Proposed Rule 1118.1 - Control of Emissions from Non-Refinery Flares

Working Group Meeting #1

August 25, 2017

SCAQMD Headquarters – Conference Rm CC2 Diamond Bar, California

2016 AQMP – CMB-03

- Non-Refinery Flare emission reductions by 2031
 - > 1.5 tons per day (tpd) NOx
 - \succ 0.4 tpd VOC
- Potential Requirements or Incentives for Beneficial Use
- Currently Available Low-NOx Flares
 - Certified Ultra-Low Emissions Burner (CEB®)
 - Potential Retrofit

Inventory

- > 260 flares from 128 facilities
- > Emission Estimates:
 - > 2016 AQMP 2.3 tpd
 - > 2012 Annual Average
 - > AER 0.6 tpd
 - > 2015 reported annual emissions
 - > 73 facilities reported
 - > Only facilities with annual emission of 4 tons or greater
 - Potential to emit from permits ~ 5.9 tpd



Site Visits



Site Visits to Date

- > Two Landfills
- > Two Wastewater Plants
- > Four Oil & Gas Operations

Observations

- Each Flare is Different
- Each facility has unique challenges/opportunities

Oil and Gas Flares



Opportunities:

- Greatest number of flares
- Less gas cleanup needed for beneficial use
- Many facilities already utilize gas for beneficial use

Challenges:

- Economics low oil/fuel prices
- No credits available (LCFS, etc.) as these are for renewable sources

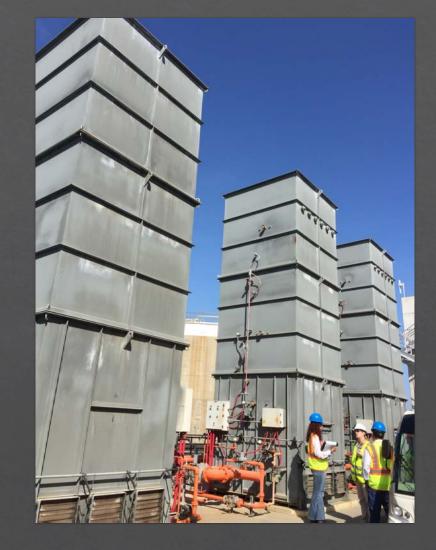
Wastewater Treatment

Opportunities:

- Already prioritize beneficial use
- Food waste potentially will increase gas production

Challenges:

- Gas Clean-up costs
 - Siloxanes
 - Low overall emissions



Landfills

Opportunities:

- Large source of gas
- On-going growth

Challenges:

- Gas quality/quantity
 - > Aging/shutdown landfills
- Gas clean-up
 - > Siloxanes
 - Oxygen and Nitrogen
- BTU Content



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Universe of Flares

Continuous *

- Operates 24/7
- Monthly Tests
- Source Testing
- Pollution Control

EmissionsMonitoring

* Primary focus of rule

Emergency/Standby

- Normally NotRunning
- Event Starts Flare
- Source Testing
- Relief System
- Pollution Control

Backup

- Full CapacityCapability
- Occasional Testing

Applicable Existing Rules

Rule 1150.1 - Control of Gaseous Emissions from Landfills





Rule 1303 – NSR Requirements
> BACT NOx Requirement (new or modified flares)

- > Biogas 0.025 lb/MMBtu
- Landfill gas 0.025 lb/MMBtu
- > Oil and gas 0.018 lb/MMBtu

PR1118.1 – Preliminary Findings

OPPORTUNITIES

- Pipeline Injection
- Transportation Fuel
- Bio-fuel use On-Site/Off-site
- Energy Production On-Site/Off-Site
- Clean Flare Technology
 - > CEB®
 - > Retrofits

CHALLENGES

- Pipeline Purity Requirements
- Cost of Gas Cleanup
- New Pipeline Costs
- Petroleum Market Flux
- Legislative Roadblocks
- Long Term Renewable Credit Pricing

Discussion



- > Any further opportunities?
- Operator concerns/challenges?
- Need for technology/flare alternative evaluation
- Rule considerations:
 - New facilities
 - Existing facilities
 - Facility types
 - > Control

- Cost effectiveness
- > Tiered/timed approach
- De minimis use

Timeline

- > Meetings every 6 weeks
- > More site visits
- Targeting Governing Board adoption hearing in Spring 2018



CONTACT INFORMATION



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