



## Process Safety & Security

Process Safety can be defined in many ways, ranging from the very general, such as ‘the control of high consequence, low probability events’, to the more specific, such as ‘maintaining plant integrity.’

Process Safety must address hazards that would not be controlled by standard occupational health and safety measures. For oil and gas operations, this is often dominated by measures that prevent, control or mitigate loss of containment events.

There are many layers to Process Safety management in design and operations, including inherently safe design, engineered safety and operational procedures. Equally, there are many tools that can be used in this process, such as HAZOP, SIL and QRA. However, the key factor in achieving good Process Safety performance is in how these different aspects are used and the behaviours of the people involved. Effective Process Safety Management can only be achieved if it is carried out within a robust framework and with each person aware of their crucial role.

## Our People & Heritage

GL Noble Denton is a large organisation with a truly global presence. One of our greatest assets is our people. We have a staff of more than 3500 highly qualified and skilled professionals who bring with them a wealth of experience and service excellence combined with a reputation for delivering solutions with real commercial impact. Though the breadth of our competency base, developed over many years, along with our world class facilities, GL Noble Denton is aiming to be the leading global independent technical advisor on Process Safety & Security.

## Capabilities

- Integrated Process Safety Management
- Independent Design Review & Verification
- Large Scale Performance & Safety Testing
- Risk Assessment & Management
- Functional Safety
- Human Factors
- Facilities Security

## Intelligent Review





## Process Safety

We see Process Safety as having a broad remit, overlapping with many other aspects of design and operation. Our view is that Process Safety Management has to have an integrated approach and cannot be carried out piecemeal. It also needs to be based on operational experience.

Whether working with our approaches or applying our client's systems, our strength is in a clear understanding of both the technical detail and the overall objectives. In addition to working with clients, we have provided independent review of operational Process Safety performance on specific assets.

## Design Review & Verification

We offer an independent review to ensure that the design is appropriate, has been performed correctly and is documented in accordance with relevant process safety in design standards.

## Large-Scale Testing

Where would you go to set off a large explosive charge in a controlled environment or conduct a gas explosion in an offshore module? Where would you go to purposefully fracture a very large diameter high-pressure steel pipeline? The answer is GL Noble Denton Spadeadam, where you can carry out large scale testing in a real world environment, at extreme conditions, to validate design, assess performance and improve safety and all of this in a secure and confidential environment.

The Spadeadam Test Site is located in a remote region of the UK and is operational throughout the year with a team of scientists and engineers permanently based at the site.



## Risk Assessment & Management

GL Noble Denton has a wide range of consequence and risk models for oil and gas facilities. In combination with the unique insight provided by large-scale experimental programmes carried out at Spadeadam, this allows of the risks from pipeline systems or installations, onshore and offshore to be developed. This is essential if effective mitigation and risk reduction measures are to be identified through both design and operation. We appreciate the need for timely delivery within the schedule of a design project and to ensure that the performance requirements of systems and equipment are recorded and carried through to the overall integrity management process in operations. These steps play a key part of risk management.

## Human Factors

With estimates indicating that human error is responsible for 80% of work related accidents, getting the human element right is critical for safe operations. But there is more to it. Being safe means being motivated, properly trained and well managed. GL Noble Denton's team of applied psychologists work with its clients to understand how best to influence frontline behaviour. Our Influence Network tool can model how strategic and external influences cascade through the organisation to affect frontline risk.

## Security

GL Noble Denton Spadeadam Test Site also offers the capability and flexibility to carry out a wide range of testing services to the global Security industry. Working closely with our clients, we provide specialist consultancy services and design tailored tests to explore the ever-changing security threat. Whether you need to develop protection to meet a specific threat; prove that your products, systems or materials actually perform to specification or demonstrate compliance with international standards, we offer a proven service to meet your needs, in a secure, confidential and "real world" environment.

Whatever business, process safety or security problem you are looking to solve, we offer a proven service to meet your needs.

To find out more about our services, and how we could help you achieve real, measurable business benefits contact us by email at [safety&security@gl-group.com](mailto:safety&security@gl-group.com), or phone us on +44 1509282936, +441509282166 or +441224517035.