Whether it's for an LNG plant, a natural gas pipeline, or an offshore production platform, compressors are widely used throughout the oil and gas industry. By increasing the pressure of a gas, compressors are used to help liquefy and transport natural gas from one location or process to another. Traditionally, these compressors have been mechanically driven by a gas turbine, but compressors driven by an electric drive system are a superior option in many cases.

In today's fast paced and complex world, compressor end users face many challenges with their compression drivers.

**Environmental and noise concerns**

Using a gas turbine as the driver for a compressor brings with it environmental concerns, due to the emission of greenhouse gases. Some areas may be more restrictive than others regarding these emissions, so using a gas turbine may prevent an oil and gas company from getting the necessary permits to move forward with their project.

In addition, if the project is in a more populated area, disturbing the local residents with noise created by the operating equipment becomes a concern.

**Keeping operating and maintenance costs low**

The construction of oil and gas infrastructure is a major investment in the eyes of an oil and gas company. If equipment is not running at high efficiency, this cuts into profits and delays the payback period of the project. Furthermore, equipment that is not functioning due to frequent outages (planned or unplanned) results in even more financial losses.

**Drive failure**

Even when a variable speed drive system is used as a driver, a catastrophic drive failure can bring down the compression application, and even the entire facility. Keeping an electric driven compressor online is paramount to achieving maximum profitability.
Making things right with Siemens Integrated Drive Systems

Minimize OPEX and service costs
Gas turbines are more difficult to start, compared to electric variable speed drive systems. They also have efficiencies around 40%, compared to the efficiency of an electric variable speed drive system, which is greater than 95%. In addition, using a gas turbine as a compressor driver requires keeping multiple spares, and more planned shutdowns for maintenance. Variable speed drive systems have greater availability, while providing the user with a wider speed control range.

Integrated Drive Systems are environmentally friendly
A compressor driven by a variable speed drive system not only produces zero greenhouse gas emissions, but also operates at a noise level quieter than that of a gas turbine, making a drive system the ideal driver in certain environments.

Reduce electric drive shutdowns
Electric drive failures may happen, but don’t need to bring down the compressor and facility if they ever do. With patented cell bypass technology included in Siemens Perfect Harmony products, these drives can continue functioning even if a few cells were to fail. Integrated Drive Systems with Siemens Perfect Harmony drives help maximize existing equipment’s uptime, reducing a project’s time to profitability.

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