LANDFILL GAS FLARE

Engineering a Safer World

ENCLOSED COMBUSTION BUILT FOR A LANDFILL'S CHANGING GAS AND FLOW

Landfill gas flow falls steadily as a cell ages, and gas composition shifts with moisture, hydrogen sulphide, and siloxane content over the same period. A flare sized only for early peak generation loses stability and destruction efficiency as the site moves through decades of gradual decline.

CRA's Landfill Gas Flares distribute gas across multiple burners inside a refractory-lined enclosure, engineered for stable combustion at varying flow rates. Refractory lining holds combustion temperature above the threshold required for high destruction efficiency, keeping the outer shell cool to the touch. An automated control system modulates gas flow from a landfill's peak generation years through its long decline, without manual resizing, and alloys and coatings are selected against the H2S, moisture, and siloxane content typical of landfill gas.

CRA has delivered enclosed flare systems for municipal solid waste sites across multiple geographies, including Gorai (Mumbai), Ghazipur (Delhi), and Repi (Addis Ababa), engineered to meet EPA NSPS/EG, API 537, API 521, and international landfill gas emission standards.



CRA ADVANTAGE

+ Engineered For High Turndown (stable combustion from peak generation through long decline)	+ Optimal Design & Performance + Accomodate Special Requirements
+ Handles Variable, Real-Time Flow (automated flow and vacuum control absorb daily and seasonal swings)	+ On-Time Delivery + Responsive & Organized Team
+ Corrosion-Resistant Construction (material selection accounts for H2S, moisture, siloxane exposure)	+ Stringent Quality Management + Fast Turnaround
+ Odour And VOC Control (tuned combustion reduces H2S, mercaptans, and NMOCs at the source)	+ Cost Effective Maintenance Packages + Long-Term CRA Support

APPLICATIONS

Supplied for methane destruction and odour control across a municipal solid waste site's full operating life

+ Landfill Cell Gas Collection Systems (GCCS)
+ Cap Vent And Well Field Gas Destruction
+ Leachate Collection System Off-Gas
+ Backup Flaring For LFG-To-Energy Plants
+ Off-Spec Gas Destruction Ahead Of RNG Upgrading
+ Seasonal And End-Of-Life Flow Turndown

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QUALITY ASSURANCE MANAGEMENT ISO 9001

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WORKING & PERFORMANCE

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CORROSION-MATCHED CONSTRUCTION FOR DECADES OF DECLINING, SHIFTING GAS

WORKING

+ Landfill gas enters through a control valve and distributes across multiple burners engineered for stable combustion at varying flow rates

+ Combustion air enters through controlled inlets at the chamber base, supplying burners evenly across the chamber regardless of load

+ Refractory lining holds combustion temperature above the threshold required for high destruction efficiency, keeping the outer shell cool to the touch

+ Stack and internal components use alloys and coatings selected for the H2S, moisture, and siloxane content typical of landfill gas

+ An automated control system modulates gas flow from a landfill's peak generation years through its long decline, without manual resizing

GAS FIELD REALITIES

+ Corrosion-Resistant, Site-Matched Construction

+ Standards: EPA NSPS/EG, API 537, API 521

+ Siloxane Content Range: 0.2-140 Mg/M3 In Raw Landfill Gas[L]

+ Destruction Efficiency: >98%

Turndown and material specification are set against the site's actual gas generation curve and composition, not a single catalogue size, since both shift substantially over a landfill's operating life.

TYPICAL DESIGN & PERFORMANCE PARAMETERS

Destruction efficiency	>98%
Construction	Corrosion-resistant, site-matched to H2S, moisture, and siloxane exposure
Applicable standards	EPA NSPS/EG, API 537, API 521
Siloxane in raw gas	Typically 0.2-10 mg/m3, up to roughly 140 mg/m3 in older cells[L]

Figures per CRA published product data; items marked with a superscript L are drawn from published industry literature.

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