

Slovnaft Refinery

A Responsible Neighbour

Gas Flares

Gas flares are essential to all plants processing crude oil. They contribute to the reliable and safe operation of a refinery. Although flares arouse fear with their flames and sometimes with their rumbling noises they are not dangerous to their surroundings. On the contrary, they are a sure sign that a complex system of refinery production units is working well and threatens no one.

However, in economic terms, flaring is undesirable, since the refinery loses material that can be used and be of value. This is why it is in the interest of the refinery to reduce such burning.

What use do gas flares serve?

Flares are simply the controlled burning of excess gases from a closed production system. Such excess gases may arise in the intended or emergency shutdowns of production units during the modification of the technological set-up or due to instability or power failures. Slovnaft has ten functioning gas flares guaranteeing safety in any circumstance.

How do gas flares work?

The excess gas burning process is basically the same as the combustion of the liquefied petroleum gas (LPG) used at home or on camping trips. During combustion, gases are carefully mixed with steam and air whereby they burn to form carbon dioxide and water steam. The burning of sulphur gas also creates sulphur oxide as a bi-product.

Why is black smoke visible during gas flaring?

During the perfect blending of gas with sufficient air and steam it is possible to create the perfectly smokeless combustion of gases. The white cloud surrounding the flare is steam added to support smokeless combustion. Black smoke, a sign of incomplete combustion, can be seen when there is a sudden release of large gas quantities and the gas flare does not receive sufficient steam. This may occur even if the capacity of the smokeless flare combustion is exceeded. However, this is only a short-term phenomenon, pending final regulation. Most gas flares at Slovnaft are sufficiently dimensioned to assure smokeless combustion.

Why is there a rumbling sound during burning?

Sometimes a deep rumbling sound can be heard during gas flaring, which may be coupled with vibrations. This is due to the turbulent mixing of gas, air and steam during the combustion process.

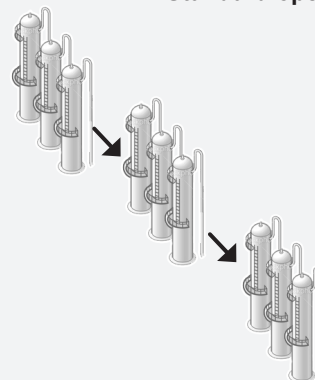
Air pollution

Slovnaft continually tries to reduce emission of air pollutants. The air quality surrounding Slovnaft is monitored by three stations and Slovnaft regularly informs the public on the extent of pollution in the production complex's vicinity. Continual modernization of production units also guarantees the reduction of pollution, including the gas flare system.

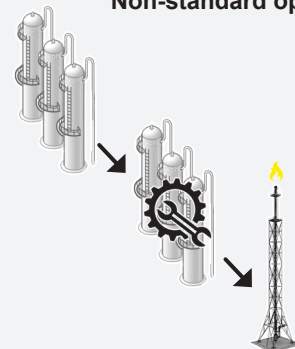
Without gas flares as safety guardians, the production units would be at risk of fire and explosion.

Gas flare activity

Standard operations



Non-standard operations



A key aim of the Slovnaft refinery is to minimise its impact on the life quality of the residents in its surroundings and to provide them with accurate information about its activities.

For any questions regarding gas flare activities, please contact us by phone: **+421 (2) 4055 7800** or electronically at **info@slovnaft.sk**