

RELIABLE POWER FROM TANK VAPORS



Flex Energy Solutions is an alternative energy provider of reliable, clean power to commercial and industrial sites throughout the world. Our gas-fired Flex Turbines are robust, industrial-grade systems that burn clean and enable industrial operations to offset or replace the utility grid.

MAINTAINING COMPLIANCE AND SUCCESS AMIDST EVER INCREASING REGULATORY RESTRICTIONS FOR THE OIL AND GAS INDUSTRY

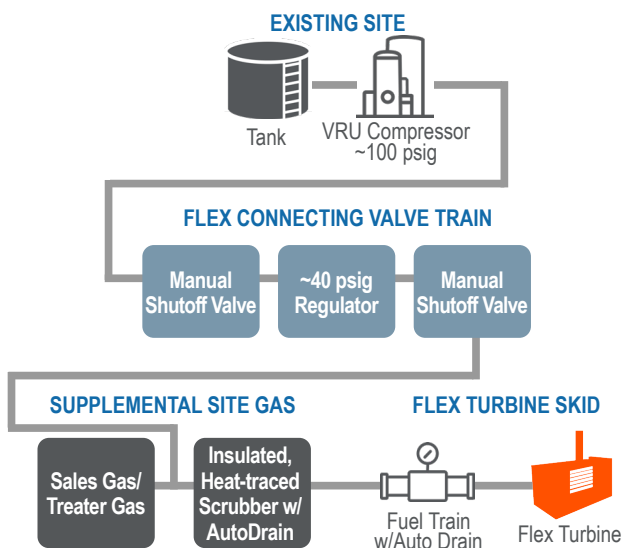
As it continues to encounter increasingly stringent requirements to minimize emissions and environmental impacts, the oil and gas industry is challenged to reduce or omit flaring and venting practices. Flex Turbines, with their wide fuel tolerances, are able to directly use problematic tank vapor gases which are typically otherwise flared, to generate reliable, clean power.

Our tank-vapor-to-power solutions enable producers to reduce or eliminate flaring and emissions venting. The high uptime Flex Turbines provide valuable electricity for remote facilities while helping operators manage regulatory compliance and avoid potential fines. Flex Energy Solutions configures systems based on a site's existing gas collection system components and pressure.

CASE STUDY

Flex Energy Solutions has deployed each of the following tank vapor solutions at two of the top 20 oil and gas producers in the Bakken in North Dakota. These producers continue to realize over 99% runtime availability from the Flex Turbines operating on their leases, using the reliable power to increase production while reducing their lease operating expense.

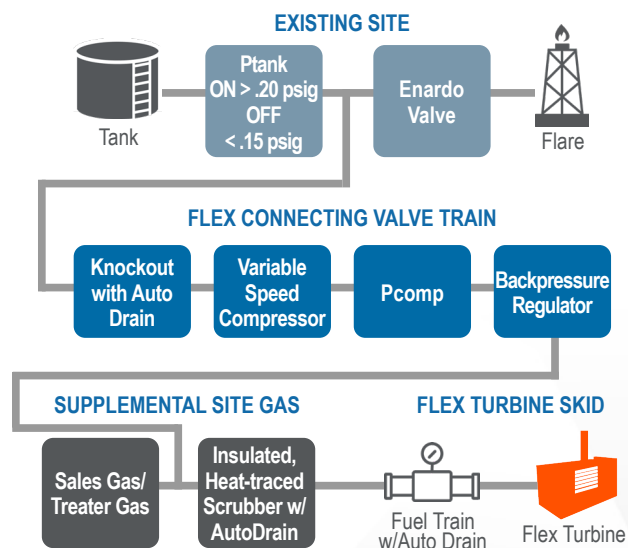
EXISTING VAPOR RECOVERY COMPRESSOR



If the producer is operating a vapor recovery unit (VRU), tank vapor gas is at the correct pressure to run Flex Turbines.

1. Site's existing VRU compressor gathers tank vapors and delivers ~100 psig gas to field installed Connecting Valve Train.
2. Existing VRU compressor output is regulated down to ~40 psig.
3. Tank vapor gas at ~40 psig is fed to sales/treater gas supply.
4. Flex Turbine turns the flare gas into valuable, reliable power.
5. Site's existing sales/treater gas is used to start the Flex Turbine and supplement the tank vapor gas as needed.

RECOVERY WITH BOOSTER COMPRESSOR



If producer is not using a VRU, a booster compressor is supplied.

1. Existing tank vapors diverted from flare and fed to booster compressor.
2. Booster compressor output controlled to outlet pressure (Pcomp) and tank pressure (Ptank).
3. Tank vapor gas at ~80 psig is fed to site gas scrubber.
4. Flex Turbine turns the flare gas into valuable, reliable power.
5. Site's existing sales/treater gas is used to start the Flex Turbine and supplement the tank vapor gas as needed.



RESULTS

Since 2012, oil and gas producers throughout the U.S. and Canada, as well as offshore, have been using the wide fuel operability and low maintenance of Flex Turbines to their benefit.

Flex Turbines use approximately 50 MCFD of 2000 Btu/scf tank vapors, thus avoiding the use of sales gas for facility power. Assuming a sales gas value of \$2/MMBtu, the Flex Turbine reduces lease operating costs by over \$70,000 per year, per turbine, in fuel costs alone by putting waste flared gas to work and generating power. Additional financial benefits such as increased production from higher uptime reliability, compliance with environmental regulations/state mandates, and avoided fines/shutdowns are included by the producer as applicable for each site.

Flex Turbines running on tank vapors have proven their value to dozens of producers who continue to use Flex Energy Solutions as a key power solution provider.

BENEFITS

- Ability to utilize a variety of existing gases at the well pad for flexible, reliable, clean power.
- Increased production revenue from high uptime remote power.
- Avoids well and facility maintenance due to power outages.
- Reduction or elimination of flare gas and tank vapors, complying with environmental regulations and state mandates for capture.
- Runs the same whether on pipeline gas, propane, tank vapors, or a mixture of gases.
- Higher uptime than natural gas gensets, requiring only one scheduled maintenance per year.

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INFORMATION
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