

# PROPOSED RULE 1118.1 -

Control of Emissions from Non-Refinery Flares

## Working Group Meeting #4

March 8, 2018

SCAQMD Headquarters – Conference Rm GB  
Diamond Bar, California

# BACKGROUND

- Control Measure in 2016 Air Quality Management Plan committed to achieve NOx reductions from non-refinery flares

# GOALS

- Emission reductions from gas handling
- Minimize flaring by encouraging and/or requiring beneficial-use (e.g. power generation, transportation fuels)



# RECLAIM SUNSET – LANDING RULES

- 2016 AQMP CMB-05 (Further NOx Reductions from RECLAIM Assessment)
  - Achieve 5 tpd of NOx emission reductions by 2025
  - Transition NOx RECLAIM to command-and-control (C&C) regulatory structure requiring *Best Available Retrofit Control Technology* (BARCT)
- Assembly Bill 617
  - Develop a schedule for implementing BARCT by January 1, 2019
  - BARCT implementation by December 31, 2023
- Five RECLAIM facilities have flares - PR1118.1 will serve their landing rule

# RULE CONCEPTS - APPLICABILITY

## INCLUDE

- Oil and Gas Extraction
- Landfill Flares
- Digester Gas
- Other Flaring
- Regenerative Flaring
- Tank Degassing
- Tank Farm

## EXCLUDE

- Flaring subject to Rule 1118 – *Refinery Flares*
  - Petroleum refineries
  - Hydrogen plants
  - Sulfur recovery plants

# RULE CONCEPTS – DEFINITIONS

**BENEFICIAL USE** means the use of process gas or biogas, that would otherwise be flared, for power, heat, or steam generation; transportation fuel; pipeline injection, or other uses as approved in writing by the Executive Officer.

**BIOGAS** includes digester gas and landfill gas produced by the breakdown of organic matter in the absence of oxygen.

## RULE CONCEPTS – DEFINITIONS (CONT.)

**DIGESTER GAS** means a gas produced from either mesophilic or thermophilic digestion of biodegradable waste, consisting of methane, carbon dioxide and traces of other contaminant gases.

**FLARE** means a combustion device, whether at ground level or elevated, that uses a flame to burn combustible gases or vapors with combustion air provided by uncontrolled ambient air around the flame or a controlled combustion air blower.

- **Source: California Air Resources Board with slight modification**

## RULE CONCEPTS – DEFINITIONS (CONT.)

**FIELD PRODUCTION GAS** means organic compounds that are both gaseous at standard temperature and pressure and are associated with the production, gathering, separation, or processing of crude oil.

- *Source: Rule 1148.1*

**LANDFILL GAS** means any untreated, raw gas derived through a natural process from the decomposition of organic waste deposited in a Municipal Solid Waste landfill from the evolution of volatile species in the waste, or from chemical reactions of substances in the waste.

## RULE CONCEPTS – DEFINITIONS (CONT.)

**OTHER FLARE GAS** includes, but is not limited to, gases from regenerative flaring and flaring that occurs at facilities handling organic liquids, such as bulk terminal loading and offloading, or tank farm degassing.

**PROCESS GAS** means a naturally occurring mixture of process derivative of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the earth's surface, of which its constituents include, methane, heavier hydrocarbons, and carbon dioxide.

## RULE CONCEPTS – DEFINITIONS (CONT.)

**REGENERATIVE ADSORPTION SYSTEM** means a system used to remove impurities from biogas or process gas consisting of several media trains that are regenerated by purging with gas.

**REGENERATIVE FLARE** means a combustion device which combusts regeneration gas from a regenerative adsorption system.

**REGENERATION GAS** is the purge gas from a regenerative adsorption system.

# RULE CONCEPTS – EMISSION LIMITS

- Table 1 limits consistent with BACT
- New biogas and process gas flares already subject to BACT limits
- New flares installed to process other gases (e.g. tank degassing, regeneration flares) will be subject to Table 1 limits
- Flares 20 years or older will be subject to Table 1 limits

**Table 1 –Emission Limit**

Flare Categories	lb/MMBtu		
	NOx	VOC	CO
Biogas	0.025	0.038	0.06
Process Gas	0.018	0.008	0.06
Other Flare Gas*	0.025	0.038	0.06

\* Emission limits for flaring Regeneration Gas to be determined when fueled by 100% biogas.

## RULE CONCEPTS – RULE FLEXIBILITY

- Low use (<200 hours /year) and low emitting (<one pound NOx/day or 30 pounds NOx/month) flares are not required to meet emission limits
  - Permit conditions, monitoring, & record keeping requirements
- Owners or operators of higher emitting flares are not required to meet the emissions limits if they comply with the Beneficial Use Alternative Compliance Option

# RULE CONCEPTS – BENEFICIAL USE ALTERNATIVE COMPLIANCE OPTION

Table 2 – Minimum Percent  
Beneficial Use Required

Compliance Date	Beneficial Use of Total Annual Captured Gas
7/1/2019	85%
7/1/2022	90%
7/1/2025	95%
7/1/2028	98%

Appendix A will include detailed requirements

- How to calculate beneficial use
- What qualifies as beneficial use
- Pre-approved plans
- Recordkeeping and reporting requirements
- Testing requirements
- What constitutes a violation
  - Does failure to comply require flare replacement?

# RULE CONCEPTS - OVERVIEW

Possible considerations for closed landfills with low gas production

Biogas and Process Gas Flaring

Other Flaring

Process Flare  $\geq 200$  hours

Low Use

Install BACT flare - 20 years or older

Beneficial Use Compliance Option

200 hours per year

One pound per day

Meet limits in Table 1 -20 years or older

# RULE CONCEPTS – MONITORING AND TESTING

## Source Tests

- Source tests required every three years for owners or operators of flares complying with emission limits
- Third part testing required
- Pre-approval of source test protocol required

## Monitoring, Recordkeeping, and Reporting Requirements

- Non-resettable, totalizing, ultrasonic fuel meters and time meters
- Record keeping requirements
- Notification provision if flare fails to demonstrate compliance with rule provisions

# NEXT STEPS

- Continue work on Beneficial Use estimates
  - DOGGR for Oil and Gas
  - 1150.1 Annual Reports for Landfills
  - Annual Emission Reporting Data for Waste Water Treatment Plants
- Work on potential emission reductions and cost effectiveness
- Seeking comments for rule language/concepts
- Refine rule language
- Continue individual meetings
- Next working group meeting in 4 – 6 weeks

# CONTACT INFORMATION



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