

## 8. LFG Treatment (English)



**Methane to Markets**

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**Landfill Gas Treatment and Use Options**

- Flare Station: The facility at which the LFG is gathered and thermally destroyed.
- Recovery: The utilization of the LFG for productive purposes; can include power generation, low/high BTU fuel.

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This slide features the Methane to Markets logo in the top left corner. The title 'Landfill Gas Treatment and Use Options' is in purple. Below the title, there are two bullet points describing Flare Station and Recovery. The slide number '2' is in the bottom right corner.

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**This Section Provides..**

- An outline the major components of an active LFG flare station.
- Understand the basic design, function, advantages, and disadvantages of utility and enclosed flares.

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**Blower/Flare Station Major Components, cont.**

- Flare (utility and enclosed)
- Instrumentation and controls
- Electrical equipment/supply
- Condensate handling systems
- Air compressors

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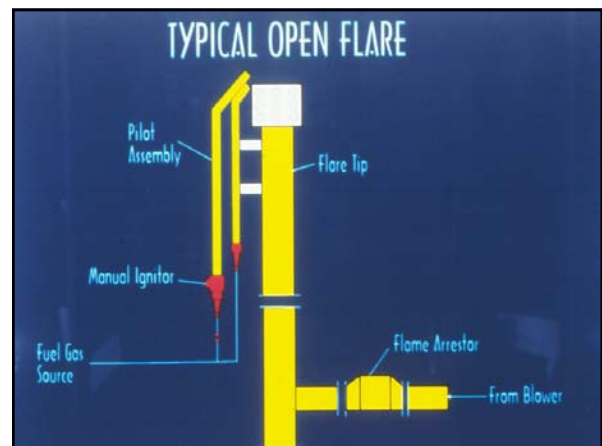
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**Well Head Flares**

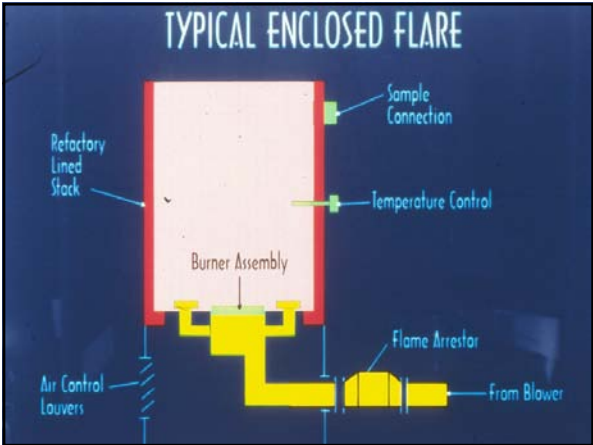
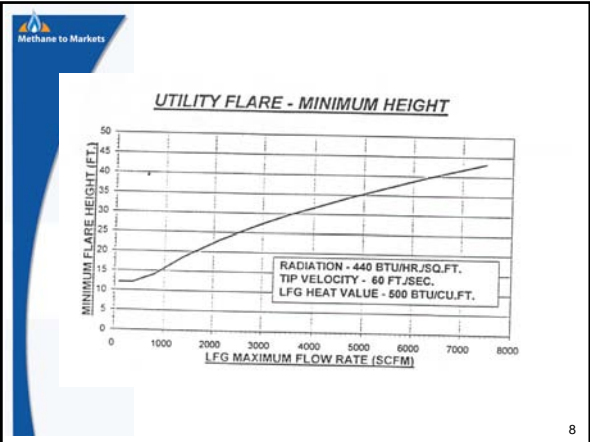
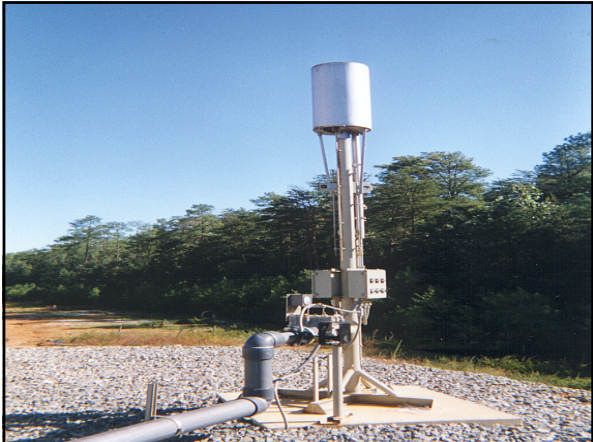
- Small flares that attach to the top of a well.
- Solar igniter, sparks every 30 minutes
- No automatic valve.
- Simple, easy to install and use.
- Good reliability.

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8. LFG Treatment (English)



USEPA's LFG in China Workshops (2008)

## 8. LFG Treatment (English)



**Open vs. Enclosed Flares**

Advantages of Utility (open) Flares

- EPA Best Demonstrated Technology (BDT)
- 98% destruction efficiency
- Relatively inexpensive
- Simplicity
- Low maintenance

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**Open vs. Enclosed Flares**

Disadvantages of Utility (open) Flares

- Visible flame
- Wind turbulence flame-out
- Difficulty monitoring (combustion products)
- Operating temperature is not controlled

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## 8. LFG Treatment (English)




### Open vs. Enclosed Flares

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Advantages of Enclosed Flares

- 99% destruction efficiency
- Balance NO<sub>x</sub> and CO emissions
- No visible flame
- Can monitor/record operating temperature
- Exhaust can be compliance tested

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### Open vs. Enclosed Flares

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Disadvantages of Enclosed Flares

- Cost
- More Complex
- Higher potential maintenance

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### Condensate Collection Systems at Flare

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- Sumps
- Barometric traps
- Storage tanks

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### Condensate Treatment and Disposal

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- Return to landfill
- Sewage treatment facility
- Hazardous waste treatment facility onsite
- Evaporation into the flare

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