



# White Cross Offshore Wind Farm: Chemical Risk Assessment

**WHX001-FLO-CON-ENV-RSA-0001**



<b>Document Code:</b>	WHX001-FLO-CON-ENV-RSA-0001	
<b>Version Number:</b>	A1	
<b>Date:</b>	<i>Issue</i> 26/06/2024	<i>Date</i>
<b>Prepared by:</b>	Melina Jack	<i>Melina Jack</i>
<b>Checked by:</b>	Oliver Gardner	<i>Oliver Gardner</i>
<b>Owned by:</b>	Flotation Energy	

<b>Version Number</b>	<b>Reason for Issue / Major Changes</b>	<b>Date of Change</b>
A1	For approval	26/06/2024

## Table of Contents

1. Overview .....	1
2. Consultation.....	2
3. Chemical management.....	2
3.1 Chemical Risk Assessment Register (CRAR).....	3
4. Estimated hydrocarbon and chemical inventory .....	4
5. Chemical use, management, storage and transportation .....	4
6. Control of substances hazardous to health (COSHH).....	6
Appendix 1 Detailed consultation comments and WCOWL responses .....	7

## Table of Tables

Table 1 Estimated Inventory of Hydrocarbons and Chemicals for WCOW .....	4
--	---

## Glossary of Acronyms

<b>Acronym</b>	<b>Definition</b>
<b>CDG</b>	Carriage of Dangerous Goods
<b>Cefas</b>	Centre for Environment Fisheries and Aquaculture Science
<b>COSHH</b>	Control of Substances Hazardous to Health
<b>CRA</b>	Chemical Risk Assessment
<b>CRAR</b>	Chemical Risk Assessment Register
<b>HSE</b>	Health and Safety Executive
<b>ITOPF</b>	International Tanker Operators Pollution Federation
<b>MARPOL</b>	The International Convention for the Prevention of Pollution from Ships
<b>MMO</b>	Marine Management Organisation
<b>MSDS</b>	Materials Safety Data Sheets
<b>OCR</b>	Offshore Chemical Regulations
<b>PLONOR</b>	Pose Little or No Risk
<b>RAMS</b>	Risk Assessment and Method Statement
<b>UKCS</b>	UK Continental Shelf
<b>WCOW</b>	White Cross Offshore Windfarm
<b>WCOWL</b>	White Cross Offshore Windfarm Ltd

## 1. Overview

1. The purpose of this risk assessment is to establish and maintain a system for the control, use, storage, transport and reporting requirements of chemicals during the construction and operational (including maintenance) phases of White Cross Offshore Windfarm (WCOWL) (the Project).
  2. Specifically, this Chemical Risk Assessment (CRA) provides:
    - An effective framework for improving overall environmental and chemical performance while achieving the goal of zero discharge.
    - A management approach which allows continuous chemical management improvement and minimisation of environmental impact.
  3. The List of Notified Chemicals<sup>1</sup> is a list of chemicals assessed and ranked by the Centre for Environment Fisheries and Aquaculture Science (Cefas) in accordance with the relevant legislation for oil and gas infrastructure. The use of the List of Notified Chemicals has been applied to the offshore renewables industry as it incorporates a risk-based approach to chemical use and discharge on the UK Continental Shelf.
  4. Where feasible chemicals that Pose Little or No Risk (PLONOR) shall be selected.
  5. Where the Project identifies that there may be a requirement to use a chemical that is not on the List of Notified Chemicals, full details of the use, storage and transportation will be included in the relevant management plan associated with the project activity (for example, the Construction Method Statement or the Cable Specification and Installation Plan).
  6. Where chemicals proposed for use are not on the Definitive Ranked List of Registered Products (DRLRP), a review shall be undertaken to ascertain if the substance can be eliminated or substituted. It is noted that the DRLRP contains chemicals that may contain things like plastics, endocrine disrupters, and that may be recommended for substitution.
  7. In compliance with the OSPAR guidance (2008-03), all chemicals used on the offshore windfarm (with a pathway to the marine environment that are not covered by other regulations e.g., used on vessels or MARPOL) will be notified to the Marine Management Organisation (MMO) for approval. If necessary, where chemicals
-

contain hazardous substances, justification will be given for their use. This will include information on:

- the toxicity of substances in the product
- its potential to biodegrade and bioaccumulate
- the dose/usage and frequency per turbine (as set out in **Section 3.1**).

8. The Project and its Contractors shall provide detailed justification on the proposed use of the chemical to enable approval from the MMO in writing. Approval is not guaranteed and is at the discretion of the MMO and associated statutory consultees. These substances shall not be permitted for use until written approval from the MMO has been received.

9. The MMO must be notified of chemicals used, where there is an opportunity for emission or discharge even accidentally or as a one-off, regardless of whether the chemicals are on the DRLRP.

## 2. Consultation

10. The off-site Project Environment and Consents Team (ECT) is responsible for:

- Managing consultation on the CRA with the relevant consultees.
- Maintaining and updating the CRA.
- Supporting the contractor tendering process to ensure monitoring requirements are efficiently communicated to suppliers.

11. Statutory consultation on the CRA took place in March 2024 when the first version was shared with the MMO. **Appendix 1** details the MMO's consultation comments and how WCOWL has addressed these.

12. This section will be further updated to summarise comments on this document as consultation progresses.

## 3. Chemical management

13. The following measures shall be employed by the Project and their Contractors, and incorporated into associated Method Statements as required:

- The Project will solely utilise chemicals that are included on the List of Notified Chemicals, unless otherwise agreed with the MMO and Cefas through the approval of the relevant Management Plan.
- Substances and objects to be deposited are inert (or appropriately contained and protected) and shall not contain toxic elements.

- Suitable bunding (110% of the total volume of any chemical container) and suitable containers shall be utilised to prevent the release of any stored chemicals into the marine environment.
- Contractors will be expected to produce a chemical inventory detailing how and when relevant chemicals will be used, stored and transported (in accordance with relevant guidance and legislation), which will be made available to the Health, Safety and Environmental Manager for approval.
- On board the vessels, the Vessel Master will be ultimately responsible for ensuring that chemicals are adequately stored, and that the manufacturer's instructions for the storage, handling and use of the chemical are complied with.

14. Materials Safety Data Sheets (MSDS) and Control of Substances Hazardous to Health (COSHH) forms for each chemical shall be present on the vessels where they are stored and/or used. These data sheets also contain control measures to minimise the risk to the marine environment should they be released.

### **3.1 Chemical Risk Assessment Register (CRAR)**

The Chemical Risk Assessment Register (CRAR) will be completed by each Contractor providing specific details of proposed chemicals relevant to their works and sent to the MMO. It is designed to enable the MMO to review the acceptability of the use of specific chemicals (specific/branded chemicals) throughout the offshore construction, operation and maintenance phases. Information should be provided but is not limited to the quantity, frequency and method of use, together with any relevant toxicity degradation or bioaccumulation data and justifications or risk assessments for use where there are associated warnings (i.e., substitution warning). The CRAR will assess how much of each chemical is planned to be used on what piece(s) of equipment, how it will be stored for transportation and in what quantities. Based on these parameters and the best practice techniques used, a risk assessment of the likelihood of a spill to the marine environment is undertaken. The risk assessment is based on the assessment of the storage equipment integrity, and four principal criteria have been identified as being of key importance to the assessment of whether the integrity of the containment equipment is good to very poor. These are:

- Whether or not the item or equipment is certified.
- Whether or not the item or equipment is subject to a pre-use inspection.
- Whether or not an approved Risk Assessment and Method Statement (RAMS) will be in place for the activity.
- Whether or not the operator of the item or equipment is competent and trained to operate it.

15. The risk assessments will be produced and managed through the CRAR in accordance with detailed procedures set out in the Flotation Energy *Health Safety Environment and Quality Policy (IMS-FLO-POL-0004)* and *Offshore Construction / Activities HSE Minimum Standards (FLO-IMS-PRO-0024)*. In addition, project specific Health and Safety Management Plans and a Construction Environmental Management Plan will be developed in line with legislative requirements and all contractor work will be managed through the contractors' approved environmental management plans.

#### 4. Estimated hydrocarbon and chemical inventory

16. Different types of hydrocarbons and chemicals may be used during the construction and operation of the Project as presented within **Table 1**.

*Table 1 Estimated Inventory of Hydrocarbons and Chemicals for WCOW*

Type of hydrocarbon/chemical	ITOPF Group <sup>2</sup>	Function
<b>Diesel (light)</b>	Group 1/2	Plant/machinery fuel
<b>Intermediate Fuel Oil</b>	Group 3	Vessel fuel
<b>Marine Gas Oil (Marine Diesel)</b>	Group 2	Vessel fuel
<b>Lubricating Oil</b>	Group 3	Used for vessels and machinery during construction
<b>Hydraulic Oil</b>	Group 2/3	Used within hydraulic plane e.g., cranes, machinery, remotely operated vehicles, etc.
<b>Chemicals</b>	N/A	Various chemicals used routinely; paints, thinners, solvents, cleaning fluids, cement/grout and drilling chemicals and additives.

17. Information regarding specific chemicals will be submitted to the MMO in accordance with the procedure described in **Section 2.1**.

#### 5. Chemical use, management, storage and transportation

18. Appropriate procedures, method statements and risk assessments shall be in place for the use, transport and storage of chemicals in accordance with best practice including, but not limited to:

---

<sup>2</sup>International Tanker Operators Pollution Federation (ITOPF) Classification based on the properties of the hydrocarbons and their likely persistence in the marine environment.



- The transportation of chemicals in line with:
  - the Carriage of Dangerous Goods (CDG) note under the Carriage of Dangerous Goods Regulations 2015
  - International Maritime Dangerous Goods Code.
- The storage of chemicals in line with the applicable manufacturer's guidance on storage, instructions and recommendations, and:
  - the Control of Substances Hazardous to Health Regulations (COSHH as amended)
  - HSE guidance on offshore storage of chemicals OCM guidance note 8

19. Method statements shall fully describe the environmental management aspects of storage, spill management and waste disposal arrangements, as described below:

- All hazardous materials will be clearly labelled, identifiable and accounted for.
- Hazardous substances will not be tampered with.
- All hazardous materials shall be stored using impermeable primary and secondary containment. The storage areas for all drums and totes must be bunded and capable of containing at least 110% of the total volume stored within the container.
- Where drums are transported, bunding must be at least 110% of the total volume of the material being transported.
- Where drums are temporarily in use in an area outside of any dedicated storage area, spill containment must be at least 110% of the total stored volume.
- Impermeable bunded chemical storage areas shall be provided at each work front as required.
- Mobile temporary bunding units and drip trays shall be used at construction work fronts.
- Spill prevention equipment, including spill kits/plant nappies shall be provided at all locations where a risk of spill is identified.
- All drums shall be stored in vertical position at all times, including when in use.
- Only chemicals that don't react with each other shall be stored together, incompatible chemicals must be stored separately; for example, acids and alkalis shall not be stored within the same storage container. This will prevent the release of quantities of toxic gases in the event of accidental mixing; and acids and organic chemicals shall not be stored at the same location. This should prevent a fire or explosion in the event of accidental mixing.
- For chemicals on vessels/Crew Transfer Vessels a nominated individual shall be responsible for ensuring that all chemicals are adequately stored and protected.

## 6. Control of substances hazardous to health (COSHH)

20. All substances in use during the construction phase of the Project shall be subject to the COSHH Assessment. The Project and its contractors shall undertake an assessment of the chemicals they use on site and on vessels and use this assessment process to ensure that the risk of pollution is minimised by adopting best practice techniques.

21. COSHH assessments shall be undertaken using the manufacturer's safety data sheet. This will include the following:

- Identification of hazardous substances
- Collation and recording of product information
- Detailed assessment of hazardous substances
- Use of control measures; Maintenance, examination and test of control measures
- Information, instruction and training
- Monitoring and auditing of COSHH assessments and control measures taken by contractors and suppliers as appropriate.

## Appendix 1 Detailed consultation comments and WCOWL responses

Consultee	Date, Document, Forum	Comment	Response	Where addressed
Cefas	23 May 2024, Letter to the MMO	The applicant proposes to review chemicals that are not on the Definitive Ranked List of Registered Products (DRLRP). All chemicals for use on the offshore windfarm that have a pathway to the marine environment not used within closed systems (unless there is regular top up) or covered by other regulations e.g., MARPOL should be notified to the MMO.	A commitment to notify the MMO of intention to review chemicals not on the DRLRP was already provided in <b>Section 1</b> .	<b>Section 1</b>
Cefas	23 May 2024, Letter to the MMO	Section 1 point 7 states "a review shall be undertaken to ascertain if the substance can be eliminated or substituted" if the chemical is not on the DRLRP. The applicant should note that this list is not a list of chemicals approved for general use in the marine environment, rather it only considers chemicals to be used in oil and gas infrastructure, and this information is not transferable to offshore wind. This list contains chemicals that may be recommended for substitution or contain things like plastics, endocrine disrupters etc. When operators wish to use them, they provide full justification to DESNZ with site-specific risk assessments in their permit requests. DESNZ then determine whether they will allow their use or not. Under the OSPAR guidance (2008-03), all chemicals used on the offshore windfarm (with a pathway to the marine environment that are not covered by other regulations e.g., used on vessels or MARPOL) should be notified to the MMO for approval, and if necessary, where chemicals contain hazardous substances should have justification for their use. Notification should include information on the toxicity of substances in the product, its potential to biodegrade and bioaccumulate together with the dose/usage and frequency per turbine etc. (as applicants note in section 2.1 for information to be included in the Chemical Risk Assessment Register).	Updated text	<b>Section 1</b>
Cefas	23 May 2024, Letter to the MMO	Section 1. Point1 of the CRA states that this is to ensure compliance with the requirements of the Offshore Chemicals Regulations (OCR) (as amended) (2002). This sentence should be removed as the UK's	Deleted text	<b>Section 1</b>

Consultee	Date, Document, Forum	Comment	Response	Where addressed
		<p>implementation of the OCRs 2002 pertain to the Petroleum Act (1998) and are therefore not relevant to offshore wind (Blake et al. 2022) e.g.,</p> <p><i>"offshore activities" means any activities in respect of which the Secretary of State exercises functions under the Petroleum Act 1998, being activities carried out in the relevant area;"</i></p> <p><i>And; "relevant project" has the same meaning as in the Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) Regulations 1999;"</i></p>		
Cefas	23 May 2024, Letter to the MMO	<p>Section 1 point 3 refers to the ranked list of certified chemicals. This paragraph should be amended as the list is not a product of the Offshore Chemical Notification Scheme, it is a scheme regulated in the UK by the Department for Energy Security and Net Zero (DESNZ) using scientific and environmental advice from Cefas. In addition, the OCNS does not 'manage' chemical use and discharge as the wording implies. Cefas assess the chemicals and publish the ranked list of those that comply with registration for use within oil and gas infrastructure. Approval of these chemicals is permitted by DESNZ who request site-specific risk assessments and justification of their use, for which Cefas is a statutory consultee. It is not possible to compare outcomes from the "risk-based approach to chemical use and discharge on the UK Continental Shelf (UKCS)", as the modelling (e.g. chemical hazard and risk management (CHARM) model) applied to the chemicals is specific to oil and gas platforms and discharges using generic platform parameters that are not directly applicable to use and discharge from offshore windfarms.</p>	Text updated	<b>Section 1</b>