

## QENOS FLARES

Flares are a key safety and environmental management tool used by Qenos. They safely burn waste gases which cannot be recovered or recycled in the processing plants and therefore avoid the release of emissions and odours.

Qenos operate two types of flare

1. Elevated flares - where the flare tip is approximately 30 metres above ground.
2. Ground flares - where the flare tip is at ground level.

Qenos minimises flare use to minimise community impacts to the extent practical. Examples of when the flares need to be used include:

- Taking the process plants off line for maintenance
- Starting the process plants up following maintenance
- When safety shutdowns activate
- Purging of gases during plant operations
- Utility interruptions such as power failures.

### LOCATION OF FLARES AT QENOS ALTONA

Qenos has four flare facilities in operation at Altona. These are:

- Two elevated flares on the South side of Qenos Olefins, 200m east of Maidstone street
- One elevated flare at the Plastics site 500m west of Maidstone Street
- One Ground flare at the Plastics site 500m West of Maidstone Street.



The neighbouring community is familiar with the operation of the elevated flares as they are clearly visible when being used.

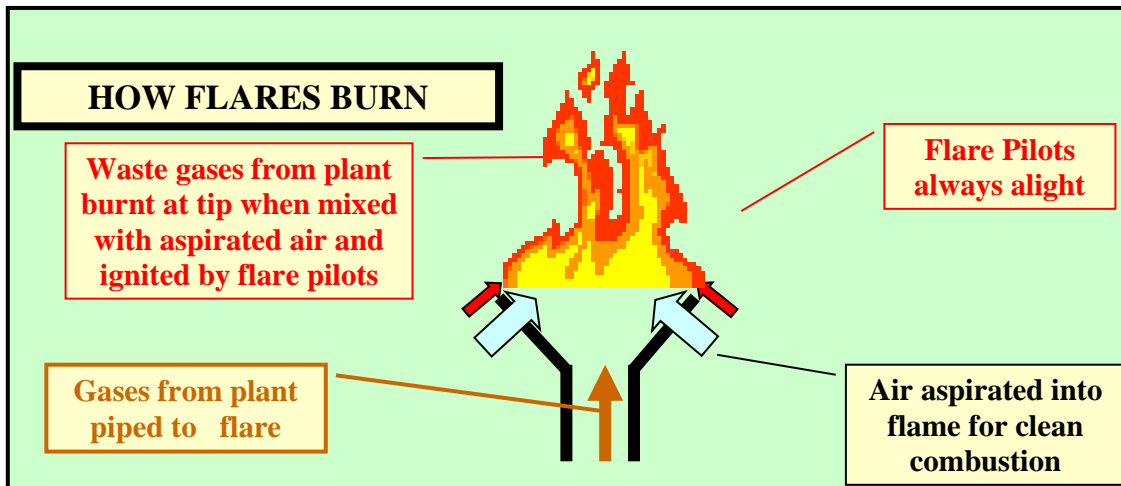
The ground flare at the Plastics site is rarely used and when activated may be mistakenly identified as a fire or explosion at the Complex from the community.

## HOW DO THE FLARES WORK?

Flares have pilot lights to safely ignite waste gases when they are sent to the flare. The flared gas needs air to burn correctly and this is either aspirated by the gas flow to the flare (like a barbeque burner) or with steam aspirators.

Inadequate air flow will cause the flare to be smoky. Cameras are used to monitor the flare to control the air flow to ensure that it is not smoking.

The noise from the flares increases as the rate of flaring increases. Flare noise is more noticeable in the community during larger flaring when the shutdown systems are activated such as those caused by power failures.



## WHAT IMPACT DO THE FLARES HAVE?

The flares can have the following impacts off site:

1. Light/Flames
2. Smoke
3. Noise
4. Emissions/odours.

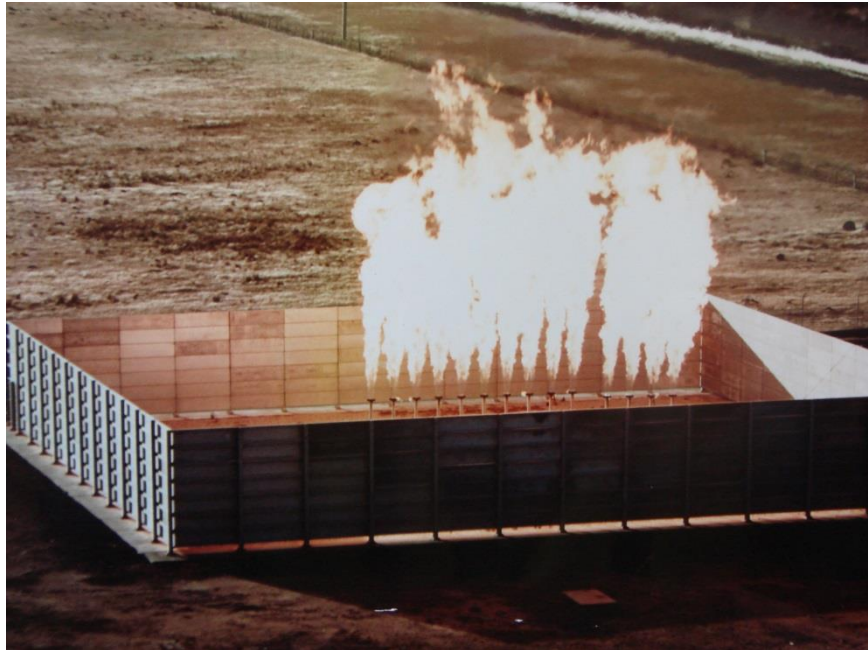
Members of the community sometimes become concerned when there are large flares and mistake the flare for a fire or emergency at the plant.

The elevated flare is readily recognised by the community as flaring, as the location of the flame at the flare tip is apart from the plant facilities.



*The Qenos Plastics ground flare in operation.*

The Qenos Plastics ground flare has a series of small burners in an enclosure at ground level. The initial ignition of this flare can be quite loud. Community members have sometimes described this noise as sounding like “*an explosion*” and on occasions have reported rattling of windows or doors. The flames from the ground flare have at times been mistakenly identified as a fire in the plant.



*The Qenos Plastics ground flare in operation.*

## **MINIMISING COMMUNITY FLARE IMPACT**

Qenos tries to minimise the use of the flare as any gas that is flared is a loss of valuable feedstock and reduces the overall efficiency of our production. At times the frequency and volume of flaring is higher than Qenos and the community would like.

Use of the flare is managed in the following ways to minimise community impact when it is in operation:

1. Carry out the flaring in daylight hours as much as possible to minimise ‘out of hours’ impact
2. Limiting the size of flares for planned flaring
3. Rapid reduction of plant processing rates for significant interruptions to operations such as power failures
4. Regular performance monitoring and reviews of flare operation to improve the flare’s operation and to identify ways of reducing the level of flaring.
5. Public reporting of complaints via our community consultation processes.