FLEXLEASING
POWER AND SERVICE

Power: Reliable, Clean, and Simple.

Avoiding Flaring and Venting Using Oil Field Gases for Clean Reliable Remote Power

Case Study

Location: North America

Challenge

The oil and gas industry is being pushed to reduce operating costs and minimize its environmental footprint by avoiding flaring and venting. The problematic sources for producers range from wellhead gases to "tank vapors," all causing emissions concerns. Since being established in late 2012, Flex Leasing Power and Service's fleet has run almost 2,000,000 hours using this wide range of oil field gases in the Flex Turbine® to generate power. The high uptime power of over 99% availability from the Flex Turbine® complies with the latest air pollution rules while preventing gas flaring and emissions venting at well pads and facilities.

Solution

The GT250S and GT333S Flex Turbines, with their wide fuel tolerance from 350 Btu to 2500 Btu remove the roadblocks to using flared or vented gases for reliable, clean, remote power, even with H_2S and CO_2 in the gas.

INCREASED UPTIME

Greater than 98% Uptime in Rough Environments

More Reliable Than Diesel or Gas

FUEL TOLERANCE

Wide Range of Acceptable BTU Gasses (350 btu–2500 btu)

Wellhead Gas, Flare Gas, Tank Vapors, Etc.

Acceptable H_2S Content up to 1%

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REMOTE LOCATIONS

Scalability – Modular Units

One Scheduled Service Call Per Year

Optional Propane for Backup Power When Gas is Not Available

HIGH PERFORMANCE FOR EMISSIONS AND EFFICIENCY RATINGS

EPA Non-Attainment Zone

Suitable for Emission-Critical Areas

Integrated, Variable-Output Heat Recovery Unit Available

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Benefit

Producers in U.S. and Canada have been using the wide fuel operability and low maintenance of Flex Leasing Power and Service's solution to stop using diesel and instead using the reliable Flex Turbine® power to increase their production, reducing their lease operating expense and complying with flaring and venting regulations. The table below shows the benefit for one producer in ND, and the potential benefits if all of the currently flared gas, even tank vapors and H_2S content gas is used in Flex Turbines.

	Current North Dakota Producer Using 40 Flex Turbines for Prime Power *(Aggregate Totals)*	Flex Turbines Using ALL of ND Gas Reported as Flared[3] *(Annual Total)*
Avoided Flare Gas (BCF)	1.1	9.3
GWh of Prime Power	98.0	827.1[4]
Gallons of Diesel Avoided	7,057,909	59,548,071
NOx Tons Avoided from Diesel Elimination	245	2,068
CO_2 Tons Avoided from Diesel Elimination	72,036	607,776
Fueling Truck Trips Avoided[2]	22,964[1]	193,750[5]

[1] Uses one (1) fuel truck trip per 24 hours
[2] Emissions reductions from avoiding truck trips not included
[3] North Dakota Industrial Commission 6-15-16 reported 25.6 MMSCFD flared gas
[4] Equivalent of displacing a 100 MW central power facility at 94% Capacity Factor
[5] Uses one (1) fuel truck trip per 24 hours

The Flex Turbine® from Flex Leasing Power and Service

Get Clean, Reliable Energy Wherever You Work

A robust, packaged system that transforms associated flare and natural gases from Oil & Gas operations into a continuous source of clean electric power in the toughest working conditions.

Fuel Flexibility

The cleanest and most fuel tolerant gas turbine in its class. Standard pressure system uses gas up to 2500 Btu, up to 1% H_2S, as high as 70% CO_2

Synchronous Generator, Essential Power

Stable, consistent power from a synchronous generator matched with a generator braking resistor runs a site's constantly varying power demands.

Simpler, Faster Permitting

Low NOx emissions on a wide range of associated and methane gases meets air quality standards for expedited permitting.

Rugged, Durable Design

Built with the best-quality components to provide consistent, 24/7 prime power. Sturdy and proven with over 800,000 operating hours as prime power in Oil & Gas operations extreme conditions.

Low Maintenance, Low Cost

The Flex Turbine® runs inexpensively, with only one eight-hour maintenance per year. Remote communications, monitoring and data collection gives the 24/7 service coverage needed for over 99% up time prime power operation.

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