

## **Flare System Design & Supply**

Argo Flare Services Ltd offers a unique approach to supporting the oil and gas industry with the design, supply and operation of flare systems both onshore and offshore. Our focus is to provide a service dedicated to meeting operational targets of low operational and maintenance costs together with reduced environmental impact. The company, formed in 2001 has achieved accreditation of its QMS to the latest ISO9001:2015 standard (BSI certificate of registration number FS 648830) which has enabled Argo to offer its services, equipment and expertise to a worldwide customer base.

Its highly experienced staff, Andy Tallentire, Ray Seale and Paul Sharman have all worked for and with Kaldair, John Zink and Birwelco amongst others as flare specifiers, process and mechanical designers and project managers. Added to that, is Alistair Blest with 15+ years' experience working for combustion and engineered equipment suppliers.

As well as total flare system design and supply, Argo provides installation, commissioning, inspection, maintenance and flare refurbishment services. From concept to completion and throughout the operational life of the flare system, Argo Flares will be with you every step of the way.

### **Step One**

Use Argo to optimise the design of a new flare system in order to reduce capital expenditure and operating costs. We will:

- Analyse the major flow cases, provide radiation isopleths and noise predictions using FLARESIM. This will help with flare location and general plant layout
- Advise the most suitable type of flare tip(s) and ignition system to use
- Advise on the potential for flare gas recovery systems to be implemented
- Recommend the minimum purge rates and most appropriate type of purge gas to use
- Advise the overall elevation required for the flare stack
- Advise a market price for the flare and ignition system and day rates for commissioning

### **Step Two**

Use Argo to optimise the design of an existing flare system in order to increase safety when debottlenecking. We will:

- Do all of the above
- Review the existing flare system and advise any alterations that need to be made
- Advise on any upgrades in materials selection by analysing past performance of the flare tip(s)
- Comment on the suitability of the existing flare pilot ignition and monitoring system
- Comment on the suitability of the existing flare structure and advise any modifications required
- Advise on the best method of flare changeout such as helicopter, davit, crane etc. Argo will also prepare a removal and installation methodology manual

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### Step Three

Use Argo to design and supply the whole or any part of a new or existing flare system. We can:

- Do all of the above
- Project Manage the whole scope from FEED through to commissioning
- Supply the flare tips to our own design whether sonic, subsonic, water-injected, steam assist or gas assist
- Advise on the most suitable pilots for the application and whether dual ignition type would be necessary
- Supply the ignition system whether pellet, flame front generator or electronic spark type
- Supply the fuel gas regulation system, the fuel gas back-up (Propane) system and the snuffing package
- Install or supervise the installation of the flare package and commission the flare system
- Maintain the flare system using the radiation and hydraulic models already set-up together with our on-site services
- Identify areas requiring periodic spare parts and maintain a stock list on the client's behalf

### Step Four

Sit back and let Argo do all the work. We are highly experienced in the execution of projects for most applications throughout the world including; offshore oil & gas platforms, FPSOs, onshore production facilities and terminals, steelworks, refineries, chemical plants and power plants for all types of elevated and ground level flares. Argo has developed a number of relationships with other supply companies in order to be in a position to offer our industry this full Flare System Design & Supply Service. These are explained below.

#### ***Argo Environmental Engineering Ltd***

This is one of our partner companies. AEEL has successfully marketed the services of various Norwegian companies for flare gas recovery, helicopter changeout, flare gas metering and pellet (ballistic) type ignition systems. They also supply separation systems and oily water clean-up systems. Argo Flares has worked with and can recommend the following other supply companies:

#### ***Wärtsilä Oil and Gas***

Wärtsilä Oil and Gas supplies us with pellet (shower of sparks) type flare ignition systems.

#### ***Smitsvonk Holland B.V. (part of the Durag Group)***

Smitsvonk supplies us with flame front and high energy spark flare ignition systems.

#### ***Vertech Offshore AS (formerly ELTEL Services AS / Statnett Entreprenør AS).***

Flare tip changeout using helicopters. Contracts are placed directly with them.

#### ***Flaresim Limited (Softbits Consultants Ltd / Hyprotech Ltd)***

Flare System hydraulic analysis using FLARENET and flare radiation modelling using FLARESIM.