

**COMPARATIVE ANALYSIS OF
PROPOSED NEW RULE 69.7 – LANDFILL GAS FLARES**

Statutory Requirements

Pursuant to California Health and Safety Code Section 40727, the San Diego County Air Pollution Control District Governing Board is required to make findings of necessity, authority, clarity, consistency, non-duplication, and reference prior to adopting, amending, or repealing a rule or regulation. As part of the consistency finding to ensure proposed new Rule 69.7 – Landfill Gas Flares requirements do not conflict with or contradict other San Diego County Air Pollution Control District (District), state or federal regulations, the California Health and Safety Code Section 40727.2(a) requires the District to perform a written analysis identifying and comparing the requirements and other provisions of proposed new Rule 69.7 with existing or proposed District rules and guidelines, and existing state and federal rules, regulations, and guidelines applying to the same source category.

Analysis

The proposed new Rule 69.7 is a new regulation that would apply to landfill gas flares at municipal solid waste (MSW) landfills to satisfy federal Reasonably Available Control Technology (RACT) requirements. Facilities subject to proposed new Rule 69.7 would be required to operate landfill gas flare equipment that meets minimum emission standards for nitrogen oxides (NO_x) and carbon monoxide (CO), among other operational and testing requirements.

Comparison with Existing District Rules and Regulations

Though Rule 59 also applies to landfill gas flares in San Diego County, no comparison is presented since the standards of Rule 59 are applicable to odors, toxic air contaminants and/or reactive organic compounds emissions, and does not regulate NO_x and CO emissions. Additionally, no comparison to Rule 59.1 is presented because the standards included in Rule 59.1 require landfill emission control systems to meet the federal requirements found in 40 CFR Part 60 Subpart WWW, which is reflected in Table 1.

Comparison with existing Federal Rules and Regulations

With the exception of District Rules 59 and 59.1, the District presents a detailed comparative analysis of proposed new Rule 69.7 to one existing District rule and four federal regulations which have specific sections applicable to landfill gas flares. The results of this analysis are provided in Table 1.

Table 1

Detailed Comparison – Rule 69.7 Landfill Gas Flares

Rule Element	Rule 69.7	Rule 20.3	40 CFR Part 60 Subpart WWW	40 CFR Part 60 Subpart XXX	40 CFR Part 63 Subpart AAAA	17 CCR, Sections 95460-95476
Applicability	This rule applies to MSW landfill gas flare, or collection of landfill gas flares, that is itself a federal major stationary source of NOx.	This rule applies to... any new or modified federal major stationary source, ... and to any relocated emission unit being moved to a stationary source if, after completion of the project, the stationary source will be a... federal major stationary source...	This rule applies to each MSW landfill that commenced construction, reconstruction, or modification on or after May 30, 1991, but before July 18, 2014.	This rule applies to each municipal solid waste landfill that commenced construction, reconstruction, or modification after July 17, 2014.	This rule applies to MSW landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and meets any one of the three criteria specified 63.1935(a) (1) through (3) of this subsection.	This rule applies to all MSW landfills that received solid waste after January 1, 1977.
Standard	Emissions of NOx for an enclosed flare do not exceed 0.06 pounds per million Btu of heat input.	Any increase in potential emissions of NOx and has a post-project potential to emit 10 pounds per day or more of NOx shall be equipped with BACT for NOx.	No standards for NOx emissions.	No standards for NOx emissions.	No standards for NOx emissions.	No standards for NOx emissions.

Rule Element	Rule 69.7	Rule 20.3	40 CFR Part 60 Subpart WWW	40 CFR Part 60 Subpart XXX	40 CFR Part 63 Subpart AAAA	17 CCR, Sections 95460-95476
Standard	Emissions of carbon monoxide (CO) for an enclosed flare do not exceed 0.20 pounds per million Btu of heat input.	No standard for CO emissions.	No standard for CO emissions.	No standard for CO emissions.	No standard for CO emissions.	No standard for CO emissions.
Operational Requirements	The flare shall be properly maintained and operated.	NA	Operate the control system at all times when the collected gas is routed to the system.	Operate the control system at all times when the collected gas is routed to the system.	Operate the control system at all times when the collected gas is routed to the system.	Operate a flare... to prevent unburned collected methane from being emitted to the atmosphere.
Operational Requirements	When the landfill gas collection system or landfill gas flare is inoperable, the gas mover equipment shall be shut down and... venting of the gas to the atmosphere shall be closed within one hour.	NA	When the collection or control system is not operating, the gas mover system must be shut down and... venting of the gas to the atmosphere must be closed within one hour.	When the collection or control system is not operating, the gas mover system must be shut down and... venting of the gas to the atmosphere must be closed within one hour.	NA	NA
Operational Requirements	An enclosed flare shall be equipped with automatic dampers, an automatic shutdown device, a flame arrester, and continuous-recording temperature sensors; and operated within the parameter ranges established during the initial or most recent source test.	NA	An enclosed combustor shall calibrate, maintain, and operate... a temperature monitoring device equipped with a continuous recorder.	An enclosed combustor must calibrate, maintain, and operate... a temperature monitoring device equipped with a continuous recorder.	NA	A flare must... be equipped with... a continuous recording temperature sensors.

Rule Element	Rule 69.7	Rule 20.3	40 CFR Part 60 Subpart WWW	40 CFR Part 60 Subpart XXX	40 CFR Part 63 Subpart AAAA	17 CCR, Sections 95460-95476
Operational Requirements	An open flare shall be equipped with a heat sensing device... to indicate the continuous presence of a flame. The heat-sensing device shall be maintained and calibrated in accordance with the manufacturer's specifications and recommendations.	NA	Open flare must install, calibrate, maintain, and operate according to the manufacturer's specifications a heat sensing device to indicate the continuous presence of a flame.	Non-enclosed flare must install, calibrate, maintain, and operate according to the manufacturer's specifications a heat sensing device to indicate the continuous presence of a flame.	NA	NA
Monitoring Requirements	Monitor, display, and record the landfill gas flow rate to each flare at least once every 15 minutes.	NA	Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes.	Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes.	Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes.	Owner or operator must record the flow to the control device(s) at least every 15 minutes.
Monitoring Requirements	For an enclosed flare: install and maintain in good working order a gas temperature measuring device equipped with a continuous recorder which has an accuracy of $\pm 1\%$ of the temperature being measured.	NA	Owner or operator using an enclosed combustor must calibrate, maintain, and operate a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater.	Owner or operator using an enclosed combustor must calibrate, maintain, and operate a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater.	Owner or operator using an enclosed combustor must calibrate, maintain, and operate a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater.	For enclosed flares, a temperature monitoring device must be installed, calibrated, maintained, and operated according to the manufacturer's specifications and equipped with a continuous recorder which has an accuracy of plus or minus (\pm) 1 percent of the temperature being measured expressed in degrees Celsius or Fahrenheit.

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Monitoring Requirements	For an open flare: install and maintain in good working order a heat device to continuously monitor for the presence of a flare pilot flame or flare flame.	NA	Owner or operator using a non-enclosed flare must install, calibrate, maintain, and operate a heat sensing device to indicate the continuous presence of a flame.	Owner or operator using a non-enclosed flare must install, calibrate, maintain, and operate a heat sensing device to indicate the continuous presence of a flame.	Owner or operator using a non-enclosed flare must install, calibrate, maintain, and operate a heat sensing device to indicate the continuous presence of a flame.	Owner or operator using a non-enclosed flare must install, calibrate, maintain, and operate a heat sensing device to indicate the continuous presence of a flame.
Record Keeping Requirements	(g)(1) Maintain records of the landfill gas flow rate, calibration, non-operational status, maintenance, source testing, temperature, flame presence	NA	Must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters and periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.	Must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters and periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.	Must keep records specified in this subpart the general provisions of 40 CFR part 63 as shown in Table 1 to this subpart	Must maintain records of the equipment operating parameters monitored as well as records for periods of operation during which the parameter boundaries established during the most recent source test are exceeded.
Test Methods	Specified test methods or methods approved by the District, CARB or EPA.	NA	NA	NA	NA	NA
Source Test Requirements	Flare shall be source tested at typical operating conditions according to the facility specifications.	NA	NA	NA	NA	NA
Source Test Requirements	After initial compliance has been determined, an existing landfill gas flare shall be source tested under typical operating conditions.	NA	NA	NA	NA	NA

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Source Test Requirements	Measurement of NO _x and CO emission concentrations shall be based on a continuous sampling period of 15 minutes or more, and not to exceed 60 minutes and conducted using approved test methods.	NA		NA	NA	NA. Test requirements are to determine the methane destruction efficiency of the control device.
Compliance Schedule	(j)(1) All new landfill gas flares shall comply with all applicable requirements of this rule upon initial startup.	NA		NA	63.1945(a) If your landfill is a new affected source, you must comply with this subpart by January 16, 2003, or at the time you begin operating, whichever is later.	NA
Compliance Schedule	(j)(2) The owner or operator of an existing landfill gas flare shall: (i) By <i>(6 months after date of adoption)</i> , submit documentation which demonstrates compliance or (ii) By <i>(12 months after date of adoption)</i> , conduct a source test and submit documentation which demonstrates compliance.	NA		NA	63.1945(b) If your landfill is an existing affected source, you must comply with this subpart by January 16, 2004.	NA

Conclusion

As shown in Table 1, there are no conflicts or contradictions between Rules 69.7 and District rules or other regulations applicable to landfill gas flares. The requirements of other regulations that are similar, support Rule 69.7 or adds related requirements.