Mobile Compression: Gas turbine provides effective means to evacuate natural gas pipeline

About 90% of natural gas previously vented to the atmosphere is recoverable

CHALLENGE

Recover up to 90% of natural gas in the pipeline section without venting.

SOLUTION

A 5,000 shp gas turbine-driven compressor to evacuate and bypass the gas around a maintenance location.

RESULTS

- Reliable pulldown operation with follow-on order.
- About 90% of natural gas previously vented is recoverable.

OVERVIEW

The Vericor ASE50B has been deployed for 5 years in a mobile pull-down compressor trailer, and the previous ASE40 has still operating in the same application for over 40 years. These are owned and operated by a major North American pipeline company for natural gas pipeline maintenance.

The ASE50B engine is directly cantilevered- mounted from a centrifugal compressor on a single drop-down heavy-duty trailer and housed in a sound-attenuated enclosure with a full set of auxiliary support systems. This mobile trailer is able to access natural gas pipelines in remote areas and in the harshest climates. The trailer is utilized across multiple stations to evacuate natural gas out of pipeline segments that are scheduled for maintenance.

The ASE50B gas turbines are a proven aero-derivative design that are specifically configured for power generation and compressor driven applications.

The ASE50B gas turbine is compact and versatile. Start time from stop to full power is achievable in under one minute.

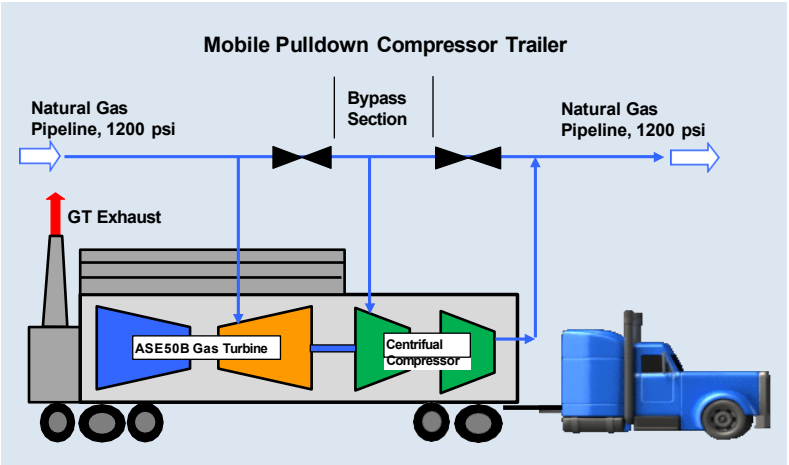
North America

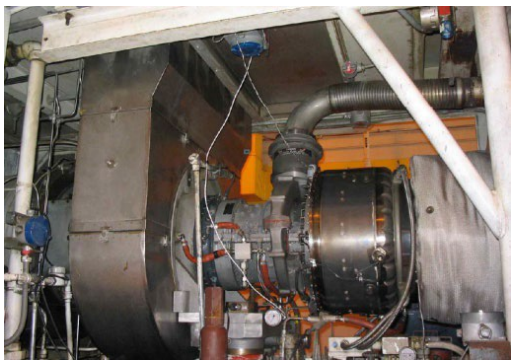
CASE STUDY

In the late 1970s, the idea of a portable gas compressor was realized when a 3.0MW Vericor ASE40 engine was coupled to a Norwalk TC40 Centrifugal Compressor.

Now powered by an ASE50B, a new additional power-packed trailer evacuates pipelines for maintenance by transferring gas downstream to high-pressure pipe sections exceeding pressures of 80 bar.

The centrifugal compressor provides high volumetric efficiency. No external electricity is needed for the trailer's black start capability power, ramped up quickly with an internal auxiliary power generator to turn the gas turbine starter.





ADVANTAGES

- Reduce emissions and carbon footprint, saving 90% of the natural gas that otherwise would be released to the atmosphere
- Fuel cost savings and improved economics
- ASE50B turbine compact size allows mobile application
- Applicable to large pipelines operating at high pressures
- Superior cold start capability, no required warm-up time
- High reliability and low maintenance requirements
- Low emissions and vibration

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