

Questions – ExxonMobil Fife Ethylene Plant (FEP) responses

Q: What would happen if the plant could not or would not flare?

Elevated flaring is a recognised and permitted safety and operational procedure.

We absolutely understand that flaring can have amenity impact, and for that we apologise, but the flaring process allows the plant to return more quickly and safely to normal operations following an interruption.

Flaring is still a relatively rare occurrence, accounting for just 2% of entire operational time in the last decade.

In theory, SEGAL (Shell and ExxonMobil's oil and gas operations in the North Sea) could decide to stop the flow of gas. To do this safely, requires around four days and would result in flaring further back in the process at St Fergus. More significantly, it would potentially limit the availability of heating and cooking gas to Scotland's homes – and would need agreement with UK and Scottish Governments.

Furthermore, stopping the gas supply would require the complete shut-down of FEP, resulting in an extended period of high volume flaring during the de-inventory (gas removal) and re-start – each can take up to seven days to safely complete.

Q: Could the plant explode if the flare could not be used?

Flaring is utilised primarily during a process interruption, and is the ultimate stay safe procedure.

In addition to the flare system, the plant operates a series of pressure release valves (just like on your central heating boiler at home) to ensure safe operations. These processes and technologies are tried and tested worldwide.

Q: Why is there so much noise? What could be done to reduce the noise? Could reducing the amount of flaring reduce the noise? Could the plant issue noise reducing earphones to people with issues like autism?

Much of the noise comes from the addition of high pressure steam to ensure complete combustion of gas – so that the flare burns clean.

Within our Best Available Techniques proposals, submitted to SEPA, we have set out our intention to install a new elevated flare tip, which would require less steam to burn clean – therefore reducing noise. This will be in place and operational next year.

We have never received any formal requests to provide earphones, nor have we been approached by health professionals who have identified any such issue. We are, however, very open to better understanding any such issue.

Q: Would the companies consider giving compensation to people affected by the upsets at the plant? How would this be done? Who could apply? What kind of compensation would you consider?

We have not been formally approached to provide compensation in relation to the recent flaring events.

Q: What is being burnt at the plant? What is the chemical smell from the plant? What pollutants are being released from the plant and how much?

During normal operations, the only thing being burnt is fuel in our furnaces to produce the heat required by the production process.

The process takes ethane gas and heats it up to high temperatures before cooling it down to extremely low temperatures before compressing it into a liquid to distil ethylene.

Ethylene is a naturally occurring gas (fruit emit ethylene as part of the ripening process) that is used as the basis for the manufacturing of plastics.

In terms of flaring, it is mainly ethane or ethylene that are being combusted. With the addition of steam, the flare is releasing primarily water vapour and CO₂, with tiny traces of other elements. Essentially, it is just like the Bunsen Burner we use in school.

Q: What are the levels of and types of pollutants allowed at the plant? Before SEPA can close the whole plant down?

FEP is highly regulated by both national and local authorities, including HSE, SEPA and Fife Council.

It is important to note that independent analysis – over three decades - has consistently shown that FEP has no impact on the environment or health. This is available via SEPA, Independent Air Quality Monitoring Group and NHS Fife

Indeed, internationally-recognised data modelling continues to show that emissions from FEP e.g. Nitrogen Dioxide or Fine Particulates are so low that they are statistically insignificant when compared to e.g. traffic in the surrounding area.

Q: What is the projected maintenance schedule for the plants? How long do you expect the plants to remain at Mossmorran?

FEP is one of the youngest plants of its kind in Europe – some 20-30 years younger than many other facilities – and has many operational years ahead of it.

Each year, over £20m is spent on preventative maintenance alone. In 2018, 378,000 maintenance man hours were invested.

When first opened, a reference was made to a lifespan of 25 years. That was a purely commercial estimate based on the projected economic supply of gas from the North Sea. It was not an estimate of the plant's actual operational lifespan. FEP is a strategic asset in ExxonMobil's global operations and is maintained as such.

Q: Do you monitor the pollution levels at your plants? Do you intend to carry out monitoring in the communities around the plant?

We undertake both data modelling and monitoring. The emission levels are so low that neither show any scientific basis or evidence to support monitoring in surrounding communities.

Extensive data already exists, but to help provide public re-assurance it needs to be more effectively shared via independent bodies such as the Independent Air Quality Monitoring Group.

Q: What is the priority for steam in the plant and why? Does this change and why? What are the options that are considered before releasing steam and subsequently flaring? Who makes the decision to 'escalate'?

The FEP process is based on steam – it is used to operate our key machines and is the basis for the furnaces that start the process of separating ethylene. Steam levels are, therefore, a priority and constantly monitored and adjusted.

Furthermore, maintaining steam levels within the process will help minimise flaring time should there be a process interruption.

The plant operates with a combination of advanced automated systems, skilled personnel and the most rigorous of operational procedures. Overseen by highly experienced Shift Managers, they work together to constantly monitor operations and make process decisions.

Q: Can the gas pressure be reduced during flaring? Does the gas come directly from the North Sea? Can the gas not be used by the local community for heating and cooking? Instead of burning of the gas why is it not used for heating? Why don't you store the gas in tanks instead of wasting it?

The natural gas comes directly from the North Sea before travelling at walking pace through a 150 mile pipeline from St Fergus north of Aberdeen.

Gas used in cooking and heating in Scotland's homes is Methane – this is removed earlier in the process at St Fergus.

Given the volumes of ethane / ethylene being processed at FEP, storage would need to be vast.

Q: Could the plant be moved somewhere else? The people of Cowdenbeath and Lochgelly have had enough of this monstrosity.

This is not a view we have heard in our interactions. We believe most residents recognise the economic benefits we bring and the fact that we operate safely and efficiently at all times.

The Mossmorran complex contributes in the region of £70m every year to the Fife economy and provides skilled, stable and highly paid jobs to around 700 people (Shell and ExxonMobil combined).

In addition, many hundreds of contractors and service suppliers across Fife are supported by the complex – providing work for many hundreds more.

Furthermore, while we recognise the amenity impact of flaring, our independent community survey has shown that other issues are a greater priority for the majority of local residents.

Q: Was there a fire at the plant? Was the sprinkler system used to put the fire out or just as a precaution?

The sprinklers were used to dampen an area of grass outside of the plant.

Q: Residents in Hill of Beath have noticed a white residue on their cars could this be from the plant?

Saharan dust clouds hit the UK over the Easter weekend 2019, leaving cars covered in dust

Q: Is it true that your environmental pond has been poisoned by the pollution from the flaring? And that the tadpoles have three eyes?

No.

Over 20,000 children have visited the pond and none have spotted anything but healthy tadpoles!