

# Landfill Gas to *Electricity*

ACUA's landfill currently has 18 vertical landfill gas wells. The blowers at the flare skid (flare system) create a vacuum which draws the gas from the landfill and pipes it to the flare/gas treatment system and the engine/generator.

FROM LANDFILL



8" GAS

**FLARE SYSTEM**



Landfill gas will be used to power the engine/generator instead of being destroyed at the flare

Landfill gas flare at night.

The gas treatment system condenses, dewateres and cools the landfill gas prior to going to the engine/generator. When the landfill gas comes out of the landfill, it is approx. 1,200 degrees.

S.S. STORAGE TANK 55 GAL.

The green lines represent condensation being removed from the landfill gas, then returned to the landfill collection system.

3" PILOT GAS



Landfill gas flare during the day.



**GAS TREATMENT SYSTEM**

The gas treatment system condenses, dewateres and cools the landfill gas prior to going to the engine/generator. When the landfill gas comes out of the landfill, it is approx. 1,200 degrees.



Landfill gas blowers create a vacuum to draw the landfill gas from the landfill wells.

MODBUS COMMUNICATION

480V POWER

4-20MA O ANALYZER

MODBUS COMMUNICATION TO REMOTE MARINA SITE

**1600KW ENGINE/GENERATOR SYSTEM**

This engine/generator will supply enough electricity to handle all of ACUA's electricity demand (20%). The remaining 80% will sent to the power grid.

6" GAS (5 PSIG @ 130 F)

**AIR-COOLED RADIATOR**

Just like your car, the landfill gas engine has a radiator to cool the engine.

The engine/generator is the main control device for the landfill gas and the flare is secondary. If the landfill is producing more gas than the engine can burn then the excess gas is sent to the flare.



The engine/generator uses the landfill's condensed and cooled landfill gas to power the generator.