



The flare: a vital safety element

Flares located at Cepsa's facilities are an essential safety element ensuring the integrity of the plant's installations in the event of unforeseen stoppages (both as a result of internal and external causes), to start up new installations, or during scheduled stops.

These safety systems are specifically designed to burn the gas in such situations, in turn avoiding their emission into the atmosphere.

The entire process is continuously and effectively controlled to reduce eventual emissions to the environment. The safe functioning of the flares forms part of the everyday operations at our plants.

The flares are divided into three essential parts: seal, shaft and burner.

The flare is controlled by an operator who verifies the state of the flame, regulates the pilot output, and steam intake to assure good combustion.

The seal is the bottom part, where the gas first arrives. When the pressure is high, it passes through the water seal and ascends through the shaft.

A flowmeter is installed on the shaft that sends data in real time regarding the amount of gas burned.

The shaft is the central part of the flare. It is a long tube connecting the seal with the burner. Its height is calculated according to the quantity of gases to burn and expected height of the flame.

Flares are located at high levels to aid the dispersion of gases.

CONTROL

The burner is the part of the flare where gas combustion occurs. To keep the flame lit at all times, a pilot gas is used.

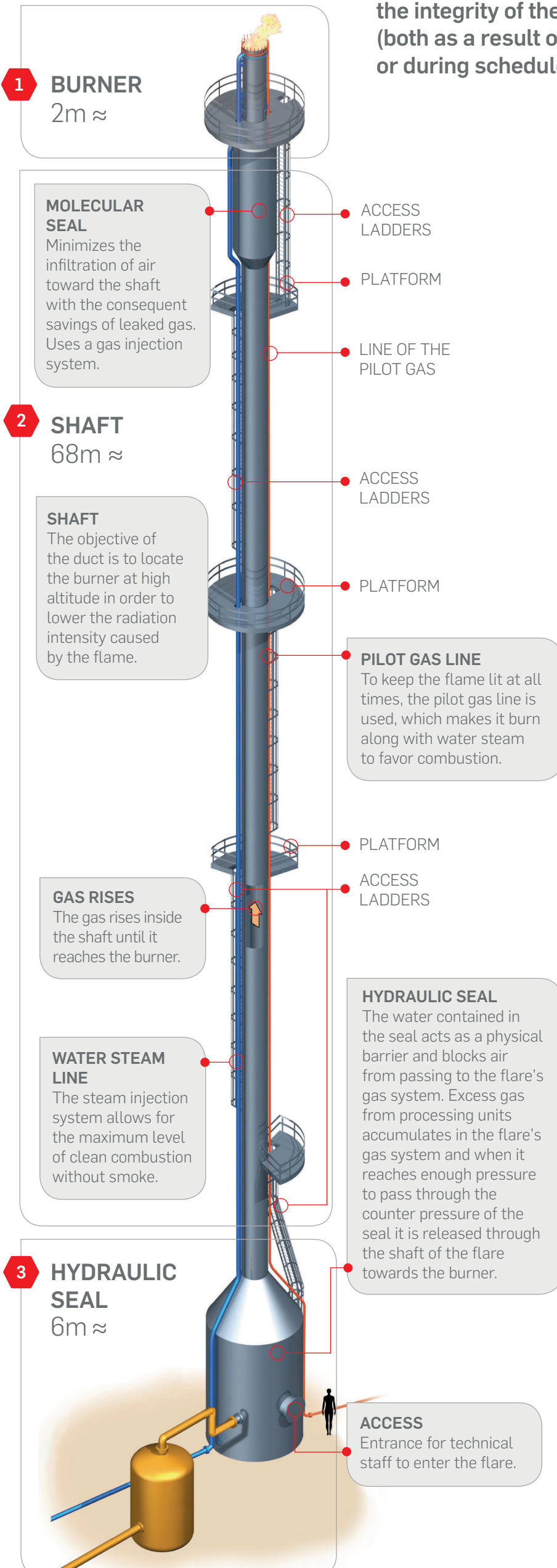


"LARGE FLARE"

A large flare is seen when a higher quantity of combustion gases reaches the flare. This occurs when there is a release of pressure in equipment linked to the flare network.

Some times they are very big and most of the gases that are burned are LPG (liquefied petroleum gas) or similar compounds such as propane, butane and pentane with an innocuous combustion.

Occasionally a large flame will be accompanied by black smoke caused by unburned compounds, but as their combustion occurs at a high altitude they do not carry a health risk.



TYPICAL FLARE DESIGN IN OUR FACILITIES

CEPSA