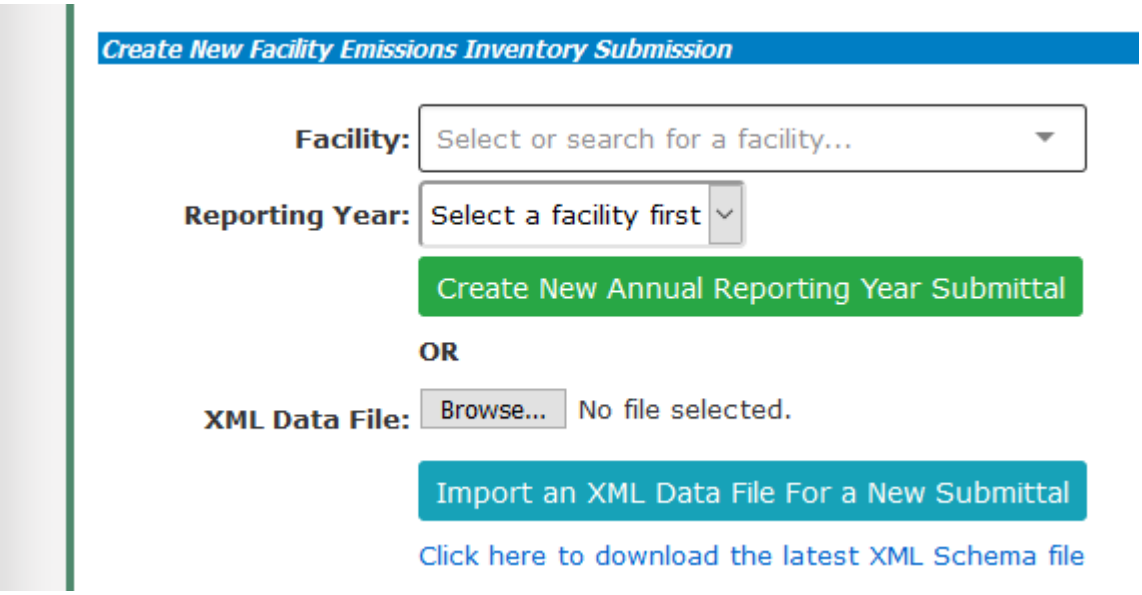
XMLs contain information about existing equipment directly from NMED's database and can be retrieved from AEIR on an individual facility or organizational level after registering for the associated facilities. Information on how to register for facilities in AEIR can be found in NMED's other guidance document titled "How to Access AEIR."

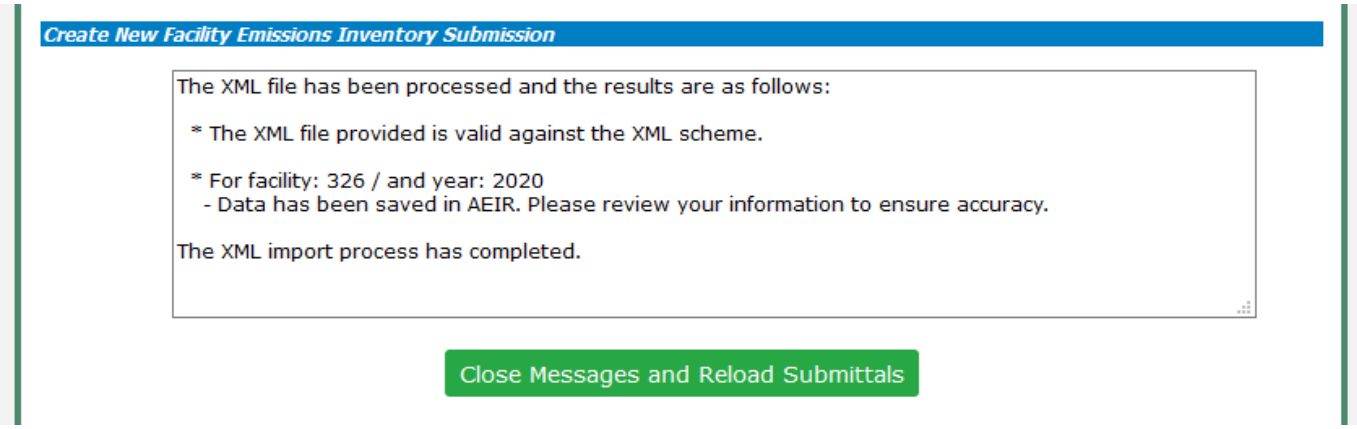
- Facility-level XML: contains existing information for an individual facility
- Organizational-level XML (aka Bulk XML): contains information for all facilities registered for under an individual company



Uploading an XML to AEIR

XMLs can be uploaded to AEIR in the "Create New Facility Emissions Inventory Submission" section on the AEIR homepage as shown on the screenshot below. Select "Browse…" to open an XML file from your computer, then select "Import an XML Data File For a New Submittal" to upload the XML to AEIR. AEIR will compare the XML file against its schema and determine if there are any errors within the XML file. Warnings and error messages will be displayed if they exist. Once an XML has been successfully uploaded to AEIR, reload the webpage and enter the submittal to manually review the upload.





An example message detailing a successful XML upload to AEIR

Calcatenate

Calcatenate can be used to calculate emissions and modifying XML files. Refer to appendix D for Calcatenate resources.

Appendix A: List of Unit Categories and Unit Types

Category: Activity

Accumulation and Storage
Beryllium Work
Food Processing
Operations
Open Burn
Transportation / Hauling
Research/Testing
Sandblasting

Category: Area

Coal Pile
Landfill
Mine
Processing
Raw Material Pile
Remediation
area Roads
Surface Impoundment
Transfer
Unpaved roads

Category: Equipment

Air Curtain
Air Stripper
Amine sweetening unit
Asphalt Drum/Burner
Baler
Batcher
Benzene Waste Operation
Bins-Disposal
Bins-Recycle
Blower/Fan
Boiler
Bottoms Receiver

Burner
Chipper
Compressor
Condenser
Cogeneration
Container
Conveyor
Compactor
Cooling Tower
Crusher
Cryogenic Unit
Distillation unit
Digester
Dryer
Fermenter
Filtration Unit
Fluidized Catalytic Cracking Unit
Foundry
Freon/Refrig Equipment
Fuel Gas System
Furnace
Gas Collection System
Glycol Dehy Reboiler Burner
Glycol Dehy Still Vent/Flash Tank
Grain elevator
Heat Exchanger
Heater
Heater Treater/Stack Pak
Hopper
Incinerator
Internal combustion engine
Kiln
Loading/Unloading Rack
Machining Equipment
Medical Sterilization Equipment
Mixer
Nuclear Reactor
Oil/Water Separator
Paint Booth
Parts Washer
Precipitation Plant
Process Cyclone
Process Flare

Process Heater
Pump Station
Pump
Screen
Saws
Shredder
Separator
Silo
Sulfur Recovery Unit
Tank - Above Ground
Tank - Underground
Tank - Vat/Open
Thermal Oxidizer (Incinerator)
Turbine

Category: Release Point
Fugitives
Stack/Vent
Transfer Point

Category: Treatment
Pump and Treat
Soil Vapor Extraction
Vapor Recovery System
Wastewater Treatment System

Appendix B: Required General Parameters in AEIR

Unit Category	Unit Type	Required General Parameters
Activity	Accumulation and Storage	Materials Processed
Activity	Aerospace Manf & Rework	Fuel Consumption
Activity	Aerospace Manf & Rework	Fuel Heating Value
Activity	Aerospace Manf & Rework	Fuel Type
Activity	Beryllium Work	Fuel Consumption
Activity	Beryllium Work	Materials Processed
Activity	Open Burn	Materials Processed
Activity	Operations	Fuel Consumption
Activity	Operations	Fuel Heating Value
Activity	Operations	Fuel Type
Activity	Operations	Materials Processed
Activity	Operations	Percent Ash of Fuel
Activity	Operations	Percent Carbon Content
Activity	Operations	Percent Sulfur of Fuel
Activity	Research/Testing	Fuel Type
Activity	Sandblasting	Fuel Type
Area	Landfill	Fuel Type
Area	Landfill	Materials Processed
Area	Processing	Fuel Consumption
Area	Processing	Fuel Type
Area	Processing	Materials Processed
Control Device	Bag House/Filter	Materials Processed
Control Device	Emergency Flare	Fuel Consumption
Control Device	Emergency Flare	Fuel Heating Value
Control Device	Emergency Flare	Fuel Type
Control Device	Emergency Flare	Materials Processed
Control Device	Emergency Flare	Percent Carbon Content
Control Device	Emergency Flare	Percent Sulfur of Fuel
Equipment	Air Curtain	Fuel Consumption
Equipment	Air Curtain	Fuel Heating Value
Equipment	Air Curtain	Fuel Type
Equipment	Air Curtain	Materials Processed
Equipment	Air Curtain	Percent Ash of Fuel
Equipment	Air Curtain	Percent Sulfur of Fuel
Equipment	Asphalt Drum/Burner	Fuel Consumption
Equipment	Asphalt Drum/Burner	Fuel Heating Value
Equipment	Asphalt Drum/Burner	Fuel Type
Equipment	Asphalt Drum/Burner	Materials Processed
Equipment	Asphalt Drum/Burner	Percent Sulfur of Fuel
Equipment	Baler	Materials Processed

Equipment	Bins-Disposal	Materials Processed
Equipment	Bins-Recycle	Materials Processed
Equipment	Boiler	Fuel Consumption
Equipment	Boiler	Fuel Heating Value
Equipment	Boiler	Fuel Type
Equipment	Boiler	Materials Processed
Equipment	Boiler	Percent Ash of Fuel
Equipment	Boiler	Percent Carbon Content
Equipment	Boiler	Percent Sulfur of Fuel
Equipment	Burner	Fuel Consumption
Equipment	Burner	Fuel Heating Value
Equipment	Burner	Fuel Type
Equipment	Burner	Materials Processed
Equipment	Burner	Percent Carbon Content
Equipment	Chipper	Materials Processed
Equipment	Cogeneration	Fuel Consumption
Equipment	Cogeneration	Fuel Heating Value
Equipment	Cogeneration	Fuel Type
Equipment	Cogeneration	Percent Ash of Fuel
Equipment	Cogeneration	Percent Sulfur of Fuel
Equipment	Compactor	Materials Processed
Equipment	Container	Materials Processed
Equipment	Conveyor	Materials Processed
Equipment	Crusher	Materials Processed
Equipment	Distillation unit	Fuel Consumption
Equipment	Distillation unit	Fuel Heating Value
Equipment	Distillation unit	Fuel Type
Equipment	Distillation unit	Materials Processed
Equipment	Distillation unit	Percent Ash of Fuel
Equipment	Distillation unit	Percent Sulfur of Fuel
Equipment	Dryer	Fuel Consumption
Equipment	Dryer	Fuel Heating Value
Equipment	Dryer	Fuel Type
Equipment	Dryer	Materials Processed
Equipment	Dryer	Percent Ash of Fuel
Equipment	Dryer	Percent Carbon Content
Equipment	Dryer	Percent Sulfur of Fuel
Equipment	Filtration Unit	Fuel Consumption
Equipment	Flash Emissions	Fuel Consumption
Equipment	Flash Emissions	Fuel Heating Value
Equipment	Flash Emissions	Fuel Type
Equipment	Flash Emissions	Percent Ash of Fuel
Equipment	Flash Emissions	Percent Sulfur of Fuel
Equipment	Fluidized Catalytic Cracking Unit	Fuel Consumption

Equipment	Fluidized Catalytic Cracking Unit	Fuel Heating Value
Equipment	Fluidized Catalytic Cracking Unit	Fuel Type
Equipment	Fluidized Catalytic Cracking Unit	Percent Ash of Fuel
Equipment	Fluidized Catalytic Cracking Unit	Percent Sulfur of Fuel
Equipment	Foundry	Fuel Consumption
Equipment	Foundry	Fuel Heating Value
Equipment	Foundry	Fuel Type
Equipment	Foundry	Materials Processed
Equipment	Foundry	Percent Ash of Fuel
Equipment	Foundry	Percent Sulfur of Fuel
Equipment	Fuel Gas System	Fuel Consumption
Equipment	Fuel Gas System	Fuel Heating Value
Equipment	Fuel Gas System	Fuel Type
Equipment	Fuel Gas System	Materials Processed
Equipment	Fuel Gas System	Percent Ash of Fuel
Equipment	Fuel Gas System	Percent Sulfur of Fuel
Equipment	Furnace	Fuel Consumption
Equipment	Furnace	Fuel Heating Value
Equipment	Furnace	Fuel Type
Equipment	Furnace	Percent Ash of Fuel
Equipment	Furnace	Percent Carbon Content
Equipment	Furnace	Percent Sulfur of Fuel
Equipment	Gas Collection System	Fuel Consumption
Equipment	Gas Collection System	Fuel Heating Value
Equipment	Gas Collection System	Fuel Type
Equipment	Gas Collection System	Percent Carbon Content
Equipment	Glycol Dehy Reboiler Burner	Fuel Consumption
Equipment	Glycol Dehy Reboiler Burner	Fuel Heating Value
Equipment	Glycol Dehy Reboiler Burner	Fuel Type
Equipment	Glycol Dehy Reboiler Burner	Percent Carbon Content
Equipment	Glycol Dehy Reboiler Burner	Percent Sulfur of Fuel
Equipment	Grain elevator	Materials Processed
Equipment	Heater	Fuel Consumption
Equipment	Heater	Fuel Heating Value
Equipment	Heater	Fuel Type
Equipment	Heater	Percent Ash of Fuel
Equipment	Heater	Percent Carbon Content
Equipment	Heater	Percent Sulfur of Fuel
Equipment	Heater Treater/Stack Pak	Fuel Consumption
Equipment	Heater Treater/Stack Pak	Fuel Heating Value
Equipment	Heater Treater/Stack Pak	Fuel Type
Equipment	Heater Treater/Stack Pak	Percent Sulfur of Fuel
Equipment	Hopper	Materials Processed
Equipment	Incinerator	Fuel Consumption

Equipment	Incinerator	Fuel Heating Value
Equipment	Incinerator	Fuel Type
Equipment	Incinerator	Materials Processed
Equipment	Internal combustion engine	Fuel Consumption
Equipment	Internal combustion engine	Fuel Heating Value
Equipment	Internal combustion engine	Fuel Type
Equipment	Internal combustion engine	Percent Ash of Fuel
Equipment	Internal combustion engine	Percent Carbon Content
Equipment	Internal combustion engine	Percent Sulfur of Fuel
Equipment	Kiln	Fuel Consumption
Equipment	Kiln	Fuel Heating Value
Equipment	Kiln	Fuel Type
Equipment	Kiln	Materials Processed
Equipment	Kiln	Percent Ash of Fuel
Equipment	Kiln	Percent Sulfur of Fuel
Equipment	Loading/Unloading Rack	Materials Processed
Equipment	Medical Sterilization Equipment	Fuel Consumption
Equipment	Medical Sterilization Equipment	Fuel Heating Value
Equipment	Medical Sterilization Equipment	Fuel Type
Equipment	Medical Sterilization Equipment	Percent Ash of Fuel
Equipment	Medical Sterilization Equipment	Percent Sulfur of Fuel
Equipment	Mixer	Materials Processed
Equipment	Oil/Water Separator	Fuel Consumption
Equipment	Piping	Materials Processed
Equipment	Process Flare	Fuel Consumption
Equipment	Process Flare	Fuel Heating Value
Equipment	Process Flare	Fuel Type
Equipment	Process Flare	Materials Processed
Equipment	Process Flare	Percent Carbon Content
Equipment	Process Flare	Percent Sulfur of Fuel
Equipment	Process Heater	Fuel Consumption
Equipment	Process Heater	Fuel Heating Value
Equipment	Process Heater	Fuel Type
Equipment	Process Heater	Percent Ash of Fuel
Equipment	Process Heater	Percent Sulfur of Fuel
Equipment	Pump Station	Materials Processed
Equipment	Screen	Materials Processed
Equipment	Separator	Materials Processed
Equipment	Shredder	Materials Processed
Equipment	Silo	Materials Processed
Equipment	Sulfur Recovery Unit	Fuel Consumption
Equipment	Sulfur Recovery Unit	Fuel Heating Value
Equipment	Sulfur Recovery Unit	Fuel Type
Equipment	Sulfur Recovery Unit	Percent Carbon Content

Equipment	Sulfur Recovery Unit	Percent Sulfur of Fuel
Equipment	Tank - Above Ground	Materials Processed
Equipment	Tank - Vat/Open	Materials Processed
Equipment	Thermal Oxidizer (Incinerator)	Fuel Consumption
Equipment	Thermal Oxidizer (Incinerator)	Fuel Heating Value
Equipment	Thermal Oxidizer (Incinerator)	Fuel Type
Equipment	Thermal Oxidizer (Incinerator)	Materials Processed
Equipment	Thermal Oxidizer (Incinerator)	Percent Carbon Content
Equipment	Thermal Oxidizer (Incinerator)	Percent Sulfur of Fuel
Equipment	Turbine	Fuel Consumption
Equipment	Turbine	Fuel Heating Value
Equipment	Turbine	Fuel Type
Equipment	Turbine	Percent Ash of Fuel
Equipment	Turbine	Percent Carbon Content
Equipment	Turbine	Percent Sulfur of Fuel
Treatment	Wastewater Treatment System	Materials Processed

Note: The Control Device categories, highlighted in red, are used in existing equipment; control device as a category is no longer accepted for newly added equipment. Control Devices such as flares and thermal oxidizers should be listed under the category of equipment. Refer to Appendix A for a complete list of all unit categories and types.

Appendix C: Representative Analysis Criteria

Oil/Liquid Analysis: Oil/liquid sample analyses is required. It should match the inputs in all applicable emission calculations. For facilities that have not been constructed yet and a representative sample analysis is used then the analysis should not be older than 3 years, and it should represent the area/basin where the facility is located. For existing facilities, the representative sample analysis must be within the past 3 years.

Gas Analysis: Gas sample analyses is required, and it should match the inputs in all applicable emission calculations.

Extended Gas Analysis (must be 3 years old or less): This data is required to match the inputs in all applicable emission calculations.

Note: If requesting to use a representative gas or oil/liquid sample, include a discussion of why the sample is representative for this facility and an explanation of how it is representative (e.g., same reservoir, same API gravity, similar composition). Provide this discussion with your attached calculations.

Appendix D: Online Resources

Calcatenate
https://www.env.nm.gov/air-quality/calcatenate/

Emissions Inventory Submittal Webpage (contains information on how to access AEIR, this guidance document, XML tool, public training information)
https://www.env.nm.gov/air-quality/ei-submittal/

EPA Emission Factors
https://www.epa.gov/chief

Hazardous Air Pollutants (HAPs) List
https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications

NAICS Codes and Updates
https://www.naics.com
https://www.naics.com/changes-from-2012-2017-naics-structures-highlights-highlights/

New Mexico Administrative Codes (NMAC)
http://www.srca.nm.gov/chapter-2-air-quality-statewide/

NMED Air Quality Bureau (AQB)
https://www.env.nm.gov

NSR Issuance Report
www.env.nm.gov/air-quality/aqb-p_current_permitting_activites/

SCC
https://ofmpub.epa.gov/sccwebservices/sccsearch/
https://ofmpub.epa.gov/sccwebservices/sccsearch/docs/SCC-IntroToSCCs.pdf

SIC Codes
www.osha.gov/pls.imis/sicsearch.html

Appendix E: Air Quality Glossary

ACFM Actual cubic feet per minute. A measurement of exhaust rate from a release point.

Actual Emissions are the actual rate of emissions of a pollutant from an emission unit calculated using the emission unit's actual operating hours, production rates, and types of materials processed, stored, or combusted for the calendar year.

***AEIR* Air Emissions Inventory Reporting** is the web-based application used to submit emissions inventory.

Agency Interest is NMED's identifier for a facility, which is a number that is usually between three and five digits

Annual Throughput is the quantity of raw material processed, handled, or used in an emission unit, such as fuels, solvents, coatings, or quantity of dust-producing material processed, handled, or transferred.

Air Pollutant is generally any substance in the air not part of the naturally occurring makeup of ambient air or that occurs in un-natural concentrations. In New Mexico, this usually refers to toxic air pollutants, hazardous air pollutants, and criteria air pollutants.

Allowable Emissions refers to the emissions rate that represents a limit on the emissions that can occur from an emissions unit. This limit may be based on federal, state, or local regulations.

Ambient Standards limit the concentration of a given pollutant in the ambient air. Ambient standards are not emissions limitations on sources, but usually result in such limits being placed on source operation as part of a control strategy to achieve or maintain an ambient standard.

Ammonia is a colorless gas with a very distinct odor. Ammonia emissions are important to air quality analyses because ammonia is involved in the formation of sulfate and nitrate, which are precursors for PM2.5. Primary ammonia remains in the same chemical form as when it was emitted into the atmosphere. Secondary ammonia, such as ammonium sulfate and ammonium nitrate, is formed by chemical reactions in the atmosphere. Only primary ammonia needs to be reported.

Attainment Area is an area considered to have air quality as good as or better than the National Ambient Air Quality Standards (NAAQS) as defined in the Clean Air Act. An area may be in attainment for one or more pollutants but be a nonattainment area for one or more other pollutants.

Capture Efficiency is the percentage of pollutant emitted from an emission unit that is caught or captured by a hood or other collection mechanism. An example is a fume hood above a painting/coating station.

Carbon Monoxide (CO) is a colorless, odorless gas that is a product of incomplete combustion. It depletes the oxygen-carrying capacity of blood. Example sources of CO emissions include industrial boilers, incinerators, and motor vehicles.

CAS Number refers to the Chemical Abstract Services number. CAS numbers are often found on Material Safety Data Sheets and are sometimes used as a way to identify air pollutants.

CFR is the Code of Federal Regulations. This is a collection of rules published by the federal government. Title 40 of the CFR pertains to Protection of the Environment.

Continuous Emissions Monitoring Equipment that measures the concentration or emission rate of a gas or particulate matter using analyzer measurements and a conversion equation, graph, or computer program. Installation and operation of a CEM may be required by EPA or NMED in order to determine compliance with specific standards. Operation of a CEM must meet performance specifications, certification procedures, and recordkeeping and reporting requirements as specified in applicable regulations.

Construction Permits are required before installing or altering equipment or control equipment, with a goal of prevention of significant deterioration or degrading of clean air areas from new industrial development or expansion.

Control Efficiency is the emission reduction efficiency of a device and is a percentage value representing the amount of an emission unit's emissions that are removed from the exhaust stream by a control device.

Criteria Pollutant refers to a pollutant for which a National Ambient Air Quality Standard has been set. Criteria pollutants are carbon monoxide (CO), lead (Pb), nitrogen oxides (NO_X), ozone (O_3), particulate matter with aerodynamic diameter less than or equal to 10 micrometers (PM10) or less than or equal to 2.5 micrometers (PM2.5), and sulfur dioxide (SO_2).

Emergency Generator means any generator whose sole function is to provide backup power during an interruption of electrical power from the electric utility. An emergency generator does not include: peaking units at electric generating facilities; generators at industrial facilities that typically operate at low rates, but are not confined to emergency purposes; or any standby generators that are used during time periods when power is available from the electric utility. An emergency is an unforeseeable condition that is beyond the control of the owner or operator.

Emission means pollution discharged into the atmosphere from exhaust stacks, other vents,

and surface areas of commercial or industrial facilities; from residential chimneys; and from motor vehicle, locomotive, aircraft, or other non- road engines.

Emission Factors represents the relationship between the amount of pollution produced and the amount of raw material(s) processed. For example – pounds of CO per ton of coal fired.

Emission Inventory is a listing, by source, of the amount of air pollutants discharged into the atmosphere.

Emission Limits are limits on emissions that may be federally enforceable and exist in a permit. Such limits are usually expressed as a rate, generally in pounds per hour of emissions or as a concentration, such as grains per dry standard cubic foot (7,000 grains equals one pound).

Release point is the point where emissions enter the atmosphere, such as stacks, vents and ventilation exhausts. The term release point is used interchangeably with release point.

Emission Unit is a piece of equipment where emissions are generated. Emission units may have one or more processes with actual emissions. Some examples of an emission unit with one or more processes are boilers (the ability to burn both natural gas and fuel oil), generators (the ability to burn both fuel oil and dual fuel), and grain dryers (the ability to dry grain and burn natural gas).

Engineering Estimate is a term commonly applied to the best approximation that can be made when the specific emission estimation techniques such as stack testing, material balance, or emission factors are not possible. This estimation is usually made by an engineer familiar with the specific process, and is based on process information.

Federally Enforceable means all limitations and conditions which are enforceable by the EPA administrator including, but not limited to, the requirements of new source performance standards, national emission standards for hazardous air pollutants, state rules (included as part of the state implementation plan (SIP)), administrative orders, construction permits, and operating permits.

Fugitive Emissions are emissions that cannot reasonably pass through a stack, chimney, duct, vent or other opening. Fugitive emission sources can include haul roads, exposed storage piles, and wastewater retention ponds, etc.

HAP or Hazardous Air Pollutants are any of the 187 pollutants listed in Section 112 of the 1990 Clean Air Act Amendments. HAPs are known or suspected of being toxic or carcinogenic.

Indirect Heating occurs when the material being heated does not come in direct contact with the combustion gas, such as a hot water boiler.

MMcf equals 1,000,000 cubic feet. This unit of measure is most typically associated with the amount of natural gas combusted.

Material Balance or Mass Balance A process of estimating emissions using knowledge of the process, process rate, material used, and material properties.

MACT or Maximum Achievable Control Technology are standards set under Title III of the 1990 Clean Air Act Amendments with an emphasis on technology control of hazardous air pollutants.

Maximum True Vapor Pressure means the equilibrium partial pressure of the material considering: 1) for a material stored at ambient temperature, the maximum monthly average temperature as reported by the National Weather Service, or 2) for a material stored above or below the ambient temperature, the temperature equal to the highest calendar-month average of the material storage temperature.

National Ambient Air Quality Standards (NAAQS) are the main ambient standards for the six criteria pollutants identified above.

National Emission Standards for Hazardous Air Pollutants (NESHAP) are health-based standards set under the 1970 Clean Air Act for beryllium, mercury, vinyl chloride, benzene, arsenic, asbestos, radon, radionuclides and other HAPs. Under the 1990 Act, roughly 170 source categories are identified for eventual MACT regulations. See MACT definition above. The NESHAPs are published in 40 CFR Parts 61 and 63.

New Source Performance Standards (NSPS) are promulgated for criteria and other pollutant emissions from new, modified, or reconstructed sources that the U.S. EPA determines contribute significantly to air pollution. These are typically emission standards, but may be expressed in other forms such as concentration and opacity. The NSPS are published in 40 CFR Part 60.

Nitrogen Oxides (NO_X) are a class of compounds that are respiratory irritants that react with volatile organic compounds (VOC\s) in the presence of sunlight to form Ozone. NO_X compounds are also precursors to acid rain. Motor vehicles, power plants, and other stationary combustion facilities emit large quantities of NOx.

North American Industrial Classification System (NAICS) A North American system for classifying industries by a six-digit code. This six-digit hierarchical structure allows greater coding flexibility than the four-digit structure of the SIC. NAICS allows for the identification of 1,063 industries compared to the 1,004 found in the SIC system.

Operating Permits are permits required by Title V of the 1990 Act for major sources. Operating permits are for the facility as a whole and differ from construction permits, which are issued for individual release points.

Overall Control Efficiency is obtained by multiplying the capture efficiency by the control equipment control efficiency to provide the overall control efficiency for reporting emissions.

Ozone (O_3) is a colorless gas that damages lungs and can damage materials and vegetation. It is the primary constituent of smog and is formed primarily when nitrogen oxides (NOx) and volatile organic compounds (VOCs) react in the presence of sunlight.

Particulate Matter of aerodynamic diameter less than or equal to 10 micrometers (PM10) is a measure of small solid matter suspended in the atmosphere. Small particles can penetrate deeply into the lung where they can cause respiratory problems. Emissions of PM10 are significant from fugitive dust, power plants, commercial boilers, metallurgical industries, mineral industries, fires, and motor vehicles.

Particulate Matter of aerodynamic diameter less than or equal to 2.5 micrometers (PM2.5) is another measure of small solid matter suspended in the atmosphere. Primary PM2.5 particulate results largely from combustion of fossil fuels or biomass, although selected industrial processes can also be significant in some areas. The sources of PM2.5 include, but are not limited to, gasoline and diesel exhaust, wood stoves and fireplaces, land clearing, wildland prescribed burning, and wildfires. Sources of primary particulate including fugitive emissions from paved and unpaved roads, dust from ore processing and refining, and to a lesser extent, crustal material from construction activities, agricultural tilling, wind erosion and other crustal sources are less important based on their relatively small contribution to ambient PM2.5 concentrations. The condensable components are largely made up of semi-volatile organic compounds that condense at ambient temperature to form aerosol.

Release Point is the point where emissions enter the atmosphere such as stacks, vents and ventilation exhausts. The term release point is used interchangeably with release point.

Reported Emissions are those emission estimates that are submitted to a regulatory agency. Emission inventories are used for a variety of purposes such as planning pollution control programs, promoting compliance with laws and regulations, and conducting permit reviews.

MSDS or Material Safety Data Sheets are an information source with details about the chemical composition of a material, safe handling, and transportation data and other environmental information. An MSDS can be a useful source of emission information and are available for all chemical substances from the supplier of the material.

Source Classification Codes (SCCs) are codes defined by EPA that classify air emission sources by individual processes and/or operations.

Stack Tests A test that measures the concentration of pollutants in the exhaust stack. Measurements are performed following procedures specified and developed by the US

EPA. Such testing is required by NMED to be conducted by various stationary sources to determine compliance with applicable air emission limits.

SCFM Standard cubic feet per minute. A measurement of exhaust rate from a release point.

Standard Industrial Classification (SIC) A United States government system for classifying industries by a four-digit code.

State Implementation Plan (SIP) is a state plan approved by EPA for the implementation, regulation, and enforcement of air pollution standards.

Stationary Source is any building, structure, facility or installation which emits or may emit any air pollutant subject to regulation under the Clean Air Act. It includes all pollutant emitting activities which belong in the same major industrial grouping as identified by the first two digits in the facilities SIC code, are located on one or more contiguous or adjacent properties and are under common ownership or control.

Sulfur Oxides (SO_X) are a class of colorless, pungent gases that are respiratory irritants and precursors to acid rain. Sulfur oxides are emitted from various combustion or incineration sources, particularly from coal combustion.

Threshold is the level of emissions that once reached, triggers certain requirements to obtain a permit, to submit GHG emissions, etc.

Volatile Organic Compounds (VOCs) are organic compounds that contribute to ground-level ozone or smog formation. Ground level ozone is a strong lung oxidant. Large amounts of VOCs are emitted from fuel distribution, chemical manufacturing, motor vehicles, and a wide variety of industrial, commercial, and consumer solvent use.

Appendix F: Abbreviations

ACFM	Actual cubic feet per minute
ACT	Activity
AECT	Air Emissions Calculation Tool
AEIR	Air Emissions Inventory Reporting
AI	Agency Interest Number
AQB	Air Quality Bureau
CAA	Clean Air Act
CAS	Chemical Abstract Service Registry number
CFR	Code of Federal Regulation
CHIEF	Clearinghouse for Inventories and Emission Factors
CO	Carbon Monoxide
EI	Emissions Inventory
EQPT	Equipment
gr/dscf	grains per dry standard cubic foot
HAP	Hazardous Air Pollutant
lbs/hr	pounds per hour
lbs/MMBtu	pounds per million British thermal units lbs/MMcf pounds per million cubic
ft	feet
MACT	Maximum Achievable Control Technology
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
MSEI	Minor Source Emission Inventory
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
˚F	degrees Fahrenheit
PM10	Particulate Matter less than or equal to 10 micrometers in diameter
PM2.5	Particulate Matter less than or equal to 2.5 micrometers in diameter
Ppb	parts per billion
Ppm	parts per million
ppmv	parts per million by volume
RPNT	Release Point
SCC	Source Classification Code
SCFM	Standard cubic feet per minute
SI	Subject Item
SIC	Standard Industrial Classification
SO_2	Sulfur Dioxide
TPY	Tons per year
TSP	Total Suspended Particulates
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

Revisions

12/16/2020 – Addition of greenhouse gas submittal instructions and Reporting Inactive Facilities.

12/21/2020 – Added Closed Facilities and XML sections

12/30/2020 – Addition of Extensible Markup Language (XML)

2/25/2021 –

- New Section - Types of Facilities That Can/Cannot Add, Remove, and Modify New Subject Items
- New Section - Bundled and Unbundled Equipment
- Updated Section - Stack Information
- Changed the previous “Portables” to “Leasing Facilities”
- New Section - Portables (for General Construction Permits)
- New Section - Manage E-Sign
- New Section - Certification
- Updated XML Section - removed Access Tool instructions and reference Calcatenate instead
- Updated Appendix B to remove “Materials Processed” from some SI types
- Updated Appendix D to link to the Calcatenate webpage, HAPs list, and NAICS links