



Low Emission Flare

REDUCE NOX EMISSIONS BY 60%

APTIM is proud to present a safer, more compact flare design: The Low Emission Flare reduces NO_x, CO, and NMOC emissions through the use of high efficiency burners. The improved combustion is achieved by pre-mixing landfill gas and combustion air prior to ignition. With the complete premix of gas and air at an efficient control ratio, this flare will significantly reduce emissions.

Guaranteed Emissions Levels

NO_x

< 0.025 LBS/MMBTU

CO

< 0.060 LBS/MMBTU

THC

99.5% DESTRUCTION EFFICIENCY

HOW IT WORKS

Effective and consistent temperature control with sufficient excess air at the burner reduces the potential formation of nitrogen oxides and carbon monoxide emissions. Pre-mixing of the gas and air is accomplished by using an air blower at each burner to introduce the combustion air prior to the burner.

This method is much safer than conventional methods of pre-mixing air and gas in a large pipe manifold/vessel prior to ignition.

Additionally, the compact design minimizes transportation and installation cost while greatly reducing the footprint of the flare compound saving valuable space.

The use of multiple independently controlled burners in the Low Emission Flare allows the system to operate with extremely high flow turndown while maintaining the desired emission control efficiency.



LFG SPECIALTIES, LLC

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APTIM'S UPDATE FOR CALIFORNIA FLARE REQUIREMENTS

South Coast Air Quality Management District new Rule 1118.1, *Control of Emissions from Non-Refinery Flares*

The South Coast Air Quality Management District (SCAQMD) adopted Rule 1118.1 on January 4, 2019, to limit carbon monoxide (CO), oxides of nitrogen (NOx), and volatile organic compounds (VOC) emissions from non-refinery FLARES. If your flare emission limits are less than those in Table 1, your system is in compliance (which will need to be demonstrated).

Table 1 Emission Limits

Flare Gas (lb/MMBTU)	NOX	CO	VOC
Digester Gas	0.025	0.06	0.038
Landfill Gas	0.025	0.06	0.038
Produced Gas	0.018	0.06	0.008
Other Flare Gas	ppm @3% O ₂		DE (%)
	30	10	99

If your system does exceed these emission limits, operation is restricted to the thresholds in Table 2.

Table 2 Capacity Thresholds

Gas Flared	Threshold
Open Flare Gas Combustion	5%
Digester Gas	70%
Landfill Gas	20%
Process Gas	5%

Existing flare annual capacity was to be measured until January 2021. If the capacity thresholds were less than Table 2, then annual reporting for the lifetime of the flare is required.

If flare operations cannot comply with Table 2 thresholds, they should be replaced or modified to comply with Table 1.

WHEN IS THE PERMIT APPLICATION DUE?

Private: Deadline has passed (2021)

Public Facility: **NOW**

Exemptions are Limited: Less than 30 lbs/mon NOx, or 200 hrs/yr

San Joaquin Valley Air Pollution Control District Rule 4311, *Flares*

The San Joaquin Valley Air Pollution Control District (SJVAPCD) amended Rule 4311 on December 17, 2020, "to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NOx), and sulfur oxides (SOx) from the operation of flares."

To comply with Rule 4311, flares used at the facilities identified in Table 3 shall be limited in operation to the threshold limits shown.

Table 3 Flare Annual Throughput Threshold

Flare Category	MMBTU/yr
Flares used at Oil and Gas Operations, and Chemical Operations	25,000
Flares used at Landfill Operations	90,000
Flares used at Digester Operations	100,000
Flares used at Organic Liquid Loading Operations	25,000

If Table 3 thresholds are not exceeded for two consecutive years, submit an ATC to operate under the limits by July 1, 2022.

For those opting to replace or modify their existing flares, the emissions limits from Rule 4311 are listed in Table 4.

Table 4: VOC and NOx Emission Limits

Flare Category	VOC (lb/MMBTU)	NOx (lb/MMBTU)
Oil and Gas, Chemical Operations	0.008	0.018
Landfill Operations	0.038	0.025
Flares at Major Digester Operations	0.038	0.025
Flares at Minor Digester Operations	N/A	0.060
Organic Liquid Loading Operations	Pounds/1,000 gallons loaded	
	N/A	0.034

WHEN IS THE ATC APPLICATION DUE?

ATC applications are due July 1, 2022.

Exemptions: Emergency situations, less than 2,000 MMscf/yr LFG, 200 hrs/yr, or equivalent of flare rated heat capacity for 200 hours/yr

**APTIM CAN HELP.
TALK TO ONE OF OUR FLARE
SPECIALISTS NOW**

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