

OUR SECTORS

# Midstream Oil and Gas

Services for the midstream  
oil and gas industry







Aggreko has been delivering cost effective solutions to the **midstream industry** for over 30 years.

## Services for the midstream oil and gas industry

Backed by a full range of rental equipment that includes a fleet of diesel and natural gas generators, heaters, chillers, cooling towers, heat exchangers and 100% oil-free air compressors, Aggreko can meet every project demand and deliver on-demand expertise to keep your operations going 24/7/365. From turnarounds and day-to-day maintenance to process enhancements and risk management, Aggreko has the technical expertise and equipment to meet your needs.

### Tackle even the toughest process challenges

Aggreko combines the talent of senior engineers and technical specialists along with our fleet of specialized equipment to provide unique solutions to the midstream industry. Our main areas of focus include:

- Day-to-day maintenance
- Turnarounds
- Process enhancements
- Risk management
- New construction
- Testing and commissioning for pipelines

### Aggreko provides:

- The ability to target process limitations through Aggreko Process Services (APS), which helps mitigate risks caused by high ambient temperatures and fouled or underperforming equipment.
- A turnkey approach that allows us to manage inventory, maintenance operator training, transportation and regulatory compliance —so you can focus on meeting operational expectations.
- Increased speed to market by getting your projects up and running anywhere from a matter of weeks to even a few days.
- Up-to-date technology that helps reduce environmental risks— and ensures state and federal environmental compliance.



# Aggreko solutions

## 24/7 | 365

Aggreko has decades of industry experience providing power, heating, cooling and compressed air solutions. We can support you with customized systems to manage multiple complex issues that arise throughout the midstream phase.

### Power for expansion and new construction

- Diesel, LNG, CNG, Field Gas, Stranded Gas and Propane Back-up Generators Pipeline drying and dehumidification
- 100% Oil Free Air Compressors
- NGL integrity testing
- Dehumidification package for summer digs
- Heating and power packages for winter digs Compressor Stations
- Inlet air cooling for turbine drives on gas compressors
- Inlet gas conditioning for lean burn engines
- Discharge gas cooling digs

### Gas Processing Plants

- Hydrocarbon dew point control
- Fin-Fan Cooling in Summer months
- Debottlenecking of processes that have too much heat
- Throughput/Process Enhancement
- Cooling Gas for Amine, Glycol etc.
- Overhead Cooling in Fractionators
- Oil Free Air used for plant dryout O&G Storage
- Heating and Dehumidifying during storage tanks curing process

### We understand your challenges

In the field, you need a partner you can trust. One with customizable solutions to meet every project demand. One that is fast, flexible and provides turn-key solutions which will keep your operations going strong.

### 24 hours a day, 365 days a year, so that you can:

- Meet performance goals, on time and on-budget.
- Consistently optimize production
- Lower total operating costs by eliminating large capital expenditure
- Reduce lead time and minimize downtime
- Stay up and running, no matter where your project is located





# Process engineering capabilities



Aggreko Process Services' (APS) engineering team resolves process bottlenecks associated with temperature issues. Our staff of senior process engineers provides innovative and cost-effective solutions that are safe and reliable.

## Aggreko Process Services engineers have worked in the midstream industry and understand customer processes.

- Senior chemical and mechanical professional engineers
- Design temporary systems tailored to the exact needs of the customer's process
- Design temporary systems tailored to the exact needs of the customer's process
- Provides a process design package for temporary systems and equipment to complete MOC
- Engineers provide support for projects from the initial customer inquiry to decommissioning and equipment removal
- After action reports provide feedback on the success of the project

## Aggreko remote monitoring (ARM)

Currently available on our generator fleet, ARM is specifically designed to give you peace of mind that our equipment is running at its optimum efficiency while on your site.

- Using GPRS technology, real-time information is transmitted from our generators to diagnostics software, managed by a team of experienced engineers at our Remote Operating Center (ROC).
- Aggreko engineers continuously monitor each generator. They keep watch on operations and loads, maintenance requirements, run hours, warning and failure alarms, fuel levels and GPS location.
- ARM indicates when equipment is functioning outside specific parameters. These alerts enable Aggreko engineers to respond before a problem occurs, or rapidly deploy resources to resolve the issue on-site.
- ARM data assists with optimizing the efficiency of our equipment on your site. From ensuring maximum fuel and cost efficiencies, to highlighting proactive maintenance requirements.

### Key features

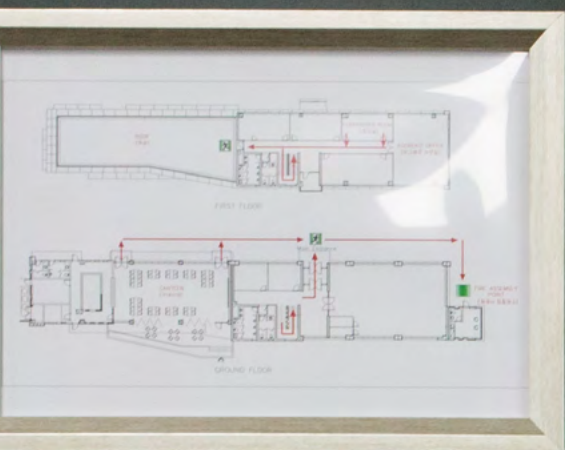
- 24/7/365 equipment monitoring team
- Real-time data helps engineers to anticipate, diagnose and resolve faults before they occur
- Rapid service response from experienced Aggreko engineers
- Optimized generator efficiency
- Proactive servicing and maintenance
- Correctly-sized equipment, based on actual running data



ARM is the next step in the evolution of Aggreko's equipment diagnostic services. ARM provides a comprehensive remote monitoring service – manned by Aggreko engineers -24/7/365.



현장 대피 안내도  
Site Evacuation Map



안전모를 착용해야 합니다  
Head protection  
must be worn



보안경을 착용해야 합니다  
Eye Protection must be used



안전조끼를 착용해야 합니다  
High visibility clothing must be worn



방진마스크를 착용해야 합니다  
Dust mask must be used



# Quality, health and safety: always a priority

Aggreko is committed to working in a safe, responsible and ethical manner - driving safety with continuous improvement from the boardroom to the remotest of environments.

- Environmental management is offered to advise on detailed method statements and environmental risk assessments
- Aggreko's environmental management system is regularly assessed by LRQA to ISO 14001:2004
- Quality is assured with all of Aggreko's primary equipment being designed and built at our own manufacturing facility in Scotland. All service center locations are ISO 9001:2008 accredited



aggreko

Safety for life



# Case Studies

## Pipeline Hydrotest Services

### Pipeline testing support services shorten commissioning process

#### Situation

Pre-commissioning an oil and gas pipeline for field readiness requires a series of tests to ensure the structural integrity of the piping system before the final product is introduced. Chief among these procedures is the hydrotest, a pipeline flooding and pressurization process whereby water is introduced to test for leaks. Test water temperature must be stabilized and cooled to the pipeline's organic temperature before the actual pressurization portion of the test can be initiated.

One of the biggest challenges for pipeline construction companies is minimizing the time it takes to cool the test water. Hot ambient temperatures can result in water temperatures as high as 110 °F, and it can take up to 10 days for this water to stabilize to an acceptable temperature.

Such was the case with an Aggreko customer when commissioning 4,600 feet of newly constructed pipeline in Texas. The water was stored on the surface in eight fracturing (frac) tanks, and its temperature needed to be reduced from 110 °F to 70 °F before flooding and pressurizing the pipeline.

#### Aggreko solution

Utilizing a 400-ton chiller and 1 MW diesel generator, Aggreko engineered and installed a water cooling system that brought the temperature of the hydrotest water down to 60 °F in just five hours.

The mechanically cooled water was flooded into the pipeline to expedite the completion of pressurization testing — cutting days off the production schedule and reducing associated project crew costs.

#### Why was Aggreko chosen?

The Aggreko team quickly engineered a turn-key solution that drastically accelerated the customer's timeline for pipeline precommissioning. Previously, this pipeline construction company had not used a mechanical cooling system, instead choosing to let the water cool organically in the pipeline. Aggreko's solution encompassed the entire hydrotesting process, from water cooling and 100 percent oil-free compressed air for flooding and dewatering to low-ampereage desiccant drying for moisture removal.

## Power Automation - Booster Pump

### Power automation delivers booster pump costs savings

#### Situation

The process of moving produced oil from the wellhead to gathering facilities requires pipeline booster pumps. In remote locations where utility power is unavailable, the most realistic and cost-effective choice for powering these pumps is a generator.

In most cases, these pumps need to run only once every few days, essentially remaining idle the vast majority of the time. Running a generator around the clock to support equipment that's only required intermittently can be extremely inefficient and expensive.

This was the challenge facing one of Aggreko's midstream clients in Texas. They needed a reliable power source for their 200 hp positive displacement booster pump, but needed to carefully control associated operating costs.

#### Aggreko solution

To help the operator meet its objectives, Aggreko's engineering team went to work on a power automation package that could enable intermittent generator operation only when the booster pump required power. The custom system included a 200 kW diesel generator, a remote monitoring system, diesel fuel tank and an automated control system. The power automation package delivered a 60 % reduction in both fuel expenses and diesel exhaust emissions.

#### Why was Aggreko chosen?

Aggreko is unique in its ability to design, engineer and install a power automation solution, when other companies would typically provide only a continuously running generator set. As a result, the power automation package enabled impressive cost savings while maximizing the reliability of the customer's operation.

## Power on Demand - Booster Pump

### Power on demand boosts fuel savings and reliability

#### Situation

The process of moving oil and gas from the field to midstream gathering facilities down the pipeline is largely driven by booster pumps. In many cases, these pumps need to run only once every few days, essentially remaining idle for roughly 90% of the time.

This was the problem that one of Aggreko's midstream clients in Texas faced. Not only did they need the power source to support a 200 hp positive displacement booster pump, they also needed a solution that could address the fact that the pump would only be running 10% of the time.

#### Aggreko solution

Aggreko's engineered a power automation package that could enable on-demand operation with the booster pump, running only when the pump required power. The custom system coupled two 200 kW diesel generator sets running in parallel, a remote monitoring system, a diesel fuel tank and an automated control system.

The system integrated with the booster pump's programmable logic controls to automatically start and stop power as needed. The power on demand package delivered a 45% reduction in both fuel expenses and diesel exhaust emissions. Annualized savings were \$12,000 for a single pump site.

#### Why was Aggreko chosen?

Aggreko is unique in its ability to design, engineer and install a custom power on demand solution, when other companies would typically provide only a continuously running generator set. As a result, the automation package enabled unprecedented cost savings while maximizing the reliability of the customer's operation.







Power **how** you need it,  
**when** you need it, **where** you need it.

