Department for Energy Security & Net Zero

Offshore Pollution Prevention and Control (PPC) Guidance

The Offshore Combustion Installations (PPC) Regulations 2013 (as amended)

August 2023

Any enquiries regarding this publication should be sent to us at:
OPRED@energysecurity.gov.uk

Contents

About this Guidance

This Guidance is issued by the Department for Energy Security and Net Zero (DESNZ or “the Department”), which is the regulatory authority for the Offshore Combustion Installations (Pollution Prevention and Control) Regulations 2013 (“the Regulations”) through its Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) Directorate.

This Guidance is directed at any operator of a ‘relevant platform’ who may be involved in offshore hydrocarbon oil and gas production, gas unloading and storage operations or Carbon Dioxide (CO2) storage and unloading operations (hereafter referred to as offshore industry) who have qualifying combustion plant regulated under the Regulations [Ref 1].

This guidance relates solely to offshore combustion installations (OCI) which operate combustion plant. It provides technical guidance on what must be considered in preparing an application for a permit and explains what must be included in the permit. It is laid out in a manner which is intended to allow Large Combustion Installations (LCI) to be assessed separately from Medium Combustion Installations (MCI), for the primary reason that an individual installation can by definition, be only one or the other. It is also laid out so as to make clear the requirements for Large Combustion Plant (LCP) which can only be located on an LCI, and the requirements for Medium Combustion Plant (MCP) which may be located on either an LCI or an MCI. It also clarifies the requirements of other combustion plant (neither LCP nor MCP) that may be located on an LCI. Note there are no specific requirements for other combustion plant on an MCI.

The reader is encouraged to read the PPC regulations [Ref 1] and [Ref 2] including the definitions before using this guidance.

While every effort has been made to ensure the accuracy and completeness of this Guidance, information may become out of date or may on occasion include errors. For example, links to Department and Third-Party websites, which are provided for ease of reference, can break as a result of website changes.

Please contact the Department (OPRED@energysecurity.gov.uk) for clarification on any aspects of the guidance. The Department will update / correct any information identified as outdated or erroneous at the time of the next revision of this Guidance. Revisions will be made as the Department sees fit.

Document control

Document Revision Record

Revision	Issue Date	Description of Changes
0	30-Mar-2023	First draft of the Offshore Combustion Installations (Pollution Prevention and Control) Regulations 2013 (as amended) (“The PPC Regulations”) and advances in monitoring standards and methodologies. Issued to Industry for engagement, as ‘draft for comment’
1	17-Aug-2023	First Issue and publication on OPRED webpage

Abbreviations

BAT	Best Available Techniques
BAT-AEL	BAT - Associated Emission Level
BATc	Best Available Technique Conclusion
BREF	BAT Reference document
CCUS	Carbon Capture Utilisation and Storage
CO	Carbon Monoxide
CO2	Carbon Dioxide
CH4	Methane
DESNZ	Department for Energy Security and Net Zero
EAJ	Environmental Assessment Justification
EEMS	Environmental Emissions Monitoring System
ELV	Emissions Limit Value
EMS	Environmental Management System
ERAP	Emissions Reduction Action Plan

ESOS	Energy Savings Opportunity Scheme
EQS	Environmental Quality Standards
EU	European Union
FPSO	Floating Production Storage and Offloading vessel
FSU	Floating Storage Unit
GTG	Gas Turbine Generator
HS	Harmonised System
IED	Industrial Emissions Directive
IPPC	Integrated Pollution Prevention and Control
IRS	Integrated Reporting Service
ISO	International Standards Organisation
LCI	Large Combustion Installation
LCP	Large Combustion Plant
MARPOL	The International Convention for the Prevention of Pollution from Ships
MAT	Master Application Template
MCI	Medium Combustion Installation
MCP	Medium Combustion Plant
MCPD	Medium Combustion Plant Directive
MD	Mechanical Drive
MoDU	Mobile Drilling Unit
MW	Megawatt (NB. 1 MW = 1 MJ/s, ‘energy rate’ or ‘power’)
MWth	Megawatt Thermal (which is ‘fuel thermal input in MW’)
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOx	Nitrogen Oxides (NO and NO2)
N2O	Nitrous Oxide
nmVOCs	Non-methane volatile organic compounds

NSTA	North Sea Transition Authority (see also OGA)
NSTD	North Sea Transition Deal
OCGT	Open Cycle Gas Turbine
OCI	Offshore Combustion Installation
OGA	Oil and Gas Authority
OPPC	The Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (as amended)
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OEM	Original Equipment Manufacturer
PEMS	Predictive Emissions Monitoring System
PETS	UK Portal Environmental Tracking System
PPC	Pollution Prevention and Control
SAT	Subsidiary Application Template
SO2	Sulphur Dioxide
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
UK ETS	United Kingdom Emissions Trading Scheme
UK-PRTR	United Kingdom Pollutant Release and Transfer Register
WCO	World Customs Organisation

Definitions

The definitions utilised within this guidance document have the corresponding definitions used in the Offshore Combustion Installations (Pollution Prevention and Control) Regulations 2013 (as amended) and in addition some definitions from the MCPD (2015/2193) have also been incorporated where appropriate.

The 2018 Amendment to the Regulations added new definitions and changed others within the original 2013 Regulations. The Energy (Transfer of Functions, Consequential Amendments and Revocation) Regulations 2016 (SI 2016 No. 912) also amended the regulations recognising the role of the OGA (referred to as the NSTA) as licensor under the Energy Act.

The reader is encouraged to read the PPC regulations [Ref 1] and [Ref 2] including the definitions before using this guidance.

1 Introduction

1.1 Purpose

The Guidance relates solely to UK offshore ‘relevant platforms’ as defined in the Regulations which operate combustion plant. Installations qualifying under the Regulations require a Permit to operate. The Guidance explains the following:

- To whom the Regulations are applicable;
- What the requirements of the Regulations are;
- What the Permit application involves;
- Ongoing Permit management requirements;
- What to do when changes to existing offshore combustion installations occur; and
- The role of OPRED in carrying out compliance and enforcement activities on behalf of the Secretary of State.

1.2 Structure

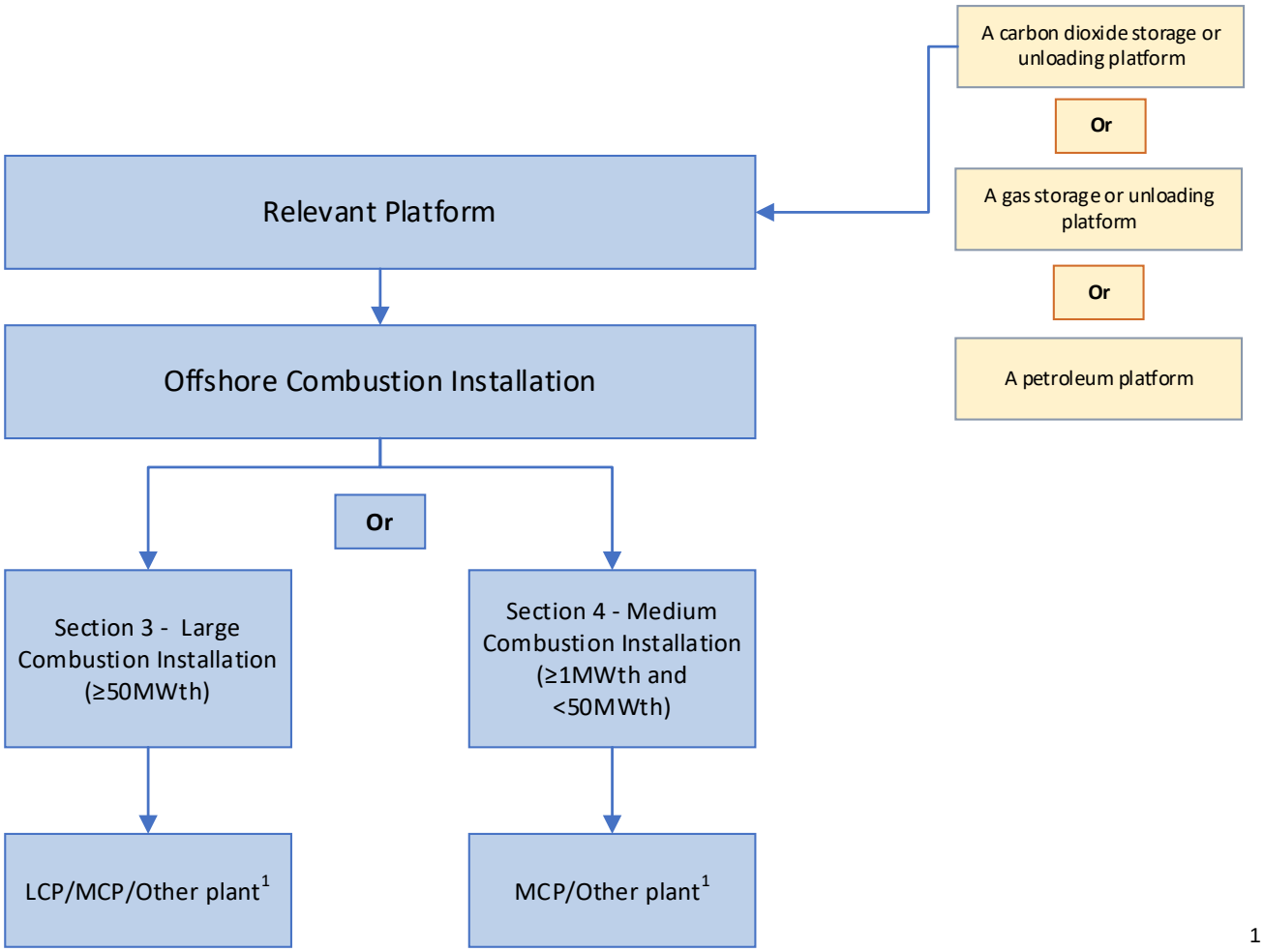
Whilst there is considerable similarity in requirements and regulatory approach in application of the Regulations between Large Combustion Installations (LCI) and Medium Combustion Installations (MCI) the guidance is separated into four main sections (Sections 2-5) for ease due to specific differences as follows:

- Section 2 – Regulatory Concepts. This explains the differences in the primary terminology and approach between LCI and MCI as well as the differences between Large Combustion Plant (LCP) and Medium Combustion Plant (MCP).

- Section 3 – Specific requirements and regulator approach to Large Combustion Installations including the LCP BREF.
- Section 4 – Specific requirements and regulator approach to Medium Combustion Installations.
- Section 5 – Inspection.
- Section 6 - Administration and Further Information.

Section 2 should be read first by all operators to ensure clarity on the classification of the installation and the installed combustion plant. This will determine whether the operator needs to read Section 3 - LCI or Section 4 - MCI, as an installation cannot be classed as both. Sections 5 and 6 are applicable to all installations covered by the Regulations.

Figure 1: Offshore Combustion Installation Categories



1

Appendix 1 provides a series of flow charts for the user to follow when reading Sections 2, 3, and 4, as a useful overall reference to the different categories of combustion plant when assessing the regulatory requirements under a PPC permit application or variation. It provides a quick guide to the permit requirements.

[1] 'Other plant' within this guidance means combustion plant which is neither LCP nor MCP.

1.3 Contacts

All communication with the Department can be made through the OPRED Environmental Management Team email or postal address:

OPRED@energysecurity.gov.uk

AB1 Building

Crimon Place

Aberdeen

AB10 1BJ

2 Regulatory Concepts

2.1 Overview

The Regulations transpose the appropriate provisions of Directive 2010/75/EU on Industrial Emissions Directive (IED) and 2015/2193 the Medium Combustion Plant Directive (MCPD). The regulations provide separate provisions for Large Combustion Installations (LCI) and Medium Combustion Installations (MCI). The regulations also make separate provisions for the management of Large Combustion Plant (LCP) (including under IED Chapter III and the LCP BAT Reference (BREF) document), the management of Medium Combustion Plant (MCP), and provisions for other qualifying combustion plant when located on an LCI.

In so doing the Regulations cover:

- General PPC obligations are applicable to installations where the total **rated thermal input** of aggregated combustion plant is greater or equal to 50MW. Such installations are classified as an LCI.
- Individual combustion plant with rated thermal input greater or equal to 50MW must also comply with the LCP BREF with an obligation to comply with BAT-AELs which are based on BAT conclusions. This is discussed in detail in section 3.2.5.2.
- Specific obligations are applicable to individual LCP on an LCI; these are boilers, direct fired heaters and diesel engines only. However, diesel engines are exempt from Emission Limit Values (ELVs) but boilers and direct fired heaters are not exempt.
- Specific obligations are applicable to Medium combustion plant with a rated thermal input at or above 1MW, but below 50MW such as boilers, direct fired heaters, and dual-fuel engines.
  Note: gas turbines, gas engines and diesel engines are exempt, as are combustion plant in which gaseous products of combustion are used for the direct heating, drying, or any other treatment of objects or materials.

2.2 Background - Industrial Emissions Directive

2.2.1 Regulatory Overview

Directive 2010/75/EU on industrial emissions (IED) [Ref 5] is the main EU instrument regulating pollutant emissions from industrial installations.

The IED aims to achieve a high level of protection of human health and the environment taken as a whole, by reducing harmful industrial emissions across the EU. In particular, the IED does so through the application of Best Available Techniques (BAT).

The IED was adopted on 24 November 2010, transposed into UK law, and came into force on 19th May 2013 for the UK offshore industry under the Offshore PPC Regulations via SI 2013 No. 971 [Ref 1].

The IED comprises several chapters (I through VII) some of which are specific to certain energy industries, and only a sub-set of which are relevant to the offshore industry. The IED chapters reference several annexes (Annexes I through X), again only a sub-set of which are relevant to the offshore industry.

IED Chapter I covers common provisions dealing with subject matter, scope, definitions, issues relating to the holding and granting of a permit and compliance matters.

IED Chapter II (BAT-based permitting) covers special provisions for the activities listed in IED Annex 1 which specifies the categories of activities defined to be within scope by Article 10. Annex II specifies a list of polluting substances relevant to IED, not all of these will be relevant to offshore combustion installations. Annex III lists general criteria for determining Best Available Techniques (BAT), and Annex IV covers public participation in decision making.

IED Chapter III covers special provisions for combustion plant, designed for production of energy, the rated thermal input of which is equal to or greater than 50MW irrespective of the type of fuel used and links to technical provisions relating to combustion plant in Annex V. However, certain types of offshore combustion plant are exempt from all or certain of these special provisions.

IED Chapters IV, V, and VI reference technical provisions in Annexes VI, VII, and VIII respectively; these all cover special provisions for onshore industrial processes not associated with the offshore oil and gas sector, and therefore these are not relevant to this guidance.

IED Chapter 7 covers committee, transitional, and final provisions.

2.2.2 Relevance to the Offshore Industry

The relevant IED Annex 1 activity for the offshore industry is: Combustion of fuels in installations with a total rated thermal input of 50MW or more.

NB. Thermal input refers to the specific energy (in MW = MJ/s) of the fuel used as an input to the combustion process and should not be confused with either the power output (also in MW e.g. electrical or mechanical power output from a gas turbine or engine) or with the heat output (in MW e.g. from a boiler plant or waste heat recovery unit) in the combustion process.

The two chapters of the IED of relevance to the offshore industry, which define the technical requirements of the provision of activities listed in Annex 1 are Chapter II and Chapter III, and these reference technical detail in Annexes II, III, and V. IED Annex II

contains a list of polluting substances. Annex III contains criteria for determining Best Available Techniques (BAT). Annex V contains special technical provisions relating to combustion plant.

Chapter II of the IED applies to all activities set out in Annex 1 of the IED. Chapter II Articles 10 to 27 set out the requirements for qualifying combustion plant. These include the requirement for the competent authority to set Emission Limit Values (ELVs) for certain qualifying plant which ensure that, under normal operating conditions, emissions do not exceed the emission levels contained within the BAT conclusions of the associated industry-specific BAT Reference Documents (BREF); as explained in section 2.2.4. However, certain combustion plant that qualify for Chapter II conditions are specifically exempt from the scope of IED Chapter III under the Regulations.

Chapter III of the IED sets out special provisions for individual combustion plant with a rated thermal input greater than 50MW (e.g. large combustion plant), or, an aggregation of more than one combustion plant of 15MW and greater, which share a common stack and in combination have a rated thermal input greater than 50MW. Gas turbines and gas engines used on offshore platforms are excluded from Chapter III of the IED and therefore the Annex V ELVs do not apply to that plant. However, combustion plant such as boilers, heaters, and diesel engines are within the scope of Chapter III and must meet the requirements set out in the BAT conclusions. All combustion plant within scope must meet the ELVs set out in Parts 1 and 2 of Annex V, with the exception of diesel engines, which are excluded under article 30(8) of the IED.

2.2.3 Best Available Techniques

BAT is a concept well established in EU and UK environmental legislation. Its definition for the purpose of these Regulations is reproduced below.

“available techniques” means those techniques developed on a scale which allows implementation under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced in the United Kingdom, the offshore area or the relevant gas area, as long as they are reasonably accessible to the operator;

“best” means most effective in achieving a high general level of protection of the environment as a whole;

“best available techniques” means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole;

‘techniques’ includes both the technology used and the way in which the offshore combustion installation is designed, built, maintained, operated and decommissioned.

Combustion installations under the Regulations must be designed, equipped and operated with the objective of complying with BAT, so that pollution may be reduced or eliminated, and energy used efficiently. Where minimisation of pollution might increase energy use, a suitable balance should be identified to protect the environment as a whole. This is generally identified as part of the BAT assessment required to be carried out by the permit applicant for the PPC(IED) installation.

Section 3.2.4 of these guidelines discusses the requirements for the BAT assessment.

This guidance represents the current position and will be reviewed at regular intervals. The permit applicant / holder should be aware of the best available techniques relevant to offshore combustion installations at the time of their application and should continue to review developments, both in line with the latest published BAT reference (BREF) document for the sector, and in line with dynamic assessment of industry / sector best practice and experience.

2.2.4 BAT Reference (BREF)

As part of the exchange of information carried out in the framework of Article 13(1) of the IED (2010/75/EU), BAT reference documents (BREFs), were developed and have been adopted.

BREFs bring together users' real-world experiences of BAT to provide reference information for regulators to use when determining permit conditions.

The documents describe applied techniques, present emissions and consumption levels, considered for the determination of BAT as well as BAT conclusions (BATc) and any emerging techniques.

The relevant BREF for offshore is the Large Combustion Plant (LCP) BREF [Ref 7]. This is implemented through Decision 2017/1442 - LCP Best Available Techniques (BAT) Conclusions, as notified under c(2017)5225) [Ref 8].

The LCP BREF contains general conclusions in addition to those specifically related to the combustion of gaseous and/or liquid fuels on offshore platforms in plant ≥50MWth. The general conclusions require the implementation of and adherence to an Environmental Management System (EMS), emissions and performance monitoring of the combustion plant and techniques that must be applied to ensure optimised combustion. The BAT conclusions specific to the offshore industry include techniques that should be used to improve the general environmental performance of the combustion plant and also the applicable Associated Emissions Levels (AELs). These are discussed further in section 3.2.4 of these guidelines.

BAT conclusions include:

- a description of each conclusion;
- an assessment of its appropriate application;
- emission levels associated with the best available techniques;
- energy efficiency levels associated with the best available techniques
- associated monitoring;
- associated consumption levels;
- relevant site remediation measures, where appropriate.

2.3 Impact of the UK leaving the EU

The UK left the EU at the beginning of 2021 and the provisions of the relevant EU exit amendments which came into effect via SI 2018 No 1325 [Ref 3] have been incorporated throughout this document, with respect to IED and MCPD requirements.

With respect to the existing EU IED Large Combustion Plant (LCP) BREF [Ref 7], the associated BREFs requirements and LCP BAT Conclusions “implementing decision” [Ref 8] and have been retained in UK law [Ref 3] and thus remain valid.

2.4 Offshore Combustion Installations PPC Regulations

2.4.1 Scope

The Regulations apply to the use of combustion plant on a ‘relevant platform’. By definition this includes offshore petroleum platforms, gas storage or unloading platforms or carbon dioxide storage or unloading platforms.

As defined in the Regulations, a combustion installation is any relevant platform equipped with combustion plant e.g. turbines, engines or heaters that use fuel, either gaseous or liquid, to generate energy for the operation of the facility, i.e. for the purpose of doing work.

The emission pollutants covered in the Regulations are listed in Schedule 2. It should be noted that carbon dioxide is not an emission covered directly to avoid double regulation (given the United Kingdom Emissions Trading Scheme (UK ETS)), but carbon dioxide may be a consideration in wider environmental impact assessments, due to its significance as a Greenhouse Gas (GHG), and its links to energy efficiency. Regulation 11 stipulates that the GHGs specified in Annex I of Directive 2003/87/EC are not part of any permit conditions (Regulation 9(2)). Refer to section 3.3 for further discussion.

Mobile Drilling Units (MoDUs) are excluded from the Regulations, but units that have been converted to production facilities and are moored or positioned at a fixed location for the purpose of producing and exporting hydrocarbons are covered by the Regulations. This is in accordance with the definition of a petroleum platform.

The Regulations do not apply to operational or emergency flaring of gas and venting as neither fall within the definition of combustion plant. Note, however, the considerations within Atmospheric Dispersion Modelling in Section 3.2.6 of these guidelines.

2.4.2 Large vs Medium Combustion Installations

In transposing the IED and MCPD the Regulations provide separate definitions and associated provisions based on the total rated thermal input capacity of an installation. This is the aggregated rated thermal input capacity of the combustion plant items on an installation’s permit. For each combustion plant item on the permit, its individual rated thermal input capacity (MW) is identified by its ‘maximum thermal input’, which corresponds to the fuel thermal input of the combustion plant item when operating at its ‘maximum rated output’ (MW). NB. Fuel thermal input in MW is also sometimes abbreviated as ‘MWth’ to distinguish it from power output in MW.

- A Medium Combustion Installation (MCI) means a platform equipped with combustion plant that has a total (aggregated) rated thermal input capacity which is ≥1MW and <50MW.
- A Large Combustion Installation (LCI) means a platform equipped with combustion plant that has a total (aggregated) rated thermal input capacity which is ≥50MW.

In the Regulations, an offshore combustion installation means an MCI or an LCI, therefore any platform that falls outside these two definitions is not an offshore combustion installation.

In using this guidance document, after reading Section 2, operators with LCI should read Section 3 whilst those with MCI should read Section 4.

Appendix 1 contains a series of flow charts that guide the user of this document through the process of assessing their combustion plant for the high level requirements depending on the specific attributes of the combustion plant on their LCI or MCI, including the requirements for large combustion plant and medium combustion plant.

2.4.3 Large, Medium, and other Combustion Plant

Once an applicant / operator has established if they have an LCI or an MCI (i.e. based on the aggregation of rated thermal input at the installation level) it is then important to understand the classification of individual combustion plant present (on the installation, performing different duties), to determine the applicable sections of the Regulations.

The terms Large Combustion Plant (LCP) and Medium Combustion Plant (MCP) each have special meaning within the Regulations and are mutually exclusive.

2.4.4 Large Combustion Plant

Means individual offshore combustion plant with a rated thermal input equal to or greater than 50 megawatts.

The 2018 definition of large combustion plant amended the 2013 Regulations, to introduce provisions for large plant such as boilers, heaters and diesel engines. These provisions do not apply to gas turbines and gas engines. However, there is still a requirement under the 2013 Regulations to control pollutant emissions arising from gas turbines and gas engines on installations with an aggregated rated thermal input (of all constituent plant) equal to or greater than 50MW.

Large Combustion Plant (LCP) that are individually rated to a maximum thermal input of ≥50MW or which are rated to ≥15MW but which aggregate to ≥50MW via a shared common stack, and as such are referred to as one qualifying plant referred to in this guidance but can have differing requirements include:

i. LCP under the LCP-BREF for Open Cycle Gas Turbines (OCGT);
ii. LCP gas turbines and gas engines, as well as for boilers, heaters and diesel engines, transposed from the IED

Therefore, an installation with at least one LCP must by inference be an LCI. In other words, by definition an MCI cannot have an LCP. However, another installation which is an LCI (by virtue of aggregation) may not necessarily have any individual LCP plant items, as it

may comprise several combustion plant items with maximum rated thermal input at less than 50MW each, that are not large enough individually to qualify as LCP but that are large enough in aggregate to make the installation an LCI. See Section 2.4.8 for worked examples.

In the case of offshore installations, plant such as boilers, heaters and diesel engines remain subject to the requirements of the Regulations derived from Chapter III of the IED. However, emission limit values shall not apply to diesel engines.

For guidance on the applicability to combustion plant included refer to Table 1 below.

Table 1: Large Combustion Plant

Combustion Plant	Rated Thermal Input (MW)	Periodic Compliance Monitoring required?
All types of combustion plant including gas turbines and gas engines. NB. This derives from IED Chapter II	Individual >/= 50 MW Aggregation rules apply – see section 2.5.2	Yes – see monitoring guidance [Ref 14]
All types of combustion plant specifically excluding gas turbines and gas engines. This includes boilers, heaters and diesel engines. NB. This derives from IED Chapter III	>/= 50 MW Aggregation rules apply – see section 2.5.3	Yes – see monitoring guidance [Ref 14]

2.4.5 Medium Combustion Plant

2.4.5.1 Regulatory Overview

The UK transposed the Medium Combustion Plant Directive [Ref 6] obligations into national law by amending the PPC Regulations via SI 2018 No. 798 [Ref 2]. A clear distinction is made between ‘existing MCP’, defined as a medium combustion plant either (a) put into operation before 20 December 2018; or (b) for which a permit was granted before 19 December 2017, provided that the plant is put into operation no later than 20 December 2018, and ‘new MCP’, defined as any MCP that is not an ‘existing MCP'.

Under the regulations, from 20th December 2018 all new medium combustion plant require a PPC permit whilst qualifying existing plant with rated thermal input above 5MW and below 50MW require a permit from 1st January 2024, and qualifying plant with rated thermal input at or above 1 MW and less than or equal to 5MW require a permit from 1st January 2029.

For the purposes of this guidance “medium combustion plant” (MCP) means, (Regulation 2A), an offshore combustion plant with a rated thermal input ≥1MW and <50MW, but does not include—

(a) gas turbines, gas engines and diesel engines; or

(b) combustion plant in which gaseous products of combustion are used for the direct heating, drying or any other treatment of objects or materials

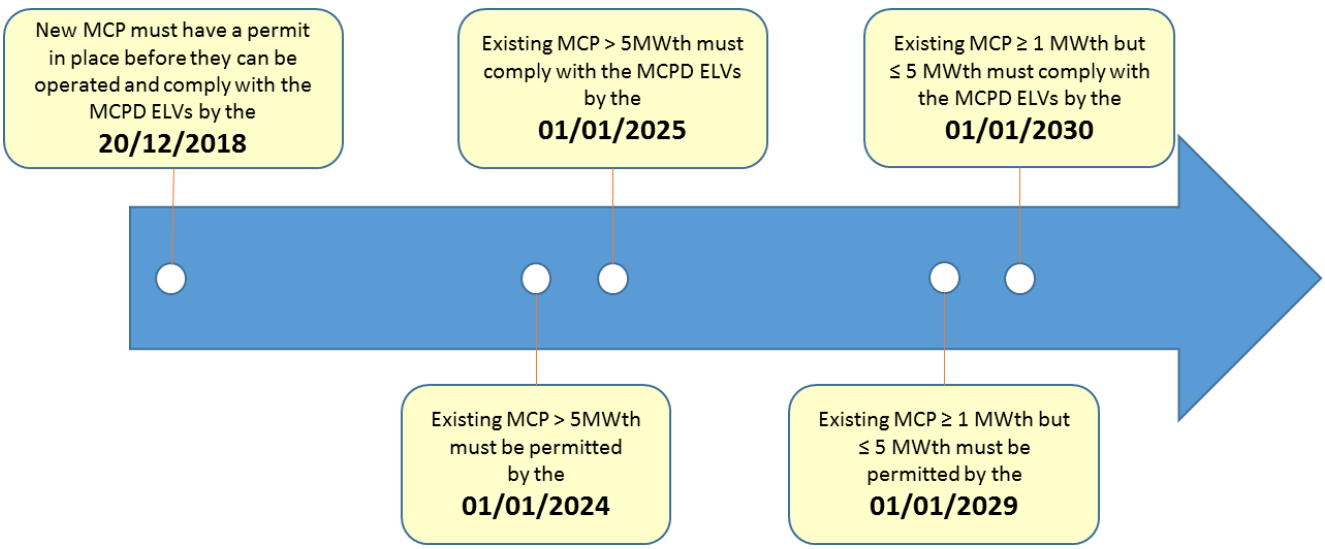
2.4.5.2 Relevance to the Offshore Industry

In line with Article 2 paragraph 3 of the MCPD, it does not apply to gas turbines (single or dual fuelled), gas engines or diesel engines, when used on offshore installations. For the offshore industry, this means that boilers, heaters and **dual fuel** engines are in scope.

Annex II of the MCPD sets out fuel specific ELVs for qualifying combustion plant. As such, boilers, heaters (except heaters that are used for direct heating, drying or treating any other treatment of objects or materials) and dual fuel engines are in scope with specific ELV requirements depending on fuel type. Regulation 11B covers ELV requirements for MCP; with reference to Part 1 of Annex II covering ELV for existing MCP, and with reference to Part 2 of Annex II covering ELV for new MCP.

An overview of the timeline for implementation of the permitting and compliance requirements associated with the MCPD are shown in Figure 2 below. For existing MCP there is a 12-month window between holding an approved permit and meeting compliance with the respective ELVs that would form part of the permit. However, the first measurements must be carried out within the first four months of the grant of a permit to, or registration of, the plant, or of the date of the start of the MCP operation, whichever is the latest. In the event that first measurements cannot be taken within the first four months of holding a permit the operator should engage with the Department well in advance.

Figure 2: Timetable - permitting & compliance for new & existing Medium Combustion Plant (MCP)



2.4.5.3 MCPD Definitions

Article 3(19) of the MCPD defines ‘gas oil’ as:

- a) any petroleum-derived liquid fuel falling within Combined Nomenclature (CN) codes 2710 19 25, 2710 19 29, 2710 19 47, 2710 19 48, 2710 20 17 or 2710 20 19; or
- b) any petroleum-derived liquid fuel of which less than 65 % by volume (including losses) distils at 250 °C and of which at least 85 % by volume (including losses) distils at 350 °C by the ASTM D86 method.

The Harmonised System (HS) is a high-level international nomenclature owned by the World Customs Organisation (WCO), comprising of 6 digits and used by most trading nations. These exact same 6 digits form the first part of the 8-digit CN code; however, the MCPD often requires greater detail than what is provided in the HS, either for statistical or tariff reasons. For these reasons many HS codes undergo a further 'split' into 8-digit CN codes (see Combined Nomenclature for further information).

Article 3(20) of the MCPD defines ‘natural gas’ as naturally occurring methane with no more than 20 % (by volume) of inerts and other constituents.

The Department recommends that permit holders consult their fuel supply vendors where applicable to determine exactly what type of fuel is being combusted and therefore where appropriate permit holders should have further discussions with the Department as to what aspects of the MCPD ELVs are applicable prior to applying for a permit.

2.4.5.4 MCP Exemptions and Derogations

Regulations 11C, 11D and 11E cover exemptions and derogations for MCP with respect to compliance with ELVs.

Regulation 11C covers limited operating hours exemptions for existing MCP and 11D covers limited operating hours exemption for new MCP.

> An existing MCP operating less than 500 hours per year as a 5-year rolling average is exempt from meeting MCPD ELVs over that 5-year period, subject to a signed declaration being in place under a permit application prior to the start of the 5-year period.
>
> A new MCP operating less than 500 hours per year as a 3-year rolling average is exempt from meeting MCPD ELVs over that 3-year period, subject to a signed declaration being in place under a permit application prior to the start of the 3-year period.

Regulation 11E covers temporary derogations from the obligation to comply with the relevant emissions limit values in regulation 11B, due to an interruption in the supply of low-sulphur fuel resulting from a serious shortage.

Should an operator wish to apply for an exemption under regulations 11C or 11D regulation, then this must be approved by the department before the compliance date for the ELVs based on the ‘relevant date’ for the MCP. The operator must maintain records of relevant operating data and to present these records to the Department on request.

For guidance on the types of combustion plant included refer to Table 2 below.

Table 2: Medium Combustion Plant

Combustion Plant*	**Rated Thermal Input (MW)**	**Periodic Compliance Monitoring required?**
Boilers, heaters and engines (dual fuel only)	≥1 and <50MW	Yes – see monitoring guidance [Ref 14]
*Aggregation rules apply – see section 2.5.5		

2.4.6 Other Combustion Plant

"Other combustion plant" comprises of those qualifying plant not captured by the definition of LCP or MCP above. Such plant may still be subject to regulatory control under the PPC permit. For example, a relatively common case in the UKCS will be a LCI which operates several 'small to medium sized' gas turbines / gas engines / diesel engines and other combustion plant none of which is large enough to individually constitute being an LCP, and by their nature they are also exempt from the MCP scope. Similar combustion plant may be present on an MCI. Although these categories of offshore plant are exempt from qualifying as LCP (by virtue of size) or MCP (by virtue of type) and thus are not covered by any of the specific requirements for LCP and MCP within the regulations, they fall under the general requirements for the LCI on which they are located, including any applicable general aspects of BAT. While LCI always requires a PPC permit, an MCI only requires a PPC permit where it has qualifying MCP as determined by the relevant date. For an LCI other combustion plant will still be relevant with respect to determining and reporting aggregated mass emissions on the permits (e.g., under current EEMS returns).

See also aggregation rules in Section 2.5 with respect to the need to consider all plant.

2.4.7 Assessment of LCI and MCI for LCP and MCP

Once an installation is established as being either an LCI or an MCI, it then needs to be assessed for relevant LCP and or MCP located on the installation – see Table 3 below. By definition, an LCI may have LCP or MCP or other combustion plant, or a combination of all three types. An MCI on the other hand cannot by definition have any LCP, it can only have either MCP or other combustion plant, or a combination of the two types. It is possible for an LCI or an MCI to comprise of only 'other combustion plant' (excluding LCP and MCP), and for such an installation the specific requirements of LCP and MCP within the Regulations do not apply.

The stages shown in Appendix 1 present a decision flow to aid operators in determining the applicable sections of the Regulations, IED, MCPD and LCP BREF as they relate to individual plant on an LCI or MCI installation respectively. Whilst the stages shown in Appendix 1 summarise the legislative requirements (for purposes of guidance), the Regulations (Ref 1, Ref 2, Ref 3) and the LCP BREF (Ref 7) should be consulted in detail for confirmation.

Table 3: Assessment of permit requirements and provisions for LCI and MCI

	Offshore Combustion Plant			**Permit and related conditions**			
	LCP Present (Note 1)	MCP Present (Note 2)	Other CP Present (Note 3)	PPC Permit Required	LCP-BREF	MCP (Note4)	BAT applies
*LCI (≥50 MWth)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	No	Yes	Yes	Yes	Yes
	Yes	No	Yes	Yes	Yes	N/A	Yes
	Yes	No	No	Yes	Yes	N/A	Yes
	No	Yes	Yes	Yes	N/A	Yes	Yes
	No	Yes	No	Yes	N/A	Yes	Yes
	No	No	Yes	Yes	N/A	N/A	Yes
*MCI (≥1MW th to <50 MWth)	N/A	Yes	Yes	Yes	N/A	Yes	N/A
	N/A	Yes	No	Yes	N/A	Yes	N/A
	N/A	No	Yes	No	N/A	N/A	N/A
Other / non-OCI	N/A	N/A	Yes	No	N/A	N/A	N/A

Note 1: 'Yes' if the OCI has a combustion plant with rated thermal input ≥50MW.

Note 2: 'Yes' if the OCI has a non-exempt combustion plant with rated thermal input ≥1MW and<50MW.

Note 3: 'Yes' if the OCI has a qualifying combustion plant that is neither 'eligible LCP' nor 'eligible MCP'.

Note 4: All MCP must be included in a PPC permit and conditions will apply by the 'relevant date'.

*LCI always requires a PPC permit, an MCI only requires a PPC permit where it has an eligible MCP as determined by the 'relevant date' as defined in the regulations.

For assessing any given installation and its installed combustion plant using Table 3 above and the flow charts in Appendix 1 you will need the following information before starting:

- The current PPC Permit (if applicable).
- For all combustion plant located on the installation, the individual combustion plant maximum rated thermal input capacity (in MW). This is to be quoted / determined (typically from the plant design specifications / 'as-built' datasheet / nameplate) as the fuel thermal input at the corresponding maximum rated output. NB. The ratio 'maximum rated output (MW)' / 'corresponding maximum thermal input (MW)' is the plant thermal efficiency at rated duty. For example, a gas turbine with a 32.0MW maximum rated output at 100% base load, ISO11086 reference conditions, might have a corresponding maximum thermal input of 80.0MW. It will have a thermal efficiency at 100% base load duty of 32.0/80.0 = 40%. Where the thermal performance decreases at operating duties below 100% base load duty, the plant can be expected to have lower efficiency, in line with manufacturer's variable load performance data / curves. Care should therefore be taken to use maximum capacity values at rated output. Where a combustion plant has been formally de-rated below Original Equipment Manufacturer (OEM) nominal ratings, care should also be taken in using the corresponding expected thermal input at the de-rated maximum power output.
- Plant type (i.e. fuel type, turbine, engine, boiler, heater), and whether single fuel or dual fuel combustion. For engines it is important to highlight where they are of dual-fuel design and operation, as opposed to having gas-only or diesel only mode of operation.
- Plant/permit start-up date.

2.4.8 Worked Examples of the Assessment of LCI and MCI

Some examples are provided to aid understanding of how the Regulations apply for both LCI and MCI in relation to different categories of equipment including LCP and MCP. These should be considered in conjunction with Appendix 1.

The following colours are used as a key to the main categories of combustion plant:

LCP example - Red background denotes LCP combustion plant

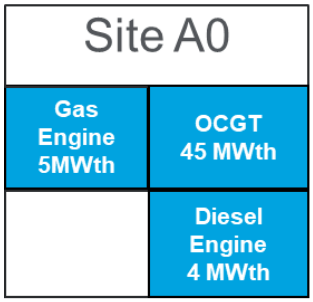
MCP example - Orange background denotes MCP combustion plant

Other comb-plant - Blue background denotes other qualifying combustion plant that is neither LCP nor MCP

2.4.8.1 Large Combustion Installations (LCI) - Examples

Site A0

This offshore combustion installation is an LCI (general principles apply in line with IED Article 11) but it has no LCP or MCP plant, therefore no specific BAT-AEL considerations apply. The combustion items shown are exempt from the scope of MCPD by Article 2(3)h). The LCI as a whole must comply with the general principles in IED Article 11, and the Competent Authority (CA) may set permit conditions at their discretion in accordance with Regulation 9(2)(b)(iii), such as total mass emissions from the LCI.

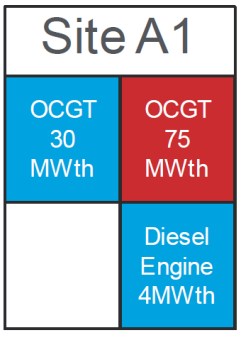


Offshore Combustion Installation A0 comprises:
- Combustion plant with a total rated thermal input of ≥50MW$_{th,}$ is an LCI
- However, since no individual item is rated ≥50MWth then LCP BREF and associated BAT-AEL(s) do not apply to any units on this installation.
- Also, no units meet the definition of an MCP with respect to offshore.

Therefore:
- Site A must be operated under a PPC permit for an LCI.
- Mass emission limits for pollutants will be set in the PPC permit for the aggregated combustion plant. BAT applies to all combustion plant. **OPRED may set other compliance conditions at their discretion.**

Site A1

This offshore combustion installation is an LCI (general principles apply in line with IED Article 11) and has an LCP OCGT for which specific BAT conclusions and associated BAT-AELs apply in accordance with the LCP BREF. However, this LCI has no other LCP equipment types (e.g. large boilers) nor does it have any MCP equipment types. The other OCGT on this LCI is below the LCP threshold and is exempt from MCPD scope due to Article 2(3)h). The diesel engine is also exempt due to Article 2(3)h).

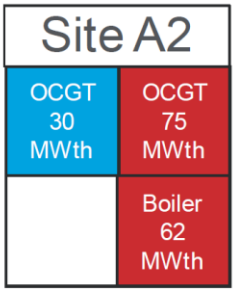


Offshore Combustion Installation A1 comprises:
- Combustion plant with a total rated thermal input of ≥50MW$_{th}$ is an LCI.
- One or more open cycle gas turbines (OCGT) with an individual rated thermal input ≥50MW$_{th}$;these individual items are classed as LCPs.
- No combustion plant item that meet the definition of a MCP offshore.

Therefore:
- Site A1 must be operated under a PPC permit for an LCI.
- Mass emission limits will be set in the PPC permit for the aggregated offshore combustion plant. BAT applies to all combustion plant.
- The LCP BREF and associated BAT-AEL(s) apply to individual LCP.

Site A2

This offshore combustion installation is an LCI (general principles apply in line with IED Article 11) and has LCP units. One of these LCP is an OCGT for which specific BAT conclusions and BAT AEL apply in accordance with the LCP BREF. The other LCP is a boiler that falls under IED Chapter III for which IED Annex V ELV apply. The other OCGT on this LCI is below the LCP threshold and is exempt from MCPD scope via MCPD Article 2(3)h).

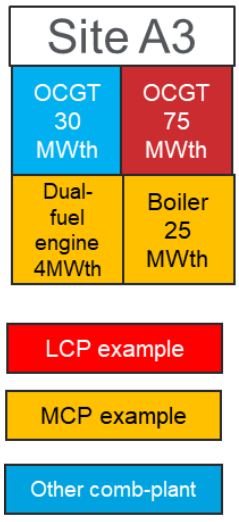


Offshore Combustion Installation A2 comprises:
- Combustion plant with a total rated thermal input of ≥50MW$_{th}$ is an LCI.
- One or more open cycle gas turbines with an individual rated thermal input ≥50MW$_{th}$, these individual items are classed as LCPs.
- One or more individual boilers with a total thermal input ≥50MWth.

Therefore:
- Site A2 must be operated under a PPC permit for an LCI.
- Mass emission limits will be set in the PPC permit for the aggregated offshore combustion plant. BAT applies to all combustion plant.
- BAT-AEL(s) will apply for individual LCP OCGT from the LCP BREF.
- ELV(s) specified in IED Chapter III (Annex V) will apply to those boilers with a total thermal input ≥50MWth.

Site A3

This offshore combustion installation is an LCI (general principles apply in line with IED Article 11) and it has an LCP unit and some MCP units. The LCP is an OCGT for which specific BAT conclusions and BAT AEL apply in accordance with the LCP BREF. One of the MCP has a thermal rating equal to or above 5MW for which MCPD Annex II ELV and related requirements apply from the 'relevant date' depending on whether it is a 'new' or 'existing' MCP. The other MCP has a thermal rating at or above 1MW but below 5MW for which MCPD Annex II ELV and related requirements apply from the 'relevant date' depending on whether it is a 'new' or 'existing' MCP as defined in the regulations. The other OCGT on this LCI is below the LCP threshold and is exempt from MCPD via Article 2(3)(h). For MCP careful consideration must be given to the 'relevant date' to ascertain when the plant needs to comply with the regulations.



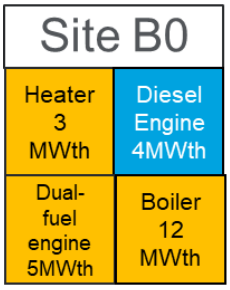
Offshore Combustion Installation A3 comprises:
- Combustion plant with a total rated thermal input of ≥50MW$_{th}$ is an LCI
- One or more open cycle gas turbines with an individual rated thermal input ≥ 50MW$_{th}$ (These are classed as LCP units).
- One or more boilers and / or heaters with an individual rated thermal input ≥1MW$_{th}$ and <50MW$_{th}$ (These are classed as MCP from the relevant date).
- One or more dual-fuel engines with an individual rated thermal input ≥1MW$_{th}$ and <50MW$_{th}$ (These are classed as MCPs from the relevant date).

Therefore:
- Site A3 must be operated under a PPC permit for an LCI.
- Mass emission limits will be set in the PPC permit for the aggregated offshore combustion plant. BAT applies to all combustion plant.
- BAT-AEL(s) will apply for individual LCP OCGT from the LCP BREF.
- ELV(s) specified in the MCPD (Annex II) will apply to the boilers and dual-fuel engines with individual thermal input ≥1MW$_{th}$ and <50MW$_{th}$.

2.4.8.2 Medium Combustion Installations (MCI) - Examples

Site B0

This offshore combustion installation is an MCI with MCP plant.



Offshore Combustion Installation B0 comprises:

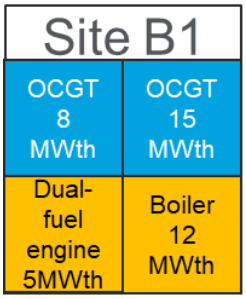
- Combustion plant with an aggregated rated thermal input <50MW$_{th}$. The installation is therefore not an LCI. BAT does not apply.
- One or more boilers, dual-fuel engines, heaters with an individual rated thermal input ≥1MW$_{th}$ and <50MW$_{th}$. These are classed as MCP from the relevant date.

Therefore:

- Site B0 is an MCI with MCP units and requires a PPC permit before the earliest relevant date for new or existing the MCP.
- ELV(s) specified in the MCPD (Annex II) will apply to qualifying plant with thermal input ≥1MW$_{th}$ and < 50MW$_{th}$.

Site B1

This offshore combustion installation is an MCI with some MCP plant. It also has OCGT that are below the LCP threshold and are also exempt from MCPD.



Offshore Combustion Installation B1 comprises:

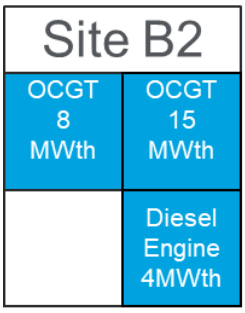
- Combustion plant with an aggregated rated thermal input <50MW$_{th}$. The installation is not an LCI. BAT does not apply.
- One or more open cycle gas turbines with a thermal input <50MW$_{th}$. These are exempt from MCPD as located on an offshore installation.
- One or more boilers, dual-fuel engines, heaters with an individual rated thermal input ≥1MW$_{th}$ and <50MW$_{th}$. These are classed as MCP from the relevant date.

Therefore:

- Site B1 is an MCI with MCP combustion units and must be operated under a PPC permit.
- Mass emission limits will be set in the PPC permit for the aggregated offshore combustion plant.
- The OCGTs are not LCP items and no ELVs are specified for these.
- ELV(s) specified in the MCPD (Annex II) will apply to qualifying plant with a total thermal input ≥1MW$_{th}$ and < 50MW$_{th}$.

Site B2

This offshore combustion installation is an MCI but has no MCP plant.



Offshore Combustion Installation B2 comprises:

- Combustion plant with an aggregated rated thermal input <50MW$_{th}$. The installation is therefore not an LCI. BAT does not apply.
- Items of combustion plant that have individual rated thermal input ≥1MW$_{th}$ and with aggregated input ≥1MWth and <50MWth. The installation is therefore an MCI.
- No combustion plant that are boilers, heaters, or dual-fuel engines that might therefore be classified as MCP units.

Therefore:

- The units shown are exempt from MCPD no ELVs are required.
- Site B2 is an MCI that does not contain any MCP. This MCI:

Does NOT require a permit

2.5 Aggregation Considerations

The LCI aggregation rule (LCI qualification) should be assessed prior to assessing whether individual plant meet the LCP BREF aggregation rules, LCP Chapter III aggregation rules or MCP aggregation rules, as outlined below.

2.5.1 LCI Qualification

LCI comprises offshore combustion plant which on its own or aggregated together with any other combustion plant on the same relevant platform or complex has a rated thermal input which is equal to or greater than 50 megawatts, means that all combustion activities within an installation need to be considered, i.e. there is no threshold at unit level and qualifying combustion activity is aggregated. If the total rated thermal input of all those qualifying combustion activities within the installation is 50 MW or more, then the whole installation falls under the scope of the Regulations – see section 3.1.

2.5.2 LCP BREF Aggregation Rules

The “Scope” paragraph of Chapter 10 of the BREF states that the BAT conclusions apply to the IED Annex I activities:

‘1.1: Combustion of fuels in installations with a total rated thermal input of 50MW or more, **only when this activity takes place in combustion plants with a total rated thermal input of 50MW or more.**’

The scope also clarifies that the document does not address combustion of fuels in units with a rated thermal input of less than 15MW (the aggregation rules under IED produce this outcome).

For the purposes of the BAT conclusions, the following definition of “Combustion plant” applies:

Any technical apparatus in which fuels are oxidised in order to use the heat thus generated. For the purposes of these BAT conclusions, a combination formed of: two or more separate combustion plants where the flue-gases are discharged through a common stack, or separate combustion plants that have been granted a permit for the first time on or after 1 July 1987, or for which the operators have submitted a complete application for a permit on or after that date, which are installed in such a way that, taking technical and economic factors into account, their flue-gases could, in the judgment of the competent authority, be discharged through a common stack, is considered as a single combustion plant.

For calculating the total rated thermal input of such a combination, the capacities of all individual combustion plants concerned, which have a rated thermal input of at least 15 MW, shall be added together.

2.5.3 IED Chapter III Large Combustion Plant Aggregation Rules

Article 28 of the IED Chapter III excludes gas turbines and gas engines, used on offshore platforms, from the application of Chapter III of the IED. The definition of LCP in the regulations is consistent with Article 28 of the IED. Article 29 aggregation rules only apply where combustion plant is not excluded under Article 28.

The LCP aggregation rules are applied where the waste gases of two or more separate combustion plants are discharged through a common stack. The combination formed by such plants shall be considered as a single combustion plant and their capacities added for the

purpose of calculating the total rated thermal input. Therefore, if the aggregated total rated thermal input is greater than or equal to 50MW the plant will be LCP.

For the purposes of calculating the rated total thermal input of a combination of combustion plants, discharged through a common stack the individual combustion plants with rated thermal input greater than or equal 15MW shall be taken into consideration. Where the rated total thermal input is equal to or greater than 50MW the aggregated combustion plant is LCP covered by chapter III.

2.5.4 LCP BAT conclusions applicability

Therefore, the LCP BREF and BAT conclusions apply to all types of LCP irrespective of the IED Chapter III Article 28 exclusions, so long as the individual combustion plant or an aggregation of two or more combustion plant (individually rated 15MW thermal input or more) share a common stack, with a combined rated thermal input of at least 50MW. This means for example that gas turbines and gas engines each with a rated thermal input of at least 50MW and individual stacks, used on offshore platforms, are included in the LCP BREF and BAT conclusions, whilst being excluded from the IED Chapter III (special provisions for combustion plants) via Article 28 exclusions.

2.5.5 MCP Aggregation Rules

Regulation 2A implements the aggregation requirements of the MCPD.

> *"(1) For the purpose of these Regulations, two or more new medium combustion plant must be treated as a single medium combustion plant ("the combined plant"), and their rated thermal input added together for the purpose of calculating the total rated thermal input of the combined plant, where—*
>
> (a) the waste gases of the combined plant are discharged through a common stack; or
>
> (b) taking into account technical and economic factors, the waste gases of the combined plant could, in the opinion of the Secretary of State, be discharged through a common stack.
>
> (2) Paragraph (1) applies regardless of whether the total rated thermal input of the combined plant is equal to or greater than 50 megawatts, unless Chapter III of the 2010 Directive applies to the combined plant."

The impact of regulation 2A(2) is that IED Chapter III plant (e.g. boilers and heaters that either on their own or together have a total rated thermal input of more than 50MW) are regulated under IED requirements rather than MCPD. Note that the aggregation rules only apply if the plant is not excluded under the definition of MCP. Article 2(3)(h) confirms that the MCPD does not apply to gas turbines and gas and diesel engines, when used on offshore platforms..

3 Large Combustion Installations

This Section should be read after consideration of Section 2, and after determination by the applicant that an offshore combustion installation is to be classed as an LCI as opposed to an MCI. An offshore combustion installation can only be classed as one or the other, not both. If it is not an LCI but is an MCI, refer to Section 4 of this guidance and the flow charts in Appendix 1 for further guidance.

The offshore combustion plant on an LCI may contain either LCP or MCP or neither. This section describes general requirements for combustion plant on an LCI, requirements specific to LCP, and requirements relevant to MCP; with respect to this latter category (MCP located on an LCI) this section makes some cross-references / alignment with parts of Section 4.

3.1 When should I apply for a permit?

Regulation 3 states that a person must not operate an offshore combustion installation without a permit and otherwise than in accordance with the conditions in that permit.

Therefore, operators of proposed new LCI must apply for a PPC permit prior to commissioning any of the qualifying combustion plant on the facility unless otherwise agreed with the Department. Note that this requirement applies equally to an existing MCI (that is not equipped with any eligible MCP and therefore which does not have a PPC permit) that may be adding new items of combustion plant that leads to a total rated thermal input at or above 50MW and re-classes it as an LCI as it does to a brand-new offshore combustion installation that is first being classed as an LCI.

An offshore combustion installation will need to hold an approved permit to operate as an LCI in line with the installation having the physical capacity to operate as an LCI. This is intended to apply to installations where the relevant platform (or the complex of relevant platforms permanently interconnected by bridges), is equipped with offshore combustion plant which has the physical capacity to be operated (on its own, or aggregated with other combustion plant on the same platform or complex), and where such combustion plant has a total rated thermal input which is equal to or greater than 50 megawatts. The technical capacity to operate combustion plant - in performing the regulated activity - is a primary consideration and not whether the combustion plant is fully commissioned and operating. Relevant platforms may vary in their type from petroleum platforms, gas storage or unloading platforms, and carbon dioxide storage and unloading platforms. They may also vary in being either fixed installations or floating installations which are permanently maintained on station in order to extract, process or temporarily store hydrocarbons; for example a Floating Production Storage and Offloading vessel (FPSO) or a Floating Storage Unit (FSU). In all cases it is the physical capacity to operate the combustion plant which determines the need to hold a permit for the regulated activity in accordance with IED Article 10, Annex I para. 1.1.

3.1.1 Engagement with the Department

At the development stage of a new offshore project in the UKCS the Field Development Plan (FDP) and the Environmental Impact Assessment (EIA) and its Environmental Statement (ES) or Screening Direction will be considered by the relevant regulatory bodies, including OPRED and the NSTA as appropriate. It is at this stage that the developer and the future operator should be considering the practical compliance aspects of atmospheric emissions under the relevant regulations. These include PPC, UK Emissions Trading Scheme (ETS) and to net

zero requirements emanating from the UK government's Net Zero Strategy and its implementation within OPRED and NSTA policy.

As part of the permit application process, operators of proposed new facilities are strongly recommended to contact the Department at a very early stage in the design process of the installation. Early engagement with the Department to discuss the combustion plant that are planned to be installed and operated. will avoid delays in the decisions to either grant or refuse the application.

There is nothing in the Regulations to prevent an operator from designing, ordering or installing the proposed combustion plant on an approved project prior to contacting the Department regarding the PPC permit, or prior to submitting the application for a permit. However, the Department may not agree with the proposed choice of plant or the proposed operating strategy. In such cases, the cost of replacing the plant or changing the operating strategy, to demonstrate BAT, could be extremely high, and such costs will not be taken into consideration as part of the assessment of the available options, nor would they influence the Department's assessment.

Any decisions or work undertaken prior to contacting the Department will therefore be at the operator's own risk, and it will be in the operator's interest to contact the Department at the initial design stage to potentially avoid financial consequences and delays.

Following the initial discussions, operators are recommended to formally apply for a permit no later than 3 months from the earliest estimated start date, or earlier if possible. It should be noted that for LCP and MCP the permit will include monitoring requirements such as metering of fuel use or sampling stack gases, and retrofit of the necessary monitoring/metering arrangements could be expensive and introduce delays. It is therefore undesirable to commence construction work prior to confirmation of these potential requirements (whether on a new facility or in relation to changes to an existing facility).

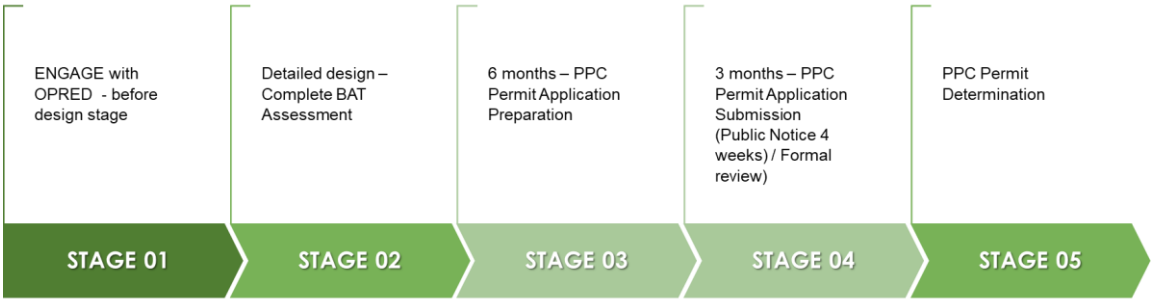
To accommodate any changes during construction it will be possible to up-date an application if the Department has still to issue the permit, and for commissioning, you must request a variation to an issued permit. The Department may, nevertheless, wish to discuss potential changes with the applicant and, following determination of the application, will decide whether to issue the permit, or to withhold permit issue until nearer the commissioning date.

3.1.2 Application Approval Timescale

The Department will aim to approve applications within twelve weeks (which includes a statutory public representation period of 28 days (Regulation 5(2)(d)). However, the Department may decide that a longer period is required, or that the public representation period is to be repeated if there have been any substantial changes to the application before approval.

Before determining an application, the Department will take account of any relevant Environmental Statement [Ref 4], any representations on that statement, and any representations received from consultees including Member States (if appropriate). An overview of the application timeline is provided in Figure 3.

Figure 3: Permit Application Timeline

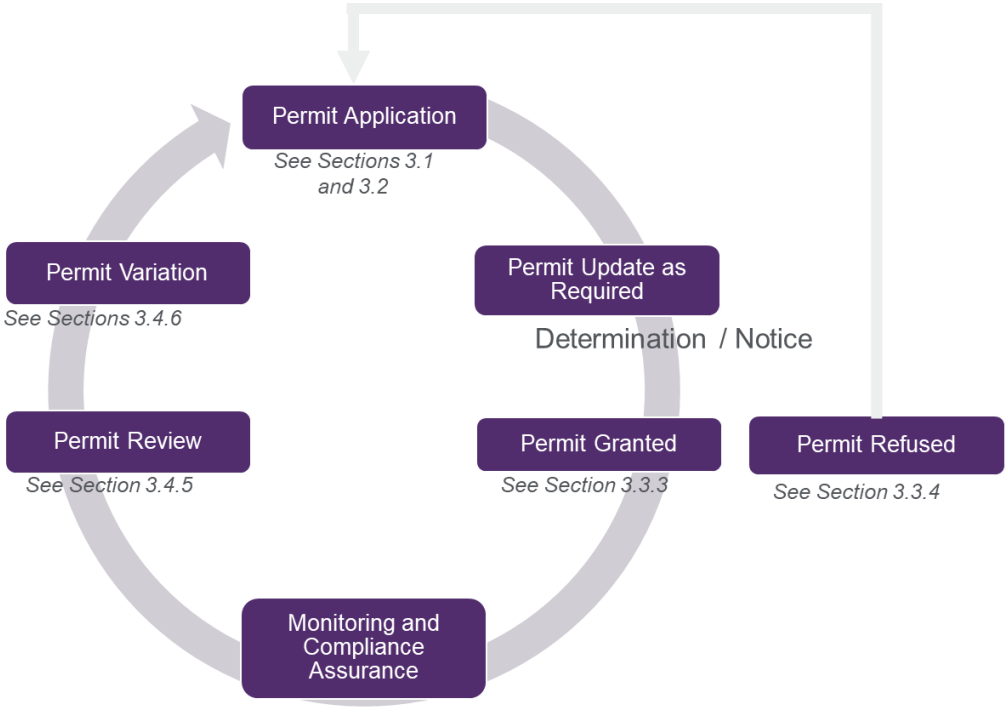


3.2 Permit Application Process

The permit applicant must be the installation operator who owns or maintains operational control over the offshore combustion installation. Operators requiring a permit must apply to the Department through the UK Energy Portal Environmental Tracking System (PETS). Industry User Guidance on PETS has been issued and should be consulted for any queries about how to use this system [Ref 9].

An overview of the Permit application process is shown in Figure 4: PPC Permit Application Process.

Figure 4: PPC Permit Application Process



3.2.1 Permit Requirements

Regulation 3 requires that a person must not operate an OCI without a permit and otherwise in accordance with the conditions within that permit.

Regulation 9 stipulates the matters that must be covered by permit conditions and operators can expect these to include (but are not limited to):

- Operating the installation to BAT;
- Conditions controlling emissions of pollutants, including emission limit values;
- Total mass emission limits for certain pollutants;
- Monitoring requirements including methodology and frequency;
- Verification of compliance;
- Waste monitoring and control;
- Energy efficiency;
- Incident prevention and mitigation;
- Record keeping; and
- Reporting requirements.

Further, Regulation 9A stipulates that, where the installation has MCP these permits must capture the specific requirements of the MCPD and have conditions that ensure these requirements are met.

The permit application must therefore provide information on the emissions of the main pollutants over time (see section 3.2.8 for further discussion of main pollutants).

In determining the application, the Department must be satisfied that the operator has addressed all the above points.

Whether a permit is granted, and the conditions attached to the permit, will depend on the circumstances of each application.

3.2.2 What Information should the Permit Application contain?

a) General

The information requirements for permit applications are detailed below. The information should be included in the PETS application:

- Information relating to the applicant and the LCI, e.g. company details, the name of the facility, the geographical location of the combustion installation (quadrant and block number, and latitude and longitude site co-ordinates), a description of the facility and its activities and the environmental conditions at the site of the facility;

b) Specific to the LCI as per Regulation 4, in making an application the operator must include a description of:

- the LCI and its activities, including the relevant platform comprising the LCI;
- the materials, substances and energy used in or generated by the LCI;
- the sources of emissions from the LCI;
- The conditions of the site of the installation
- the nature and quantities of foreseeable emissions from the LCI into each medium (air or water) and any significant effects of the emissions on the environment;
- the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the LCI including the application of BAT;
- where necessary, measures for the prevention and recovery of waste;
- measures planned to monitor emissions into the environment;
- a demonstration that no significant pollution will be caused, including air dispersion modelling and, where relevant, compliance with environmental quality standards (EQSs)
- energy efficiency; and
- the prevention of incidents which may affect the environment.

c) Specific to any MCP on the LCI

Furthermore, where the installation includes MCP, Regulation 4A requires that the following information is included in the application for the MCP in line with MCPD Annex I:

- Rated thermal input (MW) of the MCP;
- Type of MCP (e.g. dual fuel engine, boiler, heater)
  Note: gas turbines, gas engines, and diesel engines when used on offshore platforms are exempt under the MCPD Article 2(3(h));
- Type and share of fuels used according to the fuel categories laid down in MCPD Annex II;
- Date of the start of the operation of the MCP or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.
  Note. This is required to avoid any existing MCP from being classed as ‘new medium combustion plant’ by default;
- Sector of activity of the MCP or the facility in which it is applied (NACE code);
- Expected number of annual operating hours of the MCP and average load in use, with the load should be expressed in MW;
- Where the option of exemption under Article 6(3) or Article 6(8) is used, a declaration signed by the operator that the MCP will not be operated more than the number of hours referred to in those paragraphs;
- Name and registered office of the operator and, in the case of stationary MCP, the address where the plant is located.

d) Note regarding NACE codes:

The relevant NACE codes for the offshore industry are:

- Extraction of crude petroleum 0610
- Extraction of natural gas 0620

e) Supporting documents in PETS

The above points should be addressed through a combination of completing the relevant sections of the PETS PPC Application SAT form and uploading supporting documents to the Portal. The document uploads that are required are:

- A non-technical summary of the application;
- BAT assessment for LCI and LCP;
- Atmospheric Dispersion Modelling study;
- Emissions Monitoring Plan; and
- Update of the Master Application Template (MAT) Environmental Assessment Justification (EAJ) document to include the impacts from combustion emissions' on the environment.

These elements of the application are described further in the subsequent sections.

As oil and/or gas production changes over field life, energy demand and hence emissions may not be constant. Instead, these will reflect hydrocarbon production rates and the energy used, e.g. for gas compression, water re-injection etc. It is expected that any application for a PPC permit will take consideration of the whole life of the LCI.

3.2.3 Non-Technical Summary

This must be a succinct summary of the installation including the outcome of the demonstration of BAT, the energy used by the LCI, the sampling and monitoring arrangements, the air dispersion modelling results, the measures for waste prevention and recovery of waste and any other information pertinent to the application.

3.2.4 BAT Assessment

Pursuant to the BAT requirement under Regulation 7(3)(a), when considering PPC applications the Department must be satisfied that all appropriate measures are taken to prevent pollution and require LCI to be operated using BAT. PPC requires an integrated approach to BAT assessment for the whole LCI, rather than assessing individual emissions or unit operations in isolation. The BAT assessment is dynamic, and the operator must ensure it is kept up to date and that should reflect actual operating conditions and operator compliance with permit conditions relating to matters referred to in Regulations 9 and 9A. The definition of BAT from the Regulations is reproduced in Section 2.2.3. Regulation 9 notes that in determining BAT, the criteria listed in Schedule 1 are considered. These are replicated in Appendix 2 to this guidance for ease of reference.

The BAT assessment should cover all combustion plant that are part of the LCI, such as power generation and compression gas turbines, engines and boilers. When assessing BAT, an

operator should use a risk-based approach, focusing on significant environmental impacts and the major advantages and disadvantages of techniques to prevent or minimise those impacts. Note that “techniques” is both the technology, and its operation and maintenance.

Consideration must be given to any applicable AELs / ELVs, as follows:

- The LCP BREF includes BAT conclusions for LCP and sets AELs for Nitrogen Oxides (NOx) emissions to air from OCGTs when operating on natural gas [Ref 7];
- IED Chapter III Annex V ELVs which relate to special provisions for LCP irrespective of the type of fuel used.
  Note. Whilst some LCP on offshore combustion installations are exempt from these special provisions (including gas turbines and gas engines) they will apply to other LCP including boilers, diesel or dual fuel engines [Ref 5];
- ELVs set out in Annex II of the MCPD [Ref 6]. These relate to MCP. It is important to use the correct table in Annex II for new MCP or existing MCP, and the correct table for the relevant rated thermal input (MW) of the eligible MCP.

The application must describe power requirements and the plant and fuels used to meet those requirements. The efficiency of the combustion plant must also be described in so far as it relates power output (MW) to fuel net thermal input (MW), both at the rated capacity of the plant and at any normal turndown duties (part-loads). This can normally be sourced from OEM variable load performance specifications. The overall objective should be to demonstrate that the operation of the combustion installation is designed to achieve production, processing and export of reservoir hydrocarbons (or storage or unloading if appropriate) in a manner that is energy efficient, minimises pollution, and applies BAT over the life cycle of the field and the LCI. Where minimisation of pollutant concentrations might increase energy use, a suitable balance should be identified.

For applications relating to new combustion installations, or applications relating solely to the installation of additional combustion plant, it will be necessary to include details of the plant selection process. Applicants will need to carefully consider the oil and gas production, process requirements and the utility provision requirements, ensuring that waste heat recovery is used where appropriate, and the gas turbines, internal combustion engines and fired heaters should be selected taking account of energy efficiency and pollutant emissions.

Care should be taken to consider life of field consequences and ‘part load’ conditions, which will usually result in lower efficiency for most combustion plant (such as gas turbines and engines) than the maximum design efficiency at their rated capacity. Operability and complexity should also be considered, to prevent plant ‘trips’ (unwanted shut-downs) as far as practicable, as these will inevitably result in increased emissions during the re-start cycle and may result in the emergency flaring of gas.

The energy efficiency of the proposed combustion plant must be considered, to demonstrate that the management regime maximises efficiency and minimises the atmospheric emissions.

It is important to reference any relevant AELs / ELVs for the combustion plant as meeting these is a legal requirement. Derogation from the LCP BREF AELs may be requested by presenting a derogation case to the Department to justify any plant which cannot meet the required limits. New qualifying LCP are required to meet the AELs and operators must not assume that they will be granted a derogation if their proposed new qualifying plant will not meet the AELs. More detailed guidance on BAT-AEL derogations can be found on the Department’s website [Ref 10].

The same principles above apply to Gas Unloading and Storage and Carbon Capture and Storage applications.

Operators who may wish to receive further specific guidance should approach OPRED for further information.

3.2.5 Emission Profiles and Loads

3.2.5.1 General Requirements

As the major pollutant release route for combustion activities will be the flue gas emitted into the atmosphere, the emissions profiles of the qualifying combustion plant will be critical to the impact assessment, and the demonstration of BAT. It will therefore be necessary to provide information in relation to the performance of the combustion plant, in terms of the mass emissions per unit volume of exhaust gas from each item of qualifying combustion plant i.e. the pollutant concentrations.

The relevant SAT PPC Application tables should document the concentration that the operator can achieve to enable demonstration of compliance against the relevant LCP BREF AELs, IED Chapter III Annex V ELVs and the MCP ELVs as applicable.

For applications relating to new combustion installations, or applications relating solely to the installation of additional qualifying combustion plant, consideration of the emission profiles will form part of the early discussions relating to the project and will be relevant to plant selection. For applications relating to existing combustion installations, the vendor or manufacturer information may be presented, or the data obtained from stack monitoring (see Section 2) it may be necessary to consult the original suppliers or manufacturers of the plant to obtain the necessary information.

Dependent on combustion plant type, fuel type and thermal rating, there will be emissions monitoring requirements under the Regulations (see Section 2).

In addition to providing the emissions profiles of the combustion plant, it will therefore be necessary to provide information in relation to both the current and projected future total mass emission (the emission loads), and the overall efficiency of the combustion plant. For permitting purposes, the information provided should cover the calendar year of the permit application, and a period of at least three complete calendar years following the year of permit application.

3.2.5.2 LCP BAT-AEL – Gas Turbines

OCGT operating under certain conditions are subject to BAT-AELs as set out in the LCP BREF and BATc. There are several areas in the documents relevant to offshore plant, however the specific BATc for the combustion of gaseous and/or liquid fuels on offshore platforms is presented in Section 4.3 of the BATc and section 10.4.3 of the LCP BREF. Table 32 of the BATc outlines the BAT-AELs for oxides of nitrogen (NOx) from the combustion of gaseous fuels in OCGTs on offshore platforms when operating above 70% base load rated output available on the day [Ref 7].

Note 1 to Table 32 states that the BAT-AELs are based on a base load power available on the day of greater than 70%. This is distinct from references to Gas Turbines captured under Chapter III and Annex 5 requirements of the IED which refer specifically to the NOx AELs applying at greater than 70% of the ISO base load rated output. To align with the application of base load interpretation within the IED, the Department interpret the meaning of the note to align with ISO base load rated output as defined in BS ISO 11086:1996. It should be noted that

if the plant has been officially de-rated this should be considered as the ISO base load rated output.

3.2.6 Atmospheric Dispersion Modelling

Applications for permits should also include the results of appropriate atmospheric dispersion modelling studies, to demonstrate whether any relevant Environmental Quality Standards (EQS) will be breached on adjacent facilities or, in the case of facilities that are located close to the coastline, on the adjacent landmass.

It is recognised that dispersion models have limitations. However, ADMS™ and AERMOD™ models are generally accepted and well validated for modelling concentrations some distance from the sources, where dispersion characteristics are dominated by the wind, atmospheric turbulence, plume buoyancy, etc. These models will therefore be accepted by OPRED as a basis for atmospheric dispersion modelling in applications, while operators are at liberty to discuss the use of other models with the Department.

Normal procedure would be to run the models based on hourly meteorological data for one calendar year, although it may be more representative to run the models for three calendar years for facilities that are near the coastline. Where the applicant wishes to use an alternative approach, this should be discussed with the Department.

Although flaring is not included within the definition of combustion plant, the environmental impact of the flaring of gas as a direct consequence of the shut-down of the combustion units, for instance during plant upset, needs to be addressed. It is therefore recommended that both combustion and flaring emissions are considered when undertaking the atmospheric dispersion modelling studies. It is required that models are run utilising the foreseen operational scenarios that result in the highest / worst case emission loadings. Modelling should therefore consider all significant emission sources on the LCI in relation to the different prescribed emission pollutants.

This work, and the results, should be added to PETS to support the PPC Permit application. It is recommended that the scope of the modelling is reviewed with the Department in advance.

3.2.7 Emissions Monitoring Plan

Applications must include details of measures planned to monitor emissions into the environment from combustion plant. A high-level plan is required at the initial application stage setting out information on the pathways of release, the proposed methods of monitoring, sampling and analysis and relevant quality assurance / quality control procedures. Confirmation on the availability of appropriate sample points should also be included. Submission of a monitoring plan for approval by the Department will be a condition within the permit. This plan should be kept up to date over the life of the permit.

Emissions monitoring and reporting frequencies will be agreed between the applicant and the Department though as a minimum will be based on the respective requirements of the LCP BREF BAT Conclusions, IED Chapter III, Annex V Part 3, and MCPD Annex 3 as applicable Separate, detailed monitoring guidance is hosted on the Department’s webpage and should be consulted [Ref 14].

3.2.8 Environmental Impact Assessment

Within PETS the Production MAT EAJ assesses all environmental aspects of an installation and summarises the more detailed supporting SATs. The EAJ in the MAT is required to

present the environmental impact of the LCI. The description thus is not anticipated to change often following initial approval unless there have been any substantial changes in the operation or in the production process configuration.

The information relating to the assessment of the environmental impact will need to consider all materials and substances used during the course of operation of the LCI and all emissions, or releases, of materials and substances to the environment.

The EAJ should present the basis of the emission profiles contained in the application; this would typically include information on load demand, fuel forecasts, operating philosophy for the combustion plant (including how the plant is operated to minimise environmental impact) and definition of the emission factors used to determine the pollutant profiles. The EAJ should summarise the basis and findings of dispersion modelling and assess whether there are any impacts to human health and environment offshore, and localised or transboundary impact of emissions to air and climate.

The major source of environmental impact associated with combustion activities relates to emissions to atmosphere, of the following pollutants:

- the oxides of nitrogen, and other compounds containing nitrogen (NOx);
- the oxides of sulphur, and other compounds containing sulphur (SOx);
- carbon monoxide (CO);
- methane (CH4);
- non-methane Volatile Organic Compounds (nmVOCs), and;
- dust – where applicable in relation to Chapter III combustion plant

A full list of pollutants covered by the Regulations are contained in Schedule 2. This should be consulted to ensure that the EAJ covers all relevant pollutants.

Note that while flaring is not covered by the Regulations, the impacts of flaring on combustion emissions in relation to air quality should be assessed for completeness.

Direct discharges to the marine environment are unlikely to be significant and the applicant will need to demonstrate this. There is a general presumption that no solid or liquid wastes associated with the combustion activities should be directly discharged to the marine environment, with the exception of chemicals discharged in accordance with the terms and conditions of a permit issued under The Offshore Chemicals Regulations 2002 (e.g. turbine washes and general purpose “rig” washes), and machinery space discharges undertaken in accordance with OPPC or MARPOL requirements.

Onshore recycling or disposal of wastes will normally be restricted to materials such as used filters and lubricating oils. Offshore storage of potentially hazardous wastes should be avoided, unless the materials are contained or otherwise rendered harmless. The aim is to prevent the creation of wastes containing substances prescribed for disposal on land, or which could cause harm. Where this is not possible, waste quantities should be minimised, by careful selection of raw materials and management processes, and by re-use and/or recycling. Evidence should be provided to demonstrate that these issues have been addressed.

3.2.9 Temporary Equipment

Temporary equipment is determined as any piece of combustion plant that resides on the relevant platform less than 18 months. Any combustion plant that remains on the relevant platform longer than this must be specified on the permit by means of a permit variation or part of a new application. Temporary equipment should be included in the application as a single generic emission source entry (or entries) to cover the potential use of unspecified 'temporary equipment' and assign the relevant fuel type to that entry (e.g. gas, gas oil or dual fuel).

3.3 Energy Efficiency Considerations

3.3.1 Background

The PPC Regulations do not directly reference net zero and CO2 is not defined as one of the pollutants contained in Schedule 2 of the Regulations. The Regulations do, however, require that the applicant will operate the offshore combustion installation in accordance with the principle that energy is used efficiently. This is an important principle in supporting the UK Government's and industry's net zero policies and commitments.

The UK Climate Change Act 2008 set a duty on the Secretary of State to ensure that the net UK carbon account for the year 2050 is a stated amount lower than the 1990 baseline. In 2020 the UK government committed to Net Zero by 2050, having published its "Energy White Paper: powering our net zero future" in December 2020 [Ref 11], and the North Sea Transition Deal (NSTD), the sector deal between the UK government and the offshore oil and gas industry, in March 2021 [Ref 12]. These were followed up with the UK Net Zero Strategy in October 2021 which was subsequently updated to the UK Net Zero Strategy; Build back greener in April 2022. The NSTD is an agreement between offshore oil and gas industry and government to act on a wide range of policies and commitments to support the UK's transition to Net Zero by 2050 and the Department's regulation of industry is in the light of this agreement and associated government policies.

By creating the NSTD, the government and the UK's oil and gas sector are seeking to tackle the challenges of reaching net zero, while repositioning the UK's capabilities to serve the global energy industry. Through the NSTD, the oil and gas sector has committed to cut GHG emissions by 50% by 2030, with stakeholders working together over the next decade and beyond to deliver the skills, innovation and new infrastructure required to decarbonise the North Sea fossil fuel production. The focus of net zero initiatives across all sectors (including the offshore energy industry) will be on accelerating reduction of GHG, whether by energy efficiency measures or decarbonisation measures including renewables, or a combination of both. This has implications on offshore combustion installations (both LCI and MCI) operating in the sector.

3.3.2 Energy Efficiency

Regulation 7(3) requires the permit applicant to operate the LCI in accordance with several principles. In addition to the prevention of pollution and the application of BAT, these include the principle that energy is used efficiently. Additionally, Schedule 1(9) of the Regulations requires energy efficiency to be a consideration in the determination of BAT. As noted, these principles align with the aims of net zero policies and commitments as contributing to lower GHG emissions.

Pursuant to the energy efficiency requirement under Regulation 7(3)(e), when considering PPC applications the Department must be satisfied that the operator will operate the installation in

an energy efficient manner. The Department will have regard to the fuel supply in determining whether this criterion is met, taking into account the available options that may include using native gas from the operated field(s), using gas that would otherwise go to flare, using imported gas or using diesel, with diesel use typically being the lower choice option. For new installations or those directly associated with regional hub electrification projects, the Department will also expect electrification options to be considered in PPC applications. For such installations, the Department may, on a case by case basis, set conditions in the PPC permit to ensure energy efficiency criteria of any retained combustion plant is met and/or reviewed in future.

The Department may require energy audits via permit conditions – and may periodically require updates to energy efficiency justifications to be submitted. The Department is aware that energy efficiency is considered under other obligations such as the UK ETS, Energy savings Opportunity Scheme (ESOS) and under the Stewardship Expectations of the NSTA in the form of Emissions Reduction Action Plans (ERAPs). The Department aims to achieve its PPC regulatory requirements in the most efficient way and will therefore accept information and justifications relevant to the installation such as those prepared for the purposes of UK ETS, ESOS and ERAPs as evidence in support of the energy efficiency obligations of the PPC Regulations. Operators are encouraged to provide and discuss such information with OPRED at an early stage prior to the date required under a permit condition, to ascertain the sufficiency of that evidence and whether further information is likely to be needed to meet the regulatory requirements.

3.3.3 Inter-dependencies

Regulation 11 stipulates that the GHGs specified in Annex I of Directive 2003/87/EC are not part of any permit conditions (Regulation 9(2)). This effectively means that specific matters relating to the regulation of GHGs such as Carbon Dioxide (CO2), and Nitrous Oxide (N2O) are not covered by the Regulations. Instead, CO2 emissions are regulated via the UK ETS for large industrial users. PPC permit holders can expect to require a UK ETS permit where the relevant ETS threshold is applicable.

Since information regarding energy efficiency under the Regulations may also be related to information concerning energy efficiency and GHG emissions under UK ETS, ESOS and ERAPs, operators should ensure that justifications involving energy efficiency are consistent between application types. Inconsistencies can lead to delays in the administration of the relevant schemes while these are resolved.

The Department recognises that as the Government and the offshore sector's Net Zero Strategy and initiatives develop and mature, there may be areas of interdependence, and in certain cases potential trade-offs, that develop between different regulatory requirements. In any such situations, a suitable balance may be identified and agreed with the Department that is consistent with BAT and net zero whilst remaining compliant with the Regulations including being satisfied that the applicant will operate the LCI in accordance with the principles that all appropriate measures are taken to prevent pollution, including by the application of BAT and that no significant pollution will be caused.

These guidelines may be updated in future as potential inter-dependencies become clearer.

3.4 Post-Submission Application Process

3.4.1 Consultation on Permit Applications

The Secretary of State is required under Regulation 5 to make all new permit applications that relate to the operation of a LCI, publicly available. This is done by publishing a notice on the Department's webpage for a minimum of 28 days, to allow members of the public to make representations on the application.

For those facilities near the shore (less than 12 nautical miles from the shoreline), or where atmospheric dispersion modelling indicates there may be a detrimental effect on local air quality, further consultation may be required.

If, as a result of information contained within a permit application, the Department considers that transboundary impacts are likely, it may consult other bodies within the transboundary state as appropriate, specifically under Regulation 6.

Where the Department decides that it is appropriate to consult other bodies in relation to an application, the Department will advise the applicant accordingly.

3.4.2 Determination of Permit Applications

It is the aim of Department to apply the Regulations proportionately, and the permit conditions will therefore reflect the magnitude and complexity of the facility, and any environmental effects.

Additional information may be required in order to determine an application. In such cases, any additional information that is supplied may be subject to further public notice (depending on the nature of the information), which could delay determination of the application. If there is a delay in providing additional information, it could also delay the determination of the application, and could impact the commissioning programme or result in existing operations being suspended.

Under Regulation 7 before granting or refusing an application, representations received from the public and/or if applicable from an EU member state must be taken into account. However, after consideration of relevant information and conclusions, a permit for the operation of an LCI must be granted where the Secretary of State is satisfied that the installation will be operated in compliance with the regulations.

3.4.3 Grant of a Permit with Conditions

Where a permit is granted, notification will be given to the applicant as soon as possible.

This decision will be publicly available and include a summary of the representations made and how these have been taken into consideration.

The permit issued will usually be for the 'life' of the installation facility, and have a rolling 3-year level of emissions. A review of each permit will be undertaken on a rolling five year basis , and any changes required will be communicated to the permit holder to accommodate in a permit variation.

3.4.4 Refusal of a Permit

The Department may refuse a permit if:

- the applicant has failed to demonstrate BAT within the application or does not comply with the Regulations or the relevant Directives;
- the information provided by the operator does not provide a reasonable basis to determine the permit conditions, taking account of the applicant's responses to any requests for additional information;
- the environmental impact would be unacceptable. For example, an applicant might propose locating a new facility close to an extremely sensitive environment, without giving adequate consideration to emission reductions; or
- the Department takes the view that the applicant will not comply with the proposed permit conditions. This may occur if the Department has reason to believe that the applicant lacks the management systems or competence to operate the combustion installation in accordance with proposals outlined in the application or in accordance with any of the permit conditions.

The above points capture the main circumstances and is not an exhaustive list. If the Department refuses to issue a permit, it will provide notice of the refusal and the reasons for the refusal. The Secretary of State is required under Regulation 8(2) to make the notice publicly available.

The applicant, or a person with sufficient interest, has the right to appeal to the Secretary of State under Regulation 33 if the Department refuses to grant an application. They have the right to do so within 28 days of the date of the notice although the relevant decision remains in force until a court orders otherwise.

3.5 Permit Compliance

3.5.1 Compliance with Conditions

The permit holder is required to monitor and report emissions to demonstrate compliance with the permit conditions. It is therefore incumbent on operators to ensure that the conditions of the permit are understood and complied with, including permit ELVs, where relevant.

The permit for an LCI will include conditions relating to:

- Measures to prevent pollution, including the application of BAT and energy efficiency;
- Monitoring Requirements, for LCI combustion plant as a whole;
- Monitoring Requirements for any qualifying LCP in the permit;
- Monitoring Requirements for any qualifying MCP in the permit;
- Requirement to submit a return of annual emissions from combustion plant in the permit.

Regulation 3 states that a person must not operate an offshore combustion installation without a permit and otherwise than in accordance with the conditions in that permit. For existing MCP the regulation clarifies that this applies from the 'relevant date' for the MCP.

3.5.2 Data Reporting

There are several aspects relating to the data reporting of emissions on an LCI namely:

a) The reporting of total annual mass emissions (tonnes) of prescribed pollutants. This is carried out using the Environmental and Emissions Monitoring System (EEMS).

b) The reporting of stack emission concentrations (mg/Nm3 at reference conditions) of prescribed pollutants as a result of periodic monitoring conducted in accordance with the approved Emissions Monitoring Plan (see 3.2.7). This is carried out by uploading plans and reports into PETS.

c) The reporting of additional combustion plant process parameters to help substantiate the periodic review by the permit holder and by OPRED of the mass emissions (tonnes) and the emission concentrations (mg/Nm3) of prescribed pollutants, where these additional parameters are required to be used to assess compliance with permit ELV and loads.

3.5.2.1 Data reporting to EEMS of annual emissions

Permit holders must submit total annual emissions of prescribed pollutants using EEMS. Reporting is per calendar year. The Department may impose more frequent reporting in the event of unsatisfactory performance or unforeseen situations.

The permit holder shall, by the end of 31 March, submit a return of the emissions from the previous calendar year for the LCI authorised under the permit.

The annual emissions report submitted to EEMS relates to the LCI as a whole, and for each prescribed pollutant, the report is built up from the emissions from the separate categories of individual combustion plant when operating on specific fuels. The report should confirm the total mass of each prescribed pollutant emitted from the qualifying combustion plant in a particular calendar year, i.e. the permitted LCI annual mass emissions. Any excess emissions beyond that of the annual load limits contained in the permit (see section 3.2.5 above) must be reported by submission of a permit non-compliance.

Where atmospheric emissions are not directly monitored by an approved Continuous Emissions Monitoring System (CEMS) or calculated using an approved Predictive Emission Monitoring System (PEMS), then emission calculations for reporting should be undertaken in accordance with the EEMS Atmospheric Guidance and Atmospheric Emissions Calculations guidance documents available on the Department's website [Ref 13]. This is the traditional de-facto approach for calculating annual mass emissions.

In calculating and reporting annual emission loads to EEMS, the permit holder may use the standard EEMS emission factors within the system or – if deemed more appropriate – may use alternative emission factors that have been determined as being more relevant to the combustion plant on the installation. If the latter approach is to be adopted, then the permit holder should submit their proposed alternative approach to the Department for review at least 3 months before the permit holder's planned date for the use of the alternative approach. For example, the results from periodic stack emissions monitoring (see below) may be used for generating accurate plant-specific emissions factors for use in subsequent EEMS reporting, following review and agreement with the Department.

Note that it is the Department's current policy to seek to make continuous improvements to EEMS calculation methodology that are applicable to PPC permit holders as a whole; and therefore, it shall also be normal policy for the Department to only accept alternative emission factors to those in EEMS where this is strictly necessary.

3.5.2.2 Data reporting of periodic stack emissions monitoring to PETS

In the absence of CEMS or PEMS on an LCI, or to allow the verification of such systems, permit holders are required to carry out periodic stack emissions monitoring (sampling of prescribed emission pollutants via sample ports on the combustion plant exhaust stacks) in line with the regulations, with BAT, and with industry best practice. The required frequency of stack emissions monitoring and the relevant prescribed pollutants to be monitored will be contained within the conditions of the LCI permit with further supported information contained in the Department's emissions monitoring guidance [Ref 14].

The results of stack monitoring tests (campaigns / surveys) conducted by permit holders on LCI are expected to be reported as concentrations of the prescribed emission pollutants (in mg/Nm3) at the appropriate reference conditions in relation to atmospheric pressure and temperature and % oxygen; this facilitates like-for-like comparison with industry data and with specific Emission Limit Values (ELV) stipulated within permits.

3.5.2.3 Data reporting of additional combustion plant process parameters

Permit holders with LCI containing LCP must maintain records of additional process parameters that substantiate the operating profiles of the LCP to a satisfactory extent that allows the permit holder and the Department to verify compliance with the conditions relating to the ELV in the permit, in line with the LCP BREF. These records must be collected and maintained by the permit holder in a manner which is traceable and which is suitable to be reported to the Department (in digital form) and in a form which can be audited by the Department's inspectors during their annual inspections.

As described in 3.2.5.1 & 3.2.5.2 above for permits with LCP, the BAT-AELs for oxides of nitrogen (NOx) from the combustion of gaseous fuels in OCGTs on offshore platforms will apply when the LCP is operating above 70% base load rated output available on the day [Ref 8].

The Load of OCGTs on offshore platforms should be measured and reported in terms of power output (MW), either based on the electrical output from gas turbine generators (GTG) or as the power turbine mechanical power output from mechanical drive (MD) gas turbines. GTG OCGT units can be expected to consistently have continuous MW power output measurement available from the electricity generator terminals, transmitted to the unit control and supervisory control systems. MD OCGT units may be fitted with mechanical torquemeters with torque and power readings and where reliable they should be used. Where permit holders have LCP which have neither of these systems for measuring and reporting Load (MW) then the permit holder should propose alternative methodologies to the Department; for example, using the absorbed power of the process load (e.g. gas compressor) or using a performance correlation of load in relation to other process parameters (such as fuel consumption and expected thermal efficiency). The Department shall expect any such proposals to be sufficiently accurate, reliable, and repeatable, as to demonstrate compliance with BAT-AELs and ELVs.

Other parameters may be required by the permit holder to demonstrate operation relative to base load rated output available on the day. Ambient conditions to convert between BS ISO 11086 base load conditions and conditions on the day can be expected to be available on all LCI, and as a default if not available from LCP systems should be available from the LCI heli-deck weather instruments.

It should be noted that where a permit holder is proposing to use a PEMS as part of LCP or MCP compliance monitoring of prescribed pollutants, then it would be a normal expectation for the PEMS to have the above functionality and reporting built-in as standard. It would also have the added-value benefits of performance and condition-based facilities that allow the

prescribed emission pollutants to be more easily related to LCP and MCP performance on a continuous basis. Refer to the Department's emissions monitoring guidance [Ref 14] for further discussion of PEMS.

Permit holders are required to demonstrate the electronic recording of daily values of the above category of parameters, including load in MW (e.g. as daily averages or at daily spot readings at normal operating duty). Such records should allow review by operations personnel on a daily, weekly, and monthly basis, and the production of management reports on a monthly, quarterly and annual basis. The Department may request the permit holder to provide copies of such management reports to demonstrate compliance with operating profiles in relation to the operation of any LCP relative to its base load rating and relative to the ELV within the permit.

3.5.2.4 UK Pollutant Release and Transfer Register

The Department collects information for the UK registry, which provides administrative information on offshore hydrocarbon installations 'permitted' under the regulations. Emissions datasets are collected through the EEMS Reporting System for submission into the UK Pollutant Release and Transfer Register (UK-PRTR). The UK-PRTR collates similar emissions data from the UK Devolved Administration environmental regulators under their respective PPC regulations. This is the same obligation as under Article 24(4) of the IED, which requires the publication of an EC inventory of principal emissions and their sources, known as the `European Pollutant Release and Transfer Register' (E-PRTR). The UK-PRTR replaces the E-PRTR for UK emissions.

3.5.3 Monitoring

As noted above, emission monitoring requirements will be stipulated for plant within the permit conditions. This shall include requirements to monitor in accordance with the monitoring plan (as per section 3.2.7).

Further detailed guidance on monitoring requirements is available from the Department's web page [Ref 14]. In relation to the Regulations it is sufficient to say here that within an LCI the minimum emission monitoring requirements for LCP equipment are set out in the requirements of the IED and LCP BREF; the monitoring requirements for MCP equipment are set out in the requirements of the MCPD, and the monitoring requirements of combustion plant on the LCI that is neither LCP nor MCP are set out in the IED general principles, general BAT monitoring principles, and industry best practise.

3.5.4 Energy Audit

In relation to Regulation 7(3)(e), there is a requirement for the operator that energy is being used efficiently. In relation to regulation 9(1)(b) there is a requirement for the operator to demonstrate BAT and energy efficiency is being used in accordance with the criteria in Schedule 1. These requirements are reflected within PPC permit conditions.

Typical permit conditions include:

- Where directed by the Department, the permit holder must undertake or commission an energy audit or assessment to quantify the total energy use on the combustion installation and the energy consumption by specific equipment or processes, to identify opportunities for energy efficiencies and/or the reduction of emissions of pollutant substances.

- Where directed by the Department, the energy audit or assessment must include a cost benefit analysis for improvement options e.g. the replacement of existing combustion plant with more efficient combustion plant and/or the replacement of plant or the use of abatement technology to reduce the emissions of pollutant substances.

- Where directed by the Department, the permit holder must provide a report detailing any progress in relation to the proposed improvement options.

- Where directed by the Department, the permit holder must provide a report detailing the progress in relation to minimising emissions and energy use in LCI.

For clarity, it should be noted that this provision for an energy audit (which is only required at the request of the Department) relates to the entire LCI, and not just to individual LCP or MCP. There are additional requirements for a BAT assessment, that relates to LCP.

The provision for energy audits of LCI under the permit conditions has been and remains useful for Industry and for the Department over the lifetime of existing PPC permits. With the advent of net zero commitments [Ref 11], NSTD sector targets [Ref 12], and the subsidiary offshore sector initiatives (such as electrification, CCUS/Hydrogen, renewable energy, and the OGUK methane action plan), the provision for an Energy Audit allows potential flexibility to help inform the alignment of PPC policy with net zero policy, and with important GHG policy mechanisms such as the UK ETS. Energy audits also serve as a useful provision to help inform permit reviews.

Copies of an energy audit or assessment report, cost benefit analysis and progress reports shall be submitted to the Department within agreed deadlines. The frequency and scope of any future energy audits or assessments, cost benefit analyses or progress reports shall be determined by the Department at the time of permit review.

3.5.5 Permit Review

3.5.5.1 Formal reviews

Under Regulation 13(1), the Secretary of State must review the conditions of the permit at intervals as thinks fit. The Department will typically undertake a formal review of all permits at least once every five years. The Department may additionally review the conditions attached to permits on a more frequent basis, at such intervals as it deems appropriate.

In addition, the Department is required to review offshore PPC permits in any of the circumstances described in Regulation 13(2). This means a permit review is required where:

- developments in BAT allow for the significant reduction of emissions without incurring excessive costs;

- the operational safety of the LCI requires techniques, other than BAT to be used; or

- the pollution caused by the LCI is of such significance that the existing emission limit values, equivalent parameters or technical measures in the permit need to be revised.

Permit reviews prompted by the publication of revised or new BAT Conclusions must be completed such that any necessary update is completed, and the offshore installations are complying with those updated conditions within four years. The precise timing of these reviews within that four-year period will be for OPRED to determine.

Where BAT Conclusions contain BAT-AELs, the updated permit must contain ELVs which are set in accordance with those relevant BAT-AELs. If the operator considers that the ELVs set on

that basis will be unattainable, the operator must request a derogation under regulation 10 for each OCGT as defined in Article 15(4) of the IED. Information on the LCP BAT-AEL derogations are the subject of separate guidance [Ref 10].

3.5.5.2 Review of Existing Permits – MCP

Regulation 12A requires that where a PPC permit has been granted for an installation that includes MCP before the 'relevant date' for the MCP, the Secretary of State must review the permit before this date and ensure that the relevant provisions of the Regulations have been implemented. Offshore combustion installations equipped with new MCP are expected to engage with the Department early in the application stage, given their relevant date in a) below.

"relevant date" means—

(a) 20th December 2018, in relation to an offshore combustion installation equipped with new medium combustion plant;

(b) 1st January 2024, in relation to an offshore combustion installation equipped with an existing medium combustion plant with a rated thermal input greater than 5 megawatts;

(c) 1st January 2029, in relation to an offshore combustion installation equipped with an existing medium combustion plant with a rated thermal input of not more than 5 megawatts

An LCI that already holds a permit and has existing MCP, must have the permit reviewed and updated by the Department before the applicable 'relevant date' given in b) or c) above. The respective permit holders should be familiar with the requirements of the regulations as they relate to MCP and engage with the Department with respect to current guidance, well ahead of the relevant date.

3.5.6 Things have changed, what should I do?

The following sections describe types of changes which result in an action being required by the permit holder.

3.5.6.2 Change in Operation – Permit Variation

The Permit must reflect the current operating practices and any planned changes from these need to be communicated to the Department by means of submitting a permit variation to account for the planned change(s).

Regulation 12 requires that where a variation to the operation of an LCI is proposed this must be notified to the Secretary of State, via an application for permit variation, and the operator must not put the changes into effect until approval for the permit variation has been approved. Operators are reminded that it is an offence to operate an LCI otherwise than in accordance with the conditions of the existing permit.

A permit variation must be made by the current permit holder.

The permit holder must submit an update or vary the permit if there is a company name change that does not affect the company legal entity status.

Note that any change to the company's legal entity status is treated as an asset transfer and not a permit variation[2]. See section 3.4.6.5 for legal entity changes.

The applicant should normally apply for a variation if there are any changes to the administrative details and these can be included with other changes. However, applicants are advised to contact the Department prior to submitting a variation for minor changes. In some cases, the Department may advise that a variation is unnecessary to cover the amendments.

The information requirements for variations will depend upon the nature of the changes. Where a variation relates solely to the removal of a minor item of combustion plant, it may be sufficient to identify the plant and any impact on the emission loads. Where the update or variation relates to changes in plant or the associated management regime, it may be necessary to amend the entire application to provide sufficient detail to enable the Department to determine the request. Variations will be assessed by the Department to determine if the proposed change constitutes a Substantial Change; this is discussed in Section 3.4.6.3.

Any combustion plant that is planned to be removed from the permit, must be supported by an isolation certificate (submitted by email to support the variation) which details the tag number of the plant and what has been done to isolate the plant. Isolation considered as a physical change to the plant includes a disconnection (e.g. spading) from the fuel supply, or removal of connections to the electrical distribution system. Closing of valves to prevent the flow of a fuel is not deemed a physical change and the plant would therefore remain on the permit, as it retains the physical capacity to be operational. Alternatively, the plant could be physically removed from the installation and the applicant should state this in the application after the plant has been removed.

The Department encourages permit holders to formally include periodic review activity within their Environmental Management System (EMS).

3.5.6.3 Substantial Change – Permit Variation

Under Regulation 12(3) the Secretary of State is required to consider whether the proposed variation is a substantial change in operation, where the definition of substantial change in operation is defined in Regulation 12(7) as a:

"…change in the nature or functioning, or an extension, of a large combustion installation which—

(a) may have significant negative effects on the environment; or

(b) in itself is equal to, or greater than, a rated thermal input of 50 megawatts"

The Department will consider the likely environmental impact resulting from the proposed change in deciding whether a change is "substantial". For combustion processes, a change in the environmental impact is most likely to result from increased emissions, resulting from either increased fuel consumption or a change in fuel type (for example, changing from gas to diesel). Additional detailed information will be required for this assessment, and it is recommended that operators consider the information requirements and timeline detailed in Section 3.1.2.

[2] Change to the company's legal status will trigger the requirement for the new entity to be appointed as the installation operator as required under Regulation 5 of the Offshore Petroleum Licensing (Offshore Safety Directive) Regulations 2015 and associated processes.

The Department will review the submission to determine whether it is a standard variation or a substantial change variation.

Other than as noted in Regulation 12(7), there are no additional numeric thresholds that determine a substantial change. However, when considering the substantiality of the change, it is the potential of significant negative effects on the environment that are considered and not the nature or scope of the changes in operation. Some changes will not have consequences for the environment and will fall outside the definition, but some will have a negative effect. The Department will therefore consider the potential impact of the change in operation on the emissions of substances controlled under the permit (e.g. NOx, SOx, CO, CH4 and nmVOCs). If a change in itself is equal to or greater than a rated thermal input of 50 megawatts, the change constitutes a “substantial change” within the definition in the Regulations.

Although there is no direct relationship between the emissions of these controlled substances and the emissions of CO2, the impact of the change in operation on the emissions of CO2 can be used as one indicator of the relative size of the change to determine the potential negative effects on human beings or the environment, and the information requirements to facilitate the substantial change assessment have been linked to the anticipated increase in the emissions of CO2. Where making such a correlation is inappropriate, operators should seek advice from the Department.

The data required to facilitate the assessment are directly related to the 50 MWth threshold, which is assumed to equate to theoretical CO2 emissions of 100,000t per annum. This threshold is applied to the maximum increase that will be achieved after the change. In most cases, the Department will only determine that there has been substantial change if the increase in CO2 emissions is greater than 100,000t per annum. However, the Department may determine that smaller increases are substantial, if there are significant increases in the emissions of other combustion products, such as the NOx and SOx. Similarly, the Department may determine that increases of greater than 100,000t CO2 are not substantial, if the threshold will only be exceeded for a short period and the increase in CO2 emissions will then reduce to less than 100,000t per annum.

As a guide operators should also consider:

- Does the change increase CO2 emissions by 100,000t per annum (roughly equivalent to 50MWth)?
- Is the change in itself ≥50MWth?
    - This may include a non-like for like removal and replacement of combustion plant
- Does the change increase annual NOx mass emissions by 20%?
- Does the change result in the LCP ELVs or MCP ELVs being exceeded?
- Does the change increase annual SOx mass emissions by 20%?
- Date of Cessation of Production changes – emission impacts

Given the additional detailed information required, it is recommended that operators engage with the Department at an early stage of such proposed variations.

It should be noted that the Department does not consider the routine maintenance of plant, including the planned overhaul of gas turbines, as being changes in operations themselves, but the impact of upgrades as part of major overhauls should be considered.

Operators are reminded, as per a standard variation, that changes must not be put into effect until the permit variation has been approved by the Department. Further, all changes must represent BAT and an approval will only be given where this is demonstrated. Given the potential impact of a refusal to grant a permit it is recommended that operators discuss proposed variations in advance of final project decisions.

Operators are reminded that it is an offence to operate an LCI otherwise than in accordance with the conditions of the existing permit.

3.5.6.4 When do I need to update my air dispersion modelling?

Planned changes to the combustion plant and operational philosophy (such as process production configuration changes which may impact on emissions) and which are not represented by the current air dispersion modelling, should be discussed with the Department to determine whether additional modelling is required or not. This should be done at a very early stage to avoid any potential delays.

3.5.6.5 Operatorship of my Installation is changing from one legal entity (i.e. the Operator) to another. What do I need to do?

If there is a proposed asset assignment (transfer) involving the transfer of an offshore LCI to another operator, the existing permit holder must initiate a request (by email to the Department) for a permit transfer. Prior to this, the 'new' operator would need to be appointed as the installation operator as required under Regulation 5 of the Offshore Petroleum Licensing (Offshore Safety Directive) Regulations 2015 and not objected to by NSTA. Following the appointment, under Regulation 18 (3) the existing permit holder must inform the Department in writing, confirming the effective date of transfer to the 'new' operator and authorise copies of the existing permit application to be made available to the 'new' operator. Upon the request, the Department will grant the 'new' operator access to PETS and make available copies of the existing permit application to the 'new' operator.

The 'new' operator will be required to review the permit application and update it as necessary prior to submitting the application through PETS.

Following receipt of the 'new' operator's application, the Department will review and where possible decide whether to authorise the permit to be transferred. If the permit is transferred, the existing operator will be issued with a surrender notice.

The 'new' operator should be aware that, if the permit application contains significant changes, the Department may decide that there should be a public notice for the application. Under such circumstances, the Department will advise the 'new' operator accordingly.

The Department may require the 'new' operator, or the original permit holder, to supply such additional information as it requires to process the request for a permit transfer.

3.5.6.6 Cessation of Production / Permit Surrender

The Department must be informed in advance of the expected date of permit surrender and must be notified of the actual date at which it intends the surrender to occur.

Should an operator wish to surrender a PPC permit once it is no longer required, the operator should give notice to the Department (by email to the Environmental Management Team). The notice from the operator must explain the eligibility reasons for surrender and provide relevant evidence of the capacity reduction below the rated thermal input threshold or evidence of the cessation of being a 'relevant platform'. The Department shall consider the application and where content shall proceed with permit surrender process in accordance with Regulation 17.

That evidence may be a combination of photographic, work order and isolation certification, or evidence that the plant has been physically removed.

The permit holder has an obligation to submit a return of the emissions from the combustion equipment authorised under the permit in accordance with section 3.4.2.

An LCI PPC permit may only be surrendered once it is no longer required i.e. where:

- The total rated thermal input of combustion plant on the installation has fallen <50MW (and it has no eligible MCP installed); or
- The platform has ceased to be a 'relevant platform' where 'relevant platform' is defined as:
    - a carbon dioxide storage or unloading platform;
    - a gas storage or unloading platform; or
    - a petroleum platform.

It should be noted that this means a PPC permit may still be required:

- After the Cessation of Production date; For example, where combustion plant with total rated thermal input equal to or greater than 50MW still retains the physical capacity to be operated on the LCI, irrespective of whether it is operated or not. In such circumstances the Department shall normally require that the permit is retained until such time as the combustion plant can no longer provide its operating function on the LCI. In the case of an LCI comprising an FPSO vessel for example, the permit can be expected to be required until the date that the FPSO severs all of its physical (process, mechanical, electrical, anchoring) connections with the hydrocarbon field(s). In all cases the operator must provide evidence of permanent disconnection (photos or engineers report) to support the surrender process.
- If the platform still has MCP installed (See section 4 - Medium Combustion Installations). For example, where an LCI retires some combustion plant that brings it below the total rated thermal input of 50MW required for an LCI, but retains MCP that is eligible in line with its 'relevant date'. In such instances the permit holder should seek advice from the Department in varying the PPC permit from LCI status to MCI status if there is qualifying MCP. The permit holder has an obligation to submit a return of the emissions from the combustion equipment authorised under the permit in accordance with Regulation 9B.

3.5.7 I am not satisfied with a decision, what should I do?

A person with sufficient interest, aggrieved by any decision of the Secretary of State, in relation to granting or refusal of an application, permit variation, variation of conditions in permits following a review, permit revocation, surrender or transfer of an application or permit, must appeal to the court within 28 days of the date of the written notification of the decision from the Secretary of State. The Appeal must be made:

in respect of a decision relating to the English area, to the High Court;

in respect of a decision relating to the Scottish area (excluding Scottish Controlled Waters), to the Court of Session; or

in respect of a decision relating to the Northern Irish area, to the High Court in Northern Ireland.

In the regulations “the English area”, “the Northern Ireland area” and “the Scottish area” have the same meaning as in the Civil Jurisdiction (Offshore Activities) Order 1987.

3.5.8 Non-Compliance

In the event that the permit holder becomes aware of any incident (including breach of any permit conditions and or emission limits) or accident which may significantly affect the environment, the permit holder must immediately inform the Department.

All notifications of breaches (non-compliance) with permit conditions (including any emission limits) must be reported to the Department using the Integrated Reporting Service (IRS) which is hosted within the UK Energy Portal.

IRS has a dedicated PPC non-compliance notification form (PPC NCN) which must be used to report any non-compliance with permit conditions, any emission of a relevant polluting substance made without an approved permit being in place, or any other breach of the applicable PPC Regulations. Any required PPC NCN must be submitted within 2 working days of the non-compliance being identified.

https://www.gov.uk/guidance/oil-and-gas-environmental-alerts-and-incident-reporting#environmental-alert-notices

A record of events of non-compliance and corrective measures should be maintained by the operator.

In accordance with LCP BATc, the operator may be required to take additional measures to ensure that compliance with ELVs is restored without undue delay.

4 Medium Combustion Installations

This Section should be read after consideration of Section 2, and after determination by the applicant that an offshore combustion installation is to be classed as an MCI as opposed to as an LCI. An offshore combustion installation can only be classed as one or the other, not both. If it is not an MCI but an LCI, refer to Section 3 of this guidance. Refer to the flow charts in Appendix 1 for further guidance when reading this section.

If you have already determined in Section 2 that you do not have an LCI, but you have an MCI, then Section 4 requires you to determine if you have eligible MCP (either existing or new) and therefore need a PPC permit to cover your MCP from its 'relevant date'. If you do not, then you do not require a PPC permit.

4.1 Overview

As discussed in Section 2, the controls on MCP from the MCPD are transposed into the Regulations (Ref 2]. The Regulations provide requirements for LCI (which may comprise all categories of combustion plant) and for MCP (which may be located on LCI or on MCI). It is important to note that the Regulations exclude gas turbines and gas or diesel engines operating on offshore combustion installations from the definition of MCP. For the offshore industry, this means that boilers, heaters, and **dual fuel** engines, are qualifying plant.

The following considerations are therefore relevant:

- The PPC permit for an MCI with MCP will contain special provisions for the MCP from the 'relevant date' for the MCP as described under Section 4.2, but it will not contain the wider regulatory controls such as those that apply to an LCI.
- An MCI with no qualifying MCP will have no provisions that apply to MCP and does not require a PPC permit.

This section will detail the requirements specific to the regulation of MCIs with MCP. The primary differences for these from LCI are that:

- BAT is not a regulatory requirement;
- There is no public notice or consultation process; and
- Permit conditions relate only to qualifying MCP, and not to other combustion plant on the MCI.

Where no difference exists in process between LCI and MCI, the relevant section will direct you to Section 3 of this guidance.

4.2 When should I apply for a permit?

Regulation 3 states that a person must not operate an offshore combustion installation without a permit and otherwise in accordance with the conditions within that permit.

Therefore, operators of proposed new MCI which contain MCP must apply for a PPC permit prior to commissioning any of the qualifying combustion plant on the facility.

Note that this requirement applies equally to an existing MCI that may be adding new combustion plant that may or may not re-classify it as an LCI, as it does to a brand-new offshore combustion installation that is first being classed as an MCI with MCP.

Regulation 3(2) states:

Where a permit has yet to be granted in respect of an offshore combustion installation which is equipped with a medium combustion plant, paragraph (1) applies from the relevant date.

'relevant date' means:

(a) 20th December 2018, in relation to an offshore combustion installation equipped with new medium combustion plant;

(b) 1st January 2024, in relation to an offshore combustion installation equipped with an existing medium combustion plant with a rated thermal input greater than 5 megawatts;

(c) 1st January 2029, in relation to an offshore combustion installation equipped with an existing medium combustion plant with a rated thermal input of not more than 5 megawatts

For new MCI's, i.e. those commissioned after 20th December 2018, a permit is required prior to commissioning of the MCPs.

For existing installations with existing MCPs, i.e. those commissioned prior to 20th December 2018, the operator must engage with the Department prior to requiring a permit in order to comply with (b) and (c).

An offshore combustion installation that qualifies as an MCI will need to hold an approved PPC permit in line with the relevant dates above, to cover any qualifying MCP when it has the physical capacity to operate such MCP. The physical capacity to operate qualifying MCP as combustion plant is the overriding consideration and not whether the combustion plant is fully commissioned and operating. Relevant platforms may vary in their type from petroleum platforms, gas storage or unloading platforms, and carbon dioxide storage and unloading platforms. They may also vary in being either fixed installations or floating installations which are permanently anchored over an offshore field as part of an offshore combustion installation (for example an FPSO or FSU). In all cases, it is the physical capacity to operate the combustion plant which determines the need to hold a permit. Applicants should seek further guidance from the Department if required.

4.2.1 Engagement with the Department

See section 3.1.1 Engagement with the Department

4.2.2 Application Approval Timescale

The Department will aim to approve applications within twelve weeks. However, the Department may decide that a longer period is required if there are substantial changes required to the application before potential approval.

4.2.3 Net Zero consideration within application

See section 3.3 Energy Efficiency Considerations

4.3 Permit Application Process

The applicant for a permit must be the operator of the offshore combustion installation. Operators requiring a permit must apply to the Department through the UK PETS. Industry User Guidance on PETS has been issued and should be consulted for any queries about how to use this system [Ref 9].

4.3.1 Permit Requirements

Regulation 3 requires that a person must not operate an offshore combustion installation without a permit and otherwise in accordance with the conditions within that permit.

Regulation 9A stipulates the matters that must be covered by permit conditions and operators can expect these to include:

- Conditions limiting controlled releases, including emission limit values;
- Monitoring requirements including methodology and frequency;
- Compliance assessment;
- Incident prevention and mitigation;
- Record keeping; and
- Reporting requirements.

The permit application must therefore provide information on the emissions of the main pollutants over time from the MCP.

In determining the application, the Department must be satisfied that the operator has addressed all the above matters.

Whether a permit is granted, and the conditions attached to the permit, will depend on the circumstances of each application.

4.3.2 What Information should the Permit Application Contain?

The information requirements for permit applications are detailed below. The information should be included in the PETS application:

a) Relating to the MCI as a whole.

- Information relating to the applicant and the combustion installation, e.g. company details, the name of the facility, the geographical location of facility (quadrant and block number, and latitude and longitude site co-ordinates), a description of the facility and its activities and the environmental conditions at the site of the facility;

b) Relating to the MCP.

As per Regulation 4A (which refers to Annex 1 of the MCPD) the following information must be included in the application:

- Rated thermal input (MW) of the medium combustion plant;

- Type of the medium combustion plant (e.g. dual fuel engine, boiler, heater or other medium combustion plant);
- Type and share of fuels used according to the fuel categories laid down in MCPD Annex II;
- Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018;
- Sector of activity of the medium combustion plant or the facility in which it is applied (NACE code);
- Expected number of annual operating hours of the medium combustion plant and average load in use;
- Under Regulations 11C and 11D a declaration signed by the operator that the medium combustion plant will not be operated more than the operating hours specified.
- Name and registered office of the operator and, in the case of stationary medium combustion plants, the address where the plant is located.

c) Note regarding NACE codes.

The relevant NACE codes for the offshore industry are:

- Extraction of crude petroleum 0610
- Extraction of natural gas 0620

d) Supporting documents in PETS.

These points should be addressed through a combination of completing the relevant sections of the PETS PPC Application form and uploading supporting documents to the Portal. The document uploads that are required are:

- Atmospheric Dispersion Modelling study
- Emissions Monitoring Plan; and
- Update of the MAT EAJ document to include the impacts from combustion emissions.

These elements of the application are described further in the subsequent sections.

4.3.3 Emission Limits

As the major pollutant release route for combustion activities will be the atmospheric emissions, the emissions profiles of the qualifying combustion plant will be critical to the impact assessment and determination of permit conditions. It will therefore be necessary to provide information in relation to the performance of the combustion plant, in terms of the mass emissions per unit volume of exhaust gas from each item of qualifying combustion plant i.e. the pollutant concentrations. The information should document the concentration that the operator can achieve to enable demonstration of compliance against the relevant MCPD ELVs as applicable set out in Annex II of the MCPD.

For applications relating to new combustion installations, or applications relating solely to the installation of additional MCP, consideration of the emission profiles will form part of the early discussions relating to the project and will be relevant to plant selection. For applications relating to existing combustion installations, the vendor or manufacturer information may be presented, or the data obtained from stack monitoring. It may be necessary to consult the original suppliers or manufacturers of the plant to obtain the necessary information.

Dependent on combustion plant type, fuel type and thermal rating, there will be emissions monitoring requirements under the Regulations.

In addition to providing the emissions profiles of the MCP, it will therefore be necessary to provide information in relation to both the current and projected future total mass emission (the emission loads), and the overall efficiency of the combustion plant. For permitting purposes, the information provided should cover the calendar year of the permit application, and a period of at least three complete calendar years following the year of permit application.

4.3.4 Atmospheric Dispersion Modelling Study

Atmospheric dispersal modelling for MCP combustion plant is only required to be considered where the MCP is part of an LCI permit, and not where it is part of an MCI permit application. Refer to the relevant parts of Section 3 (Large Combustion Installations) if this is the case.

4.3.5 Emissions Monitoring Plan

Applications must include details of measures planned to monitor emissions into the environment. A high-level plan is required at the initial application stage setting out information on the pathways of release, the proposed methods of monitoring, sampling and analysis and relevant quality assurance / quality control procedures.

Confirmation on the availability of appropriate sample points that are accessible must also be included and of the appropriate design for the pollutant being measured [Ref 14].

Emissions monitoring and reporting frequencies will be agreed between the applicant and the Department though as a minimum will be based on the requirements of the MCPD Annex 3 as applicable). Separate, detailed monitoring guidance is hosted on the Department’s web guidance page and should be consulted [Ref 14].

4.3.6 Environmental Impact Assessment

The Production MAT Environmental Assessment Justification assesses all environmental aspects of an installation and summarises the more detailed supporting SATs. The EAJ in the MAT is required to present the environmental impact of the combustion plant. The description thus is not anticipated to change often following initial approval unless there have been any substantial changes.

The information relating to the assessment of the environmental impact will need to consider all materials and substances used during the course of operation of the combustion plant, and all emissions, or releases, of materials and substances to the environment.

The EAJ should present the basis of the emission profiles contained in the application. This would typically include information on load demand, fuel forecasts, operating philosophy for the combustion plant (including how the plant is operated to minimise environmental impact) and definition of the emission factors used to determine the pollutant profiles. The EAJ should summarise the basis and findings of dispersion modelling and assess whether there are any

impacts to human health and environment offshore, and whether there are localised or transboundary impact of emissions to air and climate.

The following pollutants are regulated under PPC in relation to qualifying MCP and in line with Article 1 of the MCPD:

- the oxides of nitrogen, and other compounds containing nitrogen (NOx);
- the oxides of sulphur, and other compounds containing sulphur (SO2);
- carbon monoxide (CO);
- dust.

Note that while flaring is not covered by the Regulations, the impacts of flaring in relation to air quality should be assessed for completeness.

Direct discharges to the marine environment are unlikely to be significant and the applicant will need to demonstrate this. There is a general presumption that no solid or liquid wastes associated with the combustion activities should be directly discharged to the marine environment, with the exception of chemicals discharged in accordance with the terms and conditions of a permit issued under The Offshore Chemicals Regulations 2002 (as amended) (e.g. turbine washes and general purpose “rig” washes), and machinery space discharges undertaken in accordance with MARPOL requirements.

Onshore recycling or disposal of wastes will normally be restricted to materials such as used filters and lubricating oils. Offshore storage of potentially hazardous wastes should be avoided unless the materials are contained or otherwise rendered harmless. The aim should be to prevent the creation of wastes containing substances prescribed for disposal on land, or which could cause harm. Where this is not possible, waste quantities should be minimised, by careful selection of raw materials and management processes, and by re-use and/or recycling. Evidence should be provided to demonstrate that these issues have been addressed.

4.3.7 Temporary Equipment

Temporary equipment is defined as any piece of combustion plant that resides on the relevant platform less than 18 months. Any combustion plant that remains on the relevant platform longer than this must be specified on the permit by means of a permit variation or part of a new application. Temporary equipment should be included in the application as a single generic emission source entry (or entries) to cover the potential use of unspecified 'temporary equipment' and assign the relevant fuel type to that entry (e.g. gas, gas oil or dual fuel).

4.4 Post-Submission Application Process

4.4.1 Consultation on Permit Applications

There is no statutory consultation requirement associated with MCI PPC Permits for MCP.

4.4.2 Determination of Permit Applications

Regulation 7A requires that where a duly made application is received, the process for determining the application will start within one month of the application being made.

It is the aim of Department to apply the Regulations proportionately, and the permit conditions will therefore reflect the magnitude and complexity of the facility, and any environmental effects.

Additional information may be required in order to determine an application. If there is a delay in providing additional information, it could also delay the determination of the application, and could impact the commissioning programme or result in existing operations being suspended.

4.4.3 Grant of a Permit with Conditions

Where a permit is granted, notification will be given to the applicant as soon as possible.

The permit issued will usually be for the 'life' of the facility, and initially based on the emissions for a period of three years. A review of each permit will be undertaken as the Secretary of State thinks fit.

4.4.4 Refusal of a Permit

Under Regulation 8A, the Department may refuse a permit that relates to an MCP. The following are examples of potential reasons for refusal, this list is not exhaustive.

- the applicant has failed to demonstrate compliance with the Regulations;
- the information provided by the operator does not provide a reasonable basis to determine the permit conditions, taking account of the applicant's responses to any requests for additional information;
- the environmental impact would be unacceptable. For example, an applicant might propose locating a new facility close to an extremely sensitive environment, without giving adequate consideration to emission reductions; or
- the Department takes the view that the applicant will not comply with the proposed permit conditions. This may occur if the Department has reason to believe that the applicant lacks the management systems or competence to operate the combustion installation in accordance with proposals outlined in the application or in accordance with any of the permit conditions.

If the Department refuses to issue a permit, it will provide notice of the refusal and the reasons for the refusal.

The applicant or a person with sufficient interest has the right to appeal a decision of the Secretary of State under Regulation 33 if the Department refuses a permit. The right to appeal is within 28 days of the date of the notice although the relevant decision remains in force until a court orders otherwise.

4.5 Permit Compliance

4.5.1 Compliance with Conditions

The permit holder is required to monitor and report emissions to demonstrate compliance with the permit conditions. It is therefore incumbent on operators to ensure that the conditions of the permit are understood and complied with, including permit ELVs, where relevant.

The permit for an MCI will include conditions relating to;

- Measures to prevent pollution including energy efficiency;
- Monitoring requirements for any qualifying MCP;
- Requirement to submit a return of annual emissions from combustion plant in the permit.

Regulation 3 states that a person must not operate an offshore combustion installation without a permit and otherwise than in accordance with the conditions in that permit. For existing MCP the regulation clarifies that this applies from the 'relevant date' for the MCP.

4.5.2 Data Reporting

Permit holders must submit annual emissions using the EEMS database system. The Department may, where appropriate, impose more frequent reporting in the event of unsatisfactory performance or unforeseen situations.

The annual emissions return should confirm the calculated mass of pollutants emitted from the qualifying combustion plant, i.e. the combustion plant authorised in the permit. Emissions that exceed beyond that authorised in the permit must be reported as a non-compliance using the IRS as soon as possible in line with Regulation 9A.

The permit holder shall, within three calendar months of the end of each calendar year, submit a return of the emissions from the combustion plant authorised under the permit. The return should be submitted using the appropriate EEMS reporting form. The EEMS form shall include, where appropriate, reporting in relation to compliance with ELVs.

Where atmospheric emissions are not directly monitored by a CEMS system, emission calculations for reporting should be undertaken in accordance with the EEMS Atmospheric Guidance and Atmospheric Emissions Calculations guidance documents [REF 13] available on the Department's website.

The Department collects emissions data for input to the UK-PRTR through the EEMS Reporting System.

4.5.3 Monitoring

Emission monitoring requirements will be stipulated for plant within the permit conditions and carried out in accordance with the approved monitoring plan. For guidance on the required frequency of monitoring please refer to monitoring guidance [Ref 14] on the Department's web page:

4.5.4 Things have changed, what should I do?

The following sections describe types of changes which result in an action being required by the permit holder.

4.5.4.1 Change in Operation – Permit Variation

The permit needs to reflect the current operating practices and any planned changes from these needs to be communicated to the Department.

Regulation 12B requires that where a variation to the operation of an MCP is proposed this must be notified to the Secretary of State. The recommended way to notify is via a permit variation within PETS, and the operator must not put the changes into effect until approval for the permit variation has been granted. Operators are reminded that it is an offence to operate an MCI otherwise than in accordance with the conditions of the existing permit.

The applicant for a permit variation must be the current permit holder, except in the case of a permit transfer relating to a change of operator when the applicant must be the proposed new permit holder.

The permit holder must submit an update or vary the permit if there is a company name change that does not affect the company legal entity status.

The applicant should normally apply for a variation if there are any changes to the administrative details and these could be included with other changes. However, applicants are advised to contact the Department prior to submitting a variation for minor changes. In some cases, the Department may advise that a variation is unnecessary to cover the changes required.

The information requirements for variations will depend upon the nature of the changes. Where the variation relates to changes in plant or the associated management regime, the applicant should review, and where necessary amend the application and in doing so provide sufficient detail to enable the Department to determine the request.

Any combustion plant that is planned to be removed from the permit, must be supported by an isolation certificate (submitted by email to support the variation) which details the tag number and what has been done to isolate the plant. Acceptable isolation must be a physical change to the plant such as being disconnected from the fuel supply or removal of connections to the electrical distribution system. Closing of valves to prevent the flow of a fuel is not an acceptable means of isolation and the plant would therefore remain on the permit. Alternatively, the plant could be physically removed from the installation and the applicant should state this in the application after the plant has been removed.

4.5.4.3 When do I need to update my air dispersion modelling?

This only applies to MCP on LCI and not to MCP on MCI. Planned changes to the combustion plant and operational philosophy (such as process production configuration) which are not covered by the current air dispersion modelling should be discussed with the Department to determine whether additional modelling is required or not. This should be done at a very early stage to avoid any potential delays.

4.5.4.2 My Installation is changing owner/operator, what do I need to do?

If there is a proposed permit assignment (transfer) of an offshore facility to another operator, the existing permit holder must initiate a request for a permit transfer. The existing permit holder must apply to the Department in writing, confirming the name of the ‘new’ operator and

the effective date of transfer of the offshore facility to the ‘new’ operator. Once confirmed that the ‘new’ operator has the necessary approvals in place, the Department will grant access to PETS and will confirm that the existing operator is content to make copies of the existing permit available to the ‘new’ operator.

Following receipt of the existing permit holder’s request for a permit transfer, the ‘new’ operator will be required to apply for a permit variation containing any necessary amendments, e.g. contact information and to also update information within the application of the new operator.

Following receipt of the ‘new’ operator’s application, the Department will review and may grant the permit to be transferred. The existing operator will be issued a surrender notice.

The Department may require the ‘new’ operator, or the original permit holder, to supply such additional information as it requires to process the request for a permit transfer.

4.5.4.3 Cessation of Production / Permit Surrender

The Department must be informed in advance of the expected date of permit surrender and must be notified by email to the Department of the actual date once it has occurred. The permit holder has an obligation to submit a return of the emissions from the combustion equipment authorised under the permit in accordance with section 4.6.2 for the duration where the permit was in place.

It should be noted that this means a PPC permit may still be required after the Cessation of Production date, should the MCI still retain MCP with the physical capacity to operate whilst in the field location.

An MCI PPC permit may only be surrendered once it is no longer required i.e. where:

- No MCP are left in operation (i.e., technically impossible to be operated); or
- The platform has ceased to be a ‘relevant platform’ where ‘relevant platform’ is defined as:
    - a carbon dioxide storage or unloading platform;
    - a gas storage or unloading platform; or
    - a petroleum platform

  Evidence is required to demonstrate that the combustion plant is no longer technically feasible to be operated. That evidence may be a combination of photographic, work order and isolation certification, or evidence that the plant has been physically removed.

4.5.5 Permit Review

Under Regulation 15A, the Secretary of State may review the conditions of the permit at any time relating to the operation of an MCP. The Department will typically undertake a formal review of all permits at least once every five years. The Department may additionally review the conditions attached to permits on a more frequent basis, at such intervals as it deems appropriate.

4.5.6 I am not satisfied with a decision, what should I do?

A person with sufficient interest, aggrieved by any decision of the Secretary of State, in relation to granting or refusal of an application, permit variation, variation of conditions in permits following a review, permit revocation, surrender or transfer of an application or permit, must appeal to the court within 28 days of the date of the written notification of the relevant decision from the Secretary of State. Information on Appeals is set out at Regulation 33. The Appeal must be made:

- in respect of a decision relating to the English area, to the High Court;
- in respect of a decision relating to the Scottish area (excluding Scottish Controlled Waters), to the Court of Session; or
- in respect of a decision relating to the Northern Irish area, to the High Court in Northern Ireland.

In the regulations “the English area”, “the Northern Ireland area” and “the Scottish area” have the same meaning as in the Civil Jurisdiction (Offshore Activities) Order 1987.

4.5.7 Non-Compliance

In accordance with Regulation 9A(2)(k), in respect of any breach of the conditions in a permit, the operator must as soon as possible inform the Department and takes the necessary measures to restore compliance; and

In accordance with Regulation 9A(2)(l), where any breach of the conditions in a permit causes a significant degradation of local air quality, the operator must suspend operation of the medium combustion plant until compliance is restored.

Regulation 23 details the requirements for information notices and reporting, including under Regulation 23(3) the circumstances in which an operator must report by notice to the Department as soon as possible.

If it has become apparent for any reason that permitted emission limits have been exceeded, then the permit holder shall inform the Department as soon as possible, and in accordance with Regulation 9A(2) and Regulation 23(3).

In the event that the permit holder becomes aware of any incident (including breach of any permit conditions and or emission limits) or accident which may significantly affect the environment, the permit holder must immediately inform the Department.

All notifications of breaches (non-compliance) with permit conditions (including any remission limits) must be reported to the Department using the Integrated Reporting Service (IRS). which is hosted within the UK Energy Portal.

IRS has a dedicated PPC non-compliance notification form (PPC NCN) which must be used to report any non-compliance with Permit Conditions, any emission of a relevant polluting substance made without an approved Permit being in place or any other breach of the applicable PPC Regulations. Any required PPC NCN must be submitted within 2 working days of the non-compliance being identified. A record of events of non-compliance and corrective measures should be maintained by the operator.

The operator may be required to take additional measures to ensure that compliance with ELVs is restored without undue delay.

5 Inspection

5.1 Inspectors and Powers

Inspectors are appointed under Regulation 24 and are conferred wide ranging powers under Regulation 25 for the purposes of checking compliance with these Regulations and any permits issued under them. Please review the Regulations further for such provisions.

5.1.1 Inspections

Regulation 27 requires the Secretary of State to ensure that all LCI are covered by an inspection plan which includes a programme of routine inspections.

Regulation 28 specifies that, for LCIs, the period of routine inspections must not exceed;

(a) one year, for installations posing the highest environmental risks; and

(b) three years, for installations posing the lowest environmental risks.

Operators can therefore expect that an installation will be subject to a programme of routine compliance inspections.

Inspections may also be undertaken on a non-routine basis, as soon as possible to investigate:

(a) complaints made to the Secretary of State of serious environmental incidents;

(b) serious environmental accidents or incidents; or

(c) occurrences of serious non-compliance by the operator with the conditions in the permit.

Regulation 29 requires that inspection reports are completed following any inspection containing relevant findings and any actions required by the operator. These should be available within 2 months of the inspection to the operator and be publicly available within 4 months.

Combustion plant on MCI may be subject to routine inspections as part of the Department's normal intervention plans.

5.1.2 Enforcement Notices

Regulation 30 provides the Secretary of State with the power to serve a notice (referred to in the Regulations as an "enforcement notice") on a person where they are of the opinion that the person has contravened or is contravening any condition of the permit, or is likely to contravene any such condition of the permit. The Secretary of State may serve on a person a notice which:

- states the opinion of the Secretary of State in relation to the actual or likely contravention;
- specify the matters constituting the contravention, or the matters making it likely that the contravention will arise, as the case may be;

- specify the steps that must be taken to remedy the contravention, or to remedy the matters making it likely that the contravention will arise, as the case may be;; and
- specifies the period within which those steps must be taken.

It is an offence to fail to comply with the terms of an enforcement notice.

5.1.3 Prohibition Notices

If the Secretary of State is of the opinion that the activities of a person in relation to a contravention or likely contravention of the conditions in a permit are such that they involve an imminent risk of serious pollution, the Department may serve a ‘prohibition notice’ on the operator of the installation.

A prohibition notice must:

- state the opinion of the Secretary of State.
- specify the risk involved in the activity;
- specify the steps that must be taken to remove it and the period within which they must be taken; and

It is an offence to fail to comply with the terms of a prohibition notice.

5.1.4 Power to Take Action

Where a person to whom an enforcement notice or a prohibition notice is addressed has failed to take the action required by it within such time as may be specified in the notice, or in default of any time being specified within a reasonable time of service of the notice, and where such a notice has not been withdrawn, the Department may undertake any action required and any expenses reasonably incurred by the Department in so doing shall be recoverable from the person on whom the notice was served.

6 Administration and Further Information

6.1 Administration - How much will my permit cost?

The Department will aim to recover the relevant costs of work associated with the processing, assessment and determination of submissions in accordance with regulation 22, where possible including costs relating to providing advice and/or facilitating consultation and work associated with the modification, transfer, surrender and revocation of any relevant approvals. In addition, the Department will aim to recover the relevant costs associated with compliance monitoring activities, including offshore environmental inspections, investigations and enforcement activity.

Guidance on cost recoverable activities along with the current charging scheme for The Offshore Combustion Installations (Pollution Prevention and Control) Regulations 2013 www.gov.uk website within the 'Oil and Gas: fees and charges 'page [Ref 15].

6.2 Where Can I Find More Information?

Guidance and other supporting documents for the Offshore PPC Regulations can be found on the Gov.uk website https://www.gov.uk/guidance/oil-and-gas-offshore-environmental-legislation#offshore-combustion-installations-pollution-prevention-and-control-regulations-2013-as-amended.

If further clarification is required, please contact the Department directly:

OPRED@energysecurity.gov.uk.

6.3 Public Registers and Information

The Department will maintain a register on its website listing the applications received and determined under these Regulations.

Where an applicant has indicated that parts of the permit application are commercially confidential, the applicant / permit holder will be contacted prior to releasing the relevant information (which must be clearly identified in the application).

Requests for information should be made to:

OPRED@energysecurity.gov.uk

or

AB1 Building

Crimon Place

Aberdeen AB10 1BJ

References

Note: The public website links to all references shown were accessed on 22nd March 2023 and were correct at the time of access.

1. The Offshore Combustion Installations (Pollution Prevention and Control) Regulations 2013 UK Statutory Instruments (SI) 2013 No. 971
https://www.legislation.gov.uk/uksi/2013/971/contents/made

2. The Offshore Combustion Installation (Pollution Prevention and Control) (Amendment) Regulations 2018. UK Statutory Instrument (SI) 2018 No. 798
https://www.legislation.gov.uk/uksi/2018/798/made

3. The Pipe-lines, Petroleum, Electricity Works and Oil Stocking (Miscellaneous Amendments) (EU Exit) Regulations 2018. UK Statutory Instruments (SI) 2018 No. 1325 https://www.legislation.gov.uk/uksi/2018/1325/made

4. The Offshore Oil and Gas Exploration, Production, Unloading, and Storage (Environmental Impact Assessment) Regulations 2020. UK Statutory Instruments (SI) 2020 No. 1497 https://www.legislation.gov.uk/uksi/2020/1497/contents/made

5. Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010L0075

6. Directive (EU) 2015/2193 of the European Parliament and of the Council of 25 November 2015 on the limitation of emissions of certain pollutants into the air from medium combustion plants. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015L2193

7. The European Integrated Pollution Prevention and Control (IPPC) Bureau (EIPPCB) guidance on Best Available Techniques (BAT), via the aid of BAT Reference (BREF) guidance documents. Specifically the Large Combustion Plants BREF https://eippcb.jrc.ec.europa.eu/reference/large-combustion-plants-0

8. Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (notified under document C(2017) 5225) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017D1442

9. Portal Environmental Tracking System (PETS) Industry User Guidance v1.0 https://www.nstauthority.co.uk/media/1103/pets_-_industry_user_guidance_v1_0.pdf

10. OPRED Guidance for Large Combustion Plant BAT-AEL and Derogation https://www.gov.uk/guidance/oil-and-gas-offshore-environmental-legislation#history

11. UK Energy White Paper : powering our net zero future, December 2020 https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future

12. UK North Sea Transition Deal, March 2021 https://www.gov.uk/government/publications/north-sea-transition-deal

13. Oil and Gas EEMS Database Guidance documents https://www.gov.uk/guidance/oil-and-gas-eems-database

14. OPRED Emissions Monitoring Guidance https://www.gov.uk/guidance/oil-and-gas-offshore-environmental-legislation#history

15. Cost Recovery for Offshore Petroleum Functions – A Guide https://www.gov.uk/guidance/oil-and-gas-fees-and-charges#regulations

Appendices

Appendix 1: PPC Permit Assessment

Appendix 2: Schedule 1 – Criteria for Determining Best Available Techniques

Appendix 3: Energy Efficiency and Energy Audits

Appendix 1: PPC Permit Assessment

This Appendix contains a series of flowcharts to guide the user of this document through the stages of the process to be undertaken in assessing an operator's requirement for a PPC permit. The process pays particular attention to any combustion plant on the installation that satisfy the definitions in the regulations of Large Combustion Plant (LCP) or Medium Combustion Plant (MCP) and it covers how these may relate to relevant provisions transposed into UK law from the IED or from the MCPD.

Stage 0:– Identify that you have a combustion installation; defined as "a relevant platform, or complex of relevant platforms permanently inter-connected by bridges, equipped with offshore combustion plant." Now you have identified that you have a combustion installation, you proceed to Stage 1 to identify the type of installation that it is.

Stage 1:- Identify whether you have a Large Combustion Installation (LCI), or a Medium Combustion Installation (MCI), or neither. This assessment is based on the maximum rated thermal input of the offshore combustion plant on the installation, in accordance with the definitions under the regulations for an LCI and for an MCI. An LCI will automatically require a PPC permit. An MCI may or may not require a PPC permit, depending upon the types of the combustion plant.

- Once you have identified that you have an LCI you should follow Stages 2A, 3A, 4A and 4B.
- Once you have identified that you have an MCI you should follow Stages 2B and 3B.
- You do not have an offshore combustion installation if you have neither an LCI nor an MCI and is the end of the process and no permit is required.

Stage 2A:- Your installation is an LCI and a PPC permit is required. A further assessment is required for each combustion plant, to check if each is a Large Combustion Plant (LCP) or is a Medium Combustion Plant (MCP), or neither (other qualifying 'combustion plant').

- For each LCP identified, you should follow Stage 3A to assess how the IED applies.
- Then for each LCP that is not exempt from IED Chapter III you should also follow Stage 4A.
- Whilst for each combustion plant that is not LCP but could be MCP, you should assess if it is MCP in Stage 4B by linking directly to Stages 2B and then 3B for MCP scope and provisions.

Stage 2B:- Your installation is an MCI and a PPC permit will be required for qualifying MCP only, or you have an existing LCI permit which may have an MCP to add to the PPC permit by the 'relevant date'. You now must assess whether any of the combustion plant are eligible MCP. Some of the combustion plant with a rated thermal input within the MCP criteria will be exempt from being defined as MCP, due to certain other attributes, and you assess that here.

- Once you have identified you have an MCP follow Stage 3B to assess how the MCPD applies.

Stage 3A:- Based on rated thermal input, you have an LCP. You now assess what provisions of the regulations and IED apply, based on the other attributes of the LCP; these may determine certain provisions (such as LCP BREF) and exemptions. You repeat this stage for all LCP on the LCI, in turn.

Stage 3B:- Based on rated thermal input and other attributes, you have an MCP and you now assess what provisions apply, based on the attributes of the MCP. You repeat this stage for all MCP in turn; this will determine the earliest date by which your MCP will need to be covered by a PPC permit.

Stage 4A:- Based on the LCP assessment in Stage 3A you identified that you have an LCP that must meet the special provisions of IED Chapter III and you now assess how those apply.

Stage 4B:- As part of your assessment of an LCI, after Stage 3A and Stage 4A which assess for LCP, you also need to assess for any eligible MCP on the LCI. This links to Stage 2B and Stage 3B for MCP checks.

Figure 5: – Overview of stages in assessing requirements for a PPC permit.

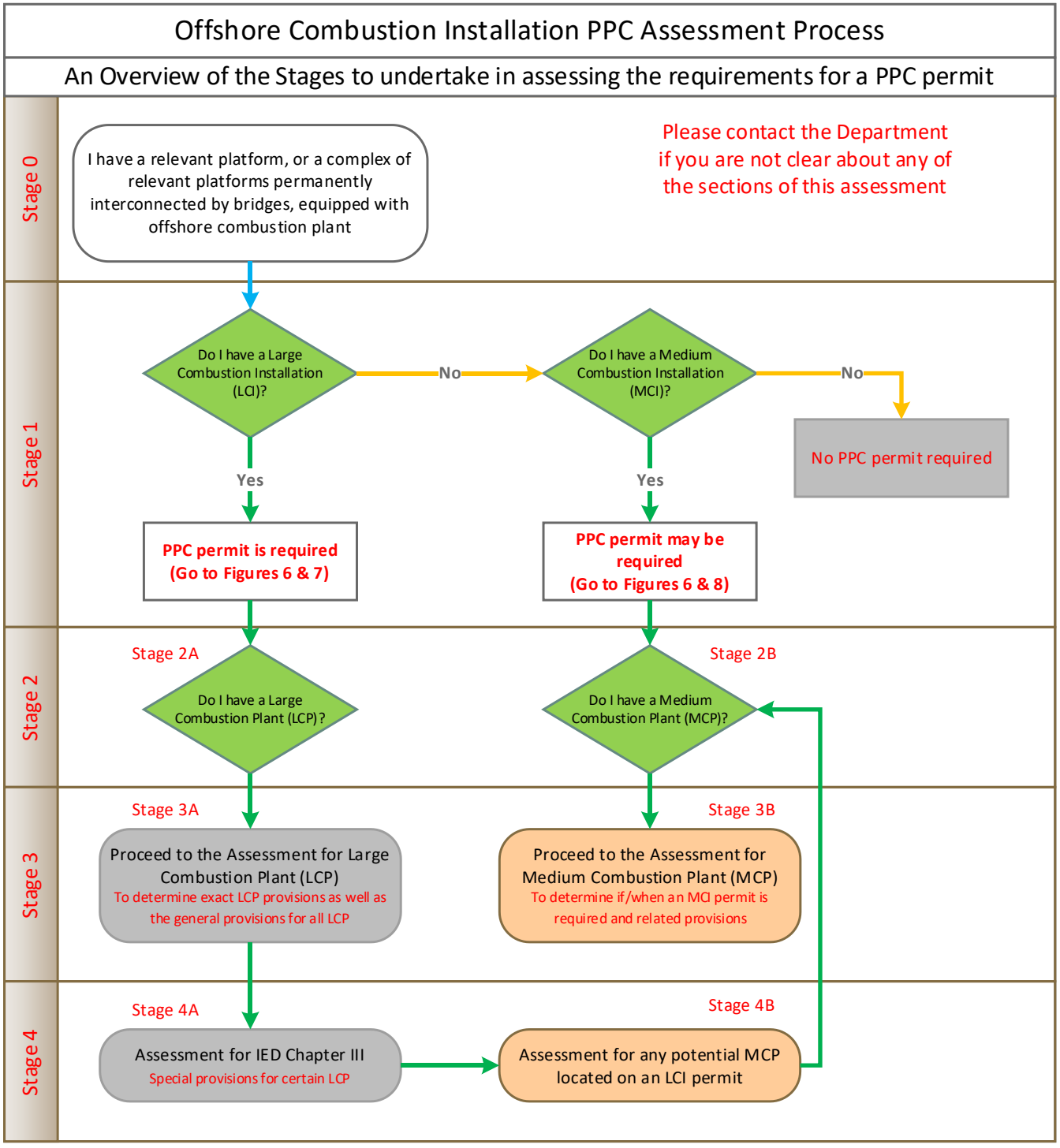


Figure 6: – Stage 1: Determining the type of Offshore Combustion Installation

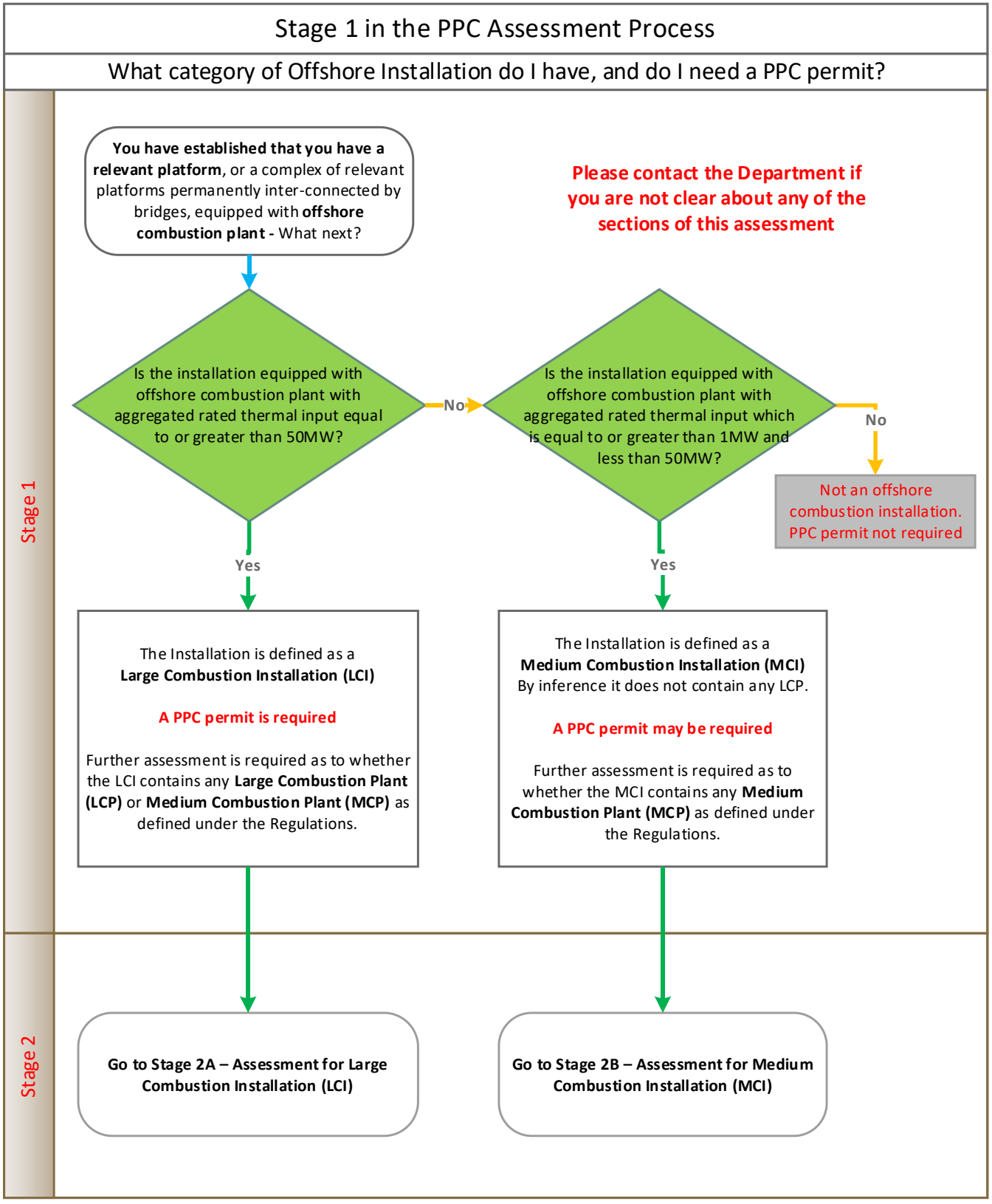


Figure 7 – Stage 2A: Determining requirements for a Large Combustion Installation

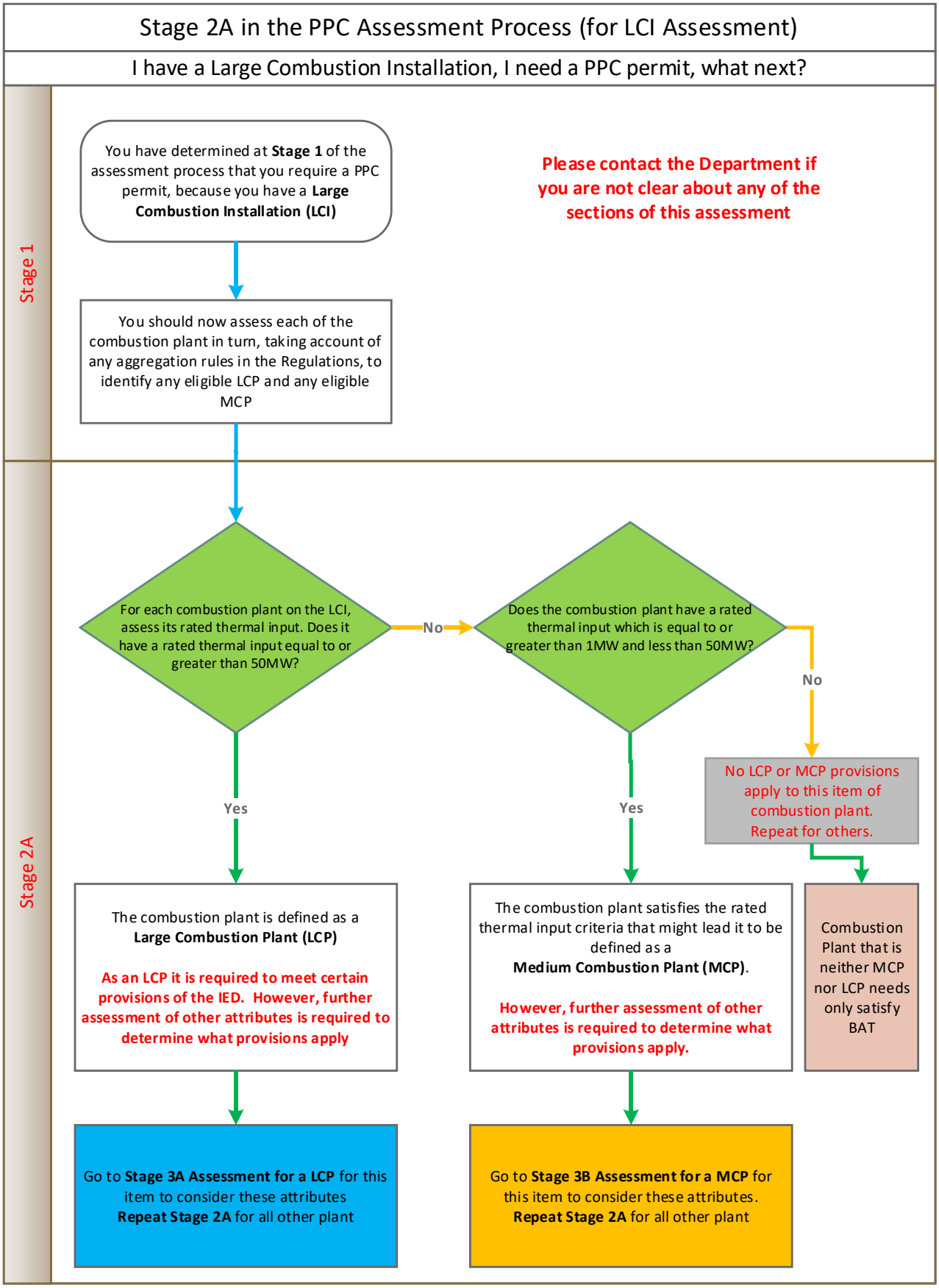


Figure 8 – Stage 2B: Determining requirements for a Medium Combustion Installation

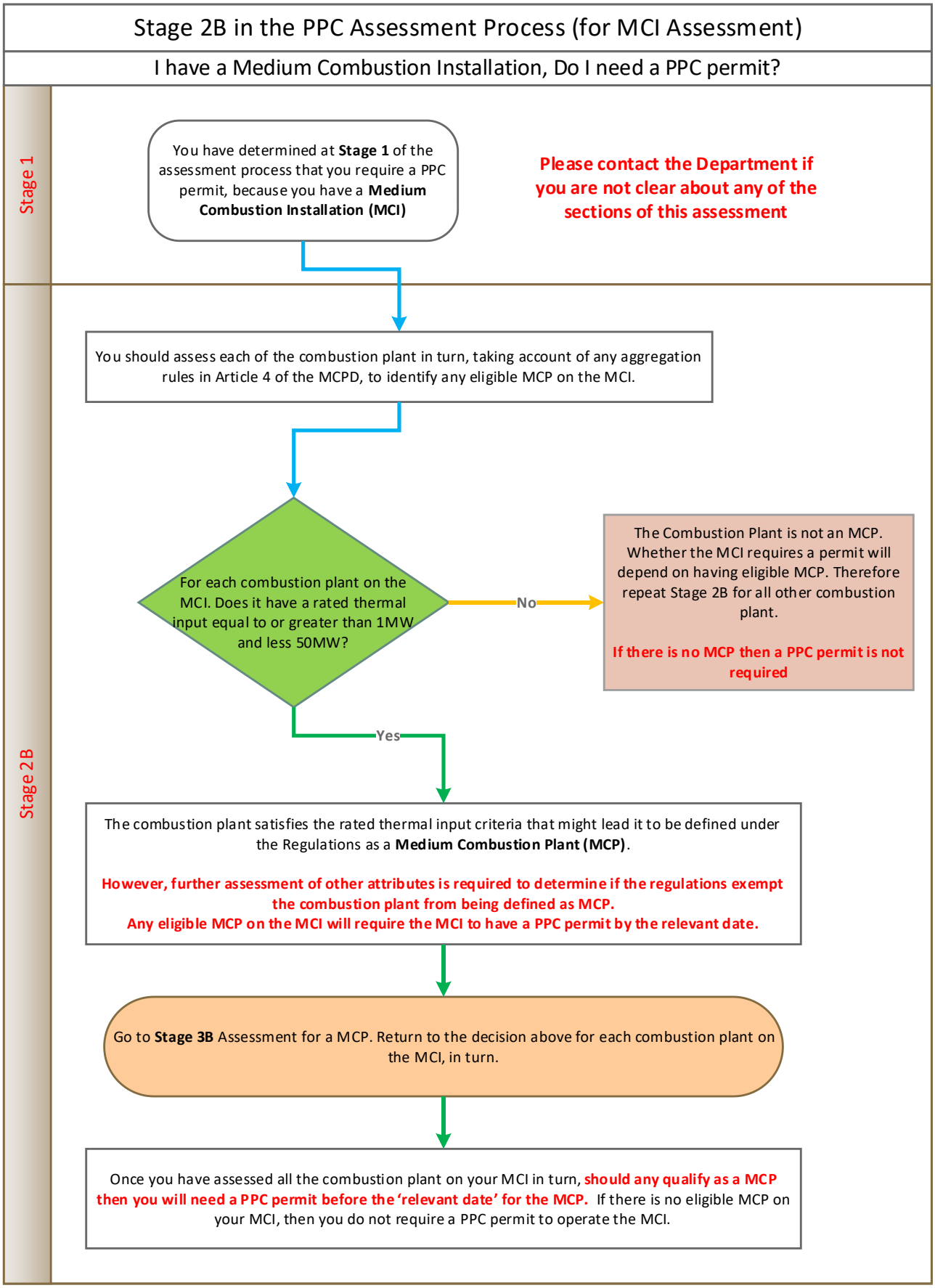


Figure 9 – Stage 3A: Determining requirements for Large Combustion Plant

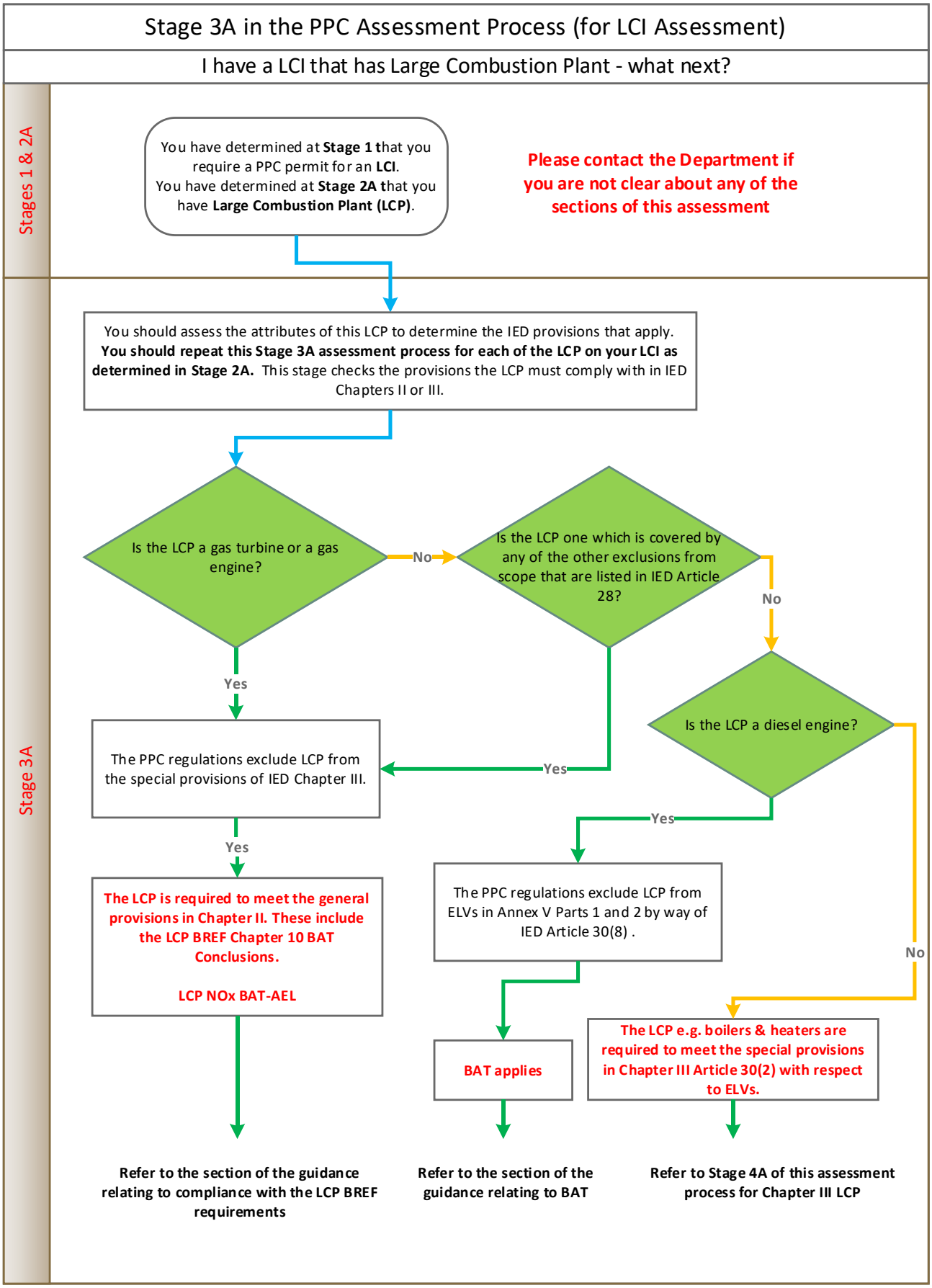


Figure 10 – Stage 3B: Determining requirements for a Medium Combustion Plant

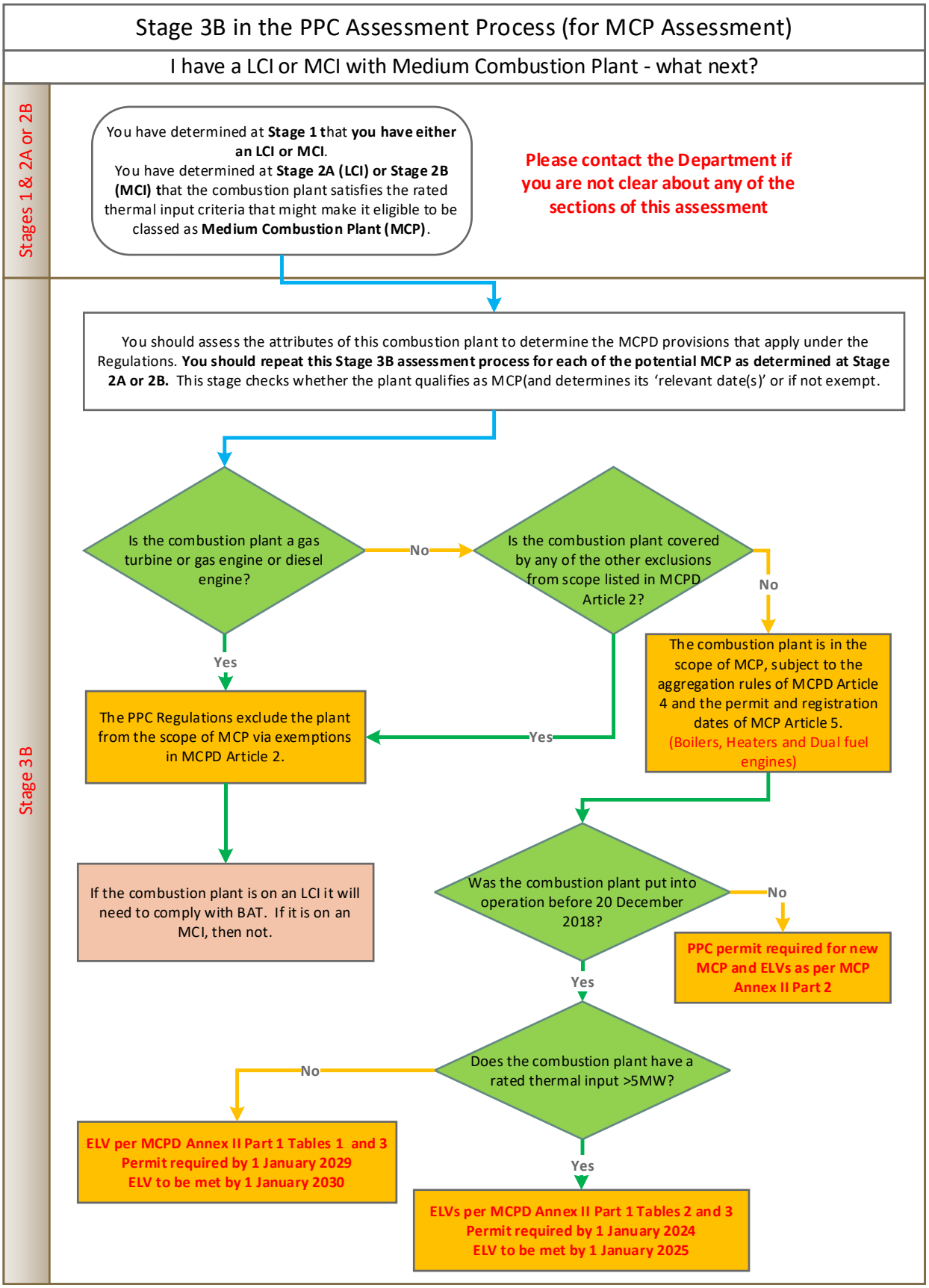
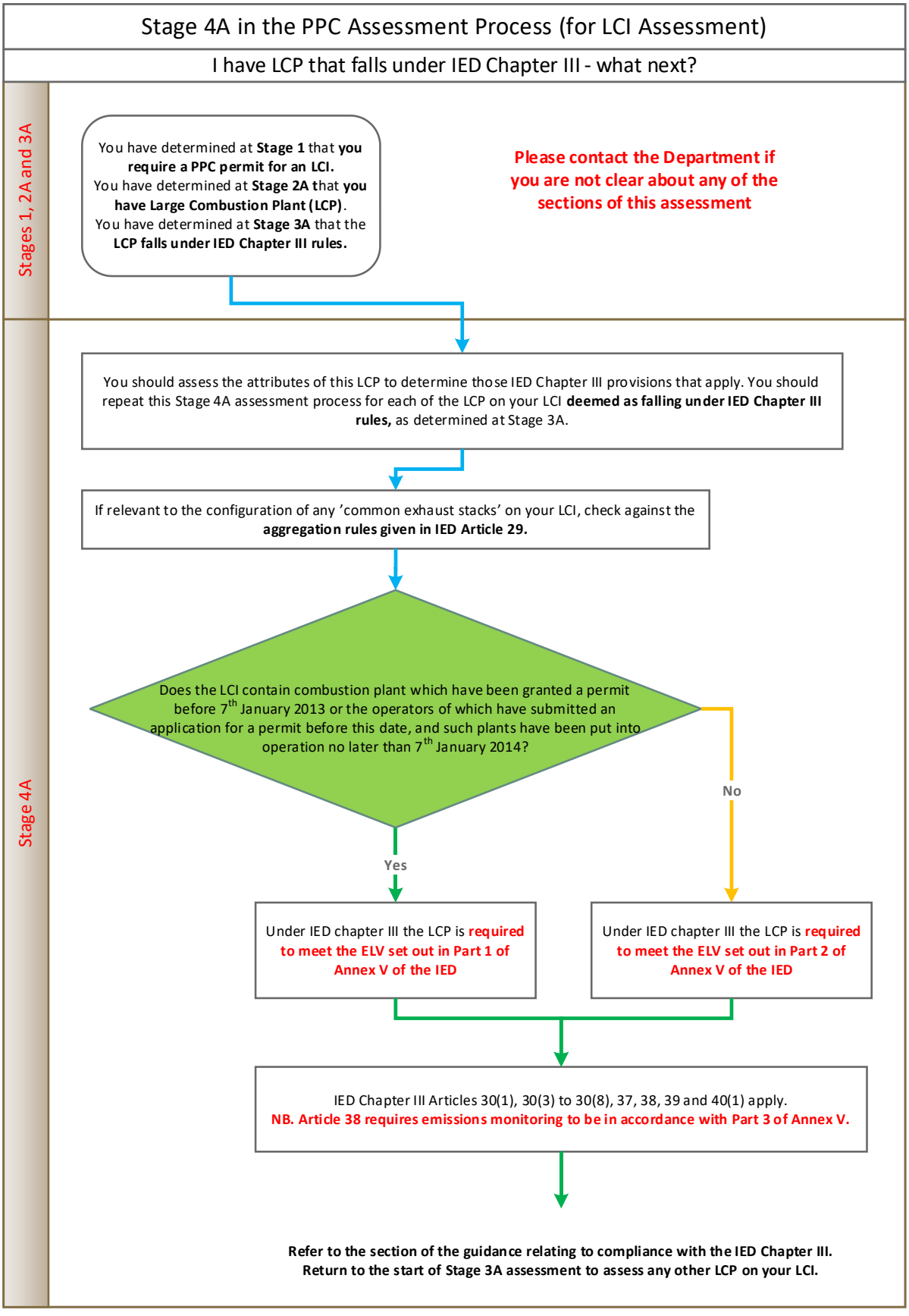


Figure 11 – Stage 4A: Determining requirements for an LCP in scope of IED Chapter III



Appendix 2: Schedule 1 – Criteria for Determining Best Available Techniques

The criteria referred to in regulation 9(1)(b) for determining best available techniques are—

(1) the use of low-waste technology;

(2) the use of less hazardous substances;

(3) the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate;

(4) comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;

(5) technological advances and changes in scientific knowledge and understanding;

(6) the nature, effects and volume of the emissions concerned;

(7) the commissioning dates for new or existing offshore combustion installations;

(8) the length of time needed to introduce the best available technique;

(9) the consumption and nature of raw materials (including water) used in the process and energy efficiency;

(10) the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it;

(11) the need to prevent accidents and to minimise the consequences for the environment; and

(12) information published by public international organisations.

Appendix 3: Energy Efficiency and Energy Audits

Introduction

The following two permit conditions are contained in PPC permits for LCI.

1) Condition to undertake Energy Audits;

2) Condition to report on measures taken to reduce/mitigate NOx and to increase energy efficiency..

It is at the discretion of the Department - when approving a permit application - whether to insert these conditions into the permit or not. This decision is a function of the environmental assessment of a range of atmospheric emission factors within the application.

- The first condition is set in all PPC permits for LCI. It may also be set in PPC permits for MCI.
- The second condition is set in a PPC permit for an LCI where the permit holder operates LCP.
- In general, any PPC permit containing one or more LCP will contain both conditions.
- In general, any permit for an LCI not containing one or more LCP is likely to contain the first condition, but is likely not to contain the second condition.

Condition to undertake Energy Audits

a) Where directed by the Department, the permit holder must undertake or commission an energy audit or assessment to quantify the total energy use on the combustion installation and the energy consumption by specific equipment or processes, to identify opportunities for energy efficiencies and/or the reduction of emissions of pollutant substances.

b) Where directed by the Department, the energy audit or assessment must include a cost benefit analysis for the replacement of existing combustion equipment with more efficient combustion equipment and/or the replacement of equipment or the use of abatement technology to reduce the emissions of pollutant substances.

c) Where directed by the Department, the permit holder must provide a report detailing any progress in relation to the proposed replacement of existing combustion equipment and/or the use of abatement technology.

d) Copies of energy audit or assessment reports, cost benefit analysis reports and progress reports must be submitted to the Department within agreed deadlines, and the frequency and scope of any future energy audits or assessments, cost benefit analyses or progress reports will be determined by the Department following a review of the relevant submitted reports.

Where an energy audit highlights measures that could be taken to minimise emissions and these measures have not already been captured in the BAT assessment then these need to be considered as part of a revision to the BAT assessment and implemented thereafter such that BAT is demonstrated.

Condition to report on measures taken to reduce/mitigate NOx and to increase energy efficiency

The Secretary of State set conditions in permits to all permit holders who operate LCP to implement the LCP BREF and BAT conclusions. The variations to conditions became effective from 18 August 2021. This condition is set out in the 'Monitoring for LCP' section in the permit. The date in the condition will typically be the second anniversary of the date by which the LCP BREF came into effect within the Regulations [This being 4 years after the publication of the LCP BREF – as required under Regulation 11A]. The Department will update the submission date for this condition following its review.

"The permit holder must, by [17 August 2023], review and submit a report of the measures taken to reduce/mitigate Nitrogen Oxide emissions and further opportunities to identify and increase energy efficiency."*

Guidance on the condition to report on measures taken to reduce/mitigate NOx and to identify and increase energy efficiency is given below.

Objectives and Focus:

1) The report focus should be on LCP NOx emissions and energy efficiency for the OCI in accordance with Regulation 7(3)(e).
2) The report should focus on installation-specific relevance to the BAT conclusions in Section 10.4.3 of the LCP BREF, including BAT 52, BAT 53, and BAT 54.
3) The report should also identify synergies with emissions monitoring data collected and reported in accordance with BAT 4 and the monitoring condition 7d) in the permit. For example, preference should be given to using robust site-specific NOx factors in any analysis rather than default EEMS factors. The report should identify clearly how these are derived.
4) Where any other combustion plant emissions are estimated to be more than 20% of the installation's NOx mass emissions or more than 20% of the installation's energy intensity from combustion plant (not flares) these other combustion plant should also be considered and discussed alongside the LCP.
5) NOx emissions from LCP should consider concentrations and annual mass emissions. Optimising LCP (e.g. OCGT) operations (e.g. by reducing spinning reserve) may increase one but may lower the other. Relationship to energy efficiency and CO2 emissions is relevant.

Analysis and Presentation:

1) The report should present data on LCP daily average load (MW) in tabular and graphical format for the previous two full calendar years (e.g. the 2023 report should include full year data for 2021 and 2022), and ideally also for the first 6 months of the reporting year (2023).Refer to Figures 12a, 12b, 13a and 13b for graphical examples of informative ways to present operating load data for individual LCP.
2) The report should present a review of the LCP in relation to the BAT conclusions in Section 10.4.3 of the LCP BREF.
3) For BAT 52 the report should detail the specific measures and opportunities at an installation and at an individual LCP plant level that have been undertaken to improve the general environmental performance of the combustion of gaseous and/or liquid fuels, and details of the techniques that have been used. The report should also highlight what improvements are planned to be undertaken for the upcoming two years (the period 2023 to end of 2025).
4) For LCP that are fitted with DLN/DLE or similar low emission techniques, a report on the recent performance of the DLN/DLE system (last 2 years) including the extent to which all DLE burner control modes have been mapped / tuned and have been verified as fully operational.
5) The report should provide an assessment of the net thermal input and the net power output of individual OCGT LCP units when operating at their typical (normal / median) operating duty. i.e. their net Thermal efficiency. Refer to Figure 14 and Figure 15 for examples of how LCP thermal

efficiency operating data could be presented. Where OCGT units operate in load-sharing duty an assessment should be made of the potential to decrease spinning reserve.

6) The thermal efficiency of Waste Heat Recovery Units (WHRU) where installed on LCP units should be shown separately from the LCP thermal efficiency itself, along with the combined (overall thermal efficiency). Commentary should be made concerning optimisation of WHR for platform production and utility operations.
7) For BAT 53 the report should detail measures undertaken to prevent or reduce NOx emissions from the combustion of gaseous and/or liquid fuels on the installation. This should follow the guidance given above in objectives 3) and 4).
8) For BAT 54 the report should detail measures undertaken to prevent or reduce CO emissions from the combustion of gaseous and/or liquid fuels on the installation.
9) For OCGT with standard combustion (not DLN/DLE) preventing or reducing of CO will also normally equate to preventing or reducing of Methane-slip, especially at low operating loads. It would be beneficial therefore for an indication to be made of the estimated duration (% of running hours per year) operated at less than 40% of rated thermal input and/or rated power output.
10) Where an operator intends to implement PEMS to aid the 'monitoring and control' of energy efficiency and emission pollutants, they should describe how outputs from PEMS will be presented and incorporated into operational procedures.

Sources of information for the report:

The Department expects the report to be based on a desktop exercise based on collation of relevant project studies, and operational and maintenance activities / reports. No specific additional energy audit is required for this report.

You may utilise **relevant** energy efficiency opportunities from **recent studies**.

Examples of useful information include:

- ESOS reports as required under ESOS regulations
- ERAP reports as required by the NSTA Stewardship programme
- PPC Stack Monitoring reports as required under permit condition 7d)
- BAT study reports
- Power optimisation reports / re-powering reports

Figure 12a – LCP operation: – trend of Daily Average power (load duty)

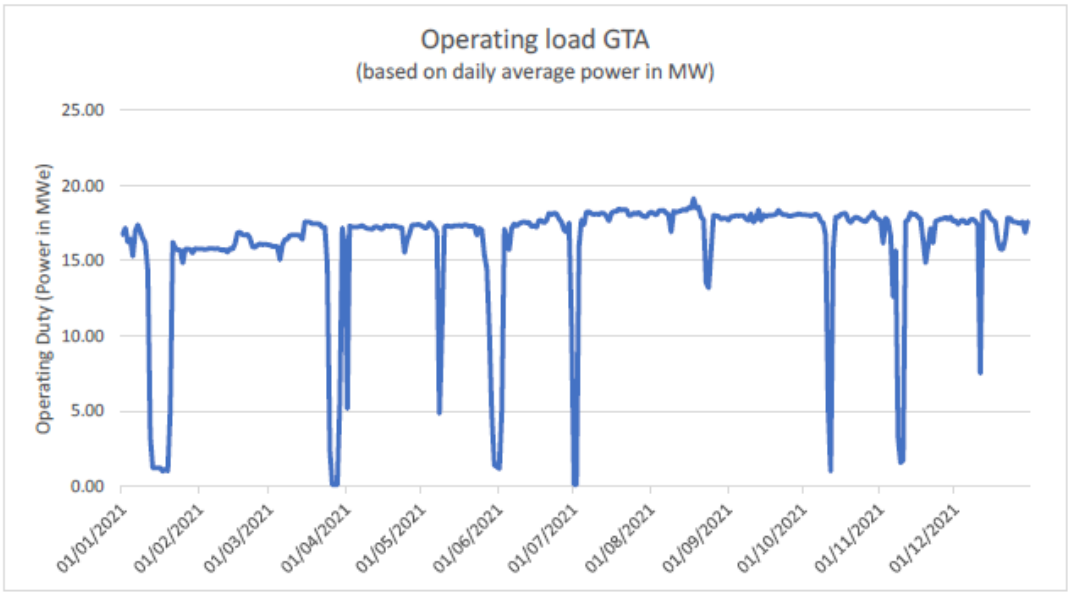
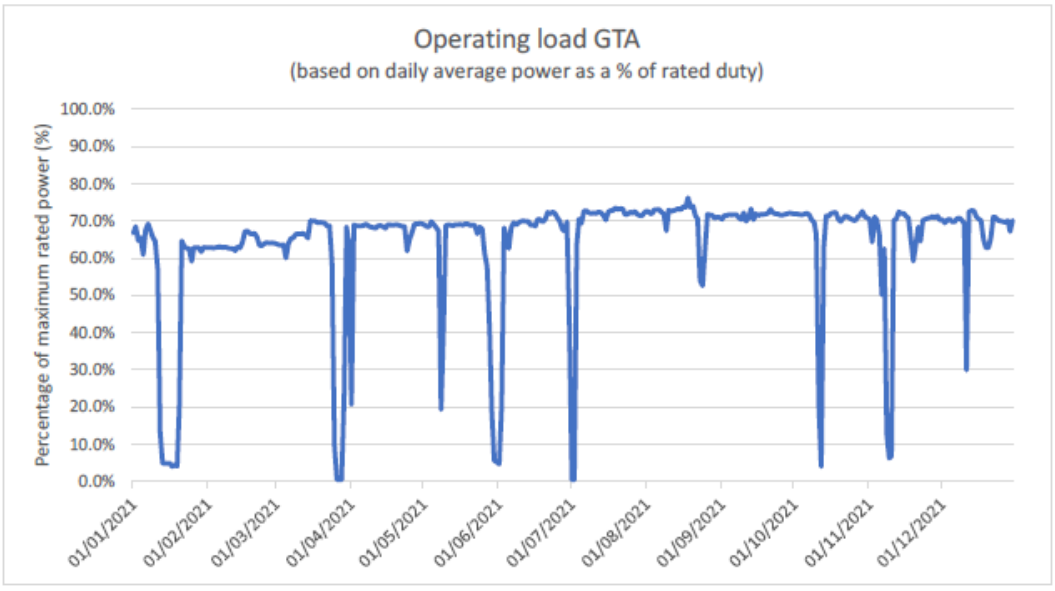


Figure 12b – LCP operation:– daily average power as % of base load rated output duty



Footnotes:

a) Use of ‘daily average’ values of the load helps to filter out short term transients; for OCGT this is the power output, for boilers it is the heat thermal output.

b) Where using a data historian, use hourly averages as input to daily averages, utilising data sets for only those periods when the LCP is actually running and fired, not when it is offline.

c) The rated duty used in the calculations should align with the PPC permit and for OCGT the base load power should align with section 3.2.5.2 of this guidance.

Figure 13a – LCP operation: – ‘banding’ of daily average load as % of rated duty

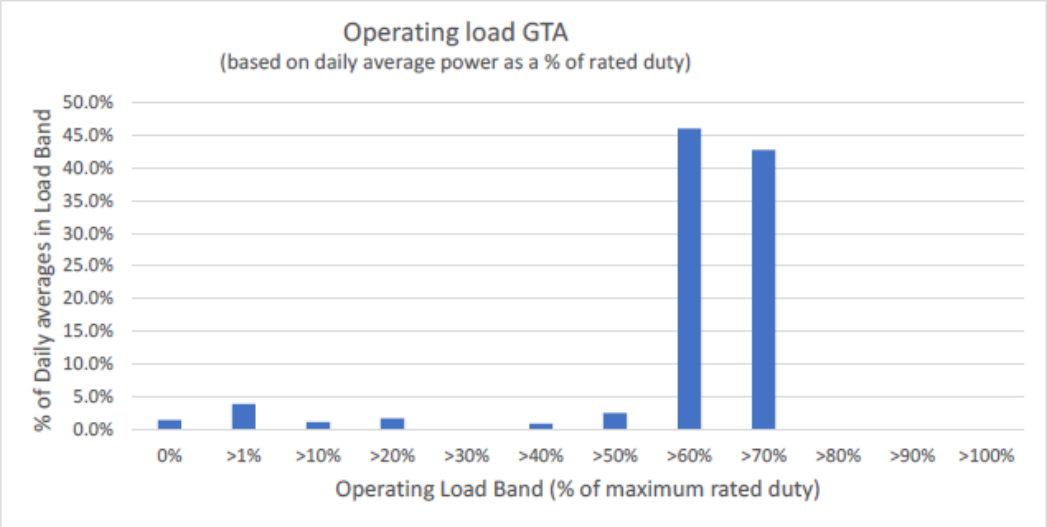
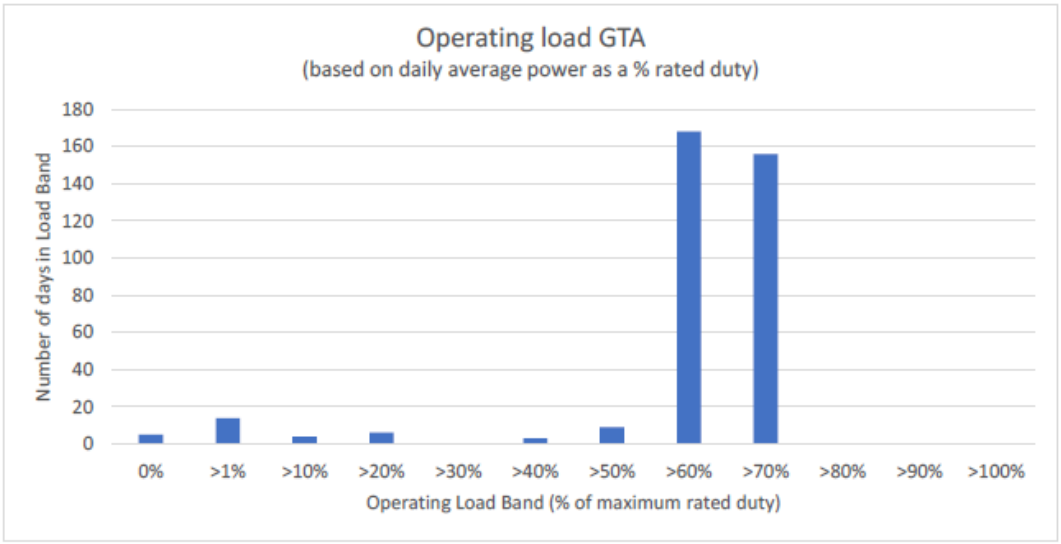


Figure 13b – LCP operation: – number of days spent in each load ‘band’



Footnotes:

a) Using ‘daily average’ values of load, split (‘bin’) the data into discrete bands (10% increments recommended) such that the sum of bands equates to 100% of the operating time.

b) The banded daily averages can be graphed as the % of operating time spent in each band, and / or as the number of operational days (daily averages) spent in each band.

c) The banding should be used to help inform the analysis and discussion of LCP performance in relation to energy efficiency, and of LCP emissions in relation to BAT conclusions 52, 53, and 54 of the LCP BREF.

d) Where there is sufficient information at LCP unit level, thermal energy efficiency (power output divided by fuel thermal input) should be further illustrated and discussed as per Figure 14 and Figure 15.

Figure 14a – LCP operation: – trend of Daily Average thermal efficiency (%)

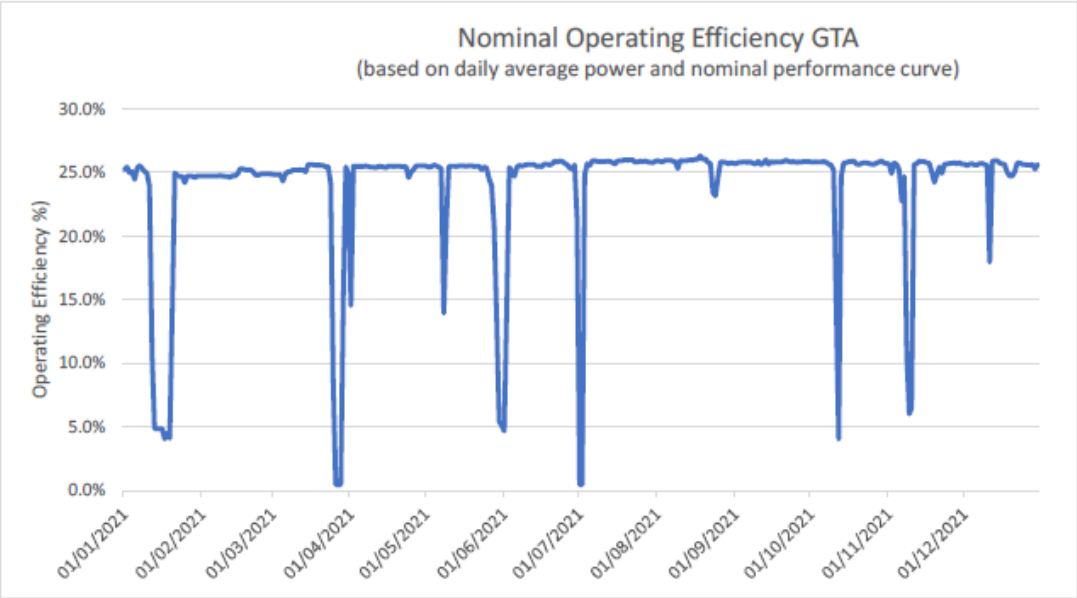
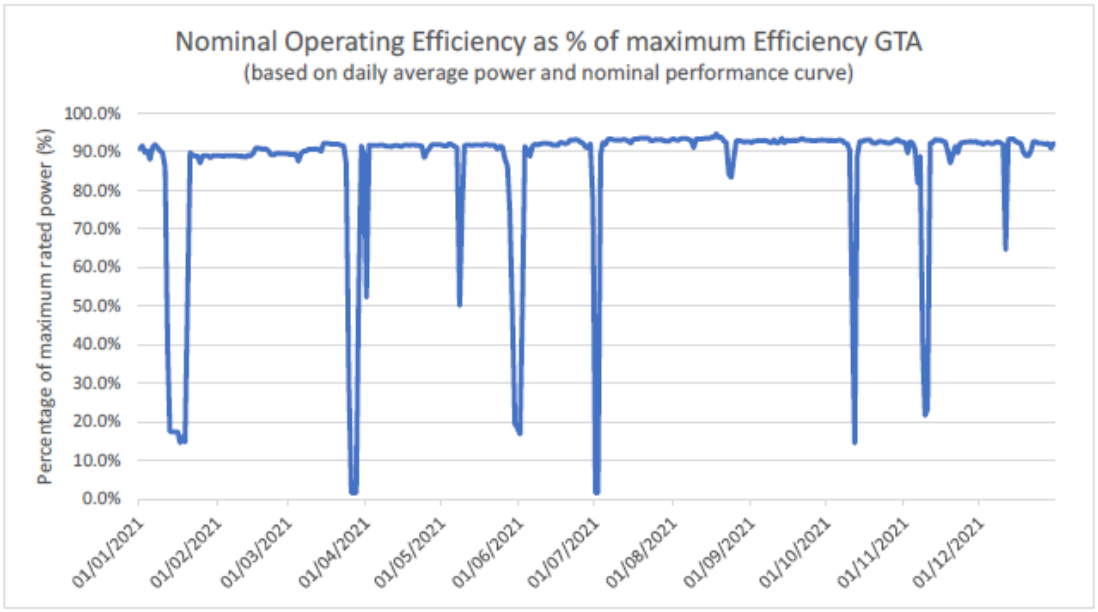


Figure 14b – LCP operation:– % thermal efficiency as % of maximum rated efficiency



Footnotes:

a) The ‘daily average’ thermal efficiency should reflect the daily average load / power output divided by the daily average fuel net thermal input. Or the daily energy output divided by fuel net thermal energy input. Fuel thermal input can be based on metered fuel data (converted to MW thermal using Net CV) or based on platform fuel flow apportioned to individual LCP.

b) The % of thermal efficiency as a % of maximum rated efficiency should compare the daily average thermal efficiency with the base load rated efficiency given in the PPC permit.

Figure 15a – LCP operation: – ‘banding’ of daily average efficiency as % of rating

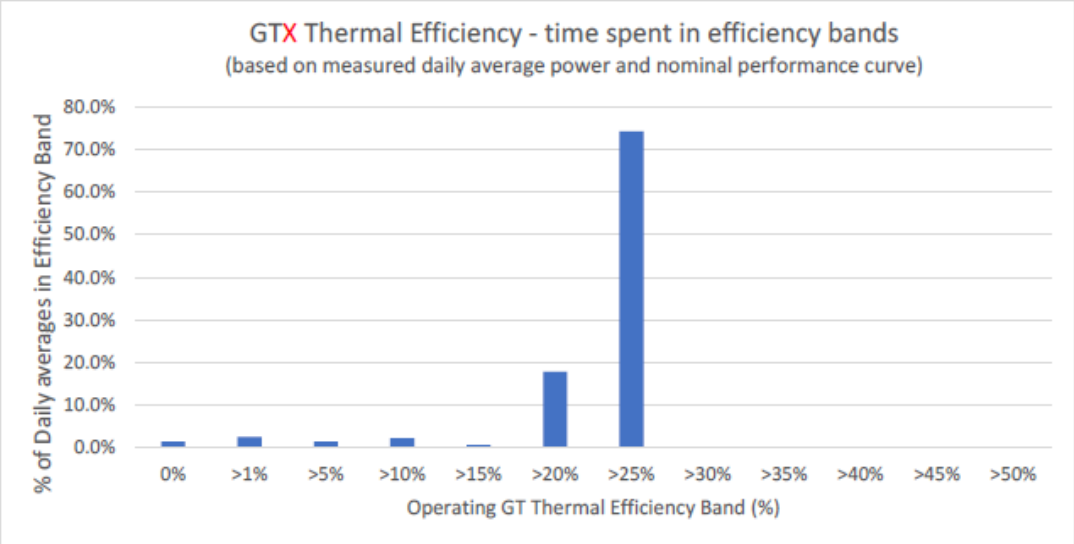
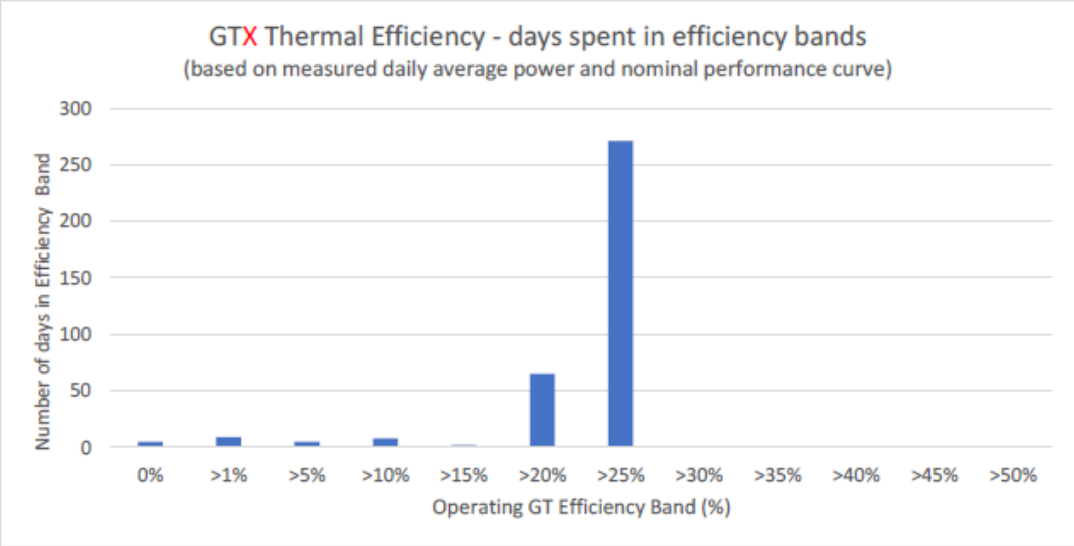


Figure 15b – LCP operation: – number of days spent in each efficiency ‘band’



Footnotes:

a) Using ‘daily average’ values of thermal efficiency, split (‘bin’) the data into discrete bands (5% increments recommended for OCGT) such that the sum of bands equates to 100% of the operating time.

b) The banded daily averages can be graphed as the % of operating time spent in each band, and / or as the number of operational days (daily averages) spent in each band.

c) The banding should be used to help inform the analysis and discussion of LCP performance in relation to energy efficiency, and of LCP emissions in relation to BAT conclusions 52.

This publication is available from: https://www.gov.uk/guidance/oil-and-gas-offshore-environmental-legislation

If you need a version of this document in a more accessible format, please email OPRED@energysecurity.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.