

## Frequently Asked Questions about GOADS-2017

### 1. What is the geographic coverage area of the 2017 Gulfwide Outer Continental Shelf (OCS) Emissions Inventory?

As in previous Gulf of Mexico OCS Emissions Inventory studies, the geographic area for reporting via the GOADS-2017 software is the Gulf of Mexico Central and Western Planning Areas, which is the portion of the OCS west of 87° 30' West longitude.

If you are a lessee/operator in the Alaska OCS Region in the Chukchi, Beaufort, or the portion of the Hope Basin Planning Areas, which is the North Slope Borough of the state of Alaska, and plan to conduct oil and gas activities for calendar year 2017, please contact BOEM at [OCSEmissionsInventory@boem.gov](mailto:OCSEmissionsInventory@boem.gov) to obtain guidance on submitting activity data under the BOEM NTL No. 2016-N03.

### 2. How do I access the GOADS-2017 software and User's Guide?

The GOADS-2017 software and User's Guide will be available November 1, 2016, and can be downloaded from: <http://www.boem.gov/Gulfwide-Offshore-Activity-Data-System-GOADS-2017/>

### 3. How can I find my BOEM Company Number?

You can look up your company number at:  
[http://www.data.boem.gov/homepg/data\\_center/index.asp](http://www.data.boem.gov/homepg/data_center/index.asp)

### 4. How can I find my Complex and Structure ID numbers assigned by BOEM?

Complex and structure IDs can be obtained from:  
[http://www.data.boem.gov/homepg/data\\_center/index.asp](http://www.data.boem.gov/homepg/data_center/index.asp)

### 5. Do I have to report ALL of my structures and equipment, or can some be excluded?

All structures and equipment that operated in calendar year 2017 must be reported for GOADS-2017. This includes minor sources. Temporary equipment and equipment that operates intermittently must also be included, with the exception of equipment which is intended for use 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 be excluded.

## **6. What are the differences between GOADS-2014 and GOADS-2017?**

The following updates were made to GOADS-2017:

- A new BOEM email address is provided to request static (descriptive) 2014 GOADS data and for GOADS-2017 submittals:  
[OCSEmissionsInventory@boem.gov](mailto:OCSEmissionsInventory@boem.gov)
- Water depth is requested on the Structure screen (note that this field will be imported from the GOADS-2014 static files provided by BOEM upon your request).
- A QC check was added to flag platforms with no equipment activity reported, but platform fuel use, production, or throughput values are populated on the Structure screen.
- The requested Amine Unit unprocessed natural gas concentrations were expanded to add CO<sub>2</sub>, N<sub>2</sub>, and O<sub>2</sub>.
- The Drilling Rig equipment type is now called Drilling Equipment, and the mobile platform drilling rig name is to be included if known.
- For Combustion Flares, you can now indicate if the pilot fuel feed rate is included in the total volume flared value.
- The requested Fugitives data includes noting if an active Leak Detection and Repair (LDAR) program is in place on the platform, and if the component count is specific to the platform in question.
- The control device options for Natural Gas Engines and Natural Gas, Diesel, and Dual Fuel Turbines now include selective catalytic reduction (SRC).
- Pressure/Level Controllers are now referred to as Pneumatic Controllers, and you must indicate the type of controller (high bleed, low bleed, intermittent, or zero bleed).
- Fuel gas usage rates for Pneumatic Controllers and Pneumatic Pumps are no longer optional.
- Other revisions focused on programming errors associated with the QC checks and QA Summary Form checks.

## **7. What are the similarities between GOADS-2014 and GOADS-2017?**

- BOEM is requesting that you track monthly activities for variables needed to calculate emissions, and provide the data in one annual submittal.
- The same emission sources are covered as in GOADS-2014 with essentially the same monthly activity data are required for the following sources.
- The program performs the same type of QC checks when the monthly data are saved.

- The same QA Summary Form is to be submitted to BOEM with the annual submittal.
- Like the GOADS-2014 data collection effort, the reported monthly GOADS-2017 volume vented and flared data must be consistent with the information provided to the Office of Natural Resources Revenue (ONRR) Oil and Gas Operations Report (OGOR) forms, including data reported based on metered volumes.

## **8. How do I submit my GOADS-2017 file?**

Files must be submitted to BOEM electronically via the following email address: [OCSEmissionsInventory@boem.gov](mailto:OCSEmissionsInventory@boem.gov). BOEM should receive all 2017 data files before April 17, 2018.

When the inventory is completed (12 monthly surveys), it should be exported to your hard-drive for submittal to BOEM. To export the inventory, use the File|Export GOADS-2017 Inventory Database option on the main menu.

Submit your completed GOADS.mdb file with the following naming format: 2017\_Company Name\_GOADS.mdb

In addition, please provide BOEM with the following information electronically along with your submittal:

1. A PDF of the QA Summary Form.
2. A list of decommissioned structures for BOEM GOADS records (i.e., structures that were operating in 2014, but not operating in 2017.)
3. Identification of individual wells tied into each platform to aid BOEM in future GOADS-OGOR reconciliation efforts.

## **9. Which operating systems will support GOADS-2017?**

While individual operating systems may vary, GOADS-2017 has been tested on Microsoft Windows® XP, Windows® Vista, Windows® 7, 8, and 10 operating systems.

## **10. Is there any way to facilitate reporting to the USEPA's Greenhouse Gas Reporting Program with GOADS-2017?**

For your own records, you may want to note the 2017 annual production hours/uptime that served as the basis for your GOADS-2017 submittal. Once the emissions for 2017 are posted at the end of the study, there will be instructions for extracting emissions data out of the 2017 Gulfwide Emission Inventory database to aid you in reporting to USEPA under the Greenhouse Gas Reporting Rule.

**11. Is there any way I can re-use the GOADS-2014 data files for this 2017 inventory effort?**

GOADS-2017 has a file import feature for your 2014 data files. You need to obtain your 2014 files from BOEM, however, because the GOADS-2017 program structure is slightly different. Please email [OCSEmissionsInventory@boem.gov](mailto:OCSEmissionsInventory@boem.gov) to obtain your static data, including your company name, BOEM company number, and a list of all your complex ID numbers. After importing the data files, you need to create records for new structures and equipment (including minor sources) that were not in place in 2014. You also need to closely review and edit the imported 2014 data to make sure they reflect operations for 2017.

**12. What should I do if I received the following error message: “3024 Could not find file “C:\Users\First Initial Last Name\Desktop\GOADS.MDB”?”**

If this is not the first time you have used GOADS-2017, you have moved or renamed your database after using the program. Click “OK”. You will receive the 3024 error window (below). Click “Cancel” to open the program.

“Error # 3024 was generated by DAO.Workspace  
Could not find file “C:\Users\First Initial Last Name\Desktop\GOADS.MDB”  
Can’t open GOADS database. The database may be in use or may have been moved.  
If the database had been in use, please press Retry. If the database had been moved, please press Cancel.”

Once GOADS opens, you can either:

- Go to File> Open GOADS database, and browse for the last file you were working on
- Go to File> Create New GOADS database to create a new database.

**13. When I run the QA Summary Report, I get the following error message: “3265 Item not found in this collection.”**

This error message is shown when not all of the monthly surveys have been added to the file.

**14. What if I can’t create the QA Summary Form?**

BOEM attempted to test this feature on numerous operating systems, but it still may be problematic for some users. If you are unable to generate this form, send an email to [OCSEmissionsInventory@boem.gov](mailto:OCSEmissionsInventory@boem.gov) for assistance.

**15. I do not have information to estimate fuel gas consumption for my Pneumatic Controllers and Pneumatic Pumps.**

You can get the information from the manufacturer. You can no longer leave it blank.

**16. Does BOEM have any guidance on how to populate the cold vent screen?**

To begin with, for equipment that is vented remotely to a cold vent, create the cold vent record FIRST. If a vent ID is not entered, the program will automatically assume the equipment is vented locally.

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

It is important to make sure that the monthly volume vented and flared total are consistent with your monthly OGOR-reported value. BOEM will review both data submittals for consistency.

**17. Does BOEM have any guidance on how to populate the combustion flare screen?**

To begin with, for equipment that is flared remotely, create the flare record FIRST. If a flare ID is not entered, the program will automatically assume the equipment is flared locally.

Note that flared emissions are combusted. If emissions are not combusted, create a Cold Vent record.

GOADS-2017 now includes an option for you to indicate if the pilot fuel feed rate is included in the total volume flared value provided.

It is important to make sure that the monthly volume vented and flared total are consistent with your monthly OGOR-reported value. BOEM will review both data submittals for consistency.

**18. When do I have to report drilling?**

You must report drilling activities for GOADS-2017 for all drilling that directly occurs on a platform. If a rig is a fixed, permanent structure on a platform, it should be accounted for, and the platform drilling rig name is to be included if known.

**19. Is the subject drilling that is conducted in an Area/Block with existing subsea production well exempt? Or any type of drilling in an area/block with existing subsea production well?**

Any mobile source drilling activities that are not directly associated with a platform (including jack up rigs, semisubmersibles, submersibles, and drill ships) will be covered in the non-platform inventory, and BOEM will obtain for these sources from

the Bureau of Safety and Environmental Enforcement (BSEE) Field Operations Division. They should not, therefore, be included in the GOADS-2017 submittal.

**20. Does BOEM have any guidance on how to populate the losses from the flashing screen?**

The preferred data for this screen are to supply data for "SCF of flash per bbl of oil" along with the "Type of vessel," "API gravity of stored oil" and the "Oil/Condensate throughput." No data are needed for the operating pressures and temperatures of the vessels if these data are supplied in GOADS.

An operator can obtain these data using the following methods:

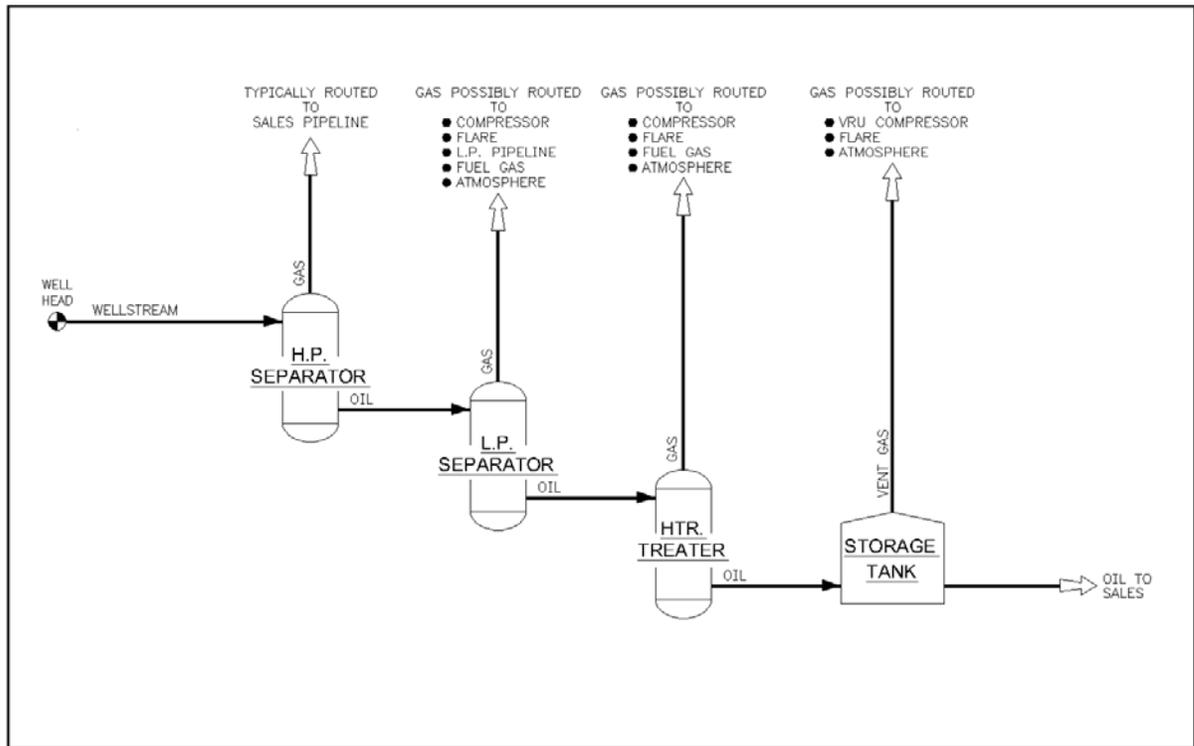
- Direct measurement
- Vasquez-Beggs Correlation Equations (SPE Paper 6719)  
[www.nmenv.state.nm.us/aqb/Vasquez-Beggs-Flashing-Calculations.xls](http://www.nmenv.state.nm.us/aqb/Vasquez-Beggs-Flashing-Calculations.xls).
- Pressurized oil sample and measurement of gas-to-oil ratio (GOR) in lab
- American Petroleum Institute's (API) E&P TANK Version 2 software
- Process simulators such as HYSYS or PROSIM

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:

- Intermediate Flash: high/intermediate-pressure separators that 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. (See diagram below.)

Note that for storage tanks, emissions from flashing are in addition to working and breathing emissions.

Below is a diagram of 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 give the following data:

- Type of vessel (high-pressure separator, low-pressure separator, heater treater, surge tank, storage tank)
- API gravity of stored oil
- Operating pressure of vessel that has flash gas that is vented or flared
- Operating temperature of vessel that has flash gas that is vented or flared
- Oil/Condensate throughput
- Operating pressure of vessel upstream of vessel with flash gas that is vented or flared
- Operating temperature of vessel upstream of vessel with flash gas that is vented or flared
- If available, the “SCF of flash per bbl of oil” can be entered along with the “Type of vessel,” “API gravity of the stored oil” and “Oil/Condensate Throughput.” If the “SCF of flash per bbl of oil” is entered, then the company does not have to enter the operating pressures and temperatures of the vessels.

For example, an operator has a low-pressure separator (LP) that sends its oil to a heater treater (HT), which dumps its oil to an atmospheric storage tank (T-1) that vents its flash gas to the atmosphere locally. The low-pressure separator sends its flash gas to the suction of the onsite compressor (i.e., the system). The heater treater

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. Since the LP separator sends its gas to the onsite compressor, this flash is not vented to the atmosphere (or flared) and would not be reported.

**21. Does BOEM have any guidance on how to populate the fuel combustion screens?**

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

To calculate total fuel used, see equations in the User’s Guide (and help screens) for diesel and gasoline engines, boilers/heaters/burners, natural gas engines, and natural gas turbines.

**22. Sometimes the requested data are grayed out and I cannot edit them. Why is this?**

GOADS-2017 will not let you see data that you have entered that are in conflict with other data and selections you have made. For example, if you indicate that a piece of equipment is vented locally and enter details on the local vent, the program will save the information. If you then change the equipment to be vented remotely (where details on the remote vent are recorded on the cold vent screen instead), the local vent data will be “grayed out” so you know that BOEM will ignore the local vent data and use the remote vent information instead of the local vent information.

**23. Does BOEM have any guidance on how to populate the fugitives screen?**

GOADS-2017 now includes noting if you have an active Leak Detection and Repair (LDAR) program in place on the platform, how often inspections occur, and the inspection method.

To estimate the average VOC weight percent of fugitives, the following information is from the User’s Guide and help screen: The average VOC content of fugitive emissions for the inventoried components and the selected stream type. You may find it beneficial to use the following information as a starting point (Table 2).

Table 2. Speciation Fractions for Total Hydrocarbon (THC) Emissions by Stream Type

THC Fraction	Gas	Light Oil (≥ 20 API Gravity)	Heavy Oil (<20 API Gravity)	Water/Oil*
Methane	0.945	0.612	0.942	0.612
Volatile Organic Compounds (VOC)	0.0137	0.296	0.030	0.296

Source: API, 1996. Calculation Workbook for Oil and Gas Production Equipment Fugitive Emissions.

GOADS-2017 now also asks you to indicate whether the component count provided is specific to the platform (i.e., is an actual count provided rather than a surrogate). If an actual count cannot be provided, the information provided by the Offshore Operators Committee may be helpful **as a starting point** in compiling a component count (Table 3).

Table 3. 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
Flotation 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
Import or Export Pipeline	3	0	0	9	0	0	0	0	0	0	0	0	0	0	0

#### 24. 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>.

**25. What is the average H<sub>2</sub>S content of pipeline quality gas?**

For sweet pipeline quality gas, use 4 ppm H<sub>2</sub>S. Pipeline quality specifications are usually 0.25 grains H<sub>2</sub>S per 100 SCF. One grain of H<sub>2</sub>S per 100 SCF is equal to 16 ppm.

**26. What are standard conditions?**

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

**27. How do I allocate fuel to different equipment?**

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

1. 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.
2. To Calculate Theoretical Fuel Use for Natural Gas Engine, use the following formula:  

$$\text{scf/Month} = (\text{Hrs/Month}) (\text{hp}) (\text{Btu/hp-hr}) (\text{scf}/1050 \text{ Btu})$$
3. To Calculate Theoretical Fuel use for Heater/Treater or Burner, use the following formula:  

$$\text{scf/Month} = (\text{Hrs/Month}) (\text{MMBtu/hr}) (\text{scf}/1050 \text{ Btu}) (1,000,000 \text{ Btu/MMBtu})$$
4. To Calculate Theoretical Fuel Use for Diesel Engine, use the following formula.  

$$\text{Gals/Month} = (\text{Hrs/Month}) (\text{hp}) (\text{Btu/hp-hr}) (11\text{b}/19,300 \text{ Btu}) (1 \text{ gal}/7.2558 \text{ lb})$$

**28. What happens if I leave some months/equipment data fields blank?**

If you do not select No Emission to Report, BOEM will assume that the platform or equipment is operating that month, and surrogate data will be used to develop emission estimates if necessary. BOEM will also assume that activity values that are left blank (null) should be populated with surrogate data.

**29. What are some of the surrogate data?**

The surrogate data are for use as default data. If you do not have and cannot get information about a piece of equipment or scientific data, use the surrogate data. BOEM has approved these data for your use (See Table 4).

Table 4. Surrogate Stack Parameters Used to Supplement GOADS Data

Unit	Field	Default Value
Amine Unit– ventilation system for acid gas from reboiler	Exit velocity	Calculated with AMINECalc <sup>a</sup>
Amine Unit– ventilation system for acid gas from reboiler	Exit temperature	110 °F
Amine Unit–ventilation system for acid gas from reboiler	Combustion temperature	1832 °F
Boiler/heater/burner – exhaust	Exit temperature	400 °F

Unit	Field	Default Value
System		
Boiler/heater/burner – exhaust system	Outlet orientation	0 degrees
Boiler/heater/burner – exhaust system	Outlet inner diameter	12 inches
Boiler/heater/burner – exhaust system	Exit velocity	Calculated
Diesel Engine	Max rated fuel use	7000 Btu/hp-hr
Diesel Engine	Average fuel use	7000 Btu/hp-hr
Diesel Engine– exhaust system	Exit velocity	Calculated
Diesel Engine– exhaust system	Exit temperature	900 °F
Diesel Engine– exhaust system	Outlet orientation	0 degrees
Diesel Engine– exhaust system	Outlet inner diameter	12 inches
Combustion Flare	Average combustion temperature (excluding upsets)	1832 °F
Combustion Flare	Stack orientation	0 degrees
Combustion Flare	Stack inner diameter	12 inches
Glycol Dehydrator– flash tank	Flash tank temperature	120 °F
Glycol Dehydrator– flash tank	Flash tank pressure	60 psig
Glycol Dehydrator– ventilation system	Exit temperature	GLYCalc default (usually 212 °F) <sup>b</sup>
Glycol Dehydrator– ventilation system	Outlet orientation	0 degrees
Glycol Dehydrator– ventilation system	Flare feed rate (scf/hr)	Calculated with GLYCalc <sup>b</sup>
Glycol Dehydrator– ventilation system	Combustion temperature	1832 °F
Glycol Dehydrator– ventilation system	Condenser temperature	110 °F (or calculated with GLYCalc) <sup>b</sup>
Glycol Dehydrator– ventilation system	Condenser pressure	14.8 psia
Losses from Flashing– ventilation system	Exit velocity	Calculated
Losses from Flashing– ventilation system	Outlet inner diameter	Use Tank Vent Outlet Diameter
Natural Gas Engine	Max rated fuel usage	7500 Btu/hp-hr
Natural Gas Engine	Average fuel usage	7500 Btu/hp-hr
Natural Gas Engine– exhaust system	Exit velocity	Calculated
Natural Gas Engine– exhaust system	Exit temperature	4-cycle rich burn: 1100 °F
Natural Gas Engine– exhaust system	Exit temperature	2-cycle lean burn: 700 °F
Natural Gas Engine– exhaust system	Outlet inner diameter	12 inches
Natural Gas, Diesel, or Dual Fuel Turbine	Max rated fuel use	10,000 Btu/hp-hr
Natural Gas, Diesel, or Dual Fuel Turbine	Average fuel use	10,000 Btu/hp-hr
Natural Gas, Diesel, or Dual Fuel Turbine– exhaust system	Exit velocity	Calculated
Natural Gas, Diesel, or Dual Fuel Turbine– exhaust system	Outlet inner diameter	12 inches
Pneumatic Pumps– ventilation system	Exit velocity	Calculated
Pneumatic Controllers	Equipment elevation (above sea level)	50 ft
Storage Tank – General Information	Roof height above shell (ft)	0.0625*(Tank Diameter, ft / 2)
Storage Tank– ventilation system	Exit velocity	Calculated
Storage Tank– ventilation system	Exit temperature	70 °F
Storage Tank– ventilation system	Stack orientation	0 degrees
Storage Tank– ventilation system	Flare feed rate	Calculated (or use the calculated storage tank exhaust vol. flow rate)
Cold Vent	Stack outlet elevation (above sea level)	50 ft
Vent	Stack inner diameter	Calculated (average of submitted data)
Vent	Exit temperature	70 °F

Unit	Field	Default Value
Vent	Outlet orientation	0 degrees
Vent-upsets	Exit temperature	70 °F

<sup>a</sup> AMINECalc is released by the Gas Technology Institute as part of the AIRCalc Air Emissions Inventory Report Management Software Program (GTI 2001)

<sup>b</sup> GLYCalc is released by the Gas Technology Institute, formerly the Gas Research Institute (GRI) (GTI 2000)

### 30. How do I convert API Gravity to Specific Gravity?

$$\text{Specific gravity of oil} = 141.5 / (\text{API gravity} + 131.5)$$

### 31. 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 standard cubic feet.

### 32. How do I calculate the weight in lbs of a gas that has a molecular weight of 18 lbs/lb-mole?

$$\text{Lbs of gas} = (\text{scf})(1 \text{ lb-mole}/379 \text{ scf})(18 \text{ lbs gas/lb-mole})$$

### 33. How do I calculate horsepower of a compressor?

Horsepower of Compressor from Discharge, Suction Pressure and Compressed Gas Volume

$$\text{Hp} = [50.5 * (1.255 / (1.255 - 1)) * (((\text{Discharge Pressure} + 14.7) / (\text{Suction Pressure} + 14.7)) ^ 0.203) - 1] * \text{MMscfd}] + 5\% \text{ total hp for externally driven equipment}$$

### 34. How do I calculate Exit Velocity for Boiler/heater/burner, ft/sec?

$$\frac{[(\text{Average Fuel Usage, SCF/hr}) * (36.79 \text{ SCF Exhaust Gas/SCF Fuel}) * (1 \text{ hr}/3600 \text{ sec}) * ((460 + \text{Exit Temperature, deg F}) / 520)]}{3.1416 * [((\text{Stack Diameter, in.})/12) * 0.5]^2}$$

### 35. How do I calculate Exit Velocity for Diesel Fired Engine, ft/sec?

$$\frac{[(\text{Average Fuel Rate, gal/hr}) * (2713.3 \text{ SCF Exhaust Gas/gal Fuel}) * (1 \text{ hr}/3600 \text{ sec}) * ((460 + \text{Exit Temperature, deg F}) / 520)]}{3.1416 * [((\text{Stack Diameter, in.})/12) * 0.5]^2}$$

### 36. How do I calculate Exit Velocity for Flare, ft/sec?

$$\frac{(\text{Volumetric Fuel Rate, SCF/hr}) * [(10.52 \text{ SCF Exhaust Gas/SCF Fuel}) * (1 \text{ hr}/3600 \text{ sec}) * ((460 + \text{Exit Temperature, deg F}) / 520)]}{3.1416 * [((\text{Stack Diameter, in.})/12) * 0.5]^2}$$

### 37. How do I calculate Flashing Exhaust Vol. Flow Rate, scf/hr?

$$\frac{(\text{Oil/Condensate Throughput, bbl/yr}) * (\text{Standard cubic feet of flash per barrel of oil, SCF/bbl})}{\text{Hours Operated, hr/yr}}$$

**38. How do I calculate Vent Exhaust Vol. Flow Rate, scf/hr?**

$$\frac{(\text{Volume Vented, excluding upsets, Mscf/month}) * (1000)}{\text{Hours Operated, excluding upsets, hr/month}}$$

**39. How do I calculate Exit Velocity (applicable for Flashing Losses, Glycol Dehydrators, Pneumatic Pumps, Storage Tanks, and Vents), ft/sec?**

$$\frac{(\text{Exhaust Vol. Flow Rate, SCF/hr}) * ((460 + \text{Exit Temperature, deg F}) / 520 \text{ deg R})}{(3600 \text{ sec/hr}) * [3.1416 * [((\text{Stack Diameter, in.}) / 12) * 0.5]^2]}$$

**40. How do I calculate Exit Velocity for Rich-burn, Natural Gas Fired Engine, ft/sec?**

$$\frac{[(\text{Average Fuel Rate, SCF/hr}) * (10.52 \text{ SCF Exhaust Gas/SCF Fuel}) * (1 \text{ hr}/3600 \text{ sec}) * ((460 + \text{Exit Temperature, deg F}) / 520)]}{3.1416 * [((\text{Stack Diameter, in.}) / 12) * 0.5]^2}$$

**41. How do I calculate Exit Velocity for Lean-burn, Natural Gas Fired Engine, ft/sec?**

$$\frac{[(\text{Average Fuel Rate, SCF/hr}) * (20.08 \text{ SCF Exhaust Gas/SCF Fuel}) * (1 \text{ hr}/3600 \text{ sec}) * ((460 + \text{Exit Temperature, deg F}) / 520)]}{3.1416 * [((\text{Stack Diameter, in.}) / 12) * 0.5]^2}$$

**42. How do I calculate turbine exit velocity?**

$$\frac{[(\text{Average Fuel Rate, SCF/hr}) * (36.79 \text{ SCF Exhaust Gas/SCF Fuel}) * (1 \text{ hr}/3600 \text{ sec}) * ((460 + \text{Exit Temperature, deg F}) / 520)]}{3.1416 * [((\text{Stack Diameter, in.}) / 12) * 0.5]^2}$$

**43a. 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.

**43b. Are there any tanks exempt from reporting due to size, capacity, material, or throughput? E.g. are corrosion inhibitor tanks exempt? Are methanol tanks less than 1000 gallons exempt?**

Only storage tanks for crude oil and condensate are required to report under GOADS-2017. There is no exemption from reporting based on size, capacity, or throughput.

**44a. Can floatation cell emissions be categorized as "LP Cold Vent" emissions?**

There's a constant gas supply to this floatation cell to separate oil and water and vapors are vented locally.

**44b. Will the BOEM require the reporting of flash emissions from skim tanks?**

Produced water from 3-phase separators, chemelectric treaters and sumps are routed to skim tanks where the oil entrapped in the water is allowed to separate and is

skimmed off. The amount of oil is at most a few barrels per day so the flash losses would be negligible.

- 44c. How to estimate the losses from flashing for the 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? How can I estimate the losses from flashing of the O/W skimmer? Is there a typical volume % (that should be very small) of the oil/condensate from the O/W skimmer versus the total condensate to sales which is metered?**

For GOADS-2017, BOEM is not requiring data for produced water separation equipment (e.g., flotation cells).

- 45. 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.

- 46. 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 GOADS 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 2 exhaust stacks, you can code them as Heater 1 Exhaust 1 and Heater 1 Exhaust 2.

- 47. Does the level low or high shutdown (LSL or 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 5 or 2 level controllers?**

Count them as 5.

- 48. How does BOEM intend to use exit velocity? It seems exit velocity is a function of production, 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.

**49. 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, 1988). A review of liquid commingling systems in the Gulf of Mexico for the year 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.

**50. If a structure with separators, tanks, compressors, etc. is going to be out of service throughout 2017 does a report have to be submitted?**

To assist in BOEM's completeness checks, a GOADS submittal is required if the structure is out of service the entire year (select No Emission to Report at the Structure level).

**51. Is the subject sales gas data available for each platform in BOEM, if yes where is it? Can I use the data that were imported from 2014?**

Most companies will have a recent sales gas analysis for each facility and/or field that can be used. These data are typically available from the production and accounting departments. You should not use the data from 2014. You should use a current sales gas analysis.

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

Yes, you need to report any platforms that operate any time during calendar year 2017.

**53. A facility has a vent header and vent boom and also has pressured vessels that vent locally. How do we report in GOADS? 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.**

That type of ID convention will work fine in GOADS, but remember you don't create a Vent ID for sources that vent locally. It is most important to make sure you track all local vents, and don't double report what is vented to the existing header.

**54. Is the exhaust for the small pneumatic injection pumps listed as a vent location if the exhaust is not piped to a remote location? Also is this 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.

The “Ventilation System” tab is where the user should list where the gas is vented to - vented locally, flare locally, vented remotely, flare remotely or routed to system.

**55. 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. You would indicate on the ventilation tabs of 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.

**56. Some of my engines have much larger fuel usages than your recommended Max Rated Fuel 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, I think the software will give an error?**

Please enter the actual values for your equipment. If you trigger a QC error message, you can use the comment field to indicate the value is valid for the equipment.

**57. How do I specify on the glycol dehydrator ventilation system tab that the still column vent is processed by a VRU and not a vent or flare?**

On the glycol dehydrator General Information tab, you are asked for the Destination of the Flash gas. Enter routed back into the system.

**58. What is the expected MW of VOCs in a gas stream containing 95% methane and 2% ethane with the other 3% VOCs. These % are in mole or volume %. The mole wt. of the gas is between 16 - 17.**

A good average would be about 44.

**59. I don't see a need to report a storage tank that its vent goes to a vapor recovery unit which is running by electricity? Is this correct?**

You need to report this tank, and select “Vapor Recovery and/or Condenser” as the Installed Control Equipment on the Ventilation System tab. When we calculate emissions, our program will make adjustments for the VR/C.