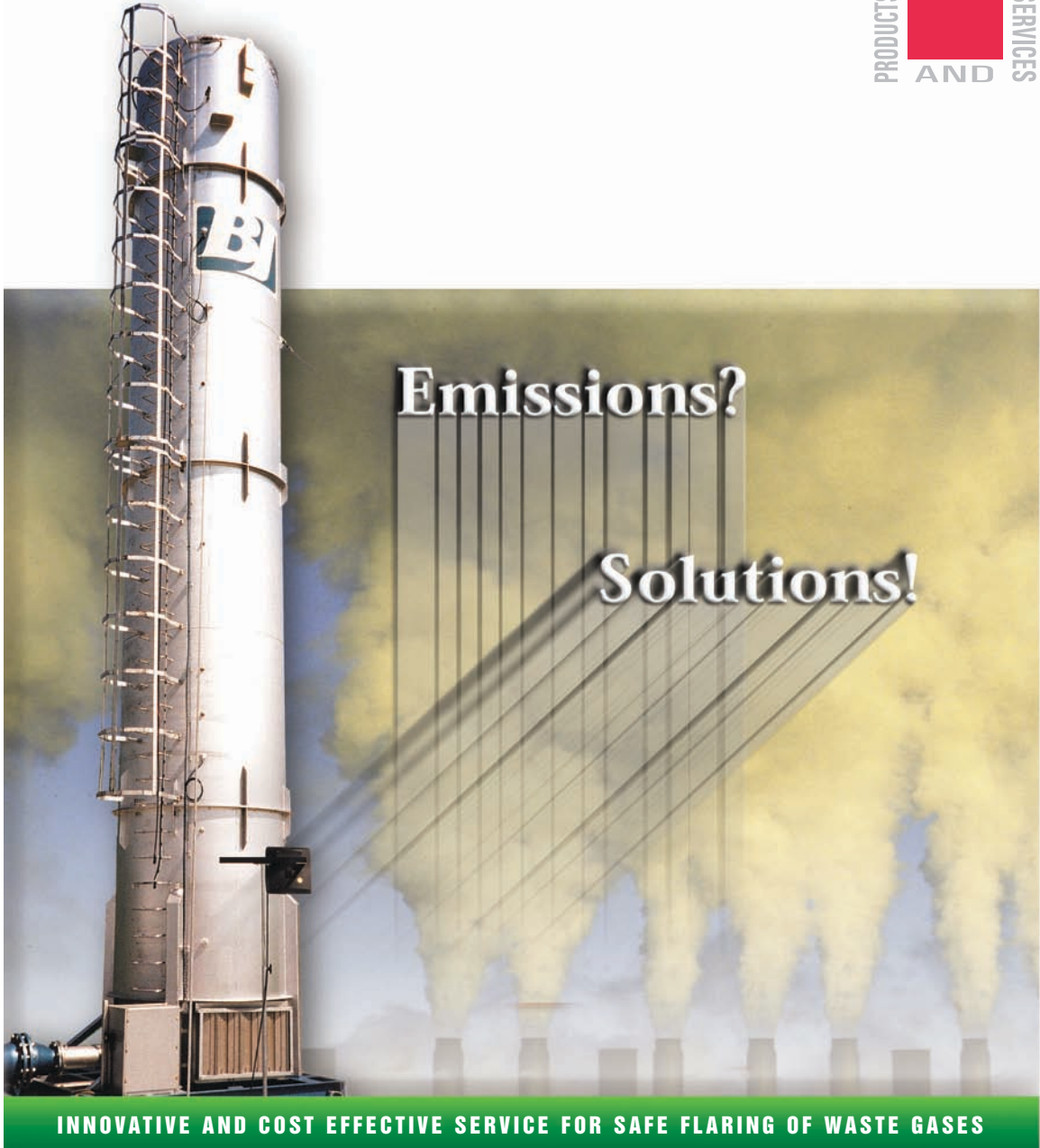


# Mobile Flaring Services

PROCESS

PRODUCTS  
AND  
SERVICES



# Innovative Mobile Flare Ensures Low Emissions

*BJ PPS' innovative, new trailer-mounted, self-erecting system offers rapid set-up for temporary flaring operations.*



**O**ur earth is affected continuously by waste gas emissions. Over the past several years efforts to reduce gas emissions have become a major initiative in the oil, petrochemical, mining, landfill and food industries. In addition, government agencies worldwide have tightened and enhanced legislative controls to minimize and regulate emissions.



**Innovation.** BJ Process and Pipeline Services (BJ PPS) operates the patented Hi-Lo Variable Tip Flare System to facilitate the incineration of waste gases in a discrete and controlled manner. Now introduced as a self-erecting, trailer-mounted design, this innovative system offers a rapid solution to temporary flaring operations. A clean and efficient burn of waste gases is achieved, even if the gas flow rate continuously changes.

**The System.** The system is comprised of two key components: the process/control cabin and the variable tip flare stack. Both components are configured to suit the application before mobilisation.

Gas is supplied either under pressure or drawn from the client's system using a unique gas blower that can evacuate tanks to levels well below atmospheric pressure. The system can burn flammable waste gases independently or incinerate non-flammable gases. This flexibility is accomplished by adding a fuel gas to an exposed flame.

A comprehensive PLC-based control (Programmable Logic Control) and operating system records and monitors key characteristics such as flow rate, pressures, temperatures, and gas composition. BJ's software provides the control process to achieve a 'clean burn' based on the gas characteristics being delivered to the flare stack. The system also records important emission data. The design of the flare stack incorporates a sophisticated variable flow tip that changes the orifice size to suit a varying gas flow rate. Its modular configuration allows it to be transported conveniently to a site as a totally independent trailer-mounted facility in the latest self-erecting design. In addition, the stack's shrouded flame enables gas to be discretely incinerated inside the stack and not visible to the naked eye. BJ PPS' system eliminates a visible flame while significantly lowering noise levels and radiant heat in comparison to an exposed flame.

**Applications.** The BJ Mobile Flare can be used for a wide variety of applications, some of which follow.

- Plant shutdown waste gas incineration
- Gas flaring during well testing
- Incineration of H<sub>2</sub>S or sulphur
- Degassing of ship tankers, storage tanks, or vessels
- Burning of waste vapours or by-products
- Degassing of landfill sites

**Engineered Service.** Each BJ flaring operation is engineered to meet your desired objectives and key parameters. Should there be a lack of sufficient fuel gas on site to mix with waste gas, for example, BJ can provide a temporary fuel gas service using either Liquid Petroleum Gas (LPG) or Liquefied Natural Gas (LNG) to achieve required incineration temperatures and ensure a continuous burn.



# You Can Depend On A BJ-Operated Hi-Lo Variable Flare System To Reduce Waste Gases Below Legislative Emission Levels

**Safety & Environmental Integrity.** Fail safe safety control systems have been incorporated into BJ's Mobile Flare System. They include both manual and automated shut-down devices, in-line flame arrestors, and emergency 'slam-shut' valves on each feed line. Gas emissions are monitored and periodically recorded using a semicontinuous monitoring system to ensure that the flare incinerates gases within required levels.

BJ stands ready to ensure that our company's world class working practices are applied at your site. BJ prepares a comprehensive risk assessment for each application, and develops an operational procedure specific to each client's application.



**System Capabilities.** The BJ-operated variable tip mobile flare system can achieve excellent low emission results. A single-stack system can burn gas rates of up to 2,000 m<sup>3</sup>/hr (1,177 scfm). The system also can incorporate up to three independent flare stacks - each controlled by the PLC system.

A three-stack system will incinerate up to 6,000 cubic m<sup>3</sup>/hr (3,531 scfm) cleanly and efficiently. Inlet and feed pressures are controlled and regulated to ensure that a constant clean burn is achieved.

**Case Study.** On short notice, a chemical plant was required to upgrade its permanent waste gas flare system during a shutdown. To minimize shutdown time, the plant also was required to remove the existing flare from service at the same time as plant run-down and nitrogen purging. BJ was able to engineer, prepare and mobilise a mobile flare system for plant degassing, enabling the client's flare system to be dismantled at the earliest opportunity.

The BJ flare system was configured to mix three waste gas streams of butadiene and styrene - which were saturated by a high concentration of inert nitrogen purge gas. BJ mixed two gas streams, which were delivered to its system under pressure, while recovering another stream using an explosion-proof blower. To ensure a clean burn, the gases were spiked with a fuel gas as required. The operation lasted for the duration of the shutdown (eight days), and the BJ system continually incinerated all waste gases, even though the flow rate and gas concentrations varied continuously.

**Achieves  
Clean, Efficient  
Burns  
Even When  
Gas Flow  
Fluctuates**



**BJ Process and  
Pipeline Services**

## NOTEWORTHY ADVANTAGES & BENEFITS

- Skid-mounted modular design for easy shipping
- Trailer-mounted, self-erecting option for rapid site deployment
- Fast rig-up time
- Variable flow rate
- Fully Programmable Logic Controlled (PLC)
- Automatic monitoring system
- Cleaner than conventional systems
- Shrouded flame, ensuring low noise and heat radiation
- Fail-safe features and systems
- Constant display features
- Trending characteristics for tip analysis

*Mobile self-erecting  
flare system shown  
erected on site,  
with integral  
trailer-mounted  
flare control  
room.*





*BJ Services operates in more than 50 countries around the world. For the location nearest to you click on the global locator at [www.bjservices.com](http://www.bjservices.com) or click on the **GO BJ** icon.*

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