

Outer Continental Shelf Air Quality System (OCS AQS)

Frequently Asked Questions (FAQs) v.1.9



The Outer Continental Shelf Air Quality System

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List of Abbreviations and Acronyms

°F	degree(s) Fahrenheit
°R	degree(s) Rankine
AEM	Activity & Emissions Manager
bbl	barrel(s)
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
Btu	British thermal unit(s)
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CSV	comma-separated values
DP	dynamic positioning
FAQ	Frequently Asked Questions
e-GGRT	electronic Greenhouse Gas Reporting Tool
ft	foot/feet
gal	gallon
GHG	greenhouse gas
GOADS	Gulfwide Offshore Activities Data System
GOR	gas-to-oil ratio
GWP	greenhouse warming potentials
H ₂ S	hydrogen sulfide
HAP	hazardous air pollutant
HP	horsepower
hr	hour
HT	heater treater
in	inch(es)
lb	pound(s)
LP	low-pressure
LSH	level shutdown high
LSL	level shutdown low
MMBtu	Million British thermal units
Mscf	thousand standard cubic feet
MSL	mean sea level

MT	metric tons
MW	molecular weight
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NTL	Notice to Lessees
OCS	Outer Continental Shelf
OGOR	Oil and Gas Operations Report
ONRR	Office of Natural Resources Revenue
OPD	Official Protraction Diagram
ppm	parts per million
ppmv	parts per million volume
psia	pounds per square inch absolute
psig	pounds per square inch gauge
QA	Quality Assurance
QC	Quality Control
SCC	Source Classification Code
scf	standard cubic foot (feet)
sec	second(s)
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compounds
yr	year(s)

1 Introduction

This document provides a list of common questions and answers that operators may find helpful as they use the Outer Continental Shelf Air Quality System (OCS AQS) to prepare and submit their annual emissions inventories for the Gulf of Mexico and Alaska regions. This document is periodically updated to answer new questions and/or clarify existing ones. Please refer to the Revision History (Section 10) at the end of the document for details of the updates that have been made. The current version (v. 1.9) is based on software release v.2.5.

For details on how to use OCS AQS, please visit BOEM's website to access the Operator User Manual:

<https://www.boem.gov/environment/environmental-studies/2023-ocs-emissions-inventory>

2 General Questions

2.1 What is the geographic coverage area of the Outer Continental Shelf (OCS) Emissions Inventory effort?

As in previous inventory years, OCS annual emissions inventory submittals include the following geographic areas:

- Gulf of Mexico: the portion of the OCS west of 87° 30' West longitude in the Central and Western Planning Areas
- Alaska: areas off the North Slope Borough, which includes the Chukchi Sea and Beaufort Sea Planning Areas and a portion of the Hope Basin Planning Area

2.2 What types of emissions sources must be included in the annual inventory?

According to the Bureau of Ocean Energy Management's (BOEM's) [Notice to Lessees \(NTL\) No. 2022-N01](#), lessees and operators with facilities (as defined in 30 CFR 550.302) in the areas listed above are to collect and report activity information, including facility, equipment, and fuel usage, and report emissions data covering the period January 1, 2023 to December 31, 2023.

Operators and lessees are not required to report emissions from sources that do not constitute a "facility" as defined in 30 CFR 550.302. Additional instructions on what constitutes a facility for the purposes of meeting the requirements of 30 CFR 550.302 are covered in the FAQs 2.3 through 2.5 below and in the OCS AQS User Manual, which is available on <https://www.boem.gov/environment/environmental-studies/2023-ocs-emissions-inventory>.

2.3 What is the definition of a “facility” for emissions reporting purposes?

As defined in 30 CFR 550.302, a “facility” means

any installation or device permanently or temporarily attached to the seabed which is used for exploration, development, and production activities for oil, gas, or sulphur and which emits or has the potential to emit any air pollutant from one or more sources. All equipment directly associated with the installation or device shall be considered part of a single facility if the equipment is dependent on, or affects the processes of, the installation or device. During production, multiple installations or devices will be considered to be a single facility if the installations or devices are directly related to the production of oil, gas, or sulphur at a single site. Any vessel used to transfer production from an offshore facility shall be considered part of the facility while physically attached to it.

2.4 What is the definition of a “temporary facility”?

As defined in 30 CFR 550.302, “Temporary facility means activities associated with the construction of platforms offshore or with facilities related to exploration for or development of offshore oil and gas resources which are conducted in one location for less than 3 years.”

Lessees operating temporary facilities must report emissions.

2.5 In addition to reporting facility emissions for platform operations, which support vessels must also report emissions?

Operators and lessees are not required to report emissions from sources that are not a “facility” as defined in 30 CFR 550.302. Supply or crew transport vessels are not facilities as defined in the current regulation. However, drilling rigs or vessels such as mobile offshore drilling units are required to report emissions when (and only when) they are connected to the seabed or to a facility. Construction activities involved in installation are considered part of a facility and should be reported. Therefore, in addition to platform operations, activity types that are required to report emissions include the following:

- Drilling rigs for crude oil exploration / production wells
- Drilling rigs for natural gas exploration / production wells
- Installation support vessels (CSV)
- Well stimulation vessels (WSV)
- Domestic and foreign self-propelled drill rigs

See section 4 for additional detail regarding what lease operations activities (e.g., drilling rigs) must be reported.

2.6 How do I access the new OCS AQS Web Application and User Manual?

OCS AQS was first made available on December 1, 2020 and can be accessed at <https://ocsaqs.doi.gov>. The OCS AQS User Manual can be downloaded from the following website: <https://www.boem.gov/environment/environmental-studies/2023-ocs-emissions-inventory>.

Operators should have received an OCS AQS invitation email with instructions on setting up a username and password. Consultants will need the operators to request an OCS AQS account on their behalf. Inquiries should be sent to ocs.aqs_support@weblakes.com for technical support.

2.7 How can I find my BOEM Company Number or Complex and Structure Numbers?

Operator's OCS AQS account will already be configured to include all details from their 2021 emissions inventory, which include Company, Complex, and Structure Numbers, as well as all equipment.

You can also find assigned platforms and structures at the BOEM Data Center's Platform/Rig Information Page (<https://www.data.boem.gov/Main/Platform.aspx>).

For new operators, please contact your BOEM or Bureau of Safety and Environmental Enforcement (BSEE) representative to discuss ways to enter data for a new company and structure into OCS AQS.

2.8 What are the differences between GOADS-2017 and OCS AQS?

The new OCS AQS web application replaces the Gulfwide Offshore Activities Data System (GOADS) and should be used to complete all emission inventory submittals going forward. The differences include:

- All emission inventory work is now done online, and external MS Access spreadsheets no longer need to be filled out. The electronic submission in OCS AQS significantly streamlines the submission process.
- Operators are no longer required to submit their Quality Assurance (QA) Summary Form with the annual submittal as it is automatically available to BOEM/BSEE within OCS AQS.
- OCS AQS is a web-based application that can be accessed from a web browser (Chrome, Firefox, Edge).
- All necessary emission calculation tools and reporting features are readily available. There is no need to use Microsoft Access.
- OCS AQS allows for the importing and exporting of facility emissions sources and activity data.

- In OCS AQS the activity and emissions data can be examined and analyzed using plots and tables in the Analytics module.
- OCS AQS also includes an online mapping capability to see your facility locations as well as reports to check inputs prior to submission.

2.9 What are the similarities between GOADS-2017 and OCS AQS?

- BOEM is requesting that operators track monthly activities for variables needed to calculate monthly and annual emissions, which will be submitted electronically using OCS AQS in a single annual submittal prior to the submittal deadline.
- OCS AQS performs the same type of quality control (QC) checks that were present in GOADS. However, additional QA/QC checks have been implemented in that certain fields are designated as mandatory.
- OCS AQS calculates emissions using the same emission factors and calculators as GOADS for most sources.

2.10 How do I submit my emissions inventory using OCS AQS?

After operators have updated all the source, activity, and emissions information, ran the available analytics, and performed QA/QC for the emission inventory report year, go to the Operator Submittal dashboard and click the Submit link for the facility you want to submit. OCS AQS will go through a final QA check. If there are no errors, you will be asked to certify that you are the responsible party authorized to submit the inventory. Follow the wizard instructions to complete the submittal process (see Section 9 for more information).

BOEM/BSEE will receive an automated notification that the facility data has been submitted for review.

Note that after all facilities in the inventory have been submitted, it will become locked so that no additional changes can be made. BOEM/BSEE will review the submittal and either accept it or send a notification back to the operator that additional action must be taken before it can be accepted. Notification will be sent via email and messaging within OCS AQS. The inventory will be unlocked when additional action is required so the necessary changes can be made to the data for the facility in question (see Section 9 for more information).

2.11 How do I submit a metadata report?

The metadata report will be generated automatically by OCS AQS and attached to the inventory at the time of submittal, so operators do not need to submit one separately.

IMPORTANT: The facility metadata report is required for submittal; it will be automatically generated during the submittal procedure and included with the QA/QC files for the facility.

2.12 Will I still have access to my inventory once it has been submitted?

You will still have access to your inventory; however, all information will be locked and read only. Operators will still have access to export their data for the U.S. Environmental Protection Agency's (USEPA's) electronic Greenhouse Gas Reporting Tool (e-GGRT) reporting, if required.

2.13 Which operating systems and internet browsers are supported in OCS AQS?

OCS AQS has been tested and is supported on multiple web browsers, including the current versions of Edge, Firefox, and Chrome. Chrome is recommended for the best user experience while using the new online mapping features.

For iOS users, OCS AQS supports Catalina and multiple browsers including current releases of Safari and Chrome.

2.14 Is there a way to facilitate reporting to the USEPA's Greenhouse Gas (GHG) Reporting Program with OCS AQS?

Yes, OCS AQS fully supports USEPA's e-GGRT reporting system. An e-GGRT-formatted XML report can be easily generated using the e-GGRT reporting tool.

2.14.1 Do I need to submit e-GGRT report?

The e-GGRT report should be submitted for any complex with the combined CO₂e emissions from all platform sources of more than 25,000 metric tons per year. For more information on the USEPA's Greenhouse Gas Reporting Program, visit <https://www.epa.gov/ghgreporting> and on the USEPA's e-GGRT, visit <https://ghgreporting.epa.gov/ghg/login.do>.

NOTE: 25,000 metric tons of CO₂e per year is roughly equivalent to one of the following: 170,000 scf/day vented methane, sixty-five 100-HP engines working at full capacity, or a single 900 scfm flare.

2.14.2 How do I generate/submit my e-GGRT report?

Before you generate the e-GGRT report make sure that:

- All data is correct and complete
- Run the QA/QC check in the **Submittal Dashboard** on all facilities in the complex for which you wish to generate the report

The **Complex e-GGRT Export** tool in the **Emissions | Tools** section allows you to export the e-GGRT report for any complex that has passed the QA/QC check in the **Operator Submittal**

dashboard. This prevents submittal of incomplete or outdated information. This tool generates a .ZIP file that contains two files:

- XLSX – a summary of the data used to generate the .XML file, including GHG emissions and hours of operation for each equipment type and the **Total Annual Production** values for each facility in the complex. This file is generated for your information and does not need to be submitted.
- XML – the e-GGRT report that must be submitted using the USEPA’s Greenhouse Gas Reporting Program

Note: OCS AQS Version 1.22 and later supports USEPA’s Reporting Year 2022 XML Schema which was released on October 24, 2022.

2.14.3 What Global Warming Potentials are used to calculate CO₂e equivalents?

GWPs were taken from the Fourth Assessment Report from the Intergovernmental Panel on Climate Change (IPCC)¹ guidance for 100-year time horizons (Table 1).

Table 1. Greenhouse warming potentials (GWPs) that will be used in the 2023 inventory

GHG	GWP
Carbon dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous oxide (N ₂ O)	298

2.15 Is there any way I can re-use the OCS AQS 2021 data files for my 2023 effort?

To streamline the emission inventory preparation and submittal process, previous facility and emission source data (static data) from the OCS AQS 2021 emission inventory data will be imported into the OCS AQS 2023 inventory. This will serve as the starting point for the 2023 inventory reporting year. Certain data, such as throughput and hours of operation (dynamic data), will not be imported as this information needs to be updated by the facility operator prior to calculating emissions for the new reporting year.

¹ <https://www.ipcc.ch/assessment-report/ar4/>

2.16 I do not see some of my facilities when I login. What should I do?

As previously mentioned, all facilities that reported in the 2021 inventory year will be imported into OCS AQS for the 2023 effort. For privacy and security purposes, operators will not be able to access facilities owned by other operators.

Consultants hired by an operator to complete the inventory will need the operator to request an account on their behalf. Operators should submit their requests using the dedicated technical support by emailing ocs.aqs_support@weblakes.com.

Operators are not able to add new facilities. If a new facility needs to be added to the inventory, contact OCS AQS technical support at ocs.aqs_support@weblakes.com with detailed facility information. If a facility has been acquired from another operator, contact OCS AQS technical support to perform facility transfer.

2.17 I do not see any inventories when I login. What should I do?

If you do not see the inventories you believe you should have access to, follow the on-screen instructions to request access as an operator or a consultant. Your request will be reviewed, and, if approved, your account will be granted access to the appropriate inventories.

2.18 Do we need to count the new facilities that start up during the reporting year (e.g., if they start up in March, September, or December)?

Yes, operators need to report any emissions from any facility that operate at any time during the calendar reporting year. To account for any months of the year when the facility was not producing emissions (i.e., before start-up), Facility-Wide Zero Emissions option has to be used (see FAQ 3.6)

2.19 Who do I contact if I have policy questions regarding the 2023 OCS Inventory?

Policy questions and non-technical support inquiries should be sent by email to OCSEmissionsInventory@boem.gov.

2.20 I see a Data Preloading screen when I login. Is this correct?

Sometimes you might see a screen similar to what is shown in **Figure 1** when you login.

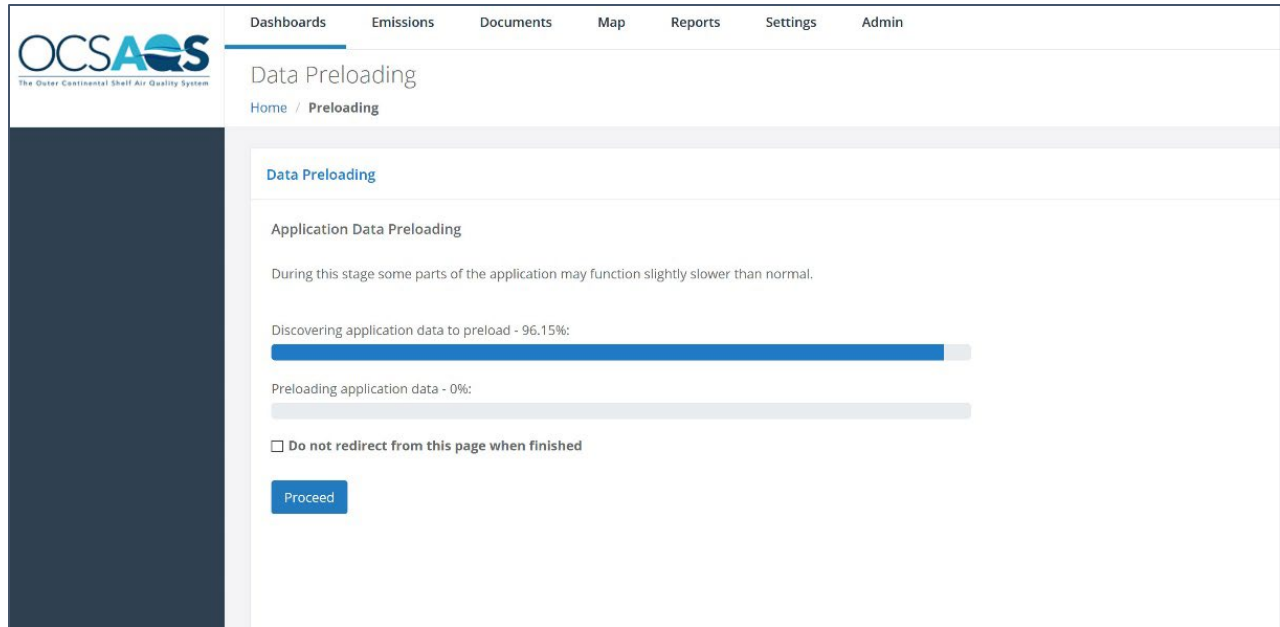


Figure 1. Data Preloading screen

This screen will appear after the OCS AQS support team has made an update, and there is no cause for concern. Simply click the Proceed button or select any module. You do not have to wait for the system status bars to complete preloading before using the application.

3 Emissions Calculations

3.1 Do I have to report all my structures and equipment, or can some be excluded?

All structures and equipment that meet the definition of facility that operated in calendar year 2023 must be reported in OCS AQS 2023 inventory, including minor sources. Temporary equipment and equipment that operates intermittently must also be included, with the exception of equipment intended to be used exclusively in the event of equipment failure or for emergency response purposes. Activities not associated with oil and gas production (e.g., painting, sanding, welding) can also be excluded.

3.2 I decommissioned several platforms after 2021. Why do I have to report them in 2023?

Platforms and facilities that were decommissioned after 2021 should be included in the 2023 inventory but can be zeroed out with an appropriate explanation. This allows BOEM to track platform status from inventory to inventory. After the platform facility has been marked “PS (Permanently Shutdown)” in a reporting inventory year, it will not need to be reported in the next inventory.

3.3 How do I add a dual-fuel source?

For dual-fueled sources, such as turbines, two (2) processes will be automatically created under one dual-fuel emission unit in the Emission Units & Processes grid, where each process represents a type of fuel.

For hours of use, the combined hours per month for the source should not exceed the total hours in the month.

3.4 How do I change calculators if I select the wrong one?

Currently, operators do not have the access rights to change calculators for sources. Default calculators for existing sources are applied when the source is created in the Activity & Emissions Manager (AEM).

If you add a source with the calculator that does not correspond to the activity of the equipment you are reporting, you can set its emissions to zero using the Zero Emissions feature, select "Other" as the reason, and provide a comment explaining the situation. Then create a new source with the correct calculator and resume working.

To delete the erroneous source, you must contact the OCS AQS support team at ocs.aqs_support@weblakes.com with the following information:

- Company name

- Facility ID
- Emission Unit ID
- Process ID (all processes associated with the unit)
- Reason for removal

3.5 Does OCS AQS calculate Greenhouse Gases (GHGs) and Hazardous Air Pollutants (HAPs)?

Yes, OCS AQS calculates all National Ambient Air Quality Standards (NAAQS), including carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), fine particulate matter (PM_{2.5}), coarse particulate matter (PM₁₀), and sulfur dioxide (SO₂).

In addition, OCS AQS calculates GHGs, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and CO₂ equivalent (CO_{2e}), and HAPs.

3.6 How do I report zero emissions for a month?

OCS AQS offers two methods to report zero emissions. The first method is to zero out the entire facility. In the AEM page, select the Facility-Wide Zero Emissions button in the Emission Unit & Processes window. This will allow you to specify during which months the facility produced zero emissions and why.

To zero out a specific emission unit, select the source from the Emission Units & Processes table to update the page. Click on the Options button next to the red QA/QC button and select the Zero Emissions option (**Figure 2**). Pick the month or months that you want to report zero emissions for the source and pick an explanation from the list for each.

The following reasons are available for Facility-Wide Zero Emissions:

- Decommissioned in reporting year
- Decommissioned/Sold/Removed prior to reporting year
- Destroyed by hurricane in reporting year
- Emergency Response
- Installed in reporting year
- Other
- Purchased in reporting year
- ROW, No Equipment
- Shut-in/Out of Service
- Sold in reporting year

The following reasons are available for zero emissions at emission unit level:

- Amine/Glycol emissions not vented locally
- Installed in reporting year
- Maintenance
- Other
- Out of service
- Removed in reporting year
- Removed or decommissioned prior to inventory year

The screenshot shows the 'Emission Units & Processes' interface for facility '00875-1 - FOXTROT-3 - Demo Company, LLC'. A table lists four emission units. The 'Process' configuration window for 'BOI-M01R' is open, showing 'Calculator Parameters & Requests'. In the 'Options' menu, 'Zero Emissions' is selected and highlighted with a red box.

#	Emission Unit ID	Emission Unit Description	Process ID	Process Description	Source Classification Code (SCC)	Calculator	Last Calculation Date	Actions
1	AMI001	Amine gas sweetening unit	AMI	Amine Gas Sweetening Unit	31000305	AMI-000	10-Apr-2023, 15:53:27	View Edit Copy
2	BOI002	Boiler/Heater/Burner (Diesel)	BOI	Boilers, Heaters, and Burners (Diesel)	10200501	BOI-M01R	24-Apr-2023, 11:24:43	View Edit Copy
3	DRI001	Drilling Equipment (Gasoline)	DRI	Drilling Equipment-Gasoline Fuel	31000122	DRI-M01R	11-Apr-2023, 13:55:51	View Edit Copy
4	DRI001A	Drilling Equipment (Gasoline)	DRI	Drilling Equipment-Gasoline Fuel	31000122	DRI-M01R		View Edit Copy

Figure 2. Reporting zero emissions for the month

3.7 How do I delete an emissions unit?

Operators are not permitted to delete an emission unit. If you want to remove an emission unit, please contact the OCS AQS support team at ocs.aqs_support@weblakes.com to delete it.

The email must include the following information:

- Company name
- Facility ID
- Emission Unit ID
- Process ID (all processes associated with the unit)
- Reason for removal

3.8 How do I delete an emissions unit that was removed or decommissioned prior to a reporting year?

Operators cannot delete an emission unit; see FAQ 3.7 for the procedure on how to have one removed. The decommissioned equipment emissions should be set to zero through the Zero Emissions feature (see FAQ 3.6), and "Removed or decommissioned prior to inventory year" must be selected as the reason.

3.9 How do I account for equipment (e.g., pumps) that has been converted from a gas-powered engine to an air-driven system in our emission reporting?

For pumps or similar equipment converted to an air-driven system that retains the same ID, report them as having zero emissions. When specifying the reason, select "Incorrect Equipment Configuration" and enter "converted to compressed air system" in the mandatory comment field. This indicates that although the equipment remains operational at the facility, its emissions have ceased due to the conversion. Emission units fitting this description will be automatically removed from the inventory in the subsequent reporting year if they register zero emissions for all 12 months, provided the reason "Incorrect Equipment Configuration" is chosen and the mandatory comment is included as noted above.

3.10 The QA/QC check says that my input parameter is out of range, but my value is correct. How do I change the range?

To change the range of a parameter, email technical support at ocs.aqs_support@weblakes.com with the requested range of the parameter. BOEM will review the request, and, if approved, notify you when the change has been made.

You can save the out-of-range values, but to calculate emission values based on it you will need to specify the reason for the out-of-range value by clicking the QA button by the parameter field.

3.11 What should I do if I have an emissions unit that is not on the Emission Unit Template selection list?

All reportable emission units have been included in the Emission Unit Template list. In many cases, the process or emission unit name may not be the same, such as boilers and heaters. Use the template closest to the function that the source is used for.

If a process or emission unit is not available in the AEM page, contact technical support at ocs.aqs_support@weblakes.com to explain your situation and justify why you think an additional process should be included.

3.12 Can an operator manually enter emission values?

No, operators cannot manually enter emissions. All emissions in the inventory are calculated based on information specified in the Calculator Parameters & Requests section.

3.13 On the Calculated Emissions table, what does the “Calculated?” column mean?

The “Calculated?” column will show if the emission value was calculated using the process calculators and data request inputs (Yes) or manually entered in the case of imported historical data (No).

3.14 Can I use different emission factors or emission calculation method than the ones provided?

If you have different emission factors or emission calculation methods than the ones provided in OCS AQS, contact technical support at ocs.aqs_support@weblakes.com and explain why you wish to use different emission factors or calculation methods. If approved by BOEM, the emissions factors and calculator will be modified.

3.15 I do not have information to estimate Fuel Usage Rate for my Pneumatic Controllers and Pneumatic Pumps. Where can I find this information?

This information should be requested from the manufacturer, as this is a required field and can no longer be left blank.

3.16 How do I select which emissions calculation methods to use for each equipment type and process?

For the 2023 effort, calculation methods and emission factors will be assigned to equipment based on your 2021 emission inventory. For new equipment, users simply need to select the applicable calculation method from the available templates, and OCS AQS automatically assigns the appropriate calculation methods, emissions factors, and Source Classification Code (SCC).

3.17 How do I populate the cold vent screen?

For emissions that are vented remotely to a cold vent, create a cold vent source using the VEN001 emission unit template in the AEM page.

Complete the required fields in green for each vent release point. The emission release assumes that the gas composition is the same. If gas compositions differ, create separate sources for each mixture.

The Emission Calculator Required Parameters data requests fields ask for the following inputs:

- **Volume of Vented Gas in Mscf:** Assumes that all gases have the same mixture ratios.
- **Concentration of volatile organic compounds (VOCs) in the Vented Gas in ppmv:** To convert percentage to ppmv, multiply the percentage in the percentage form by 10,000. For example, if the total VOC percentage of the gas is 1%, then ppmv of VOCs is $1 * 10,000 = 10,000$ ppmv.

Note that vented emissions are NOT combusted. If emissions are combusted, create a Combustion Flare source.

3.18 How do I select and populate the combustion flare template?

Create a combustion flare source using the FLA001 Combustion Flare emission unit template in the AEM page. A single emission unit is created; however, two associated processes will be listed (**FLA-Flare** and **FLA-Pilot**). This creates two separate entries in the Emission Units & Processes table. Operators should report emissions from both processes.

The required data requests fields under **FLA-Flare** ask for the following inputs:

- **Total Volume of Gas Flared (Not Including Pilot) in Mscf:** Assumes that all gases have the same mixture ratios.
- **Smoking Condition:** Choose the smoke output of the flared gas from the drop-down menu. If the smoking condition is unknown, choose the heavy smoking flare value. Note that the default value for smoke conditions is Light Smoke.
- **Concentration of H₂S [hydrogen sulfide] in the Flare Gas in ppm:** If H₂S is given in percentage, convert to ppm by multiplying the percentage by 10,000. For example, if the H₂S concentration is 3%, the ppm value is $3 * 10,000 = 30,000$ ppm.
- **Flare Gas Heating Value in Btu/scf:** The average heating value for natural gas is 1,050 Btu/scf. However, flared gas may have different characteristics; hence, no default value is provided.
- **Combustion Efficiency of the Flare in percent:** Flare efficiency varies. Give the value in percent form. If the value is 98%, enter 98 in the field.

3.19 How do I account for pilot flare gas emissions?

Data request fields under FLA-Pilot process should be populated to account for the pilot flare gas emissions.

The Emission Calculator Required Parameters data requests fields under **FLA-Pilot** ask for the following inputs:

- **Pilot Feed Rate in Mscf/day:** Assumes that all pilot gases have the same mixture ratios.
- **Number of Days in Month:** The units are days and should be less than or equal to the maximum number of days in the month.

3.20 How do I populate losses from flashing?

Flash gas is natural gas liberated when crude oil and condensate undergo a pressure drop. There are many areas in the production, gas processing, and transmission processes where flash gas is generated and vented to the atmosphere, including the following two examples:

- **Intermediate Flash:** High/intermediate-pressure separators send crude oil and condensate to a low-pressure separator. This low-pressure separator operates at a pressure greater than atmospheric pressure and may vent directly to the atmosphere. A heater treater may also be utilized in an intermediate flash situation (see diagram below).
- **Fixed Roof Storage Tanks:** High/low-pressure crude oil and condensate are flashed into tanks operating at atmospheric pressure (**Figure 3**).

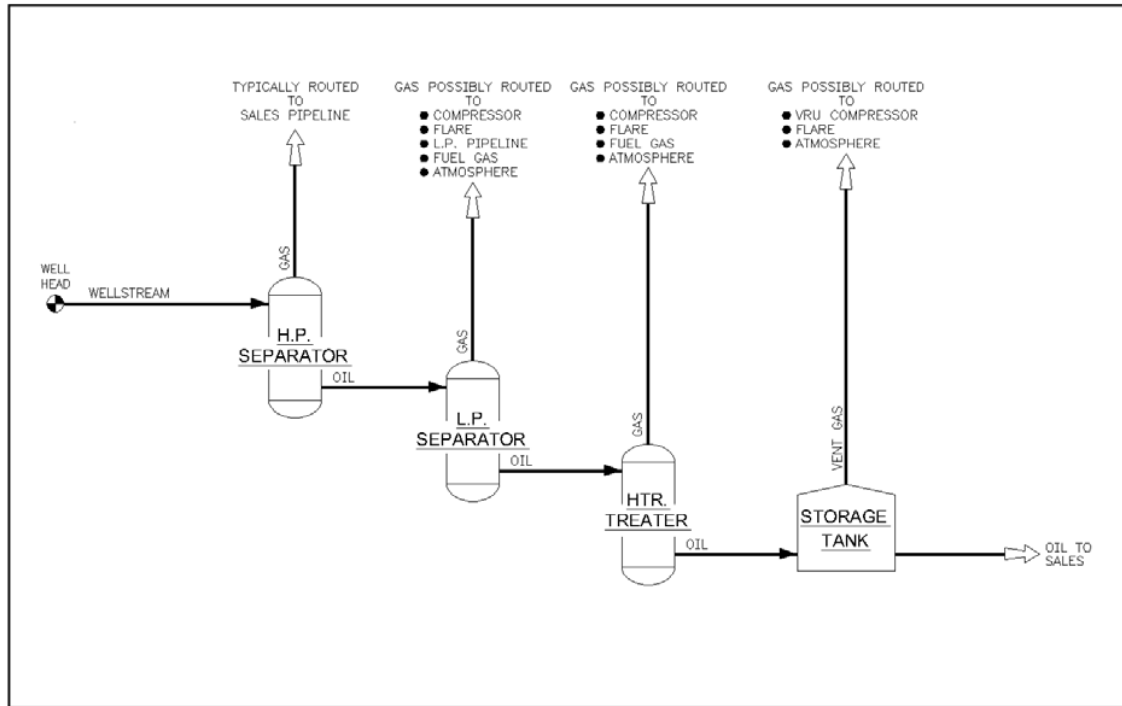


Figure 3. Possible flash losses and routes for the flash gas

For each stage of flash (e.g., low-pressure separator oil to heater treater) that is vented to the atmosphere (locally or to remote vent) or flared (locally or to remote flare), the operator should provide the following data to calculate emissions:

- Throughput Volume per Month in bbl
- Atmospheric Pressure in psia
- Upstream Operating Pressure in psig
- Upstream Operating Temperature in °F
- Downstream/Vessel Operating Pressure in psig
- Downstream/Vessel Operating Temperature in °F
- American Petroleum Institute (API) gravity of stored oil

For example, an operator has a low-pressure (LP) separator that sends its oil to a heater treater (HT), which dumps its oil to an atmospheric storage tank (T-1) and then to the suction of the onsite compressor (i.e., the system). The HT vents its flash gas remotely to the low-pressure vent system. The operator would create two flash records, say FLASH-1 and FLASH-2. On FLASH-1, enter data for the flash between the LP to HT flash, and on FLASH-2, enter data for the flash between the HT and T-1 flash. The LP separator sends its gas to the onsite compressor, and this flash is not vented to the atmosphere (or flared) and should not be reported.

An operator can obtain data using the following methods:

- Direct measurement
- Vasquez-Beggs Correlation Equations (SPE Paper 6719):
<https://onepetro.org/JPT/article-abstract/32/06/968/121824/Correlations-for-Fluid-Physical-Property?redirectedFrom=PDF>
- Pressurized oil sample and measurement of gas-to-oil ratio (GOR) in lab
- API's E&P TANK Version 2 software
- Process simulators such as HYSYS or PROSIM

3.21 How do I populate the fuel combustion screens?

OCS AQS has several built-in calculators to manage combustion sources. Create a source in the AEM page based on the emission unit template appropriate for the source's process and fuel.

Complete the required fields in green for each source. In most cases, the required fields will only ask for heating value and throughput volume.

Heating values for common fuels are:

- Diesel average heating value: average = 19,300 Btu/lb
- Natural gas average heating value = 1,050 Btu/scf
- Gasoline average heating value = 20,300 Btu/lb

3.22 How do I populate the fugitives screen?

Fugitive sources have different calculators depending on the stream type. Each calculator requires component counts of different equipment.

Additional information provided by the Offshore Operators Committee may also be helpful as a starting point in compiling a component count (Table 2).

Table 2. Summary of equipment inventory data (number of components) by skid type

Skid Type	Valves	Pump Seals	Threaded Connections	Flanges	Open Ended Lines	Compressor Seals	Diaphragms	Drains	Dump Arms	Hatches	Instruments	Meters	Pressure Relief Valves	Polished Rods	Other Relief Valves
Separator Skid	34	0	13	73	0	0	0	2	0	0	15	1	1	0	0
Heater Treater Skid	98	0	70	114	0	0	0	3	0	0	25	0	3	0	0
LACT Charge Pump Skid	21	3	6	47	0	0	0	1	0	0	9	0	0	0	0
LACT Skid	62	1	75	69	0	0	0	1	0	0	34	4	6	0	0
Pipeline Pumps Skid	39	3	12	78	0	0	0	2	0	0	70	0	3	0	0
Pig Launcher/Receiver Skid	13	0	14	16	0	0	0	0	0	0	9	0	1	0	0
Compressor Skid	119	0	113	138	0	4	0	1	0	0	69	0	9	4	0
Filter/Separator Skid	30	0	25	37	0	0	0	1	0	0	9	0	1	0	0
Gas Dehydration Skid	23	0	14	40	0	0	0	1	0	0	12	0	1	0	0
Glycol Regeneration Skid	134	0	110	194	0	0	0	4	0	0	45	1	7	6	1
Gas Meter	10	0	11	26	0	0	0	1	0	0	21	2	0	0	0
Fuel Gas Skid	62	0	47	85	0	0	0	1	0	0	32	1	4	0	0
Floatation Cell Skid	41	1	34	70	0	0	1	1	0	15	8	0	2	0	2
Scrubber	13	0	13	18	0	0	0	1	0	0	9	0	1	0	0
Amine Unit	226	8	166	391	0	0	1	5	0	0	121	2	12	0	1
Line Heater	30	0	46	18	0	0	0	1	0	0	10	0	0	0	1
Production Manifold	108	0	31	148	0	0	0	1	0	0	43	0	0	7	0
Wellhead	15	0	6	19	0	0	0	0	0	0	11	0	0	0	0

Skid Type	Valves	Pump Seals	Threaded Connections	Flanges	Open Ended Lines	Compressor Seals	Diaphragms	Drains	Dump Arms	Hatches	Instruments	Meters	Pressure Relief Valves	Polished Rods	Other Relief Valves
Import or Export Pipeline	3	0	0	9	0	0	0	0	0	0	0	0	0	0	0

Because there is a large variation in emissions for compressor seals, you are asked to specify the compressor and seal type:

- Centrifugal: wet seal
- Centrifugal: dry seal
- Reciprocating: shaft packing
- Other (specify in comments)

IMPORTANT: If you are using the values from the table above, you must select the “Default” option for the question “Are Component Counts Based on Default Values?” If you are using actual counts, select the Actual option.

IMPORTANT: The values in **Table 2** above are provided for reference purposes only and are not coded into OCS AQS. Regardless of you select Default or Actual option, you have to specify all values manually.

The total number of components will automatically be calculated for you in the top field under Emission Calculator Required Parameters.

3.23 What leak detection approaches are available for reporting fugitive emissions?

For reporting fugitive emissions, two leak detection approaches are available:

- Screening Ranges
- Importing Emissions using a Prescribed Template

Either of these approaches can be applied after the fugitive process has been created. The Screening Ranges approach utilizes EPA approved methodology, as detailed in the [Protocol for Equipment Leak Emission Estimates \(Ref: EPA-453/R-95-017\)](#). This approach categorizes equipment based on screening values, employing a 10,000 ppmv threshold to distinguish between higher and lower emission rates for leak detection. BOEM requires operators to use EPA’s Method 21, OGI camera, or other EPA approved methods for fugitive leak monitoring.

The Importing Emissions using a Prescribed Template approach allows for the direct import of fugitive emissions from a leak detection survey.

NOTE: The default calculator, used in past inventories and still available for this effort, uses the Average Emission Factor approach with component count to calculate emissions. This approach assumes that no leak detection is performed. Please refer to the Operator User manual for additional details.

3.24 Is it necessary to upload supplemental documents for reporting fugitive emissions when using two leak detection approaches – Screening Ranges and Importing Emissions?

Yes, it is required for operators and certified consultants to upload supplemental documents covering the entire 12-month period, where applicable, when reporting fugitive emissions using these approaches. These documents must be verified for completeness and accuracy. Such documentation may include, but not be limited to:

- Leak Detection Plans
- Data Collection Forms
- Monitoring Programs
- Any additional documents that are required or deemed essential

3.25 Can I use multiple leak detection approaches in a single inventory year?

No, you cannot use multiple leak detection approaches within a single inventory year. While you can change the leak detection approach at any time, the selected approach must be applied consistently across all 12 months.

3.26 How often do I have to conduct a leak detection survey for my annual submission?

If an operator chooses this approach, at least one leak detection survey should be conducted throughout the reporting calendar year. However, if a leak is detected in that one survey, then BOEM will assume that component was leaking the whole year (January through December) regardless of when that survey was conducted.

If an operator would like to account for a leaky component that is fixed during the year, then they would need to conduct an additional survey.

3.27 Where can I get information on reducing venting and flaring emissions?

The Natural Gas STAR Program is a flexible, voluntary partnership between the USEPA and the oil and natural gas industry. Through the Program, the USEPA works with companies that produce, process, and transmit and distribute natural gas to identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a potent greenhouse gas. For more information, see <https://www.epa.gov/natural-gas-star-program>.

3.28 What is the average H₂S content of pipeline-quality gas?

For sweet pipeline-quality gas, use 4 ppm H₂S. Pipeline-quality specifications are usually 0.25 grains H₂S per 100 scf. One grain of H₂S per 100 scf is equal to 16 ppm.

3.29 What values should I use to represent standard conditions?

Standard pressure of 14.7 psia and standard temperature of 60 °F.

3.30 How do I allocate fuel to different equipment?

Most platforms measure only total fuel (Natural Gas or Diesel) used. To allocate fuel to each piece of fuel burning equipment do the following:

- Calculate the theoretical fuel used for each piece of equipment based on the fuel efficiency and hours operated for the month, e.g., Btu/hp-hr for engines or MMBtu/hr for heater treaters
- To Calculate Theoretical Fuel Use for Natural Gas Engine, use the following formula:

$$\text{scf/month} = (\text{hr/month}) (\text{hp}) (\text{Btu/hp-hr}) (\text{scf}/1,050 \text{ Btu})$$
- To Calculate Theoretical Fuel use for Heater/Treater or Burner, use the following formula:

$$\text{scf/month} = (\text{hr/month}) (\text{MMBtu/hr}) (\text{scf}/1,050 \text{ Btu}) (1,000,000 \text{ Btu/MMBtu})$$
- To Calculate Theoretical Fuel Use for Diesel Engine, use the following formula:

$$\text{gal/month} = (\text{hr/month}) (\text{hp}) (\text{Btu/hp-hr}) (1\text{lb}/19,300 \text{ Btu}) (1 \text{ gal}/7.1 \text{ lb})$$

3.31 What happens if I leave some months/equipment data fields blank?

If you do not select “Zero Emissions” to report no emissions and have missing mandatory activity data, the tool will not allow submittal of the data until the missing activity data is filled or the operator selects “Zero Emissions” along with a reason for the zero emission.

3.32 What surrogate data can I use if I am unable to find actual data?

Although actual data is preferred, if you do not have or cannot get site specific information about a specific piece of equipment, the following surrogate data is recommended by BOEM for use (Table 3).

Table 3. Surrogate stack parameters used to supplement OCS AQS Data

Unit	Field	Default Value for Platforms in Water < 200 ft	Default Value for Platforms in Water > 200 ft	2021 Final Inventory Average
Boiler/Heater/Burner	Elevation (above sea level)	80 ft	80 ft	81.7 ft
Boiler/Heater/Burner—exhaust system	Exit temperature	400 °F	500 °F	425.3 °F
Boiler/Heater/Burner—exhaust system	Outlet orientation	0 degrees	0 degrees	0° [Most Frequent]
Boiler/Heater/Burner—exhaust system	Outlet diameter	12 in	20 in	15.3 in
Boiler/Heater/Burner—exhaust system	Exit velocity	Calculated	Calculated	96.1 ft/s
Diesel Engine	Elevation (above sea level)	70 ft	100 ft	87.3 ft
Diesel Engine—exhaust system	Exit velocity	Calculated	Calculated	112.6 ft/s
Diesel Engine—exhaust system	Exit temperature	800 °F	800 °F	837 °F
Diesel Engine—exhaust system	Outlet orientation	0°	0°	0° [Most Frequent]
Diesel Engine—exhaust system	Outlet diameter	5 in	8 in	7.2 in
Flare	Combustion temperature (excluding upsets)	1,832 °F	1,832 °F	1760 °F
Flare	Stack orientation	0°	0°	0° [Most Frequent]
Flare	Outlet diameter	12 in	12 in	13.68 in

Unit	Field	Default Value for Platforms in Water < 200 ft	Default Value for Platforms in Water > 200 ft	2021 Final Inventory Average
Glycol Dehydrator	Elevation (above sea level)	80 ft	140 ft	78 ft
Glycol Dehydrator—ventilation	Outlet orientation	0°	0°	0° [Most Frequent]
Losses from Flashing—ventilation system	Exit temperature	70 °F	70 °F	83.5 °F
Losses from Flashing—ventilation system	Outlet diameter	8 in	8 in	7.56 in
Natural Gas Engine—exhaust system	Exit temperature	4-cycle rich burn: 900 °F	4-cycle rich burn: 900 °F	1038 °F
Natural Gas Engine—exhaust system	Exit temperature	2-cycle lean burn: 700 °F	2-cycle lean burn: 700 °F	710 °F
Natural Gas Engine—exhaust system	Outlet diameter	9 in	12 in	16.8 in
Natural Gas Turbine—exhaust system	Outlet diameter	20 in	36 in	36.72 in
Natural Gas Turbine—exhaust system	Exit temperature	1,000 °F	1,000 °F	953 °F
Pneumatic Pumps	Elevation (above sea level)	60 ft	75 ft	58.5 ft
Pneumatic Pumps—ventilation system	Exit temperature	80 °F	80 °F	70.5 °F
Pneumatic Controllers	Elevation (above sea level)	60 ft	60 ft	63 ft
Storage Tank—ventilation system	Exit temperature	70 °F	70 °F	71 °F
Storage Tank—ventilation system	Outlet orientation	0°	0°	0° [Most Frequent]
Vent	Outlet elevation (above sea level)	100 ft	100 ft	112 ft
Vent	Outlet diameter	8 in	8 in	8.52 in

Unit	Field	Default Value for Platforms in Water < 200 ft	Default Value for Platforms in Water > 200 ft	2021 Final Inventory Average
Vent	Exit temperature	80 °F	80 °F	77.2 °F
Vent	Outlet orientation	0°	0°	0° [Most Frequent]

^a AMINECalc is released by the Gas Technology Institute as part of the AIRCalc Air Emissions Inventory Report Management Software Program.²

^b GLYCalc is released by the Gas Technology Institute, formerly the Gas Research Institute (GRI).³

3.33 How do I convert API Gravity to Specific Gravity?

Specific gravity of oil = 141.5 / (API gravity + 131.5)

3.34 What are the Ideal Gas Law Relationships?

Standard Conditions are 14.7 psia and 60 °F or 520 °R.

Note: °R= degrees Rankine = (°F + 460)

1 lb-mole of gas occupies approximately 379 scf.

3.35 How do I calculate the weight, W, in lb of a gas with a known molecular weight?

Assuming that gas has been converted to scf at 60 °F and 14.7 psia, the general equation is

$$W = \frac{V * MW}{R}$$

where:

W = weight in lb of total gas

V = volume of the gas in scf

MW = molecular weight of the gas in lb/lb-mole

R = ideal gas constant of 379.3 scf/lb-mole

² https://global.ihs.com/doc_detail.cfm?item_s_key=00347560

³ <https://sales.gastechnology.org/000102.html>

3.36 How do I calculate horsepower (HP) of a compressor?

Horsepower of Compressor from Discharge is calculated from Suction Pressure and Compressed Gas Volume using the following equation:

$$HP = 50.5 * \frac{1.255}{1.255 - 1} * MMscfd * \left(\left(\frac{DischargePressure + 14.7}{SuctionPressure + 14.7} \right)^{0.203} - 1 \right) + (0.05 * HP_{total})$$

where:

HP_{total} = total horsepower of all externally driven equipment

3.37 How do I calculate the Exit Velocity, v , for different processes in ft/sec?

The basic equation for emission exit velocity, v , is given as

$$v = \frac{Q * CV * \left(\frac{1}{3,600} \right) \left(\frac{460 + T}{520} \right)}{\frac{\pi}{2} \left(\frac{SD}{12} \right)^2}$$

where:

Q = Average Fuel Rate in either scf/hr for natural/waste gas or gal/hr for diesel

CV = velocity coefficient in scf exhaust gas/scf fuel for natural gas or scf exhaust gas/gal fuel for diesel (Table 4)

T = temperature in °F

SD = stack diameter in inches

Table 4. Velocity coefficients for different processes

Process	Fuel Input Units	CV	VC Unit
Turbine	scf/hr	36.79	scf Exhaust Gas/scf Fuel
Lean-burn, Natural Gas Fired Engine	scf/hr	20.08	scf Exhaust Gas/scf Fuel
Rich-burn, Natural Gas Fired Engine	scf/hr	10.52	scf Exhaust Gas/scf Fuel
Flare	scf/hr	10.52	scf Exhaust Gas/scf Fuel
Diesel Fired Engine	gal/hr	2713.3	scf Exhaust Gas/gal Fuel

Boiler/Heater/Burner, Natural Gas	scf/hr	36.73	scf Exhaust Gas/scf Fuel
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3.38 How do I calculate Flashing Exhaust Vol. Flow Rate, Q in scf/hr?

$$Q = \frac{(Oil/Condensate Throughput, bbl/yr)(scf of flash per barrel, scf/bbl)}{Hours Operated, hr/yr}$$

3.39 How do I calculate Vent Exhaust Vol. Flow Rate, Q in scf/hr?

$$Q = \frac{1,000 * (Volume vented, excluding upsets, Mscf/month)}{Hours Operated, excluding upsets, hr/month}$$

3.40 How do I calculate the Exit Velocity (applicable for Flashing Losses, Glycol Dehydrators, Pneumatic Pumps, Storage Tanks, and Vents), v , in ft/sec?

$$v = \frac{\left(Exhaust Vol Flow Rate, \frac{scf}{hr}\right) \left(\frac{460 + Exit Temperature, ^\circ F}{520}\right)}{\frac{\pi}{2} \left(3,600 \frac{sec}{hr}\right) \left(\frac{Stack Diameter, in}{12}\right)^2}$$

3.41 Do we need to report the diesel and jet fuel (horizontal/cylindrical) tanks that supply fuels for generators and helicopter?

No, they are not crude or condensate.

3.42 Are there any tanks exempt from reporting due to size, capacity, material, or throughput? For example, are corrosion inhibitor tanks exempt? Are methanol tanks less than 1,000 gallons exempt?

Only storage tanks for crude oil and condensate are required to report in the OCS annual emissions inventory. There is no exemption from reporting based on size, capacity, or throughput.

3.43 Can floatation cell emissions be categorized as "LP Cold Vent" emissions?

No, the floatation cell uses a constant gas supply to separate oil and water; vapors are vented locally. Therefore, floatation cell emissions should be categorized as fugitives.

3.44 Will BOEM require the reporting of flash emissions from skim tanks?

Yes, produced water from 3-phase separators, chemoelectrical treaters, and sumps are routed to skim tanks, where the oil entrapped in the water is allowed to separate and is skimmed off.

The tank emission calculators account for the flash emissions, but if they are counted separately, then they should be considered as fugitives.

3.45 How can I estimate the losses from flashing for the Oil/Water (O/W) skimmer? Typically, the water drawoff from the HP Separator goes to the O/W skimmer and mostly water. I know the oil/condensate API coming out of O/W skimmer and its operating pressure, but its oil/condensate flow is typically NOT measured and very small. Is there a typical volume % (which should be very small) of the oil/condensate from the O/W skimmer versus the total condensate to sales, which is metered?

BOEM is not requiring data for produced water separation equipment (e.g., floatation cells).

3.46 Do I need to count the vents and valves on storage tanks in the fugitive component count?

No, when you create a storage tank equipment record, the tank emissions will be accounted for.

3.47 I have found that several emission sources have dual exhaust stacks. The diameters of the stacks are the same, but the heights and orientations are different. When reporting the source exhaust information in OCS AQS, how do we handle dual exhaust stacks?

Report each exhaust stack separately as an emission source. For example, if you have a line heater with two exhaust stacks, you can code them as Heater 1 Exhaust 1 and Heater 1 Exhaust 2.

3.48 Does the level shutdown low (LSL) or high (LSH) count as one level control instrument? For example, an O/W separator normally has three LSL/LSH and two level controllers for oil and water. Do I count it as five or two level controllers?

Count each LSL or LSH separately; so, in this example, there are five level controllers.

3.49 How does BOEM intend to use exit velocity? It seems exit velocity is a function of production and therefore will be valid when operators begin submitting production volumes. Given other data (such as size of exhaust pipe, flow rate, temperature, pressure, and hours vented), exit velocity seems redundant.

Exit velocity is needed in air quality modeling and is used by BOEM as a QA/QC tool for the other reported variables.

3.50 Does BOEM have certain guidelines to determine if oil is crude or condensate?

Condensate is a liquid hydrocarbon that lies in a range between oil and gas and is almost always produced along with gas in the Gulf of Mexico. API gravity values for condensate are generally within the range of 50 to 120 (Handbook of Oil Industry Terms and Phrases, R.D. Langenkamp). A review of liquid commingling systems in the Gulf of Mexico for the year in 1995 indicated 37 major pipeline systems carrying condensate liquids. API gravity data for these pipeline systems in the Gulf of Mexico ranged from 42 to 68. Thus, API gravity values overlap for light crudes and heavy condensates.

3.51 If a structure with separators, tanks, compressors, etc. is going to be out of service throughout a reported year, does a report have to be submitted?

To assist in BOEM's completeness checks, an OCS AQS submittal is still required even if the structure is out of service the entire year. Select the Facility-Wide Zero Emissions option and select the applicable reason that describes why the structure was shut down.

3.52 Is the entry of sales gas now a mandatory field?

The entry of sales gas by operators is now mandatory and must be entered in order to pass the QA/QC before submitting the emissions inventory to BOEM and calculate emissions for any PNE or PRE emission units. Companies should have a recent sales gas analysis for each facility and/or field that should be used for the current inventory year. This data is typically available from the production and accounting departments. The equipment types that depend on the sales gas compositions in their emission calculations include:

1. Cold vents
2. Pneumatic pumps
3. Pneumatic controllers
4. Combustion Flares

3.53 I don't have sales gas composition information for my specific process, what can I do?

If specific data is not available, the default sales gas composition values can be used (Table 5).

Table 5. Default sales gas composition values

Component	Default Mole %	Mole Weight (lb/lb-mole)
CO ₂	0.80	44.010
CH ₄	94.50	16.043
Ethane (C ₂)	3.33	30.070
Propane (C ₃)	0.75	44.097
Isobutane (i-C ₄)	0.15	58.124
n-Butane (n-C ₄)	0.15	58.124
Isopentane (i-C ₅)	0.05	72.150
n-Pentane (n-C ₅)	0.05	72.150
Hexanes (C ₆)	0.099	86.177
Heptanes (C ₇)	0.011	100.272
Octanes and higher hydrocarbons (C ₈₊)	0.007	114.231

The above table was taken from the Year 2017 Emissions Inventory Study at https://espis.boem.gov/final%20reports/BOEM_2019-072.pdf.

3.54 A facility has a vent header and vent boom and also has pressured vessels that vent locally. How do we report in OCS AQS? VEN-01 would be the existing Flare Boom. Would we then continue with VEN-02 for say HP Separator #2, VEN-03 for LP Separator, etc.? The only time these vessels would vent would be for emergency relief, but they would not vent to the existing header.

Please be consistent in naming sources in OCS AQS with the nameplate that is physically on the source. BSEE conducts inspections based on OCS AQS. The proposed type of ID convention would work in OCS AQS, but remember that you do not create a Vent ID for sources that vent locally. Most importantly, make sure to track all local vents, and do not double report what is vented to the existing header.

3.55 Is the exhaust for small pneumatic injection pumps listed as a vent location if the exhaust is not piped to a remote location? Also, is this setup referred to as a cold vent?

All pneumatic pumps should be entered as “Pneumatic Pumps.” They would not be considered cold vents but could be routed to a cold vent.

Use the Emissions Destination field in the Data Request tab located on the AEM page to describe where emissions go from a source. The five options are vented locally, flared locally, vented remotely, flared remotely, or routed to system.

3.56 I have a separator that routes to a condensate storage tank at atmospheric pressure, which, in turn, vents to the atmosphere. If I report flashing losses from the separator to this tank and also report a storage tank, then does that cause double counting of the emissions?

No. Indicate on the Emissions Destination field in the Data Request tab located on the AEM page, for both the flashing losses screen and the storage tank screen, that the emissions are vented locally. The calculations for the storage tank do not include flashing emissions, only working and breathing emissions.

3.57 Some of my engines have much larger fuel usages than your recommended Max Fuel Rates Use for the diesel, natural gas engines (7,000 Btu/hp-hr), and turbines (10,000 Btu/hp-hr). What values should I use? If I use my actual values, will the software give an error?

Enter the actual values for your equipment. If you trigger a QC error message, you can use the comment field (the QA button by the parameter field) to justify the value is valid for the equipment.

3.58 How do I specify on the glycol dehydrator ventilation system tab that the still column vent is processed by a vapor recovery unit and not a vent or flare?

On the glycol dehydrator the Emissions Destination field in the Data Request tab located on the AEM page, you are asked for the destination of the flash gas. Select “Routed to System.”

3.59 What is the expected MW of VOCs in a gas stream containing 90% methane (MW = 16.043 lbs/lb-mole), 2% ethane (30.069 lbs/lb-mole), 5% i-C4 Hydrocarbons (MW= 58.124 lbs/lb-mole), and 3% n-C5 Hydrocarbons (MW= 72.15 lbs/lb-mole)? These % are in mole or volume %.

VOCs include organic compounds that participate in atmospheric photochemical reactions. Methane and ethane are the only organic compounds that are NOT considered as VOCs.

To calculate the MW of VOCs, follow the steps below:

1. Calculate the mole % of VOCs only: $5\% + 3\% = 8\%$
2. Calculate the normalized mole fraction of VOC components: $5/8 = 0.625$ i-C4 Hydrocarbons; $3/8 = 0.375$ C6 Hydrocarbons
3. Calculate the MW of VOCs using the normalized mole fractions of VOC components and their MW values; $(0.625 * 58.124) + (0.375 * 72.15) = 63.384$ lb/lb-mole

Therefore, the MW of VOCs will be 63.384 lb/lb-mole

3.60 How do I report emissions from a storage tank that has a vent going to a vapor recovery unit that is running on electricity with 70% efficiency?

In the AEM page under the Control Requests tab of this tank, you need to select “Yes” in the Control Device? field, choose “Vapor Recovery Unit” in the Primary Type of Control Equipment field and enter the efficiency in percentage form “70” under the Reduction Efficiency field. When you calculate emissions, OCS AQS makes adjustments for the Vapor Recovery and/or Condenser.

3.61 How do I make sure emissions that are routed remotely or flared are not double counted at the source and the remote release point?

Use the Emissions Destination field in the Data Request tab of the AEM to identify where emissions go from a source. The five options are vented locally, flared locally, vented remotely, flared remotely, or routed to system. Use the Release Point & Apportionment tool to assign a proper release point to each source. If the appropriate release point is not in the list, add it and then select it.

Emissions vented locally will be assigned directly to the source. All other selections will be automatically zeroed.

Emissions flared locally and remotely should be assigned to the flare. You may have to create a flare to account for the emissions.

Emissions vented remotely will be assigned to the remote vent. As with the local flare, create a vent if not already available and select it as the release point.

It is the responsibility of the operator to account for emissions generated at an emissions unit but released somewhere else.

3.62 I cannot enter data in some data request fields.

Some fields are auto-calculated based on the inputs from other fields and do not allow manual entry. The user can identify those fields by its grayed-out color. These include Average Fuel Used and Average Heat Input Rate. If there is nothing in these fields, it is because the required fields that feed the equations have not been completed. A value will appear after values are entered in the required fields.

3.63 Do I need to account for emissions from welding, painting, and/or sanding?

No. You do not need to include emissions from welding, painting, or sanding in the 2023 OCS Inventory.

3.64 How should the emissions from Dynamic Positioning (DP) systems be calculated?

DP systems are powered by diesel or natural gas engines. Create a source for the DP system using the appropriate emission unit template and add throughputs by month just like any other source.

3.65 How do I set the smoke conditions on my flares?

Flares have a required field called Smoke Condition. Select the applicable smoke condition for your flare. The default condition is Light Smoke.

Below are general OCS AQS definitions of smoking conditions:

Light Smoke: Light smoke is characterized by a nearly transparent plume with a slight gray or faint color. This indicates an efficient combustion process with minimal particulate matter production. It may be visible but doesn't notably obscure the view of objects through the plume.

Medium Smoke: Medium smoke could be characterized by a more visibly gray or colored plume, indicating a higher level of particulates. The combustion process might be less efficient, leading to increased pollutant release. Objects viewed through the plume may be somewhat obscured.

Heavy Smoke: Heavy smoke could be characterized by a dense, dark plume, indicating a significant amount of particulate matter and possibly other pollutants. This suggests inefficient combustion and potentially significant pollution. The view of objects through the plume is substantially obscured.

3.66 How do I calculate the effective release height and diameter of my flare?

For the effective release height and diameter of the flare, BOEM recommends that you use the actual physical height of the flare stack above mean sea level (MSL) and the actual interior diameter of the burners.

Traditionally, the effective height of the flare is based on the flame size as compared to the height of the flare stack alone, and the effective release diameter is calculated based on the release temperature, ambient temperature, and buoyancy flux. At this time, BOEM is only requiring the actual physical height of the flare stack and actual interior diameter of the burners.

3.67 How do I automatically create a release point when I add a new emission unit?

Starting with OCS AQS version 1.7, operators can automatically add a release point for a source in the same wizard.

After clicking the Add Emission Unit button on the AEM page, go through the first two steps of the wizard, which will guide you through setting up the new emission unit. The next step of the wizard allows you to specify the release point for the new emission unit with the following options:

- Assign an existing release point by selecting one from the list
- Create a new release point by specifying the required parameters, including georeferencing
- Skip assigning the release point (you can do so later)

You cannot calculate emissions unless you specify a release point for the release unit.

3.68 What height should my release point be measured from?

All release point heights should be measured from MSL.

3.69 How do I report stack parameters for a stack shared by multiple platform structures?

Some multi-structure complexes may designate a common point of release for some processes such as flaring. Current limitations in the OCS AQS system do not allow for a single release point designation that can be shared by multiple structures.

To account for this situation, each structure should define its own release point complete with coordinates to designate emissions from their emission processes. For example, if the complex 69031 has two structures that share a common flare release point, then the OCS AQS database would have the following similar entries (**Table 6**).

Table 6. Example entries for two structures with a common flare release point

Complex	Structure	Name	Release Point	Height (ft)	Diameter (ft)	Latitude	Longitude
69031	1	North Star	FLARE-01	130	0.75	xx.xxxxx N	xxx.xxxxx W
69031	2	North Star	FLARE-01	130	0.75	xx.xxxxx N	xxx.xxxxx W

This reporting also allows for the possibility that multiple operators are reporting emissions when there is shared ownership of the structures between them. These release points are created using the Create Release point feature in the AEM tool within the OCS AQS.

3.70 How can I delete a release point?

Operators cannot delete release points in the Activity & Emissions Manager. A release point connected to an active process (a process that produces emissions for at least one month) should not be removed. A release point that is NOT connected to an active process can be removed using the Remove Unassigned Release Points tool in Emissions | Platform Sources.

3.71 I have the Fuel Sulfur Content in ppmv. How do I convert it to wt%?

Within OCS AQS Fuel Sulfur Content must be entered in weight percent (wt%). The following formula is used for converting fuel sulfur content from [ppmv] to [wt%]:

$$\text{Fuel sulfur content (wt\%)} = \frac{\text{PPM}_v \times \text{MW}_{\text{H}_2\text{S}}}{10^6 \times \text{MW}_{\text{Fuel}}} \times 100$$

where $\text{MW}_{\text{H}_2\text{S}}$ is the molecular weight of H_2S and MW_{Fuel} is the fuel molecular weight.

Given that $\text{MW}_{\text{H}_2\text{S}} = 34.1 \frac{\text{g}}{\text{mol}}$, the above equation becomes:

$$\text{Fuel sulfur content (wt\%)} = \frac{\text{PPM}_v \times 34.1}{10^6 \times \text{MW}_{\text{Fuel}}} \times 100$$

For example, the fuel sulfur content in natural gas with the industrial average molecular weight of $19.14382 \frac{\text{g}}{\text{mol}}$ is 4 ppmv. The wt% is then calculated as follows:

$$\text{Fuel sulfur content (wt\%)} = \frac{4 \times 34.1}{10^6 \times 19.14382} \times 100 = 0.000712 \%$$

4 Lease Operations

4.1 What are lease operations?

Lease operations refer to emissions generated by equipment operating within the area of a BOEM-issued lease. The area refers to the surface of the ocean included in the lease. In some cases, a permanent facility or platform may not be present. In these cases, the drilling rig becomes the facility.

4.2 What lease operations do I have to report?

Operators are required to account for emissions from non-platform operation if the operations include any the following:

- Drilling rigs for crude oil exploration / production wells
- Drilling rigs for natural gas exploration / production wells
- Domestic and foreign self-propelled drill rigs
- Installation support vessels (CSV)
- Well stimulation vessels (WSV)

IMPORTANT: Decommissioning activities do not have to be reported.

All drilling rig types listed below must be reported (except PA operations, which is used for decommissioning), including:

- BG – Barge
- BR – Barge Rig
- CT – Coil Tubing Unit
- DS – Drillship
- HW – Hydraulic Workover Unit
- JU – Jackup
- LB – Lift Boat
- NR – Non-Rig PA Operation
- PF – Platform Rig
- PL – Pipeline Lay
- SB – Snubbing Unit
- SD – DP Semisubmersible
- WI – Well Intervention
- WL – Wireline

All rig modes listed below must be reported, including:

- CHZ – Change Zone
- DRL – Drilling
- Other – Other Operation
- WO – Workover

Examples:

- A DS rig with CHZ rig mode **MUST** be reported
- A DS rig with PA rig mode **DOES NOT** need to be reported

For more information on which sources should be reported, see FAQs 2.3 – 2.5.

4.3 How do I report multiple lease operations taking place in the same block?

During the reporting period, if multiple drilling rigs are operating at the same time or a single rig is operating at different times, individual entries must be made for each operation period. For example, a rig operates from 15 February 2023 to 25 March 2023 and 2 August 2023 to 11 October 2023. Two entries are required to account for the rig's operations in the lease area. Operations for drilling rigs are only counted when they are attached to the seabed.

4.4 How do I report emissions from a drilling rig that began operations in the previous year?

If a lease operation begins outside of the inventory period (earlier than 1 January 2023 or after 31 December 2023), only include the days of operation within the reporting period. For example, a drilling rig begins operation on 20 December 2022 and continues until 15 January 2023. The total number of days of operation is 26 days; however, only 15 of those days were within the reporting period. Use the ratio of reportable days to total days (15/26 or 57.7%) to prorate fuel used in order to calculate emissions.

4.5 How do I add drilling rigs that are not on the list?

If a drilling rig is used that is not on the drop-down list, contact OCS AQS technical support at ocs.aqs_support@weblakes.com with the rig details.

4.6 Can I add more emission sources to the rig?

Yes. You can add additional emission processes to a rig or a vessel source using the Lease Operation Emissions Manager. Select the source in question from the list of available sources under the lease and click the Add NPLO Process button to configure the new emission process. Please note that your drilling rig data will be compared to the BSEE Field Operations Drilling Rig Track.

5 Dashboards

5.1 How do I clear the message counts next to my login name?

Click on the message counter to open the messages and click on Show All Messages. The Notification page will appear. Select the messages that have not been read and click the Acknowledge button on the right side of the screen.

5.2 What is the difference between a complex ID and a facility ID?

A facility ID, which is assigned by BOEM/BSEE, comprises a unique complex ID and structure ID (which is two digits and unique within a specific complex). A complex may have multiple structures. A structure ID is assigned as soon as the structure is permitted. The combination of the complex ID and structure ID provides a unique ID for each facility in the system.

5.3 How do I change pollutants displayed in the dashboard?


To change the pollutants displayed in the dashboard, click on the Settings button in the top right corner of the screen and select (or deselect) the pollutants to configure your view. Click Save to return to the dashboard and see the new pollutant configuration.

5.4 The number of release points for my facility is incorrect. What happened?

If there are too few release points, it means that some emission units/processes were created without associated release points. Assign release points to each of these processes using the [...] button in the Release Point & Apportionment section of the AEM.

If there are too many release points, it means that there are release points in the database that are no longer used by the emission units to vent emissions. These “orphan” release points must be removed using the Remove Unassigned Release Points tool in the Emissions | Platform Sources.

5.5 How do I export the graphs from the dashboard?

All graphs in all dashboards have an icon of three lines in the top right corner (). Click this icon, which will allow you to export the graph image as a .SVG, .PNG, .JPG or XLSX file.

You can only download one graph at a time.

6 Analytics

6.1 How can I compare the calculated monthly emissions data across processes?

The Monthly Emissions Data tool in the Analytics module allows you to review monthly emissions data categorized by company, equipment type, and pollutant. This feature provides a convenient way to analyze and assess emissions data based on different criteria to understand the emission patterns within the facilities.

This tool also allows you to highlight any non-zero emissions that stay the same month to month by checking the Highlight Flat Emissions option. This may indicate instances where activity data was copied but not adjusted to reflect the monthly variation.

6.2 How can I graphically visualize calculated emissions?

OCS AQS allows you to present and analyze emissions data in three different graphical formats – column chart, time-series chart, and pie chart.

Using the Emissions by Pollutant - Graphs tool, you can choose the appropriate grouping criteria (including the Equipment Type, OPD Area, Structure Type and Authority Type) and specify the pollutant of interest. The application will provide options to visualize the annual emissions in column format, where each column represents a specific category (e.g., equipment type), and the height of the column corresponds to the emissions value.

For time-series charts, you can plot the monthly emissions data over the 12 months to observe trends and patterns. Using the Emissions by Pollutant - Graphs tool, you can choose the appropriate grouping criteria (including the Equipment Type, OPD Area, Structure Type and Authority Type) and specify the pollutant of interest.

Using the pie chart tab of the Emissions by Pollutant - Graphs tool you can display percent contribution by each component of a selected category (including the Equipment Type, OPD Area, Structure Type and Authority Type) to the emissions of the pollutant of interest.

6.3 Can I QA/QC the activity data I entered?

The Review Monthly Activity Data and Review Lease Operation Activity Data tools were specifically designed for this purpose. They can be accessed from Emissions | Point Sources and Emissions | Lease Operations respectively, as well as from the Analytics module.

The Review Monthly Activity Data (platform sources) enables you to inspect the emission unit/process monthly activity data you provided in the Data Request and Control Request fields of the Activity & Emissions Manager. Using this tool, you can customize the displayed activity data by specifying the equipment type and selecting the variables you wish to analyze within that equipment. Additionally, you can exclude months with zero emissions from your analysis.

Furthermore, you can choose to highlight any numerical anomalies present in the entered data by comparing them to the average value. This feature allows you to easily identify erroneous inputs, revisit them, and make necessary corrections if required.

NOTE: The average value is calculated based on the non-zero entered values, meaning that if the value is entered as 0 or is not specified, they are not used in the calculations.


The Review Lease Operation Activity Data allows you to review the activity data entered for the emission period of a lease operations source process grouped by source type.

6.4 How can I identify activity data anomalies?

Using the Review Monthly Activity Data tool in the Analytics module, follow these steps to identify activity data anomalies:



1. Review the Data: Take a thorough look at the activity data you have entered for each month for the selected equipment type.
2. Check the Highlight Anomalies Option: This will activate the Deviation from Average drop-down list.
3. Establish a Baseline: Specify the expected range for the activity data. This is done by selecting the Deviation from Average percent from the drop-down lists to be used to designate the "normal" values range.
4. Click Generate.
5. Anomalous data (ones that fall outside the defined deviation from the average) will be highlighted in red.

6.5 How do I export the graphs from the analytics tools?

All graphs generated by the analytics tools have an icon in the top right corner (). Clicking this icon will allow you to export the graph image as an .SVG, .PNG, .JPG, or .XLSX file.

You can only download one graph at a time.

6.6 How do I assign frequently used analytics tools to the Favorites list?

Any analytics tools used regularly can be added to the Favorites list by clicking the star () icon located to the left of the Run button for each tool. Once a tool has been "favorited", the star will become yellow (.

IMPORTANT: The Favorites section is not available until at least one report has been added to it.

7 Maps

7.1 How do I change map scaling?

There are multiple ways to adjust the scaling of the OCS AQS map:

- Using the wheel on your mouse
- Using the zoom controls at the upper right of the map display
- Using the zoom options available under Map Options at the left of the map display—Zoom to Scenes, Zoom Area, and Zoom to Location

7.2 Can I visualize my emissions on the map?

The Gridded Emissions feature under the Map Options allows you to visualize your emissions on the map. The Gridded Emissions allows you to customize the visualization of emissions, including selections for emission type, different pollutants, emission period, unit of measure, and more. Emissions can be viewed for a specific cell size, Official Protraction Diagram (OPD) area, or OPD block.

You can only view emissions for one pollutant at a time.

7.3 How do I select a layer?

Under the Map Options at the left of the map display, click Layer Control and select or deselect each of the layers you would like to turn on or off, respectively. For each layer in the list, if you hover the mouse over the layer name you will see a button for Zoom to Scene; click to adjust the map view to the layer extents.

7.4 How do I add a map layer if I want to see specific features?

Currently, only users with administrator-level access can import map data (shapefiles).

If you believe that there is a shapefile that would be of benefit to all operators, submit it along with your rationale to OCS AQS technical support at ocs.aqs_support@weblakes.com. Your submission will be reviewed and, if approved, added to the system.

7.5 The Gridded Emissions does not show any pollutants to choose from?

If you do not see a table of pollutants under the Gridded Emissions selection, try the following:

- Make sure you are in an inventory that has emissions. The pollutant table will not appear in an empty inventory.

- Use the scroll bar on the side of the Gridded Emissions dialog to scroll down. Your screen may not be big enough to accommodate the list.

7.6 How can I export the current view of the map?


You can use built-in browser tools to export the map image. Right-click on the map view and from the menu you can

- **Save image as...:** Save the image currently in the map window as an image file on your hard drive
- **Copy image:** Save the image currently in the map window to the clipboard—you can then paste this image into a word processor or a graphical editor of your choice

7.7 Can I export data from the map?

You can export gridded emissions data from the map.



Use the Gridded Emissions tool () to configure how you wish the emissions to be displayed, select the desired pollutant, and click the Export button. A data .XLSX file will be generated for the selected pollutant. You can only export one pollutant at a time.

8 Reports

8.1 How can I create a user-defined report other than the ones that are listed?

If you need a report format other than the ones provided, contact OCS AQS technical support at ocs.aqs_support@weblakes.com and describe what you would like to see. If approved, a new report that meets your requirements will be implemented.

8.2 Why do I need to select the OPD Area for GHG reports for my facility?

This wizard step is included in case the operator has multiple facilities in different OPD areas, in which case the list of facilities can be filtered to display only facilities in a specific OPD area. In the future, this step may be removed. For now, click the Select All button to choose all OPD areas and click Next. The facilities that are assigned to you will appear on the next page.

8.3 How can I get rid of the formatting when I download a report?

Instead of downloading the report in Word or Excel format, download it in CSV (comma-separated values) format. You can load the file into Excel as a CSV file and have more control over the way Excel treats the values.

8.4 Why are some of my Facility IDs converted into dates when I save the report as an Excel file?

Sometimes the facility ID may be converted into a date if saved as an Excel file due to Excel's setup. You can either reset the way Excel automatically formats cells or save the report as a CSV file and import it into Excel. During the import steps, make sure you format the column with the Facility IDs as a Text column.

8.5 How do I create a list of frequently used reports?

Any reports that are used on regular basis can be added to the Favorites list by clicking the star (☆) icon located to the left of the Run button for each report. Once a report has been "favorited", the star will become yellow (★).

IMPORTANT: The Favorites section is not available until at least one report has been added to it.

9 Submittal

9.1 When should I submit my source inventories?

Per BOEM NTL No. 2022-N01, operators are required to submit the activity and emissions inventories by March 29, 2024. The NTL for the 2023 OCS Emissions Inventory is available on the BOEM website at <https://www.boem.gov/environment/environmental-studies/2023-ocs-emissions-inventory>.

9.2 How do I submit my source inventory?

IMPORTANT: Use the tools available in the Analytics module to ensure that the entered activity data and calculated emissions are correct.

To submit source inventories:

1. Go to Dashboards module, Operator Submittals dashboard.
2. In the Submittal Information table, make sure that the Facilities option is checked so that all platform sources (facilities) are displayed in the table.
3. Check the box for every source you are ready to submit.
4. Click the Submittal Actions button.
5. Select Run QA/QC... option. The check may take several minutes to run.
6. When the QA/QC check is finished, the QA/QC Status will be changed to either Passed or Failed. Only sources with the status Passed can be submitted. Check the box for every source that has passed the QA/QC process.
7. Click the Submittal Actions button.
8. Select Submit... option.
9. For any source that did not pass the QA/QC process see FAQ 9.3.
10. Check the Leases option above the table and repeat the procedure with the lease operations sources.

9.3 My QA/QC check failed—what do I do?

For any source that failed the QA/QC process (QA/QC Status is Failed):

1. In the Actions column for the source of interest, click the Files link.
2. In the Downloads column of the Facility Submittal Files dialog click the "QAQC_FAILED".XLSX file to save it to your local machine.
3. In the Summary tab of the file review which sections failed the QA/QC check.

4. Click the tab of each section that failed the check to review the details of the detected issues.
5. In the Operator Dashboard click the Go To link in the Actions column for the source of interest. This link will take you to the AEM for a platform source or Lease Operations Emissions Manager for a lease source.
6. Use the "QAQC_FAILED" file as a guide and fix the detected issues.
7. Repeat for all sources that failed the QA/QC check.
8. Re-run the QA/QC check.

10 Revision History

Date	Document Version	Software Version	Changes
1/10/2024	1.9	2.5	<ul style="list-style-type: none"> • Added three new entries: <ul style="list-style-type: none"> • What leak detection approaches are available for reporting fugitive emissions? (3.23) • Is it necessary to upload supplemental documents for reporting fugitive emissions when using two leak detection approaches – Screening Ranges and Importing Emissions? (3.24) • Can I use multiple leak detection approaches in a single inventory year? (3.25) • How often do I have to conduct a leak detection survey for my annual submission? (3.26) • Updated two entries: <ul style="list-style-type: none"> • How do I assign frequently used analytics tools to the Favorites list? (6.6) • How do I create a list of frequently used reports? (8.5)
8/23/2023	1.8	2.4	<ul style="list-style-type: none"> • Added a new entry on how to report equipment converted to compressed air systems (3.9) • Updated entry: What lease operations do I have to report? (4.2) to remove “PA – Permanent Abandonment” from the list of reportable rig modes
7/11/2023	1.7	2.2	<ul style="list-style-type: none"> • Updated the following entries: <ul style="list-style-type: none"> • What are the differences between GOADS-2017 and OCS AQS? (2.8) • What are the similarities between GOADS-2017 and OCS AQS? (2.9) • How do I submit my emissions inventory using OCS AQS? (2.10) • I do not see some of my facilities when I login. What should I do? (2.16) • How do I populate the cold vent screen? (3.16)

Date	Document Version	Software Version	Changes
			<ul style="list-style-type: none"> • How do I select and populate the combustion flare template? (3.17) • What surrogate data can I use if I am unable to find actual data? (3.27) • How do I export the graphs from the dashboard? (5.5) • How do I submit my source inventory? (9.2) • Added the following entries: <ul style="list-style-type: none"> • I do not see any inventories when I login. What should I do? (2.17) • Analytics section (new Section 6) <p>Minor wording edits to the following sections: 2.10, 2.12, 3.4, 3.12, 3.16, 3.18, 3.19, 3.47, 3.60, and 5.2</p>
06/16/2023	1.6	2.0	<ul style="list-style-type: none"> • Updated the following entries: <ul style="list-style-type: none"> • How do I change calculators if I select the wrong one? (3.4) • How do I report zero emissions for a month? (3.6) • What surrogate data can I use if I am unable to find actual data? (3.27) • How do I set the smoke conditions on my flares? (3.60) • How can I delete a release point? (3.65) • The number of release points for my facility is incorrect. What happened? (5.4) • Added three FAQ entries: <ul style="list-style-type: none"> • How do I delete an emissions unit? (3.7) • How do I delete an emissions unit that was removed or decommissioned prior to a reporting year? (3.8) <p>I don't have sales gas composition information for my specific process, what can I do? (3.48)</p>
02/02/2023	1.5	1.21	<ul style="list-style-type: none"> • Created a new Introduction section (1)

Date	Document Version	Software Version	Changes
			<ul style="list-style-type: none"> • Added discussion regarding OCS AQS support for generating an XML report for submitting to EPAs e-GGRT GHG program (2.14) • Added notes to clarify Default vs Actual component counts for fugitives (3.21) • Revised the discussion on the use of surrogate/default values when site specific information is not available (3.27) • Revised the question and answer addressing the mandatory requirement to enter sales gas data (3.47) • Added a question describing the need to enter Fuel Sulfur Content in weight percent (wt%) and how to convert units from ppmv to wt% (3.66) • Added clarification on which lease operation activities have to report emissions (4.2) <p>Added FAQ regarding Favorites section of the Reports (8.5)</p>
09/22/2022	1.4	1.18	<ul style="list-style-type: none"> • Updated for the 2023 emissions inventory effort • Added a new section on Submittals (Section 8) • Updated the following entries: <ul style="list-style-type: none"> • Activity types that are required to report emissions under lease operations (2.5) • Adding a dual-fuel source (3.3) • Changing calculators (3.4) • If an emissions unit is not available (3.8) • Populating cold vent screen (3.14) • Selecting and populating combustion flare template (3.15) • Accounting for pilot flare gas emissions (3.16) • Populating losses from flashing (3.17) • Populating fugitives screen (3.19) • Calculating MW of VOCs (3.51)

Date	Document Version	Software Version	Changes
			<ul style="list-style-type: none"> • Reporting emissions from a storage tank (3.52) • Reporting lease operations (4.2) <p>Other minor updates and typo corrections</p>
10/29/2021	1.3	1.11	<ul style="list-style-type: none"> • Added five FAQ entries: <ul style="list-style-type: none"> • Reporting stack parameters for a stack shared by multiple platform structures (3.61) • Deleting a release point (3.62) • Export graphs from dashboards (5.5) • Export current map view (6.6) • Export map data (6.7) • Replaced references to calculator selection with emission unit template selection • Updated the following entries: <ul style="list-style-type: none"> • Submittal information (2.10 & 2.11) • “Decommissioned” language (3.2) • GHG language (3.5) • How to deal with out-of-range parameter (3.7) • Manual entry of emissions values (3.9) • What does “Calculated?” mean? (3.10) • Default “Smoke Condition” (3.15 & 3.57) • Location of “Emissions Destination” parameter (3.48 & 3.50) • Effective Release Height and Effective Release Diameter (3.58) • Automatically create a release point (3.59) • Adding extra emission sources to a lease operations source (rig) (4.6) • Difference between Complex ID and Facility ID (5.2) • Incorrect # of Release Points on dashboard (5.4)

Date	Document Version	Software Version	Changes
			<ul style="list-style-type: none"> • How to add map layer (6.4) • No pollutants in Gridded Emissions (6.5)
5/24/2021	1.2	1.7	<ul style="list-style-type: none"> • Added Pre-Load screen explanation (2.19) • Updated zeroing out emissions for a month (2.6) • Updated Emissions Routing (2.53) • Updated Flare Parameters (2.58) • Added Automatically Create a Release Point (2.59) • Added Height of Release Points (2.60) Updated Reportable Lease Operations (3.2)
3/15/21	1.1	1.6	<ul style="list-style-type: none"> • Included explanation for excluded equipment (2.1) and decommissioned platforms (2.2) • Added guidance for Dynamic Positioning systems (2.56) • Added guidance for smoke-less flares (2.57) • Added explanation for effective flare height (2.58) Corrected response for Lease Operations sources (3.6)
2/8/21	1.0	1.5	<ul style="list-style-type: none"> • Added information re: BOEM Data Center Platform/Rig page (1.7). • Updated information on metadata report (1.11). • Added new Q&As on the following topics: <ul style="list-style-type: none"> • Pilot flare gas emissions (2.16) • Emissions from welding/painting/sanding (2.55) • Adding more emission sources to the rig (3.6) • Gridded Emissions (5.5) Formatting downloaded reports (6.3 and 6.4)
12/30/20	0.2	1.4.26	<ul style="list-style-type: none"> • Updated OCS AQS system URL information (1.6). Included additional guidance on populating the fugitives screen (2.19), including a note on specifying the compressor and seal type.

Date	Document Version	Software Version	Changes
12/16/20	0.1	1.4.26	<ul style="list-style-type: none"> • Updated descriptions on inventory submission (1.10), calculators (2.4), GHGs/HAPs (2.5), and flares (2.15). • Added new Q&A on metadata report (1.11), policy-related inquires (1.18), emissions destinations (2.53), and auto-calculated fields (2.54). • Added Lease Operations section (3.1 to 3.5). Minor format/typo corrections.
12/1/20	0	1.3	Original Version