Department of Energy & Climate Change

GUIDANCE DOCUMENT FOR THE OFFSHORE HYDROCARBON INDUSTRY

ON

THE OZONE DEPLETING SUBSTANCES (ODS) REGULATION (EC) No. 1005 / 2009 [Recasting and Repealing ODS Regulation (EC) No. 2037 / 2000]

REVISED: DECEMBER 2015

NOTE: TO USE THE 'HYPERLINKS' PROVIDED IN THIS DOCUMENT, YOU MIGHT NEED TO PRESS THE 'CTRL' KEY AND THEN CLICK ON THE ITEM OF INTEREST. ALL OF THE LINKS IN THIS DOCUMENT WERE FUNCTIONING AT THE TIME OF PUBLICATION.

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Department of Energy & Climate Change

1.0 Introduction

1.1 The objective of the Ozone Depleting Substances (ODS) Regulation (EC) No. 1005 / 2009 ("the EU ODS Regulation") - which has applied since 1 January 2010 and recasts / repeals ODS Regulation (EC) No. 2037 / 2000 ("the original EU ODS Regulation") - is to prohibit and control the production / use of ozone depleting substances thereby reducing atmospheric emissions of these substances in line with the Montreal Protocol (an international agreement to combat the threat of damage posed to the ozone layer by ozone depleting substances). In particular, the EU ODS Regulation concerns the control of emissions from refrigeration systems, air-conditioning units, fire-protection systems and heat pumps.

1.2 In September 2010, Commission Regulation (EU) No. 744 / 2010 which replaces Annex VI to the EU ODS Regulation entered into force. The Regulation sets out the permitted critical uses of halons as well as the timeframes for their phasing out. Under the revised Annex VI, for oil, gas and petro-chemical facilities the critical use exemptions for halons applied to new fire-protection systems (FPS) until 31 December 2010 and will apply to FPS that existed prior to 31 December 2010 until 31 December 2020. With regard to offshore installations, the exemption in respect to existing FPS relates to all `occupied' and `unoccupied' spaces where flammable liquid or gas could be released. References hereinafter to the EU ODS Regulation should be taken to mean the EU ODS Regulation as amended by Commission Regulation (EU) No. 744 / 2010.

1.3 On 7 March 2015, the Ozone-Depleting Substances Regulations 2015 (see Regulations at: http://www.legislation.gov.uk/uksi/2015/168/made) entered into force. These Regulations are hereinafter referred to as the "UK ODS Regulations". The UK ODS Regulations repealed and replaced the GB Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011. The UK ODS Regulations (which cover offshore installations involved in oil / gas, Carbon Capture and Storage (CCS) and gas unloading / storage (GUS) activities) set out the provisions for the enforcement of the EU ODS Regulation. Note that under Regulation 1(3) of the UK ODS Regulations, the Regulations only apply to Northern Ireland offshore facilities insofar as they deal with import and export under the EU ODS Regulation. The Controls on Ozone-Depleting Substances Regulations (Northern Ireland (NI)) 2011 (available at: http://www.legislation.gov.uk/nisr/2011/239/contents/made) entered into force on 31 July 2011 - these Regulations cover any offshore installations (i.e. those undertaking oil / gas and CCS and GUS operations) using equipment containing ozone depleting substances which might, in the future, be located in NI territorial waters.

1.4 The purpose of this guidance document is to set out the requirements on Operators under the EU ODS Regulation that will be enforced offshore by the Offshore Oil & Gas Environment and Decommissioning Branch (OGED) of DECC's Energy Development Unit (EDU) - see **Annex F** for the core aspects against which DECC's offshore Inspectors will assess Operator compliance with the relevant regulatory obligations.

1.5 From an offshore perspective, DECC considers that the person on whom obligations will fall under the EU ODS Regulation will, in most cases, be the approved Operator (usually one of the holders of the relevant petroleum or gas or CO2 storage licence). However, DECC recognises that in some cases another company (not one of the licensees) may be responsible for undertaking the day-to-day operation / management of an offshore installation on behalf of the approved Operator. This could be the owner of the installation; the duty holder of the installation; a company contracted to "operate" the installation; or a company contracted to undertake specific works on behalf of the "approved" Operator. Nevertheless, in such circumstances, the licensed Operator will need to make sure that sufficient systems and procedures, or where applicable contractual obligations, are in place to ensure adherence to the requirements of the EU ODS Regulation.

1.6 In this context, where a Mobile Drilling Unit (MoDU) is supplied under contract to assist offshore activities, we would strongly recommend that the licensed Operator liaises closely with the contractor operating the MoDU in order to determine how the obligations of the EU ODS Regulation are to be complied with e.g. the operator of a MoDU providing the licensed Operator with copies of any procedures to be used to ensure compliance ahead of commencing activities and subsequently, any records that have been maintained during the period of operation relating to the continued legal use of any equipment containing ozone depleting substances (see Section 2 paragraphs 2.2 to 2.4) that is on the facility plus an inventory of equipment / associated levels of ozone depleting substances contained therein (e.g. to enable the reporting of emissions to the Environmental Emissions Monitoring System (EEMS) - see Section 2 paragraph 2.5 part (D)). It is also the case that a 'Consent to Locate (CTL)' from DECC would be required where a MoDU was planning to operate specifically in UK territorial waters (excluding those surrounding Scotland (i.e. Scottish territorial waters) which are not subject to the CTL requirement) or the United Kingdom Continental Shelf (UKCS) and application for CTL would be a useful trigger point for addressing the ODS compliance requirements. Further details on the CTL process can be accessed from**:** https://www.gov.uk/oil-and-gas-offshore-environmental-legislation#the-energy-act-2008-part-4a-consent-to-locate.

1.7 The EU ODS Regulation and the UK ODS Regulations have many provisions to control uses and emissions of ozone depleting substances. However, not all are immediately relevant to the offshore industry, and this guidance document only concerns those provisions which it is considered are likely to affect it. Therefore, this guidance is not intended to be exhaustive as regards compliance with the entirety of the EU ODS Regulation or the UK ODS Regulations, but is only intended to assist Operators in complying with provisions which are most likely to be relevant to them. The UK ODS Regulations contain details of the enforcement powers, specific offences and penalties for non-compliance with the requirements of the EU ODS Regulation and UK ODS Regulations.

2.0 Regulatory requirements on offshore Operators

2.1 The Guidance Sheet at **Annex A** outlines the relevant requirements on Operators to ensure compliance with the EU ODS Regulation.

2.2 The EU ODS Regulation **prohibits:**

(a) Under **Article 5(1) -** the placing on the market and use of halons, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and other controlled substances (the full list of "controlled substances" can be found at Annex 1 of the EU ODS Regulation). This includes**:**

(i) The use of halons / CFCs for the maintenance or servicing of existing refrigeration, air conditioning and heat pump equipment. Previously, where halons / CFCs in such equipment were used-up then, if technically feasible, it was permissible to replace them with reclaimed or recycled HCFCs in accordance with **Articles 11(3)** and **11(4)**, but this is no longer permitted - see further details in paragraphs 2.3 and 2.4.

(ii) The use of virgin HCFCs for the maintenance or servicing of refrigeration and air conditioning equipment - this prohibition took effect from 1 January 2010 under Article 5(1)(c)(v) of the original EU ODS Regulation. It is illegal to continue using any stocks of virgin HCFCs that may have been purchased prior to that date - existing stocks should have been returned to the supplier or another suitable vendor for disposal ASAP from the prohibition date.

(b) Under **Articles 5(1) and 6(2)** - the use of halons in pre-existing and new fire-protection systems (FPS) and fire extinguishers (unless subject to a 'critical use' exemption (see below)). Such appliances must be decommissioned.

However, in accordance with **Article 13**, halons which are eligible for a critical use exemption - as specified in the revised Annex VI - can be used at oil, gas and petro-chemical facilities in FPS that existed prior to 31 December 2010 until 31 December 2020 and their use in new FPS was permissible up to 31 December 2010. The European Commission may grant further extensions to the 2020 date, but this would only occur in circumstances where continued uses could be justified e.g. if it was demonstrated that no technically and economically feasible alternatives were available.

2.3 Until 31 December 2014 the EU ODS Regulation permitted under **Articles 11(3)**, **11(4)** and **11(6)** the use of reclaimed / recycled HCFCs under the following conditions**:**

(a) Reclaimed HCFCs could be placed on the market and used for the maintenance or servicing of existing refrigeration, air-conditioning and heat pump equipment, provided that the container was labelled with an indication that the substance had been reclaimed and with information on the batch number and name / address of the reclamation facility (see additional labelling requirements in item (c) below).

(b) Recycled HCFCs could be used for the maintenance or servicing of existing refrigeration, air-conditioning and heat pump equipment provided that they were recovered from such equipment and were only used by the undertaking which carried out the recovery as part of maintenance or servicing or for which the recovery as part of maintenance or servicing was carried out (see extra labelling requirements in item (c) below).

(c) Where reclaimed or recycled HCFCs were used for maintenance or servicing, the refrigeration, air-conditioning and heat pump equipment concerned had to be labelled with an indication of the type of substance, its quantity contained in the equipment and the label elements set out in Annex I to Regulation (EC) No. 1272 / 2008 on the Classification, Labelling and Packaging (CLP) of substances (accessible from**:** http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:EN:PDF) in respect to substances or mixtures classified as 'Hazardous to the Ozone Layer'.

Whilst **Article 11(8)** indicated that further extensions for continued uses of HCFCs after 31 December 2014 may have been possible where it could have been justified (e.g. if it was demonstrated that, for a particular use, technically and economically feasible alternative substances or technologies were not available or could not have been used), no further derogations have been granted under **Article 11(8)** that are relevant to the offshore hydrocarbon industry.

2.4 Consequently, after 31 December 2014, whilst equipment that already contained reclaimed / recycled HCFCs can continue to be used, it is illegal for Operators to continue using reclaimed / recycled HCFCs for the maintenance or servicing (i.e. topping-up) of existing refrigeration, air-conditioning and heat pump equipment - accordingly, from 1 January 2015 any existing stocks of reclaimed / recycled HCFCs should have been returned ASAP to the supplier or another suitable vendor for disposal.

2.5 The other obligations of the EU ODS Regulation that are considered relevant to the offshore industry - and which apply to existing equipment that is continuing to be deployed in line with the

regulatory requirements on permitted uses - are described below. With the exception of item **(A**) and item **(C)(v)**, the obligations relate to existing equipment which contains 3 kgs or more of controlled substances (although in the interests of best practice Operators may wish to consider applying the provisions to existing equipment with controlled substances below the specified threshold that are not hermetically sealed - but this is, of course, not mandatory) and concern the need for Operators to**:**

(A) Under Article 23(1) - take all precautionary measures practicable to prevent and minimise leakages (i.e. emissions / releases) of controlled substances from <u>all</u> relevant equipment (regardless of the levels of controlled substances contained therein) that are covered by the EU ODS Regulation.

(B) Under Article 23(2) - undertake periodic leakage inspections as per the following frequencies for refrigeration, air-conditioning and heat pump equipment and FPS, including their circuits**:**

(i) For equipment that contains 3 kgs or more of controlled substances - Once every 12 months (except for hermetically sealed equipment with < 6 kgs of controlled substances which is labelled as such).

(ii) For equipment that contains 30 kgs or more of controlled substances - Once every 6 months.

(iii) For equipment that contains 300 kgs or more of controlled substances - Once every 3 months.

Detected leakages must be repaired as soon as possible and in any event within 14 days. Equipment must be checked within one month of the repair to ensure that it has been effective.

Leakage tests can invariably involve the use of 'direct' measuring techniques such as**:**

- ❑ A hand held electronic gas detector.
- ❑ UV sensitive detection fluid or dye in the refrigerant.
- ❑ Soap suds or proprietary bubble solutions.

It is best (where possible) to use a combination of techniques e.g. an electronic detector to test a wide area and soap suds to identify the exact location of a leak.

In certain situations it will be more appropriate to use 'indirect' leak measurement methods - basically involving the observation of factors such as temperatures and pressures in equipment (e.g. refrigeration systems) - to ascertain whether there has been a reduction in inventory of refrigerant. This can be useful if parts of the equipment are inaccessible (when a hand held leak detector may not be appropriate). If a leak is suspected, then it will often be necessary to use 'direct' measurement methods to identify the exact location of the leak. Indirect measuring methods can be valuable in cases where the leakage develops very slowly and where equipment is placed in a well ventilated environment making it difficult to detect controlled substances escaping from the system into the air.

Two types of leak detection system can be considered**:**

- **A direct system** which uses electronic sensors to detect the presence of leakages in areas adjacent to equipment.

- **An indirect system** which interprets measurements within equipment to predict a leak. This might include liquid level in a receiver vessel combined with relevant temperatures and pressures.

There are advantages and disadvantages to both types of system as explained below**:**

- A direct system gives a 'robust' indication of a leak if the sensor is located in the right place - but it is not effective if a leak is outdoors or a long way from a sensor. A direct system often helps locate the general vicinity of the leak.

- An indirect system requires 'built-in intelligence' as it is quite difficult to interpret varying conditions of liquid level and pressures / temperatures within equipment which can vary widely even if no leak has occurred. However where, for example, a refrigeration system has components in several locations or components in outdoor locations then an indirect system may be the only option for detecting leakages.

It will therefore be necessary for Operators to take into account the specific circumstances of equipment when selecting the best approach for detecting leakages.

(C) Under Articles 11(7) and 23(3) - maintain annual records of:

(i) the quantity and type of controlled substances added during the maintenance / servicing of refrigeration, air conditioning and heat pump equipment (i.e. reclaimed / recycled HCFCs used up to 31 December 2014) and FPS (i.e. halons that are subject to the 'critical use' exemption as described in paragraph 2.2 part (b)) - this must not include**:**

- halons contained in cylinders which are used for the purposes of maintaining / servicing (e.g. topping-up) FPS; or

- other controlled substances (i.e. reclaimed / recycled HCFCs) contained in cylinders and used up to 31 December 2014 for maintaining / servicing (e.g. topping-up) refrigeration, air conditioning and heat pump equipment (these should have been returned ASAP to the supplier or another suitable vendor for disposal from 1 January 2015).

(ii) the quantity and type of controlled substances recovered for recycling, reclamation or destruction (in accordance with **Article 22(1)**) during the maintenance / servicing and final disposal of refrigeration, air conditioning and heat pump equipment and FPS;

(iii) the identification of the company or technician who performed the servicing / maintenance;

(iv) the dates and results of leakage checks undertaken; and

(v) the sources that supplied reclaimed / recycled HCFCs for use up to 31 December 2014. Note that this requirement applies regardless of the quantity of substance supplied.

For manned installations records should be retained offshore. Where installations are unmanned, records should be kept at the Operator's onshore premises. For these purposes, Operators may

wish to use the template at **Annex B** for maintaining the required records (also note extra record-keeping requirements in part (D) and paragraph 2.6 below concerning inherent (operational) emissions and unintentional / accidental releases of controlled substances). Operators must maintain the required records for each calendar year i.e. 1 January to 31 December. The records must be made available where requested by DECC or the Commission (e.g. for checking compliance).

(D) Monitor and annually report (by 31 March each year (or as soon as possible thereafter) for the previous calendar year) data to the Environmental Emissions Monitoring System (EEMS) on all inherent (operational) emissions of halons, CFCs and HCFCs (as applicable) from relevant equipment i.e. with 3 kgs + of these substances (see also instructions in paragraph 2.6 on additional reporting requirements for unintentional / accidental releases of controlled substances). This EEMS reporting requirement is linked to the provisions of **Articles 23(1), 23(2) and 23(3)**, as the data provided will enable DECC to monitor over time the extent of inherent emissions of controlled substances from relevant equipment. A record of this type of emission should also be maintained as indicated in Section 10(a) of the Annex B form. **Inherent emissions under normal operating conditions** are classified as gradual leakages (which can, depending on the size of the equipment, be low / nominal emissions) that occur during the normal operation of equipment e.g. there are many potential leak locations (especially on large systems) that have numerous joints, valves and compressors (along with other system connections). Where leakages are slow they can go unnoticed for long periods and result in direct emissions of controlled substances and poor equipment performance - often leading to wasted energy.

As Operators are aware, the EEMS reporting module for halons, CFCs and HCFCs (as applicable) also includes an 'On facility' module (which is distinct from the 'Emissions' module). Therefore, when submitting EEMS returns on emissions (as indicated above), Operators should also ideally utilise the 'On facility' module to report a total figure which encompasses the quantities of controlled substances that are legally contained in equipment plus those that are legally held in stock cylinders.

Some years ago it was the case that during the maintenance / servicing of equipment any ozone depleting substances (e.g. refrigerant) were vented to the atmosphere, however, it should be noted that this practice is now illegal. Under **Article 22(1)**, controlled substances must now be recovered for destruction, recycling or reclamation.

2.6 **Reporting of unintentional / accidental releases of controlled substances:** These are generally considered to be significant / unexpected leakages that occur during the normal operation of equipment (for example, where a significant amount or all controlled substances are lost due to a major system failure such as a refrigerant pipe burst, or where substances are lost during the maintenance of equipment involving the addition / removal of halons in respect to FPS or the removal of other controlled substances from appliances such as refrigeration systems and air-conditioning units). Where unintentional / accidental releases of controlled substances result in total losses equating to 1,000 tonnes of CO2 equivalent or more, Operators will be required to report these (along with the corresponding amount in kgs) to DECC's Offshore Inspectorate (offshore.inspectorate@decc.gsi.gov.uk) - via the form at **Annex C** - within 48 hours of it being established (e.g. during the course of scheduled maintenance) that such an incident had occurred. A record of this type of release should also be maintained as indicated in Section 11 of the Annex B form. Where unintentional / accidental releases of controlled substances are **below** 1,000 tonnes of CO2 equivalent, then Operators should maintain a record of such incidents as indicated in Section 11(a) of the Annex B form. Operators would **not** have to submit an Annex C form report for any unintentional /

accidental releases of controlled substances < 1,000 t/CO2/e. These requirements are also linked to the provisions in **Articles 23(1), 23(2) and 23(3)** of the EU ODS Regulation.

2.7 The calculation method and Global Warming Potentials (GWPs) to be used for converting emissions / releases of controlled substances to 'tonnes of CO2 equivalent' are provided at **Annex D**. Operators will need to take care when determining whether or not any unintentional / accidental releases of controlled substances are likely to meet the Annex C reporting criteria of 1,000 tonnes + of CO2 equivalent (for instance, a 500 kg (0.5 tonne) release of HCFC 22 would equate to 905 tonnes of CO2, whereas a 500 kg release of halon 1301 would be equal to 3,570 tonnes of CO2).

2.8 **Reporting non-compliance:** If any Operators have breached, or believe that they might be at risk (for whatever reason) of breaching, the obligations set out in this guidance document then we would encourage them to notify any potential, or actual instances of, regulatory non-compliance to DECC's Offshore Inspectorate (offshore.inspectorate@decc.gsi.gov.uk) using the form at **Annex E** - so that an assessment can be made of the circumstances which led, or might lead, to an incidence of non-compliance. Notification should take place as soon as is reasonably practicable. Operators should address any queries on the policy aspects described in this document to the DECC Contact mentioned in Section 6.

3.0 Additional obligations

3.1 There are extra obligations - under the UK ODS Regulations and the ODS (Qualifications) Regulations (Northern Ireland) 2011 (at**:** http://www.legislation.gov.uk/nisr/2011/240/contents/made) - concerning training / qualification requirements for personnel handling and recovering controlled substances from equipment (regardless of the levels contained therein i.e. < or > 3 kgs). Whilst these obligations are outside DECC's regulatory remit and the onus for compliance primarily resides with companies in the service / maintenance sector, **it is nevertheless the case that Operators will need to ensure that all personnel working with equipment containing controlled substances on their installations are qualified in line with the relevant obligations**.

3.2 In this regard, DECC plans to work closely with the other Competent Authorities (e.g. the Environment Agency and the Scottish Environment Protection Agency) to ensure that certification / qualification requirements are effectively enforced. For instance, should any non-compliance with the training / qualification requirements in the UK ODS Regulations be discovered by DECC's Inspectors during visits to offshore facilities to check Operator compliance with, amongst other things, the ODS legislative regime, then DECC will liaise with the relevant Competent Authorities to determine how such non-compliance should be formally addressed i.e. through contact with an offshore Operator's and / or another undertaking's (e.g. contractor's) onshore HQ.

4.0 Other sources for guidance

4.1 Generic guidance on all aspects pertaining to the EU ODS Regulation was previously made available by Defra via**:** https://www.gov.uk/managing-fluorinated-gases-and-ozone-depleting-substances. Whilst this particular guidance has been officially withdrawn some of the historical aspects relating to the EU ODS Regulation might still be of interest / useful to offshore Operators.

5.0 Future developments

5.1 The Commission plans to undertake a further review of Annex VI to the EU ODS Regulation and, if appropriate, adopt modifications / timeframes for phasing out 'critical uses' of halons - taking into account the availability of technically and economically feasible alternatives or technologies.

5.2 This guidance document will be updated to reflect any future developments at EU level.

Please note that there may be delays between legislative updates and updates to the guidance.

6.0 DECC - EDU / OGED contact

6.1 For enquires on this guidance document please contact**:** David Foskett (david.foskett@decc.gsi.gov.uk) ; Tel**:** 0300 068 6063.

Department of Energy and Climate Change (DECC)
Energy Development Unit (EDU)
Offshore Oil & Gas Environment and Decommissioning Branch (OGED)

Date: December 2015

Department of Energy & Climate Change

ANNEX A

THE OZONE DEPLETING SUBSTANCES (ODS) REGULATION (EC) No. 1005 / 2009

GUIDANCE SHEET FOR THE OFFSHORE HYDROCARBON INDUSTRY

EU ODS Regulation requirements and Operators' obligations

<table>
<tr><th>Provisions</th><th colspan="2">Requirements / Operators' obligations</th></tr>
<tr><td>Reporting actions</td><td colspan="2">(i) Operators to report annually to EEMS data on total air emissions of controlled substances i.e. halons, chlorofluorocarbons (CFCs), and hydrochlorofluorocarbons (HCFCs) as applicable as a result of inherent (operational) emissions from refrigeration, air-conditioning and heat pump equipment and fire-protection systems (FPS). A record of this type of emission should also be maintained as indicated in Section 10(a) of the Annex B form.

When submitting EEMS returns on emissions (as indicated in item (i) above), Operators should also ideally utilise the 'On facility' module to report a total figure which encompasses the quantities of controlled substances that are legally contained in equipment plus those that are legally held in stock cylinders.

(ii) Unintentional / accidental releases of controlled substances equal to or greater than 1,000 tonnes of CO2 equivalent must be reported (along with the corresponding amount in kgs) to DECC - using the form at Annex C - within 48 hours of it being established that such an incident had occurred. A record of this type of release should also be maintained as indicated in Section 11 of the Annex B form. Where such releases are < 1,000 t/CO2/e then a record of these should be kept by Operators in accordance with Section 11(a) of the Annex B form.

(iii) Any potential, or actual instances of, regulatory non-compliance should be reported to DECC's Offshore Inspectorate (offshore.inspectorate@decc.gsi.gov.uk) via the form at Annex E. Notification should take place as soon as is reasonably practicable.</td></tr>
<tr><td>Leakage Prevention - all equipment</td><td colspan="2">Operators must take all precautionary measures practicable to prevent and minimise any leakages and emissions of controlled substances.</td></tr>
<tr><td rowspan="5">Leakage Checking (equipment with 3 kg or more of controlled substances)</td><td colspan="2">Operators to ensure refrigeration, air-conditioning and heat pump equipment and FPS, including their circuits, is checked for leakages according to the following schedule (Operators should ensure that leakage checks are undertaken by certified personnel):</td></tr>
<tr><td>Levels of controlled substances</td><td>Frequency of checks / inspections</td></tr>
<tr><td>3 kgs +</td><td>Once every 12 months (except for labelled hermetically sealed equipment with < 6 kgs of controlled substances).</td></tr>
<tr><td>30 kgs +</td><td>Once every 6 months</td></tr>
<tr><td>300 kgs +</td><td>Once every 3 months</td></tr>
<tr><td colspan="2">Leakages must be repaired ASAP/ within 14 days of detection. The equipment or system needs to be checked for leakage within one month after a leak has been repaired to make sure that the repair has been effective. Operators should ensure leakage checks are undertaken by certified personnel (see 'Training / Qualification Requirements' further down below).</td></tr>
</table>

Control of the placing on the market and use of controlled substances	**(i)** The placing on the market / use of halons, CFCs and HCFCs is prohibited. This includes**:** **(a)** The use of halons / CFCs for the maintenance or servicing of existing refrigeration, air conditioning and heat pump equipment. Previously, where halons / CFCs in such equipment were used-up then, if technically feasible, they could have been replaced with reclaimed or recycled HCFCs, but this is no longer permitted (see item (ii) under 'Control of the use of HCFCs' below). **(b)** The use of halons in pre-existing and new FPS and fire extinguishers (unless subject to a 'critical use' exemption (see FPS derogation below)). Such appliances must be decommissioned. **(ii)** Under Annex VI there is an exemption for critical uses of halons in FPS that existed prior to 31 December 2010 until 31 December 2020 (Commission may extend this date where justified). Critical uses of halons in **new** FPS were permitted until 31 December 2010.
Control of the use of HCFCs	**(i)** From 1 January 2010, the use of virgin HCFCs for the maintenance / servicing of refrigeration and air conditioning equipment was prohibited. It is illegal to continue using any stocks of virgin HCFCs that may have been purchased prior to that date - existing stocks should have been returned to the supplier or another suitable vendor for disposal ASAP from the prohibition date. **(ii)** The use of reclaimed / recycled HCFCs for the maintenance / servicing of refrigeration, air conditioning and heat pump equipment was permitted until 31 December 2014. No further derogations have been granted under Article 11(8) of the EU ODS Regulation that are relevant to the offshore hydrocarbon industry. Consequently, after 31 December 2014, whilst equipment that already contained reclaimed / recycled HCFCs can continue to be used, it is illegal for Operators to continue using reclaimed / recycled HCFCs for the maintenance or servicing (i.e. topping-up) of existing refrigeration, air-conditioning and heat pump equipment - accordingly, from 1 January 2015 any existing stocks of reclaimed / recycled HCFCs should have been returned ASAP to the supplier or another suitable vendor for disposal.
Labelling	**(i) Reclaimed HCFCs used for the maintenance or servicing of refrigeration, air-conditioning and heat pump equipment until 31 December 2014:** Provided that the container was labelled with an indication that the substance had been reclaimed and with information on the batch number plus name / address of the reclamation facility. **(ii) Recycled HCFCs used for the maintenance / servicing of existing refrigeration, air conditioning and heat pump equipment until 31 December 2014:** Provided that the HCFCs were recovered from such equipment and were only used by the undertaking which carried out the recovery as part of maintenance or servicing or for which the recovery as part of maintenance or servicing was carried out. **(iii) Reclaimed / recycled HCFCs used for maintenance / servicing until 31 December 2014:** Refrigeration / air-conditioning / heat pump equipment had to be labelled with an indication of the type of substance, its quantity contained in the equipment and the label elements set out in Annex I to Regulation (EC) No. 1272 / 2008 on the Classification, Labelling and Packaging (CLP) of substances (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:EN:PDF).
Maintaining Records and Reporting	For equipment containing 3 kgs or more of controlled substances - Operators are to maintain annual records of**:** **(i)** the quantity and type of controlled substances added during the maintenance / servicing of

	refrigeration, air conditioning and heat pump equipment (i.e. reclaimed / recycled HCFCs used up to 31 December 2014) and FPS (i.e. halons that are subject to the 'critical use' exemption) - this must not include**:** **(a)** halons contained in cylinders which are used for the purposes of maintaining / servicing (e.g. topping-up) FPS; or **(b)** other controlled substances (i.e. reclaimed / recycled HCFCs) contained in cylinders and used up to 31 December 2014 for maintaining / servicing (e.g. topping-up) refrigeration, air conditioning and heat pump equipment (these should have been returned ASAP to the supplier or another suitable vendor for disposal from 1 January 2015). **(ii)** the quantity and type of controlled substances recovered for recycling, reclamation or destruction (in accordance with **Article 22(1)**) during the maintenance / servicing and final disposal of refrigeration, air conditioning and heat pump equipment and FPS; **(iii)** the identification of the company or technician who performed the servicing / maintenance; **(iv)** the dates and results of leakage checks undertaken; and **(v)** the sources that supplied reclaimed / recycled HCFCs for use up to 31 December 2014 - this requirement applies regardless of the quantity of substance supplied. The template at **Annex B** can be used by Operators (if they wish) for maintaining records. The extra record-keeping obligations relating to inherent (operational) emissions and unintentional / accidental releases of controlled substances (as set out under items (i) and (ii) of `Reporting actions' above) are linked to the provisions of Articles 23(1), 23(2) and 23(3) of the EU ODS Regulation. The records must be made available where requested by DECC or the Commission (e.g. for checking compliance).
Training / Qualification Requirements	The training / qualification requirements for personnel handling and recovering controlled substances from equipment (regardless of the levels contained therein i.e. < or > 3 kgs) are set out in the UK ODS Regulations and the ODS (Qualifications) Regulations (Northern Ireland) 2011 (http://www.legislation.gov.uk/nisr/2011/240/contents/made). Whilst these obligations are outside DECC's regulatory remit and the onus for compliance primarily resides with companies in the service / maintenance sector, **it is nevertheless the case that Operators will need to ensure that all personnel working with equipment containing controlled substances on their installations are qualified in line with the relevant obligations**.

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ANNEX B

THE OZONE DEPLETING SUBSTANCES (ODS) REGULATION (EC) No. 1005 / 2009

RECORD MAINTENANCE TEMPLATE

[A record for each calendar year must be maintained by Operators for equipment containing 3 kgs + of controlled substances (Operators may wish to keep records on equipment with < 3 kgs of controlled substances - but this is not mandatory). If there have been any unintentional / accidental releases of controlled substances equal to or more than 1,000 tonnes of CO2 equivalent these (plus the corresponding amount in kgs) must be reported to DECC's Offshore Inspectorate - using the Annex C form - within 48 hours of it being established that such an incident had occurred.]

RECORD MAINTENANCE TEMPLATE FOR THE EU ODS REGULATION [*Add / expand rows under headings as necessary*]

Year:

1. Installation Name and Operator:

2. Equipment (make / model) i.e. refrigeration system, air-conditioning unit, heat pump, or fire-protection system (FPS)	**3. Quantity (kgs) of controlled substances in equipment - at start of year** i.e. halons, CFCs or HCFCs as applicable
4. Equipment manufacturer:	**5. Year equipment supplied:**

6. Data on halons used in FPS (under 'critical use' exemption)

Date	Name of Company / technician who performed maintenance / servicing	Amount / type of halons added (kgs)	Amount / type of halons recovered (kgs)	What was done with the recovered halons (e.g. sent to onshore facility for disposal)?
Annual total of halons added / recovered				

7. Data on halons / CFCs recovered from refrigeration, air conditioning and heat pump equipment

Date	Name of Company / technician who performed maintenance / servicing	Amount / type of halons recovered (kgs)	Amount / type of CFCs recovered (kgs)	What was done with recovered halons / CFCs (e.g. sent to onshore disposal facility)?
Annual total of halons / CFCs recovered				

8. Data on reclaimed / recycled HCFCs used in refrigeration, air conditioning and heat pump equipment

Date	Name of Company / technician who performed maintenance / servicing	Amount / type of HCFCs recovered (kgs)	Has the label been updated?	What was done with the recovered HCFCs (e.g. sent to onshore disposal facility)?
Annual total of HCFCs recovered				

9. Leak Tests

Date	Name of Company / technician who performed leakage checking	Test result (including location / cause of any leaks identified)	Follow-up actions required

10. Quantity of inherent (operational) emissions of controlled substances detected during testing	**Date**	**Halons** (kgs)	**CFCs** (kgs)	**HCFCs** (kgs)
10(a). Annual total of inherent (operational) emissions				
10(b). Date(s) when data under Section 10(a) was reported to EEMS				

11. Annual total of unintentional / accidental releases of controlled substances reported via the Annex C form	**Halons** (kgs)	**CFCs** (kgs)	**HCFCs** (kgs)
11(a). Annual total of other unintentional / accidental releases of controlled substances < 1,000 t/CO2/e	**Halons** (kgs)	**CFCs** (kgs)	**HCFCs** (kgs)
11(b). Annual total of inherent (operational) emissions plus unintentional / accidental releases of controlled substances	**Halons** (kgs)	**CFCs** (kgs)	**HCFCs** (kgs)

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ANNEX C

THE OZONE DEPLETING SUBSTANCES (ODS) REGULATION (EC) No. 1005 / 2009

REPORTING FORM FOR UNINTENTIONAL / ACCIDENTAL RELEASES OF CONTROLLED SUBSTANCES

[This form must be used by Operators for reporting any unintentional / accidental releases of controlled substances - equating to or greater than 1,000 tonnes of CO2 equivalent - from individual items of equipment to DECC's Offshore Inspectorate via: offshore.inspectorate@decc.gsi.gov.uk) **within 48 hours of it being established that such an incident had occurred - refer to Annex D for CO2 Calculation Method and Global Warming Potentials (GWPs) to be used.]**

REPORTING FORM FOR THE EU ODS REGULATION [*Add / expand rows under headings as necessary*]

Reporting year:

Report number:

Date submitted:

1. Installation Name and Operator:	
Company Postal Address (Head Office)**:**	
Telephone number**:**	E-mail**:**
2. Equipment (make / model) i.e. refrigeration system, air-conditioning unit, heat pump or fire-protection system **(***provide details on one category only***):**	
3. Equipment manufacturer:	**4. Year equipment supplied:**
5. Date when it was established that incident had occurred:	
6. Details / likely cause of incident:	

7. Quantity in tonnes of CO2 equivalent (plus corresponding amount in kgs) of controlled substances released during incident (estimated if necessary)	**Halons**		**Chlorofluorocarbons (CFCs)**		**Hydrochlorofluorocarbons (HCFCs)**	
	t/CO2e	**kgs**	**t/CO2e**	**kgs**	**t/CO2e**	**kgs**

8. Steps taken to resolve / prevent re-occurrence of the incident:

For DECC Purposes Only

Environmental Inspector:

Inspector's Assessment: No Further Action ☐ **Further Information Requested** ☐
Further Action Taken ☐

Additional Details:

Date Completed:

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ANNEX D
THE OZONE DEPLETING SUBSTANCES (ODS) REGULATION (EC) No. 1005 / 2009

CALCULATION METHOD AND GLOBAL WARMING POTENTIALS (GWPs) TO BE USED FOR CONVERTING EMISSIONS / RELEASES OF CONTROLLED SUBSTANCES TO 'TONNES OF CO2 EQUIVALENT'

Quantity of controlled substances emitted / released **multiplied** by the Global Warming Potential (GWP) **=** CO2 equivalent

Example: If 2 tonnes (2,000 kgs) of HCFC 22 (which has a GWP of 1,810) was emitted / released then this would be the equivalent of 3,620 tonnes of CO2.

GLOBAL WARMING POTENTIALS (GWPs)

Note: Vast majority of the GWP values are based on the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change.

Ozone Depleting Substances (Chlorofluorocarbons (CFCs) / Hydrochlorofluorocarbons (HCFCs) / Halons)

Fluid Name/Number	Chemical Formula	ODP	100 Year GWP
Pure CFCs			
CFC 11	$CC1_3F$	1.0	4750
CFC 12	$CC1_2F_2$	1.0	10900
CFC 13	$CC1F_3$	1.0	14400
CFC 113	$CC1_2FCC1F_2$	0.8	6130
CFC 114	$CC1F_2CC1F_2$	1.0	10000
CFC 115	$CC1F_2CF_3$	0.6	7370
Pure HCFCs			
HCFC 21	$CHC1_2F$	0.040	151
HCFC 22	$CHC1F_2$	0.055	1810
HCFC 123	$CHC1_2CF_3$	0.020	77
HCFC 124	$CHC1FCF_3$	0.022	609
HCFC 141b	CH_3CCl_2F	0.110	725
HCFC 142b	CH_3CClF_2	0.065	2310
HCFC 225ca	$CHCl_2CF_2CF_3$	0.025	122
HCFC 225cb	$CHClFCF_2CClF_2$	0.033	595

Fluid Name/Number	Chemical Formula	ODP	100 Year GWP
Unsaturated HCFCs			
HCFC 1233zd	$C_3H_2ClF_3$	0.0	4.5
HCFC-1233xf	$C_3H_2ClF_3$	0.0	1 [Fn] 3

Fluid Name/Number	Constituents of Blend	ODP	100 Year GWP
CFC Azeotropes			
500	12/152a	0.7	6014
501	12/22	0.26	3150
502	115/22	0.28	4265
503	13/23	0.6	12427

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Fluid Name/Number	Constituents of Blend	ODP	100 Year GWP
HCFC Blends			
HCFC 401A	22/152a/124	0.03	1200
HCFC 401B	22/152a/124	0.04	1300
HCFC 401C	22/152a/124	0.03	930
HCFC 402A	22/125/290	0.02	2800
HCFC 402B	22/125/290	0.03	2400
HCFC 403A	22/218/290	0.04	3100
HCFC 403B	22/218/290	0.03	4500
HCFC 406A	22/142b/600a	0.06	1900
HCFC 408A	22/143a/125	0.02	3200
HCFC 409A	22/124/142b	0.05	1600
HCFC 409B	22/124/142b	0.05	1600
HCFC 411B	22/152a/1270	0.05	1700

Fluid Name/Number	Chemical Formula	ODP	100 Year GWP
Halons			
Halon 1211	$CBrClF_2$	3.0	1890
Halon 1301 (R 13B1)	$CBrF_3$	10.0	7140
Halon 2402	$CBrF_2CBrF_2$	6.0	1640

For details on alternatives to Ozone Depleting Substances see Annex B of the DECC Guidance Document for the Offshore Hydrocarbon Sector on the F-Gases Regulation (EU) No. 517 / 2014 which is accessible from**:** https://www.gov.uk/oil-and-gas-legislation-on-emissions-and-releases#fluorinated-greenhouse-gases-regulations-2015. Note that these substances are also subject to restrictions.

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ANNEX E

THE OZONE DEPLETING SUBSTANCES (ODS) REGULATION (EC) No. 1005 / 2009

REGULATORY NON-COMPLIANCE NOTIFICATION FORM

[This form should be used by Operators for reporting to DECC's Offshore Inspectorate (offshore.inspectorate@decc.gsi.gov.uk) any potential, or actual instances of, non-compliance with the obligations of the ODS regulatory regime.]

NON-COMPLIANCE NOTIFICATION FORM FOR THE EU ODS REGULATION [***Add / expand rows under headings as necessary***]	
Identity of Reporter	
Full Name:	**Organisation / Company:**
Contact Telephone No:	**Contact E-Mail:**
Installation Details	
Installation Name and Operator:	
Details of Regulatory Non-Compliance Notification	
Date Non-compliance Identified:	
Details and Cause of Non-compliance:	
Steps taken to prevent re-occurrence of Non-compliance:	
Is the incident that has led, or may lead, to Non-compliance likely to result in a significant environmental impact? YES ☐ NO ☐ If Yes please provide details**:**	

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ANNEX F

THE OZONE DEPLETING SUBSTANCES (ODS) REGULATION (EC) No. 1005 / 2009

Specific regulatory aspects to be assessed by DECC's offshore Inspectors

(i) The continued use of relevant equipment in accordance with the EU ODS Regulation's requirements.

Noting that:

- ❖ The use of halons / CFCs for the maintenance / servicing of existing refrigeration; air conditioning and heat pump equipment is prohibited. Previously, where halons / CFCs in such equipment were used-up then, if technically feasible, they could have been replaced with reclaimed or recycled HCFCs, but this is no longer permitted (see fourth 'bullet point' below).

- ❖ From 1 January 2010, the use of virgin HCFCs for the maintenance / servicing of refrigeration and air conditioning equipment was prohibited. Any stocks of virgin HCFCs that may have been purchased prior to that date should have been returned to the supplier or another suitable vendor for disposal ASAP from the prohibition date.

- ❖ The use of halons in fire-protection systems (FPS) that pre-date 31 December 2010 is permitted until 31 December 2020.

- ❖ The use of reclaimed / recycled HCFCs for the maintenance / servicing of refrigeration, air conditioning and heat pump equipment was permitted until 31 December 2014. Such equipment can continue to be used - but not topped-up with reclaimed / recycled HCFCs - after 31 December 2014. From 1 January 2015 any existing stocks of reclaimed / recycled HCFCs should have been returned ASAP to the supplier or another suitable vendor for disposal.

(ii) The maintenance of proper records which cover**:**

- the quantity and type of controlled substances added during the maintenance / servicing of refrigeration, air conditioning and heat pump equipment (i.e. reclaimed / recycled HCFCs used up to 31 December 2014) and FPS (i.e. halons) - this must not include**:**

  - ❖ halons contained in cylinders which are used for the purposes of maintaining / servicing (e.g. topping-up) FPS; or

  - ❖ other controlled substances (i.e. reclaimed / recycled HCFCs) contained in cylinders and used up to 31 December 2014 for maintaining / servicing (e.g. topping-up) refrigeration, air conditioning and heat pump equipment (these should have been returned ASAP to the supplier or another suitable vendor for disposal from 1 January 2015);

- quantities and types of controlled substances recovered during maintenance, servicing and disposal;

- dates / results of leakage checks;

- identity of relevant personnel (servicing technicians); and

- details of the sources supplying reclaimed and / or recycled HCFCs for use up to 31 December 2014.

(iii) The separate reporting (via the Annex C form) of any unintentional / accidental releases of controlled substances equal to or greater than 1,000 tonnes of CO2 equivalent - plus the inclusion of related data in the records to be maintained.

(iv) The maintaining of records relating to other unintentional / accidental releases of controlled substances below 1,000 tonnes of CO2 equivalent.

(v) The annual reporting to EEMS of**: (a)** all inherent (operational) emissions of controlled substances; and **(b)** the total quantity of controlled substances which are legally contained in equipment and that are legally held in stock cylinders.

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(vi) Leak testing regimes in place to meet 'periodic leakage checking frequencies' (i.e. annual for 3 kgs + equipment inventory (except for labelled hermetically sealed equipment with < 6 kgs of controlled substances); 6 monthly for 30 kgs +; and 3 monthly for 300 kgs +) plus the repairing of any detected leaks ASAP / within 14 days of detection and the checking of equipment within one month of repair to ensure repairs have been effective.

(vii) The availability and use of suitable recovery equipment for controlled substances.

(viii) The updating of equipment labels with inventory of controlled substances e.g. as a result of substances being added (legally) or recovered on-site.

(ix) The carrying out of maintenance / servicing work by suitably qualified personnel.

(x) The reporting of any incidents of regulatory non-compliance via the Annex E form.

(xi) Plans for HCFC containing equipment (e.g. post-31 December 2014).

(xii) General improvements planned for the future.

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