

Flaring and venting guidance

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1. Introduction

Flaring and venting are controlled processes to dispose of gas, essential for emergency and safety purposes on oil and gas installations, and in situations where it may not be feasible for the gas to be used, exported or re-injected. Flaring is the ignition of gas, and venting is the release of unignited gas.

The OGA Strategy, which came into force in February 2021, incorporates a range of new net zero obligations for the UK oil and gas industry. The Central Obligation of the OGA Strategy requires, amongst other things, that relevant persons, in securing that the maximum value of economically recoverable petroleum is recovered from the strata beneath relevant UK waters, take appropriate steps to assist the Secretary of State in meeting the net zero target including by reducing, as far as reasonable in the circumstances, greenhouse gas emissions from sources such as flaring and venting. The OGA will drive for reductions in flaring and venting and associated emissions through its:

- **Principles:** the principles that the OGA expects industry to follow in relation to flaring and venting
- **Regulatory approach:** the OGA will use its consenting regime to drive continuous reduction, and where possible, elimination of flaring and venting
- **Stewardship:** the OGA will engage with operators regularly to encourage continued reductions in flaring and venting as part of Flaring and Venting Management Plans and Greenhouse Gas Emissions Reduction Action Plans (as described in Net Zero Stewardship Expectation 11¹), through short term operational optimisation as well as longer term investment plans to minimise or, where possible, eliminate the practice of flaring and venting
- **Data:** supported by updated industry reporting requirements, benchmarking of flaring and venting data, including through the OGA's annual flaring and venting benchmarking report and the monthly flaring and venting data published through the OGA Open Data Portal²

2. Scope and purpose

This guidance sets out the principles and approach the OGA will usually take in driving for reductions in flaring and venting and considering applications for flaring and venting consents; and, where appropriate, provides supporting guidance. This guidance updates, consolidates and replaces earlier OGA guidance documents: 'Flaring and venting during the production phase' and 'Flaring and venting during commissioning'. The flaring and venting sections of the OGA's 'Field consents system user guidance'³ have also been updated to reflect flaring and venting consent Energy Portal changes.

The requirements to have consent to flaring and venting are set out in the Energy Act 1976 and the applicable offshore production licence (granted under the Petroleum Act 1998⁴). Such requirements support the avoidance of unnecessary or wasteful flaring and venting of gas. Each flaring and venting consent, across all UK Continental Shelf (UKCS) areas, will include quantified and timebound limits to which operators must adhere.

This guidance does not apply to flaring and venting activities carried out, or proposed to be carried out, in connection with onshore petroleum production activities: this is covered in the OGA's consolidated onshore guidance⁵. However, the OGA notes that, as set out in that guidance, it engages with, and where appropriate, shares relevant information with onshore environmental regulators to align regulatory approaches and maximise emissions reduction opportunities. While the OGA requires consents for onshore gas emissions, the Environment Agency (EA) considers the environmental impact of overall emissions in England. The OGA and EA only have remit for onshore oil and gas in England, it is a devolved matter for Scotland and Wales. For further information, contact onshore@ogauthority.co.uk.

The OGA is not bound by this guidance. This guidance is not a substitute for any regulation or law and is not legal advice. It does not have binding legal effect. Where the OGA departs from the approach set out in this Guidance, the OGA will endeavour to explain this in writing to the person seeking a decision from the OGA.

This guidance will be kept under review and may be revised as appropriate in the light of further experience and developing law and practice, and any change to the OGA's powers and responsibilities. If the OGA changes this guidance in a material way, it will publish a revised document.

The OGA's regulation of flaring and venting is separate from the role of other regulators including the Offshore Petroleum Regulator for Environment and Decommissioning ('OPRED') and the Offshore Safety Directive Regulator, which may, where applicable, separately seek to satisfy themselves that flaring and venting and associated emissions are properly managed and minimised. Relevant Persons should be aware of any such regulations and engage with the relevant body where appropriate. Operators seeking to apply for a flare or vent consent should also be aware of the requirements of the Offshore Oil and Gas Exploration, Production, Unloading and Gas Storage (Environmental Impact Assessment) Regulations 2020.

³ https://www.ogauthority.co.uk/licensing-consents/consents/flaring-and-venting/

⁴ Note that for flaring and venting, there are slightly different definitions of the gases emitted. For vent consents under the Energy Act 1976, both the inert gas and hydrocarbon fraction obtained from the licensed area should be given, and the combined rate for both will be the basis for the consent. For flaring under the applicable licence, only the hydrocarbon fraction flared from the licensed area requires consent, but the OGA will require the inert gas content of the flare to be provided.

⁵ https://www.ogauthority.co.uk/exploration-production/onshore/

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3. OGA principles and approach

The OGA expects industry to follow the following principles in relation to flaring and venting across all UKCS areas and oil and gas lifecycle stages:

- 1. flaring and venting and associated emissions should be at the lowest possible levels in the circumstances
- 2. zero routine flaring and venting for all by 2030
- 3. all new developments should be planned and developed on the basis of zero routine flaring and venting.

More detail on these principles, and the OGA's regulatory approach, is set out below.

- 1. Flaring and venting and associated emissions should be at the lowest possible levels in the circumstances
 - Consented levels will be based on considerations such as the highest possible performance, standards of operation and maintenance for the installation(s) under consideration
 - Operators must demonstrate that they have explored all options to remain within consent quantities considered, including where appropriate in the circumstances, the curtailment of production
 - Operators should strive for continuous reductions, deploying best available technology and practices to minimise flaring and venting and have Flaring and Venting Management Plans incorporated as part of their Greenhouse Gas Emissions Reduction Action Plans
 - Flared and vented gas should be at the lowest levels possible in the circumstances across all activities, including safety related operations, provided this does not compromise safety (gas source allocations are defined in the flaring and venting source categories section)

- While both flaring and venting should be minimised or, where possible, eliminated, the flaring of waste gas will normally be preferred to venting
- Operators should meter, monitor and manage their flare gas composition and flare combustion efficiency to ensure minimum greenhouse gas emissions resulting from flare activity. Operators should utilise best available technology to quantify, measure and monitor vent gas

2. Zero routine flaring and venting for all by 2030

 All operators should have, or work towards, credible plans to achieve zero routine flaring and venting by 2030 or sooner. Operators should develop a Flaring and Venting Management Plan that demonstrates a credible pathway to achieving that goal, to be included as part of their Greenhouse Gas Emissions Reduction Actions Plans

3. All new developments should be planned and developed on the basis of zero category A (routine) flaring and venting

- Concept Select and Field Development Planning projects will be designed on the basis of zero routine and minimum safety flaring and venting
- Plans should incorporate gas export/ storage contingency and appropriate options to minimise flaring and venting during operational issues or maintenance periods
- Any exceptions must demonstrate a strong needs case for alternative approach and the impact on lifecycle emissions
- Further details in the OGA Field Development Plan Guidance⁶

The OGA will take the following regulatory approach in relation to flaring and venting:

1. OGA approach to decision making

- In making its decisions the OGA will, amongst other things, take into account the Central Obligation of the OGA Strategy, and the outcome of an OGA decision may therefore result in curtailed or shut-in production
- The OGA may make a decision based on quantities of gas or on associated emissions, including, for example, considerations of flare combustion efficiency
- The OGA may take into consideration other relevant matters, other than those related to direct processes that result in flaring and venting, including for example, in the event of equipment failure, the history of maintenance
- The OGA may, among other relevant factors, consider the history of flaring and venting performance and the history of consent variation requests due to unplanned events

2. Flare or vent consent variations will only be considered in exceptional circumstances

- Flaring and venting consents must not be exceeded
- Any request for an increase to a flaring and venting consent will be considered only as a last resort
- A request for increase in flare or vent consent levels will need a very strong justification and evidence that demonstrates a full consideration to the Central Obligation
- Further guidance can be found in the consent variation section

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4. Operational guidance

4.1 General

Operators must minimise flaring and venting by planning and implementing best practice at an early stage in development planning and design and through continuous improvements during the subsequent operational phase. The operator should consider carefully all operational activities in accordance with good oil field practices, taking into consideration plant uptime, efficient processing, handling, uses and transportation of gas. Operators should prepare Flaring and Venting Management Plans and the approach should be considered and incorporated as part of Greenhouse Gas Emissions Reduction Action Plans. These plans should be kept up to date and should be made available on request from the OGA or OPRED.

In addition to the high-level expectations and principles set out above, this guidance also makes it clear, among a number of technical revisions, that the OGA will:

- consider all flaring and venting consent requests, regardless of quantity
- have a presumption against granting multi-year consents
- require both annual and short-term consent applications to provide, where applicable, full 12 months historical data to the date of application
- require consistent quantification and reporting of flaring and venting across all UKCS areas
- · apply revised flaring and venting source categories

4.2 Extended Well Tests

Well tests, Extended Well Tests and well cleanups should be designed to achieve their goals whilst appropriately reducing GHG emissions (e.g. optimal duration, reduced flaring/venting). The OGA has specific requirements on flaring and venting during the appraisal, development and production well testing phases through the Extended Well Test (EWT) consenting regime – further details can be found in the EWT guidance⁷.

4.3 Commissioning phase

During the commissioning of production facilities, flaring and venting consents will usually be restricted in duration to between one and three months and will be for a fixed quantity of gas based on an auditable programme. Once commissioning is complete and stable operating conditions have been achieved, the duration of the flaring or venting consent (for new issued consents) may be increased and will be subject to an agreed cumulative maximum for the period.

The following principles shall be followed:

Commissioning philosophy

Gas flaring and venting during commissioning should be kept to the lowest level that is consistent with the safe and efficient commissioning of oil/gas related plant.

Installation and hook-up

All gas plant must be complete, fully leak tested and otherwise tested and commissioned as far as is practicable, and able to receive gas, before first production. A gas flaring or venting consent will not be issued until the OGA is satisfied that the plant is ready to receive gas. Emissions abatement technology should be operational at the earliest possible stage.

Commissioning and planning

If there is a significant delay in commissioning due to plant breakdown or malfunction, the OGA may need to consider limiting production until gas plant commissioning can proceed.

Commissioning gas flaring and venting consent applications

For flaring and venting consents associated with commissioning of facilities and/or new fields, operators must submit supporting documentation to the OGA, detailing the commissioning procedure, and the expected flaring and venting quantities associated with the commissioning plan. Commissioning the plants should be undertaken at minimum required production levels to support efficient commissioning activity while minimising flaring and venting. The OGA will consider this documentation and if satisfied that the commissioning plan achieves the lowest level of flare/vent that is consistent with the safe and efficient commissioning of oil/gas related plant, then the flaring and venting figures may then be used as the basis for the commissioning flaring and venting consent application.

Supporting documentation should be submitted six months before expected production startup. Depending on the complexity of the facilities to be commissioned and/or the size of the project, the requirements of the supporting documentation may differ. Advice on the level of detail required should be sought from the OGA. As a minimum, the documentation should contain:

- a brief overview of the field and associated main facilities
- a detailed description of the plant commissioning philosophy and procedure, including gas export line commissioning should this be applicable, setting out steps to minimise flaring and venting
- the commissioning schedule
- a summary of the main flaring and venting assumptions and the greenhouse gas emission profiles of different commissioning strategies considered
- flaring and/or venting forecasts on a daily basis and total quantities
- sketches and figures should be as follows:
 - high level field layout
 - process flow diagram
 - gas compression, dehydration, gas export and fuel gas systems

Commissioning flaring and venting consent application process

Commissioning flaring and venting consents issued by the OGA are 'short term' consents, normally between one and three months in duration. The commissioning consent is intended to cover the period from first production to achieving and sustaining high uptime stable plant operations. It is normally a requirement of these consents that the operator shall provide weekly reports to the OGA detailing the following information relating to the previous week's activity:

- a short technical summary of the performance of the gas handling plant, highlighting any features which have affected or could affect the operation of the plant
- an update on commissioning activity progress and main works planned
- daily rates of oil production, gas production, gas export, gas used for fuel and of gas flare and/or vent
- cumulative plots of production and flaring and venting compared to consented quantities for that period and a plot of associated emissions
- gas compression plant uptime

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4.4 Production phase

Consent duration

The OGA will normally manage the consent duration to best support effective stewardship whilst having consideration of the regulatory burden on operators, taking the following general approach:

- Typically, for stable production, the OGA will generally issue annual consents. However, where levels of flaring and venting are unstable or higher than expected for efficient and optimised operations, the OGA may issue short term (less than annual) consents to support enhanced stewardship.
- New fields are subject to normal short-term commissioning flare or vent consents until high uptime stable production is achieved, when a decision will be made as to what consent duration will be appropriate (depending upon level sought).
- A flaring or venting consent will generally not be issued with an expiry date falling after the expiry date of the production consent, the licence, or the expected cessation of production date (whichever is earliest), of any of the fields covered by the consent.

OGA decision making

In addition to the principles and regulatory approach set out in section 3 (the OGA principles and approach section), the OGA will consider the more specific matters below:

- All flaring and venting consent applications will be subjected to detailed consideration by the OGA. Flaring and venting quantities and emissions will be compared to the profile as agreed as part of the Field Development Plan and associated reduction targets.
- The OGA requires that operators provide justification and plans for future reductions in the case of any increase compared to previous consent quantities. This information should be provided in the additional information box on the Energy Portal as part of applications.
- Where appropriate, there will be consideration of emissions associated with flaring and venting e.g. regarding cleaner burns, combustion efficiency and instances of cold flaring.
- No carrying forward of flare or vent allowance from one year to the next will be permitted.

4.5 Lafe life operations

Flaring and venting should be managed throughout the installation lifecycle, with end of field life operations considered as part of project planning. The flaring and venting management plan should demonstrate that all reasonable options have been considered to minimise and, where possible, eliminate flaring and venting and associated emissions specifically in relation to late life operations.

4.6 Terminals

The approach described in this guidance applies to flaring and venting at terminals and other onshore sites dealing with production that is aggregated from several offshore fields, although the application process is different. Such sites are normally considered as oil or gas processing facilities under section 12A of the Energy Act 1976 and consents are usually issued under that legislation.

Applications for terminals and similar sites should be made by email to the consents@ogauthority.co.uk mailbox, **not through the Energy Portal**. This should be used for both requests made as part of the OGA Annual Consents Exercise (ACE) or to seek changes to current consents. The mailbox should also be used for any queries about the appropriate way in which to make an application, whether through the Energy Portal or the mailbox. Consents will typically be issued on an annual basis.

Applications made for annual consents exercise should contain the following information:

- List of fields sending hydrocarbons to the terminal or similar site
- Actual flaring and venting quantities from September of the previous year to September of the current year (i.e. 12 months historic quantities)
- Expected flaring and venting quantity for the next year, broken down into the categories below
- Summary of measures being considered or implemented to reduce flaring or venting and associated emissions throughout lifecycle activities, supported by, amongst other things, improved energy efficiency, continued focus on maintenance, and a high level of production efficiency

5. Consent technical parameters

5.1 Installation and field diversity

Consents will be issued on a field basis, or where several fields tie-in into common facilities, the operator may apply for a single, composite consent. If the fields and facilities have different equity partners, the OGA may issue separate consents unless prior agreement in writing is granted by all the partners in all the fields and the installation. Supporting documentation should be included in the application. If a tie back of a new field to an existing facility occurs, the extant flare or vent consent must be varied (via a UK Energy Portal application) to include the new field, or a separate flare or vent consent for the new field should be applied for. A single field flare or vent consent will continue to cover a field where flaring or venting takes place on a number of installations.

5.2 Reporting and disclosure

Reporting requirements

- Flaring and venting must be allocated by source category for reporting through the Energy Portal – details are provided in the flaring and venting source categories section below.
- For annual flaring and venting consent applications (which are usually applied for in October each year via the Energy Portal), the performance for the preceding 12 months should be reported, if applicable.
- For short-term consents, 12 months historic information must be reported to ensure a continuous record to the time of application i.e. the historic monthly data since last reported to the OGA. Historic performance will be used when evaluating forecasted flaring and venting activity. These applications will require the operator to provide full supporting details and to exercise a high level of technical and operational diligence in estimating quantities.
- Flaring and venting consent applications must be submitted in mass units. There are a number of methods to quantify gas flared and vented and likewise, a number of methods to convert this to a mass basis. Flare quantification is in accordance with the requirements for flaring associated

with the emissions trading scheme. Operators should ensure the methodology they have in place meets or exceeds the necessary levels of accuracy. All units are water dry metric tonnes.

- Operators must report flaring and venting quantities via the Petroleum Production Reporting System on a monthly basis. The OGA expects that quantities are reported within 25 calendar days after the reporting month finishes.
- The OGA may also request some further information to support its considerations. For example, the OGA may request evidence to support discussions on flaring and venting reduction initiatives and pathways.

Disclosure

- Flaring and venting data reported through Petroleum Production Reporting System is published through the OGA Open Data Portal on a monthly basis with a two or three month time delay subject to relevant data disclosure regulations.
- The OGA publishes an annual flaring and venting benchmarking report which outlines annual levels of flaring and venting activity associated with oil and gas production on the UKCS and the contribution of this activity to greenhouse gas emissions. The report provides an indication of relative performance levels offshore by using peer groups to set benchmarks for typical flaring and venting quantities and resulting emissions.

5.3 Flaring and venting source categories

As of 2021, reporting categories have been updated to support stewardship and align with other external reporting and flaring and venting reduction initiatives (e.g. World Bank Zero Routine Flaring Initiative) – these revised categories are set out below. These categories apply to reporting for both flaring and venting. The categories apply to gas obtained from the reservoir covered by consent. It should be noted that a flare gas stream emitted without ignition (i.e. Cold Flaring) should be reported as vent. **Category A:** Streams for the safe operation of the asset based on its current design and operating at optimum efficiency (excluding Category C). Streams in this category are generally inherent in the design of a facility and therefore reductions to flaring and venting allocated to this category will generally require facility modifications. Aligns with the World Bank Zero Routine Flaring Initiative routine flaring category. Gas streams to be reported in this category include:

- Metering packages reject streams
- Stabilisation/separation process off gas streams
- Crude oil tank (COT) vents
- Reject gas from treatment units e.g. amine, glycol
- Gas disposal on facilities with no export route

Category B: Flaring and venting occurring during normal operations beyond levels optimum for the installation. Reductions in flaring and venting in this category can be achieved through operational changes and optimisation. Aligns with the World Bank Zero Routine Flaring Initiative non-routine category. Gas streams to be reported in this category include:

- · Separators spill off
- Valves passing to flare (passing above performance rating)
- Gas disposal

- During start up activities
- Off spec product
- Export route temporarily unavailable
- Gas disposed of during spurious depressurisation events – spurious activation of a depressurisation system e.g. as a result of instrument fault, planned blowdowns carried out to facilitate plant maintenance.

Category C: Emergency disposal and gas streams required specifically for the operation of safety critical equipment/elements. Aligns with the World Bank Zero Routine Flaring Initiative safety flaring category. Gas streams to be reported in this category include:

- Hydrocarbon purge gas streams (including blanket gas)
- Pilot gas
- Hydrogen Sulphide disposal (including assist gas)
- Gas disposed of during Emergency Depressurisation events – depressurisation for safety concern, any genuine demand on a safety system leading to depressurisation
- Inert purge gas (vent consents only)

An illustration of how these categories may relate to operations are shown below.



6. Consent variations

The OGA expects that operators will not exceed flare or vent consent levels. Breach of consent may result in sanction under the terms of the licence.

Any request for increased flaring and venting consent should be considered as a last resort. The OGA will take a robust approach to considering any increases and operator justifications will be heavily scrutinised. OGA consideration may include the recent events and/or the long-term history of operations and stewardship. For example, this may include history (planning, frequency, quality and investment) of maintenance practices. OGA decision making will be made on the balance of OGA Strategy Central Obligations and other relevant matters, and it should therefore be noted that the OGA may consider that the curtailment of production is a necessary action to reduce flaring and venting activity.

Operators must inform the OGA as soon as it becomes clear that there is a risk of flaring or venting consent breach; this includes notifying the OGA of new risks of, or unexpected increases in, flaring or venting. Requests for consent variations must be submitted in sufficient time for the OGA to consider the relevant details and respond accordingly. Failure to notify the OGA in good time of a likely breach of consent may be taken as evidence of poor management of emissions and the OGA may deny requests for consent variations and/ or pursue sanction action. As a result, operators may have to curtail or stop production in order to remain within consented flaring and venting quantities. Where flaring or venting is forecast to be in excess of consented levels, the OGA may ask for and consider the following information:

- a robust remediation plan and investment plan, with approved budget and timing, to revert to original consent rates
- options for, or evidence of, curtailment of production to minimise flare and vent quantities and associated emissions – including scenarios that result in the temporary shut-in of production
- analysis on scenario emissions
- evidence that export outages have been planned for and all other options have been appropriately considered by the operator, such as but not limited to:
 - sheltering annual maintenance activities planning activities where periods of zero production are required (e.g. annual maintenance shut downs) to align with known downstream/export outages
 - line pack
 - evidence of UK Managing Director (or equivalent) awareness of the issue, and operator request for variation request

7. Fees and charges

The OGA charges fees for use of its services including for processing a:

- consent to flare or vent petroleum
- · variation of a consent to flare or vent petroleum
- consent to flare or vent gas from a relevant oil processing facility or a relevant gas processing facility
- variation of a consent to flare or vent gas from a relevant oil processing facility or a relevant gas processing facility

Full details and up to date pricing can be found on the OGA website⁸.

8. Definition of terms

Cold Flare

Gas passing through the flare without ignition – effectively venting of gas through the flare system. This refers to a period of time where there is no combustion (or zero combustion efficiency) i.e. it is not the non-combusted component of a flare gas stream where combustion efficiency less than 100% but greater than 0%.

Flaring and Venting Management Plan

A projection of flaring and venting quantities and associated emissions over the lifetime of the installation with an associated plan of actions/projects/investments which the licensees plan to undertake to manage and minimise flaring and venting quantities and associated emissions. To be incorporated as part of Greenhouse Gas Emissions Reduction Action Plans.

Gas

Natural gas or hydrocarbon gas as defined in relevant legislation, mainly Petroleum Act 1999 and Energy Act 1976.

Greenhouse Gas Emissions Reduction Action Plan

A plan of actions/projects/investments which the licensees plan to undertake to reduce the emissions of their operations. This plan should be asset based, annualised with projects costed d accountabilities for delivery assigned.

Net Zero

Means the net UK carbon account for the year 2050, as set out in section 1 of the Climate Change Act 2008 (as amended).

OGA Strategy

The revised Oil and Gas Authority Strategy that came into force on 11 February 2021.

Central Obligation

OGA Strategy Central Obligation that Relevant persons must, in the exercise of their relevant activities, take the steps necessary to:

- a. secure that the maximum value of economically recoverable petroleum is recovered from the strata beneath relevant UK waters; and, in doing so,
- b. take appropriate steps to assist the Secretary of State in meeting the net zero target, including by reducing as far as reasonable in the circumstances greenhouse gas emissions from sources such as flaring and venting and power generation, and supporting carbon capture and storage projects

Relevant persons

Persons listed in section 9A(1)(b) of the Petroleum Act 1998.



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