



FLEXENERGY
SOLUTIONS

Decarbonizing Oil & Gas Production with Oilfield Electrification

FlexEnergy Solutions delivers clean, reliable field power solutions to Leading Independent Operator in New Mexico.

OVERVIEW

A major U.S. oil and gas producer, selected FlexEnergy to design, develop, and install field power solutions at two large production facilities located in the New Mexico region of the prolific Permian Basin. FlexEnergy deployed a GT2000S 2.0 MW generator to each site in 2023.

Independent testing conclusively confirmed that not only did the generators satisfy stringent federal and state air quality regulatory requirements, but they surpassed the requirements by a significant margin with actual emissions registering well below the regulatory thresholds.

RESULTS

The table below summarizes the test results from one of the production facilities.

Constituent	Regulation	Permit Requirement	Measured (uncorrected)	Measured (corrected to 15% Oxygen)
NOx	40 CFR Part 60 Subpart KKKK	42 ppmvd	1.8 ppmvd	2.8 ppmvd
CO	New Mexico State Regulation	25 ppmvd	4.0 ppmvd	4.0 ppmvd
NMNEHC	New Mexico State Regulation	9 ppmvd	1.1 ppmvd	1.1 ppmvd

Notes:

1. ppmvd is parts per million by volume, dry.
2. NMNEHC is non-methane, non-ethane hydrocarbons.

Independent tests confirmed that emissions of NOx (an ozone precursor), carbon monoxide, and NMNEHC from the GT2000S turbine generators were 15, 6, and 8 times lower than their respective permit requirements.

Power: clean, dispatchable, and reliable.



LOW EMISSIONS = MORE POWER ON SITE

The Flex Turbine® is typically the lowest emissions power option available to operators. The average reciprocating engine (diesel or natural gas) powered generator, and the power grids serving oil and gas producing regions (i.e., SPSO, MROW, RMPA and ERCT), all generate annual NOx emissions at more than twice the level of the Flex Turbine from FlexEnergy.

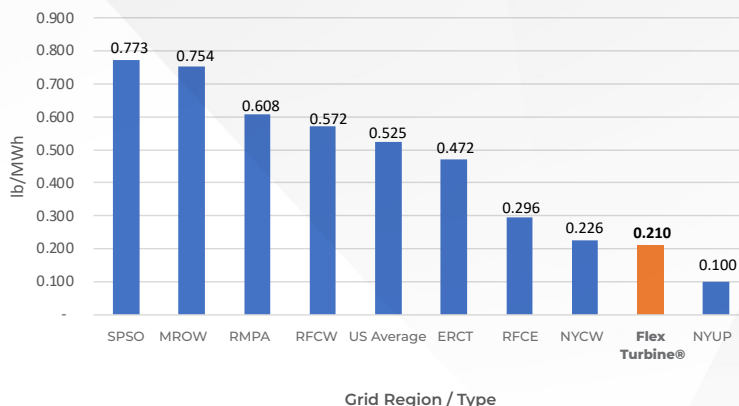
Off-grid field power options using the Flex Turbine GT333S or the GT2000S, offer a compelling alternative to traditional grid power for oil and gas operations in most regions. **Clean power from FlexEnergy allows you to set more power generation capacity on a single site than any alternative.**

BENEFITS

The operator realized several benefits from the FlexEnergy gas turbine field power solution:

- **Regulatory compliance.** Low exhaust emissions of ≤ 10 ppm NOx and CO (corrected to 15% Oxygen on natural gas at ISO conditions) are less than most electric power grids and meet the most stringent state and federal requirements for air permitting.
- **Increased scalability.** Low emissions allow the operator to scale operations faster and larger than alternatives without exceeding emissions limitations.
- **Reduce or eliminate flaring.** The GT2000S uses captured flare gas and vent gas as fuel, instead of flaring or venting it.
- **Eliminates expensive diesel and associated emissions.** Using flare and vent gas produced on site as fuel eliminates the emissions associated with transporting diesel to the facilities and provides a lower emissions power option than diesel- or natural gas-powered reciprocating engines.
- **High reliability and uptime.** Flex Turbines have an enviable track record of 99.5% uptime.

Figure 1: Annual NOx Emissions - 2021



Data Source: U.S. Environmental Protection Agency and FlexEnergy Solutions

GT2000S SPOTLIGHT

- Over 1,000 units have been installed in 62 countries worldwide.
- GT2000S turbine generator packages are the preferred solution for 2MW power requirements.
- Low exhaust emissions; ≤ 10 ppm NOx and CO, corrected to 15% Oxygen on natural gas at ISO conditions.
- Wide Acceptable Gas Range; ~ 350 Btu/scf to ~ 2300 Btu/scf.
- Sour Gas tolerant; 15,000 ppm by mass H₂S,
- Acid Gas tolerant.
- Can burn up to 5% hydrogen – 100% expected by 2025.



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