



Newsletter

Process Modelling and Optimization.

The Process Ecology Newsletter includes updates and news relevant to the energy industry regarding regulatory updates for air emissions, technical information related to process simulation as well as case studies and best practices in process engineering.

This issue

- New MSARP regulations: what it means for the Oil & Gas Sector
- Acid gas loading for gas sweetening
- Training, News and Events

Multi Sector Air Pollutant Regulations - New for the Oil and Gas industry in Western Canada.



Federal Regulations on NO_x emissions from Boilers, Heaters and Stationary-Spark Engines have come into play.

Environment and Climate Change Canada (ECCC) states:

“The Regulations implement a subset of the Base Level Industrial Emission Requirements (BLIERs) that have been developed under the Air Quality Management System (AQMS)

Purpose: Nationally consistent air pollutant emission standards for nitrogen oxides (NO_x) and sulphur dioxide (SO₂) from the cement sector and from the boilers, heaters and stationary spark-ignition engines that are used in several industrial sectors at a level that is consistent across the country.”

These regulations will apply to upstream oil and gas and oil sands in the following areas:

- Large new and existing **boilers and heaters** that burn gaseous fossil fuels, such as natural gas. Ongoing emission testing and reporting will be required for the larger boilers and heaters (>105 GJ/hr). There is a transitional period of up to three years to ease financial impacts during which some equipment will be required to meet NO_x emission intensity limits that are less stringent than equipment that is installed after the transitional period.
- New and existing **stationary engines** at facilities. Compliance with the NO_x requirements for existing engines can be achieved on a per engine basis or based on the average of the annual emissions of all of a company's engines. Engine registration and ongoing emission testing and reporting will be required.

[Read more.](#)

Acid Gas Loading in Amine Solutions for Natural Gas Sweetening Process: A Brief Overview



Introduction

Raw natural gas consists primarily of methane (CH_4), and varying amounts of higher molecular weight hydrocarbons and other contaminants. Natural gas containing acidic contaminants (H_2S and/or CO_2) is commonly referred to as sour gas. H_2S is a highly toxic gas which can be fatal to humans at higher concentrations. Acid contaminants can also create operational problems such as increased corrosion in gas pipelines.

To avoid these health, safety and operational problems, acidic contaminants (H_2S and/or CO_2) in natural gas need to be removed to produce a 'sweet' gas stream. The resulting stream should have an H_2S content of less than 4 ppmv. The process to remove these contaminants is commonly known as natural gas sweetening. The most widely used method utilizes amine solutions to absorb the H_2S and CO_2 . According to the GPSA Engineering Databook (13th edition) [1], the amine circulation rate can be determined based on the moles of acid gas that need to be removed, as well as the 'acid gas loading' in the rich amine solution. Hence it is very important to understand the acid gas loading parameter for effective and efficient operations.

[Read more.](#)



Training, News and Events

- Join us at the [Methane Management Solutions Workshop](#), Friday June 23rd, 2017 for some timely discussions on methane emissions management in the Oil & Gas Sector.
- Process Ecology presented a novel approach for "Optimal Water Management in Shale Gas Production by Hydraulic Fracturing" and "Emissions Regulations and Reductions Technology in Western Canada's Oil and Gas Sector" at the recent NextShale conference, part of the Global Petroleum Show in Calgary
- We will be attending this year's PTAC's conference "[Advancing the low carbon economy through innovation and R&D - 2017 Canadian GHG emissions forum](#)", October 23, 2017
- Process Ecology will be presenting recent R&D work dealing with uncertainty analysis in SAGD reservoirs at this year's [67th Canadian Chemical Engineering Conference](#) in Edmonton, AB. October 22-25, 2017
- We are also planning to be at the 2017 [Alberta Climate Summit](#), September 28th, 2017 to continue the conversation about low-carbon economy and how process optimization can lead the way to a sustainable oil & gas sector.
- Process Ecology can help take the stress out of your NPRI, GHG (greenhouse gas), EPEA and MSAPR emissions reporting requirements. We will work with you to efficiently gather the required field data, estimate corresponding air emissions, and submit the information as required. [E-mail](#) or call us (403-313-8931) if you would like more information.
- We have experience optimizing and troubleshooting gas and NGL plants. Projects include resolving capacity issues, troubleshooting hydrate formation, and managing process upsets through improved control. We can provide the experienced engineering support to help you to improve facility operations. Send us an [E-mail](#) or call us (403-313-8931) if you would like more information.
- With summer around the corner we are looking forward to also enjoying some nice weather. Hope you are able to as well.



Easily track, report and manage methane emissions using the Methane Emissions Advisor system.

Methane Emissions Advisor is an innovative web-based service that is designed to assist the Upstream Oil & Gas sector estimate and manage methane emissions and flaring and venting volumes from operating facilities. Methane Emissions Advisor brings together the benefits of a modern user interface with rigorous engineering calculations that will meet the most stringent requirements for reporting and will enable the identification of optimization opportunities.

Register for an evaluation trial today. Please visit www.methaneadvisor.com or send [us an email](#)



Facebook



Twitter



Website

Copyright © 2017 Process Ecology, All rights reserved.

Our mailing address is:

#930 710-20 Crowfoot Crescent NW
Calgary, AB T3G 2P6
Canada