



# The Sizewell C Project

## 9.65 Outline Vessel Management Plan - Tracked Changes Version

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Planning Act 2008  
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## EXECUTIVE SUMMARY

Level 1 control documents will either be certified under the DCO at grant or annexed to the DoO. All are secured and legally enforceable. Some Level 1 documents are compliance documents and must be complied with when certain activities are carried out. Other Level 1 documents are strategies or draft plans which set the boundaries for a subsequent Level 2 document which is required to be approved by a body or governance group. The obligations in the DCO and DoO set out the status of each Level 1 document.

This Outline Vessel Management Plan (OVMP) is a Level 1 document which concerns the construction and operational phases of the Sizewell C Project. Condition 31A of the Deemed Marine Licence in Schedule 20 of the dDCO (Doc. Ref. 3.1(l)) requires a vessel management plan in general accordance with this OVMP to be approved by the MMO in the event that SZC Co. requires vessels to traverse the Outer Thames Estuary Special Protection Area (SPA) during the winter months.

Where further documents or details require approval, this document states which body or governance group is responsible for the approval and/or must be consulted. Any approvals by East Suffolk Council, Suffolk County Council or the MMO will be carried out in accordance with the procedure in Schedule 23 of the DCO. The DoO establishes the governance groups and sets out how these governance groups will run and, where appropriate, how decisions (including approvals) should be made. Any updates to these further documents or details must be approved by the same body or governance group and through the same consultation and procedure as the original document or details.

Where separate Level 1 or Level 2 control documents include measures that are relevant to the measures within this document, those measures have not been duplicated in this document, but cross-references have been included for context. Where separate legislation, consents, permits and licences are described in this document they are set out in the **Schedule of Other Consents, Licences and Agreements** (Doc Ref. 5.11(B))

For the purposes of this document the term ‘SZC Co.’ refers to NNB Nuclear Generation (SZC) Limited (or any other undertaker as defined by the DCO), its appointed representatives and the appointed construction contractors.

## 1 INTRODUCTION

1.1.1 This Outline Vessel Management Plan (OVMP) provides details of the proposed approach to managing deliveries to the [Marine Bulk import Facility \(MBIF\) and Permanent and Temporary BLF Beach Landing Facility \(BLF\)](#) at the [SZC main development](#) site via the marine route over the period of construction and [operation-deliveries to the permanent BLF during operation if these deliveries are required during the winter months.](#)

1.1.2 [For the purposes of this OVMP and the final Vessel Management Plan, “winter” means the period between 1 November and 31 March inclusive, “summer” means the period between 1 April and 31 October inclusive.](#)

1.1.3 [This OVMP outlines the proposed restrictions to vessel movements and routes and provides the strategy to protect the Outer Thames Estuary Special Protection Area \(SPA\) from vessel movements during the winter months. As set out in Section 3, there must be no vessel movements through the SPA during the winter months unless a Winter Vessel Management Plan has been submitted to and approved by the MMO, pursuant to DML Condition 31a.](#)

1.1.4 [The Winter Vessel Management Plan must include details of:](#)

- [The proposed vessel movement schedule, route and any measures that may be necessary to avoid impacts on red throated divers, along with the monitoring of vessel movements to ensure the minimum disturbance to wintering red-throated divers.](#)

~~1.1.2 The OVMP will be supplemented during the detailed planning and construction stages by specific Vessel Management Plans prepared by the contractors to accord with the principles in this OVMP.~~

~~1.1.3 The OVMP outlines the vessel movements and routes and provides the strategy for planning the vessel movements to protect the Outer Thames Estuary Special Protection Area (SPA). The OVMP gives direction on choice of routes and monitoring of vessel movements to facilitate the minimum disturbance to existing sensitive habitats and species and in particular to wintering red-throated divers. The OVMP also provides a summary of the approach to monitoring of red-throated divers, the governance around this monitoring, the setting of disturbance thresholds and approach which will be taken in relation to directing vessels to use alternative routes.~~

~~1.1.4 This Plan excludes detailed consideration of the following families of vessel movement:~~

- Tug movements and marine works for outfall/intake tunnels: these movements ~~would~~ will be concentrated around the SZC site area and are not expected to impinge significantly on the wider SPA area compared to the ~~import~~ import of AIL's and of bulk aggregate import.
- Delivery of rock armour for Hard Coastal Defence Feature: these movements will follow the same route selection hierarchy, protocols and routings as those presented in the OVMP, depending on the origin of the rock armour. An estimate of these movements is, however, included in **Error! Reference source not found.**
- Shingle import/ recharge for Soft Coastal Defence Feature: these movements will follow the same route selection hierarchy, protocols and routings as those presented in the OVMP. Initial shingle import ~~would~~ will ideally be completed during the fair weather periods which are more prevalent in summer months. Shingle recharge is expected to be infrequent (typically 10-year intervals) during the operational and decommissioning phases of SZC. An estimate of these movements is, however, included in **Error! Reference source not found.**

~~1.1.5 For the purposes of this plan the SZC construction period is 2025 to 2032 and the SZC operational and decommissioning period is 2032 to 2140. The arrangements set out in this outline plan, however, will extend to cover and variation in these dates.~~

1.1.5 ~~1.1.6~~ The vessel count presented in this ~~plan~~ OVMP includes both the inbound and outbound legs of the journey, i.e. each vessel will have an inbound and outbound leg.

## 1.2 Spatial Extents of Plan

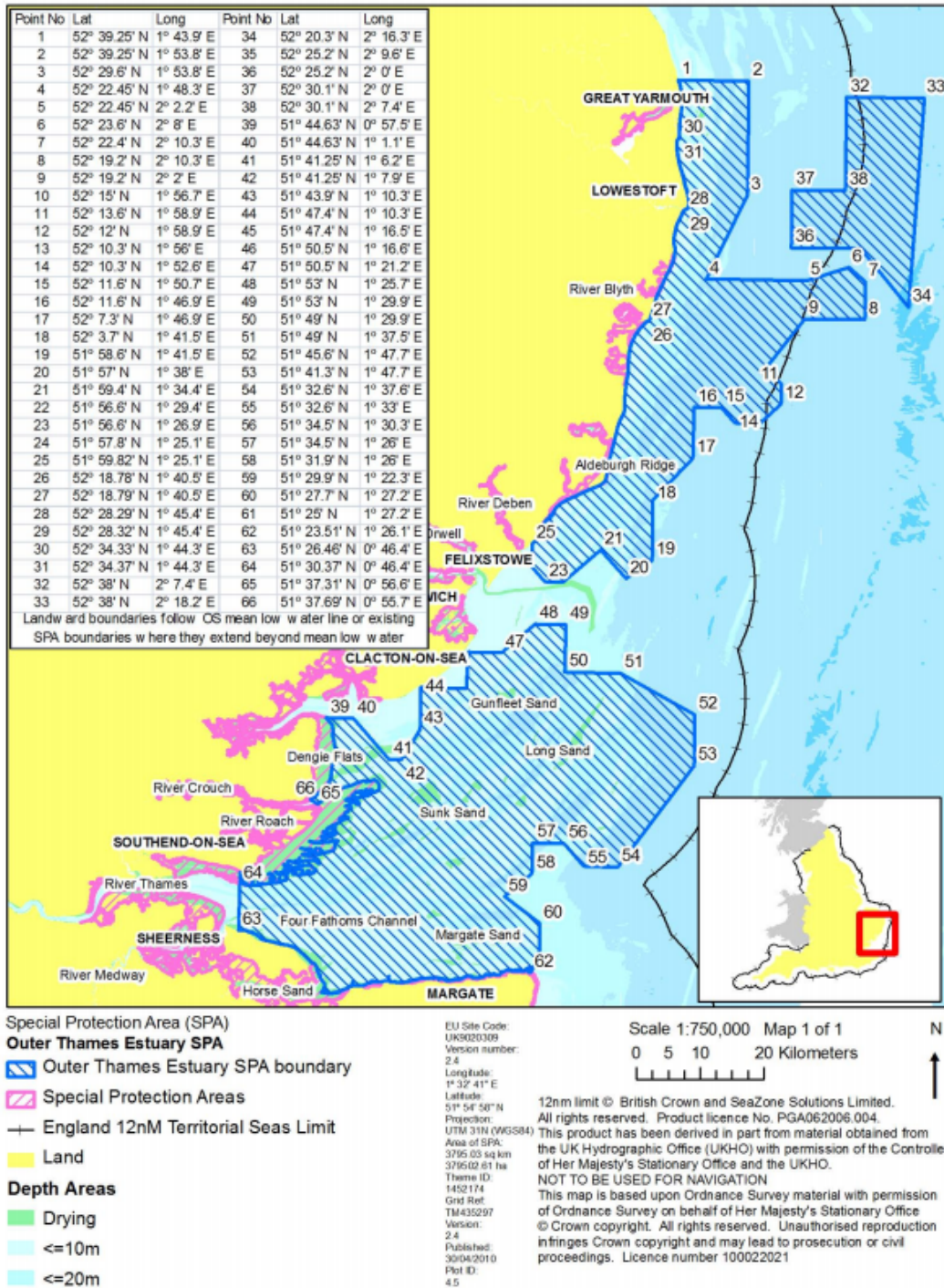
~~1.2.1 This plan applies to vessel movements, servicing Sizewell C, when they operate within the Outer Thames Estuary SPA only and from the point at which a vessel enters the SPA until that point at which it exits the SPA, other than when the vessel is at anchor at Sizewell C. The extent of the SPA is shown on Plate 1.1 below and on Figure A1 in Appendix A.~~

1.2.1 This OVMP outlines the proposed restrictions to vessel movements associated with the Sizewell C Project during the winter months and those movements that would otherwise go through the Outer Thames Estuary SPA. The extent of the SPA is shown on Plate 1.1.

1.2.2 This OVMP therefore relates to the following vessel movements during the winter months:

- ~~1.2.2 The OVMP is therefore applicable to any vessel leaving London ports and traversing the southern sector of the SPA and traversing the northern sector to Sizewell C. It is also applicable to any vessel departing the ports of Harwich or Felixstowe and entering the northern sector of the SPA at its southern extent offshore of the Deben Estuary. Similarly, it is applicable to any vessel departing Lowestoft for the entirety of the journey, in the northern sector of the SPA, to Sizewell C. The plan is also applicable to any international movements. These are likely to enter the northern sector(s) of the SPA from the east and traverse the sector in a westerly direction to Sizewell C.~~
- any vessel departing the ports of Harwich or Felixstowe and entering the northern sector of the SPA at its southern extent offshore of the Deben Estuary
- any vessel departing Lowestoft for the entirety of the journey, in the northern sector of the SPA, to Sizewell C;
- any international movements which enter the SPA. These are likely to enter the northern sector(s) of the SPA from the east and traverse the sector in a westerly direction to Sizewell C.

Plate 1.1: Extent of SPA





## 2 VESSEL MOVEMENTS AND REQUIREMENTS

2.1.1 Four families of delivery mechanisms are considered, each with different vessel types, supporting infrastructure and operational characteristics. The four types are:

- Permanent BLF – Beach Landing Facility – import and possible export of Abnormal Indivisible Loads (AILs) during construction and operational phases of SZC. Served by North Sea Barge with tug.
- Temporary BLF, also referred to as MBIF (Marine Bulk Import Facility) – import of bulk aggregate during SZC construction phase. Served by self-discharging coaster vessels. It may be possible to deliver other cargoes to the temporary BLF once bulk aggregate import is complete.
- General site access for dredging and harbour
- Offshore Head Construction and Access

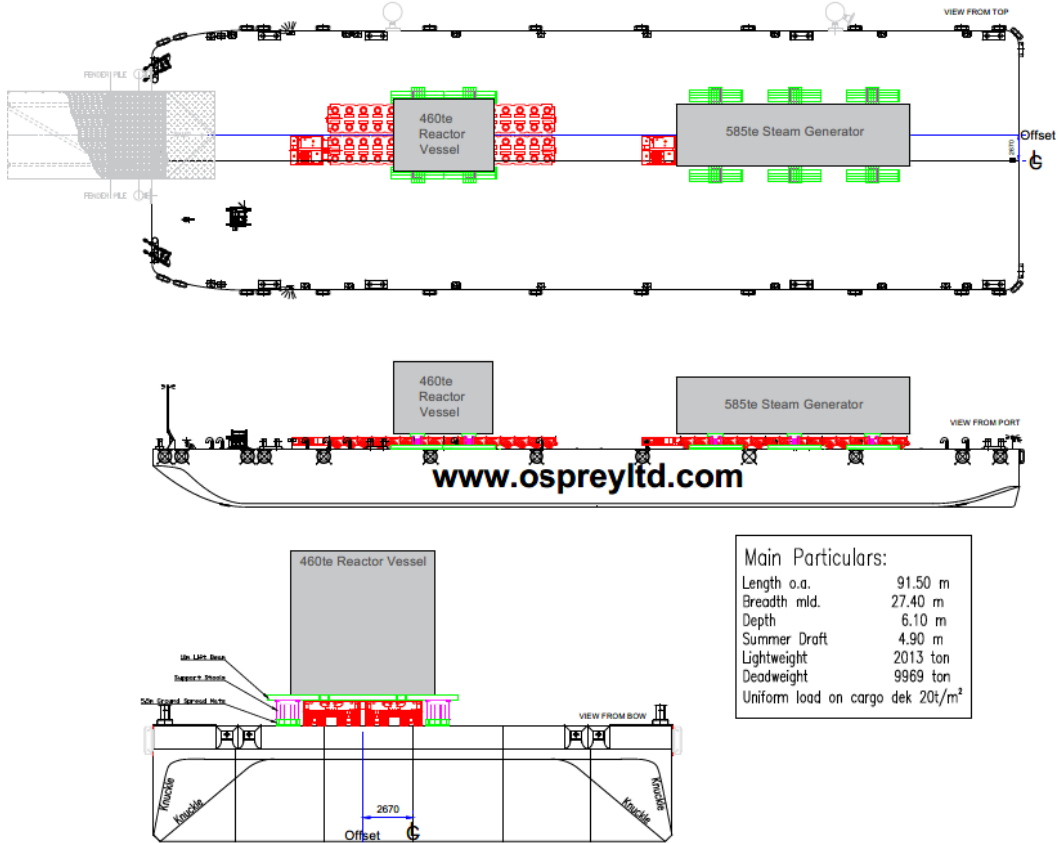
### 2.2 Permanent BLF

2.2.1 The Permanent BLF is a NAABSA (Not Always Afloat But Safely Aground) type docking facility used for the transport and handling of Abnormal Indivisible Loads (AILs). Vessels arrive at the facility in the deep water on a high tide and working with the receding tide are ballasted to rest securely on the seabed (and support grillage during construction years). AILs are typically physically unusual, expensive or unique and the grounded vessel provides a stable platform for safe offloading. The Permanent BLF features a permanent sub-structure and de-mountable deck designed to be used in daylight only during the annual season April to October.

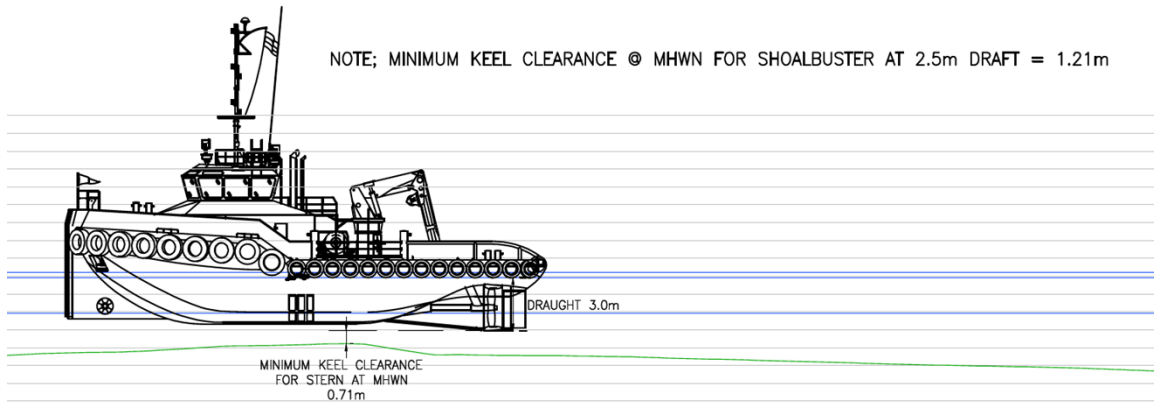
2.2.2 While some variety can be accommodated, the Permanent BLF design is optimised for a particular size of North Sea Barge (NSB) which, when ballasted correctly, provides a smooth graded transition to the land via the in-built roll-on / roll-off mechanism.

2.2.3 The NSB is unpowered and is towed and manoeuvred using a tug power unit. Due to low draft, specific shallow water vessels are expected to be necessary, at least for parts of the berthing/ offload/ departure process (e.g. Shoalbuster tugs). Details of typical vessels and a grounded landing operation are provided in Plates 2.1 to 2.3 below:

**Plate 2.1: North Sea Barge**



**Plate 2.2: Shoalbuster Tug Power Unit**



### Plate 2.3: Typical NAABSA landing



## 2.3 Temporary BLF (MBIF)

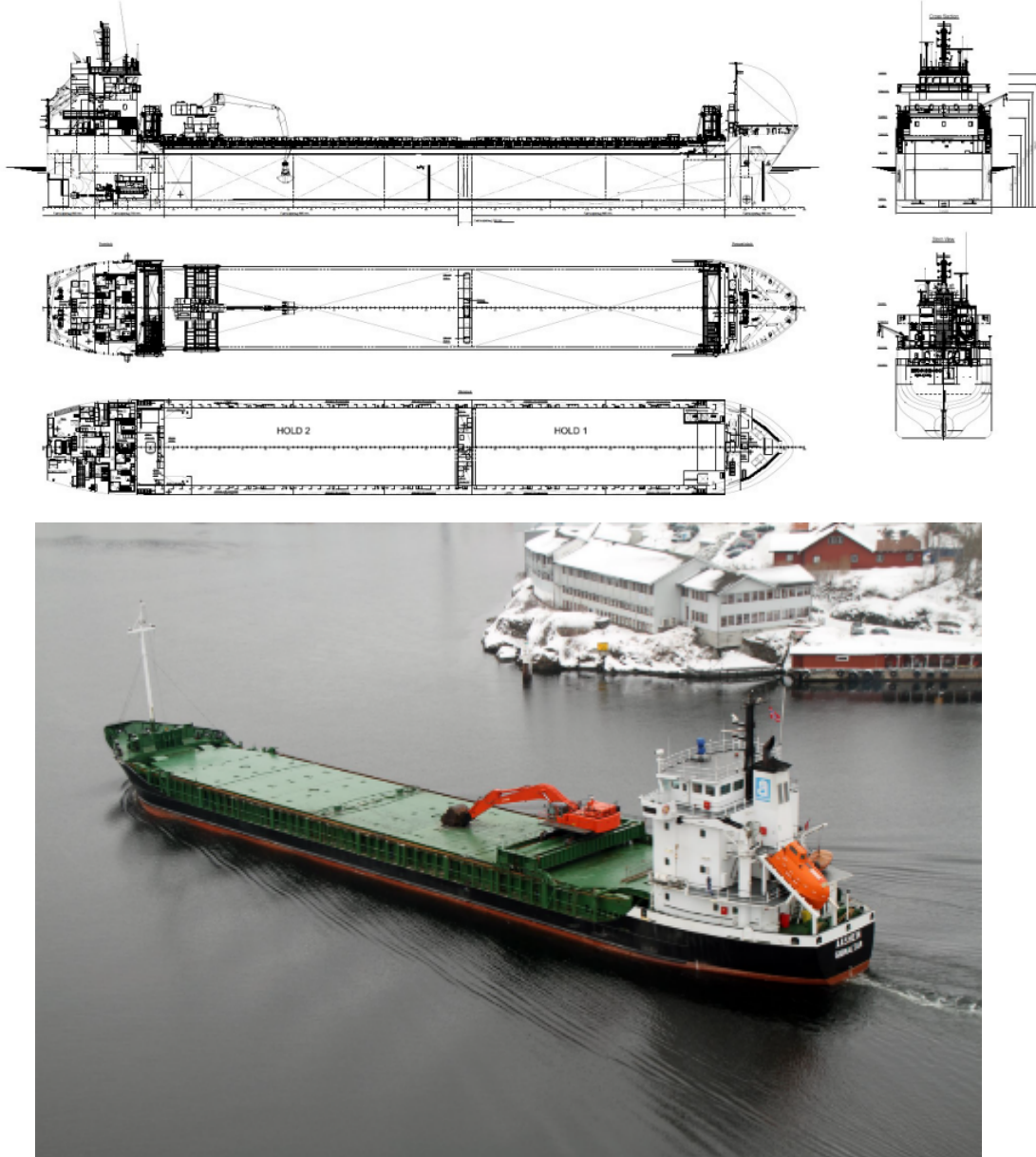
~~2.3.1 The Temporary BLF, also referred to as the Marine Bulk Import facility (MBIF) is provided for the import of bulk materials, specifically dry or semi dry aggregates for subsequent blending with site-won material and binder to form engineered backfill material.~~

~~2.3.2 The Temporary BLF is a temporary structure and will be removed before the completion of construction (assumed operating life 8 years). It includes a travelling reception hopper and conveyor system for materials handling and transport from the head back to the shore. Landings at this facility are designed to make maximum use of the relatively shallow water depth available close to shore and laden vessels will arrive and be unloaded over the high tide to depart from the berth before the next delivery arrives.~~

~~2.3.3 The design of the facility is optimised for a typical coastal cruiser in the 6 – 7000 tonne class, nominally loaded to 4500 tonnes as permitted by the draft available at the landing position. All vessels are self-powered and rigged for self-unloading into the receiving hopper.~~

2.3.4 — Details of a typical vessel are provided below in Plate 2.4:

**Plate 2.4: Indicative Bulk Carrier Vessel**



**2.4 — General Access for Dredging, Harbour and Offshore Head**

2.4.1 — Within the movements an allowance has been made for the use of the routes for Dredging and Offshore Head construction vessels. These will be ad-hoc as required for Dredging and Offshore Construction and sit within the stated movements. The vessels for Harbour and Offshore Construction will be smaller. The use of a Plough Dredger is proposed.

### ~~3~~ ~~VESSEL MOVEMENTS~~

## 2 VESSEL MOVEMENT RESTRICTIONS

2.1.1 The BLF and MBIF may be operated during the summer period. There must be no winter vessel movements unless or until a Winter Vessel Management Plan has been submitted to and approved by the MMO, following consultation with the ERG, Natural England and the RSPB. The Winter Vessel Management Plan must set out the proposed vessel movement schedule, route and any measures that may be necessary to avoid impacts on red throated divers. The Winter Vessel Management Plan must be implemented as approved.

2.1.2 ~~3.1.1 Table 3.1 presents a summary of the anticipated vessel movements Appendix A sets out the types of vessel movements and requirements and Appendix B sets out a summary of the estimated vessel movements per season associated with the permanent BLF and the temporary BLF (MBIF in the table).~~

~~3.1.2 The “Maximum Availability of Cargo Landings” is the maximum seasonal number of landings for which consent has been sought in the DCO process:~~

- ~~• Permanent BLF availability: 100 during summer (April – October), daylight operations only~~
- ~~• Temporary BLF (MBIF) availability: 400 during summer (April – October), 200 in winter (November – March), 24 hour working permitted~~

~~3.1.3 The “Inshore Support Vessels per Landing” column indicates the number of ancillary vessels required in attendance at each landing. Thus, for a single Permanent BLF landing, the (barge & tug) combination which makes the seagoing journey would be attended by two local support vessels, a shallow-draft tug and the harbourmaster’s craft. For a Temporary BLF delivery, the self-propelled vessel making the seagoing journey would be attended by one local support vessel, the harbourmaster’s craft. The inshore support vessels may remain on station pending subsequent deliveries or may return to a local base for fuelling, maintenance, crew change, etc. Mooring facilities for support vessels remaining on station are incorporated in the design of the BLFs.~~

~~3.1.4 The figures in the body of Table 3.1 represent the current estimate of the number of landings of each type in each year, thus 7 AIL deliveries to Permanent BLF in 2027, 28 deliveries in 2028, etc. These represent current estimates only, and are expected to vary to reflect factors such as the achievable degree of consolidation of AIL’s on individual barges,~~

~~compensation for weather-related delays, changes to quantities for import, etc.~~

~~3.1.5 — Each Landing would comprise two journeys, one inbound and one return journey.~~

**Table 3.1: Maximum seasonal capacity and anticipated deliveries**

Cargo deliveries SZC Marine Facilities											
Summer Season											
Facility			Season								2042-2142 (10 yearly)
			2025	2026	2027	2028	2029	2030	2031	2032	
	Maximum availability of Cargo deliveries	Inshore support vessels per landing	Current assessment								
<b>BLF (AIL, Sea Defence)</b>	100	2	0	0	7	28	28	20	1	100	30
<b>MBIF</b>	400	1*	160	160	0	0	0	0	0	40	0
<b>Total</b>	<b>500</b>		160	160	7	28	28	20	1	140	30
Winter Season											
Facility			Season								2042-2142 (10 yearly)
			2025	2026	2027	2028	2029	2030	2031	2032	
	Maximum availability of Cargo Landings	Inshore support vessels per landing	Current assessment								
<b>BLF</b>	0	2	0	0	Facility unavailable						
<b>MBIF</b>	200	1*	0	0	Retained for resilience						Decommissioned
<b>Total</b>	<b>200</b>		0	0	0	0	0	0	0	0	0

~~3.1.6 — Support vessels at or near the shore will be required to attend each cargo delivery as follows~~

- ~~• Permanent BLF: the towed barge and tug power unit operating as a joined pair are counted as a single vessel combination.~~
- ~~• For Permanent BLF, each cargo will be attended by an additional shallow water tug on standby at the dock for additional control during mooring.~~
- ~~• For Temporary BLF operations, a tug is not normally required to be in attendance. A vessel which is unable to manoeuvre from the berth would continue to discharge and then to ride out the low tide on station. It would then be repaired and depart under its own power or would be towed and moored offshore using the marine works tug and wait for a larger tug from a local port to take it back to a port for repair.~~

- ~~• A vessel which is unable to discharge would self-manoeuvre off station under its own power. Should tug towage be required (in case of a concurrent discharge and propulsion failure on a fully laden vessel), the Marine Works Tug may be called off station from the marine heads location to manoeuvre a crippled vessel into deeper water. Where no Marine Works tug is available, a bespoke tug will be provided.~~
- ~~• For all manoeuvres at the marine facilities the Harbour Master's vessel may be in attendance~~
- ~~• Winter availability of the Temporary BLF is not currently expected but the potential for availability is retained for resilience at present and, therefore, included in this OVMP.~~

### 3 4VESSEL ROUTING

3.1.1 A suite of potential preferred routes that may be suitable for winter vessel movements have been selected to minimise potential adverse impacts on the SPA and specifically overwintering red-throated divers.

3.1.2 ~~4.1.1 Vessel~~ These routes have been developed which ~~provide alternatives to 'preferred routes' may be used~~ in the event that vessel movements along the preferred routes are ~~shown to be causing disturbance to red-throated divers.~~ considered not to be feasible for reasons such as maritime safety.

3.1.3 Route selection has been established following a hierarchy of requirements and constraints, considering (in descending order):

- maritime safety considerations;
- avoid traversing SPA, if not possible to avoid, then minimise the time vessels are travelling through the SPA to minimise exposure to red-throated divers;
- and prioritise use of existing shipping lanes where practicable.

3.1.4 ~~4.1.2~~ This section defines the preferred routes from the north (Lowestoft) and the south (Ipswich/ Harwich, Lowestoft, Isle of Grain) and proposed alternative routings. ~~The preferred routes are typically more direct whereas the alternatives involve some level of diversion making them slightly longer.~~

3.1.5 ~~4.1.3~~ **Plate 4-1** shows candidate locations for the sources and destinations of material supplies to the ~~SZC~~ Sizewell C project. **Table 4.1** describes the materials and their likely source / destinations.

3.1.6 Routes for any winter vessel movements would be set out and approved in a Winter Vessel Management Plan, as set out in section 2.



Plate 3.1: Source – Destination Map



Table 3.1: Source-Destination Table

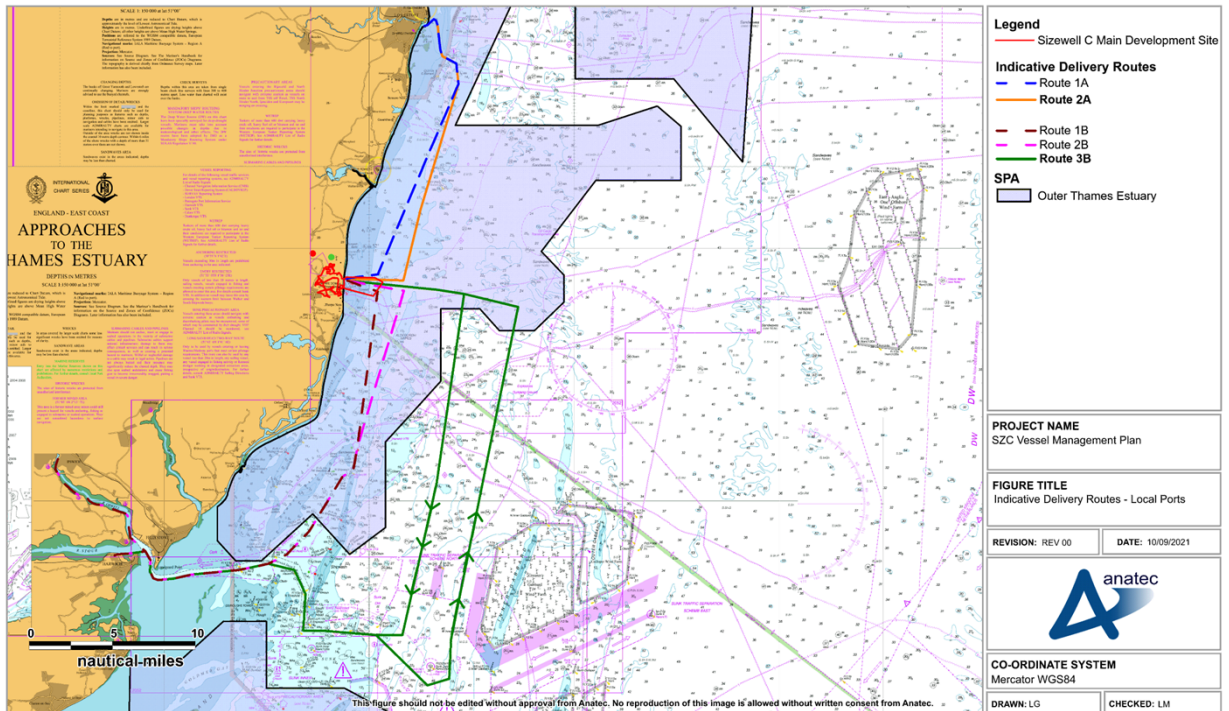
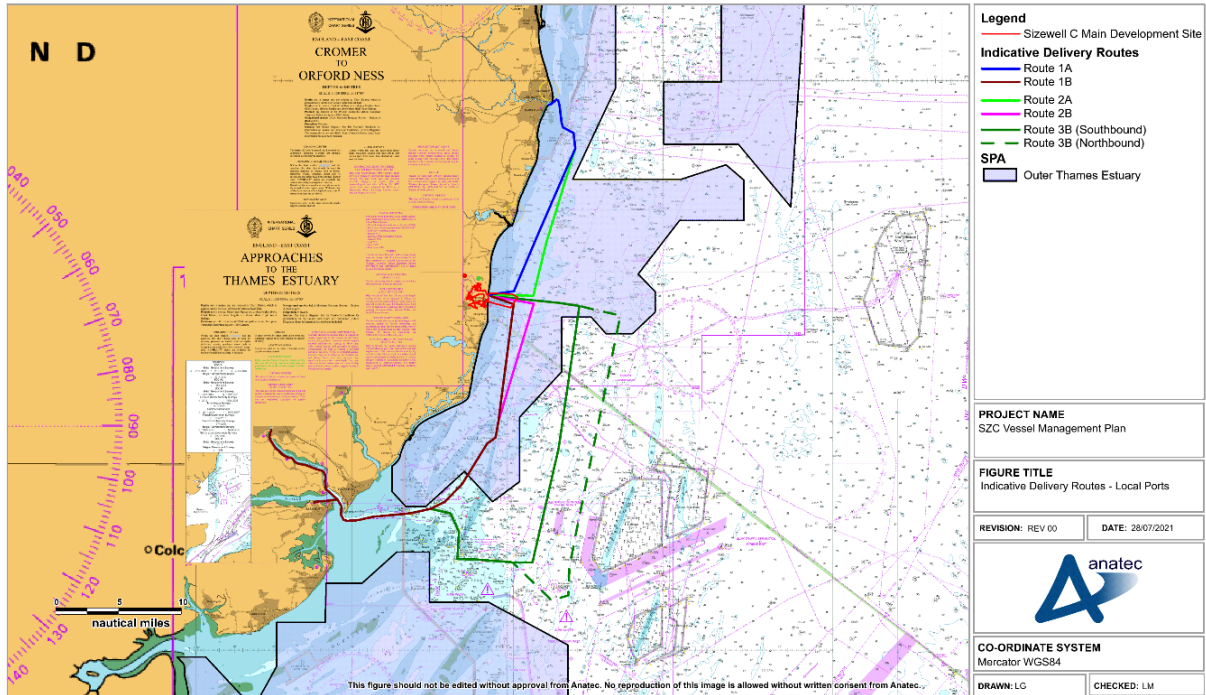
Description	Source		Destination	
	Ref	Location	Ref	Location
ALLs	2	Lowestoft	SZC	Permanent BLF
Bulk Aggregates for blending	1	Ipswich/ Harwich/ Isle of Grain	SZC	Temporary BLF (MBIF)
	2	Lowestoft		

- ~~4.1.4 Although it is noted that indicative alternative delivery routes are required for the purposes of mitigating impacts on marine mammal and ornithological receptors, the requirements for delivery vessels to comply with the Convention on the International Regulations for Preventing Collisions at Sea (1972) (COLREGS) (Ref 1) shall remain the key navigational priority.~~
- 3.1.7 The delivery routes are indicative and ~~4.1.5 Indicative alternative delivery routes~~ have been defined taking into consideration a number of factors, including shallow waters, existing routing, navigational features and existing offshore developments or areas to be avoided.
- 3.1.8 ~~4.1.6~~The focus is on routes taken by vessels delivering ALLs to the permanent BLF and bulk aggregates for blending to the ~~temporary BLF~~ MBIF. The ports of Lowestoft, Ipswich, Harwich and the Isle of Grain have been identified as the most likely source of these materials.
- 3.1.9 ~~4.1.7~~For the local ports of Lowestoft, Ipswich and Harwich, indicative ~~families of~~ routes are presented in **Plate 4.2**. Routes designated with the suffix “A” approach the site from the north, and routes designated with the suffix “B” approach the site from the south. Routes in bold in the text, and shown as solid lines in Plate 4.2 are the preferred routes which will minimise adverse impacts to the SPA:
- Route ~~family 1~~ 1A/1B – direct route from local ports. There are no existing movements on ~~this route~~ these routes as Sizewell is not a marine destination. However, it is noted that the area around these routes is not devoid of commercial vessel activity, as commercial vessels are currently navigating alternative routes within this area.
  - ~~Route family 2 – alternative~~ Route 2A/2B – semi-direct route from local ports using an existing coastal route. ~~– with approximately 172 existing vessel movements per year approximated, and with vessels turning off the existing route to approach Sizewell C.~~ Route 2A is Natural England’s preferred route for vessels from Lowestoft to minimise adverse impacts to the SPA.
  - ~~Route family 3 – alternative route which aims to minimise any interaction with the SPA, but is lower preference due to the additional time and fuel required to transit to and from the BLF (and Route 3B – alternative route from Ipswich/ Harwich is Natural England’s preferred route to minimise impacts on the the SPA, but may lead to potential increase in navigational safety associated with this)– the additional time required to transit to and from the permanent BLF or MBIF in busier traffic. There are approximately 3285 existing vessel movements per year approximated on this route.~~

~~4.1.8 — Route 1A and 2A show the routes from Lowestoft, while routes 1B, 2B and 3B show the routes from Ipswich/Harwich. The alternative routes enable a choice to be made based on the outcome of monitoring the effects of vessel movements on bird populations (see section 5).~~

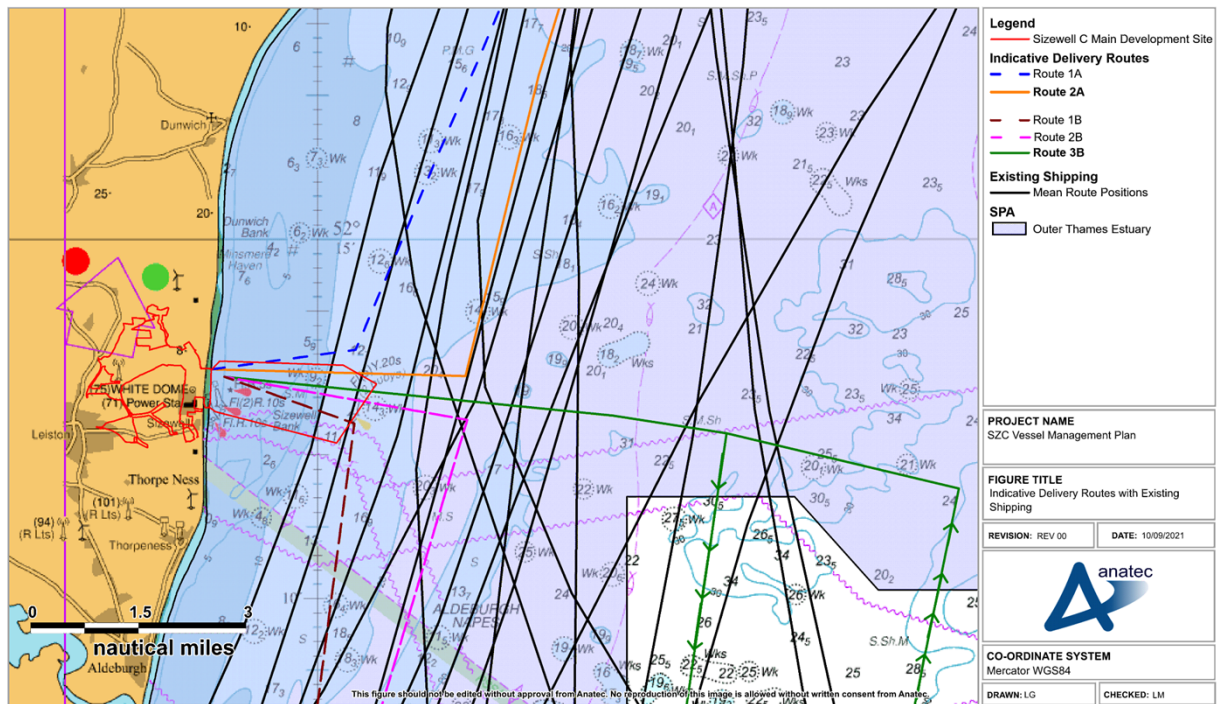
3.1.10 ~~4.1.9~~ It is noted that there is no route ~~3B~~ alternative 3A from Lowestoft as there is no reasonable route for vessels to take that ~~would~~ will avoid the SPA without significantly increasing the safety risk to the vessels from increased journey time, increased interaction with other vessels and less favourable weather conditions experienced further offshore, particularly in the case of barges being towed. In addition, any such route ~~3~~ 3A alternative would significantly increase the emissions associated with the deliveries.

**Plate 3.2: Indicative Delivery Routes – Local Ports**



3.1.11 In order to provide a comparison of these routes with existing vessel movements in proximity to the Sizewell red line boundary, Plate 4-3 shows the mean route positions of all commercial vessels within approximately 5nm of the Sizewell site.

**Plate 3.3: Indicative Delivery Routes – Local Ports**



- 3.1.12 ~~4.1.10~~ Based on the approximate number of vessels on the existing shipping routes 2 and 3, **Table 4.2** presents the maximum percentage increase in vessel movements for these routes, above the existing baseline levels, for the maximum capacity of cargo landings per season, as described in **Error! Reference source not found.** (i.e. 100 for the Permanent BLF in summer, 400 for the ~~Temporary BLF (MBIF) in Summer~~ in summer and 200 for ~~Temporary BLF (MBIF)~~ in winter, noting that each landing represents 2 movements).
- 3.1.13 ~~4.1.11~~ Although the maximum number availability of winter movements for the ~~Temporary BLF (MBIF) would~~ will be 200, the currently anticipated number of deliveries is 0. **Table 4.3** presents the percentage increase for the highest number of currently anticipated deliveries in any one season (i.e. 100 for the Permanent BLF in summer, 160 for the MBIF in ~~Summer~~ summer and 0 for both the permanent BLF and the MBIF in winter).
- 3.1.14 For routes 1A and 1B, there are no vessels currently taking the exact routes through the area, and therefore a percentage increase in vessel movements cannot be calculated. However, it is noted that there are existing commercial vessels navigating alternative routes in the area, albeit on a slightly different bearing to routes 1A and 1B.

**Table 3.2: Percentage Increased Vessel Movements (Maximum Capacity)**

Route	<u>Current Movements (summer)</u>	<u>Current Movements (winter)</u>	BLF (summer)	MBIF ( <del>Summer</del> summer)	BLF (winter)	MBIF (winter)
1 (from local ports) <sup>1</sup> <sup>1</sup>	<u>N/A</u>	<u>N/A</u>	N/A	N/A	N/A	N/A
2 (from local ports) <sup>2</sup>	<u>101</u>	<u>71</u>	<del>199</del> <u>198</u> %	<del>797</del> <u>793</u> %	0%	<del>558</del> <u>562</u> %
3 (from major shipping lane) <sup>3</sup>	<u>1926</u>	<u>1359</u>	10%	42%	0%	29%

**Table 3.3: Percentage Increased Vessel Movements (Anticipated Deliveries)**

Route	<u>Current Movements (summer)</u>	<u>Current movements (winter)</u>	BLF (summer)	MBIF ( <del>Summer</del> summer)	BLF (winter)	MBIF (winter)
1 (from local ports) <sup>1</sup> <sup>1</sup>	<u>N/A</u>	<u>N/A</u>	N/A	N/A	N/A	N/A
2 (from local ports) <sup>2</sup>	<u>101</u>	<u>71</u>	<del>199</del> <u>198</u> %	<del>319</del> <u>317</u> %	0%	0%
3 (from major shipping lane) <sup>3</sup>	<u>1926</u>	<u>1359</u>	10%	17%	0%	0%

~~4.1.12 In the event that the currently anticipated number of deliveries during winter (October to April), of zero, is realised, there would be no disturbance impacts to red-throated divers.~~

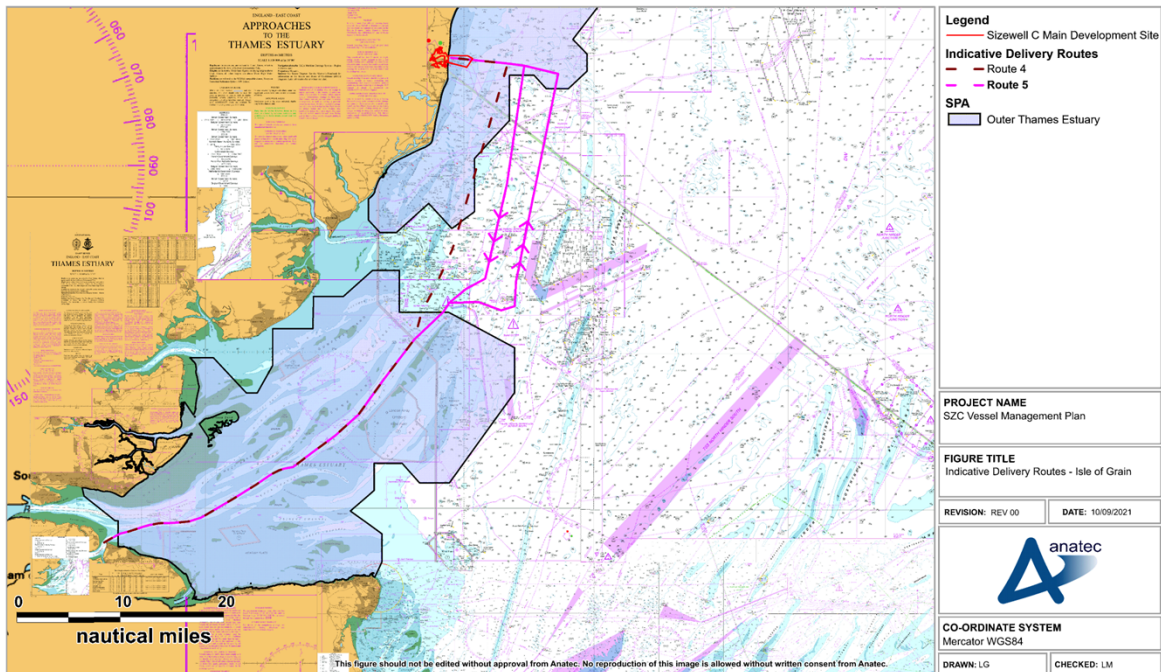
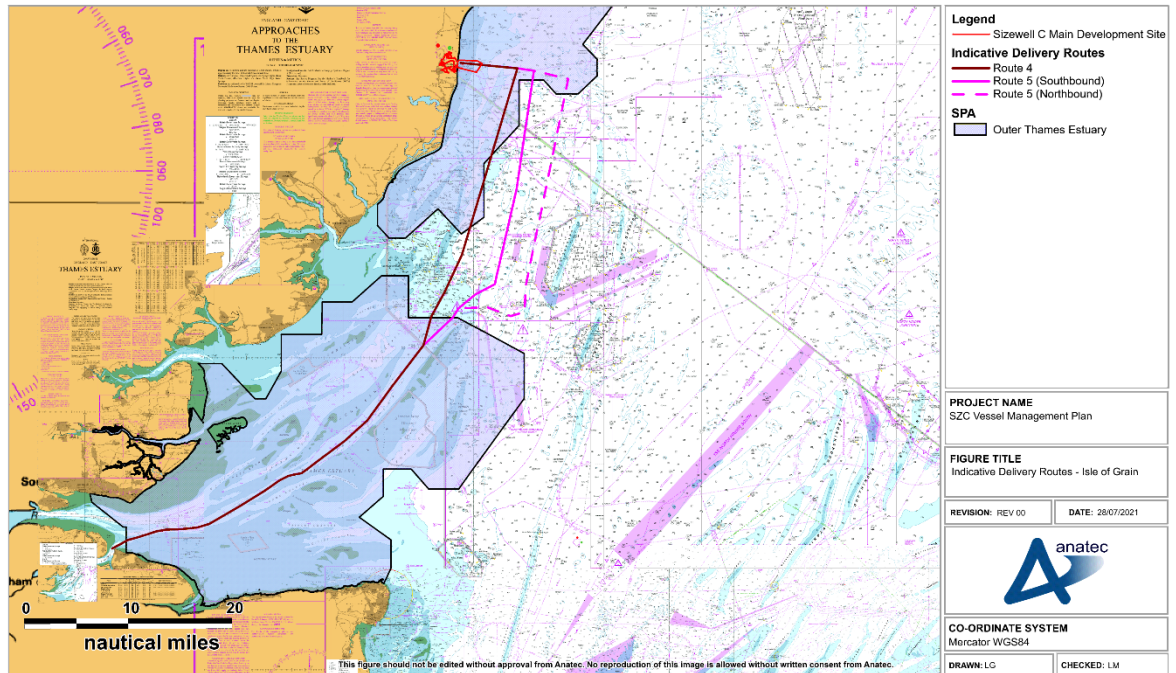
3.1.15 ~~4.1.13~~ Two indicative delivery routes from the Isle of Grain are presented in Plate ~~4.3~~4.4:

~~<sup>1</sup> Route 1 would be a new route directly to the BLF / MBIF from the local ports and therefore a percentage increase is not applicable~~

<sup>1</sup> Route 1 would be a new route directly to the BLF / MBIF from the local ports and therefore a percentage increase is not applicable

- Route 4 – direct route using existing shipping routes
- **Route 5** – ~~alternative~~ less direct route using charted routing measures which minimises adverse impacts to the SPA

**Plate 4.33.4: Indicative Delivery Routes – Isle of Grain**



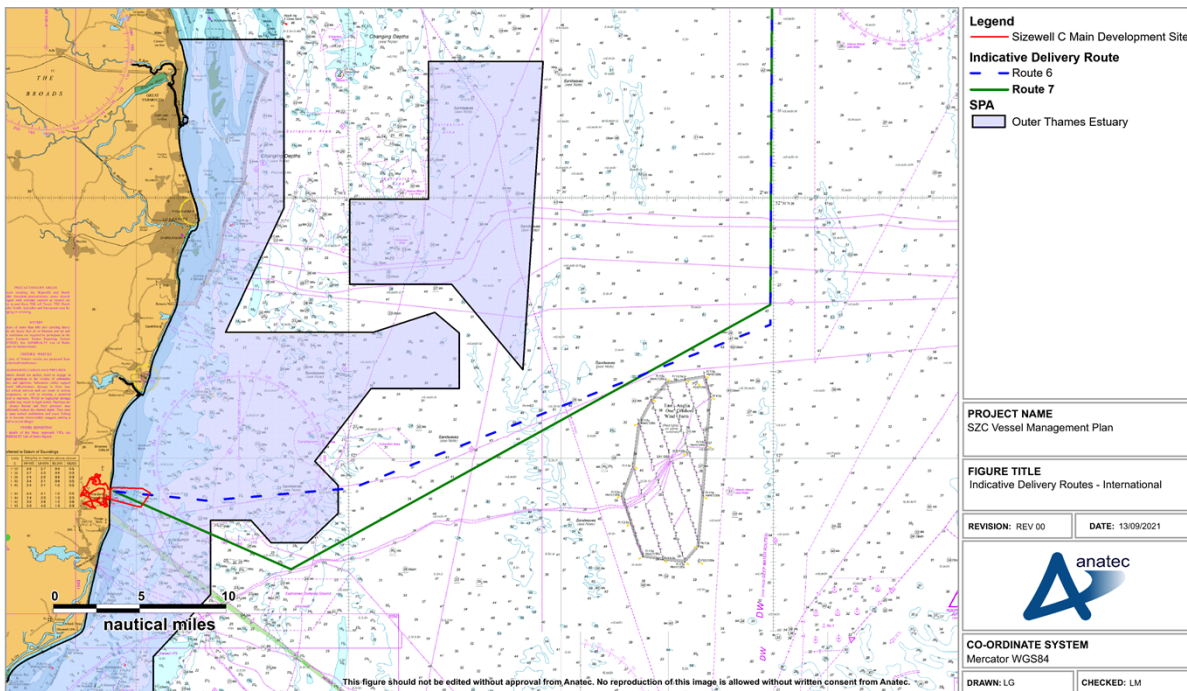
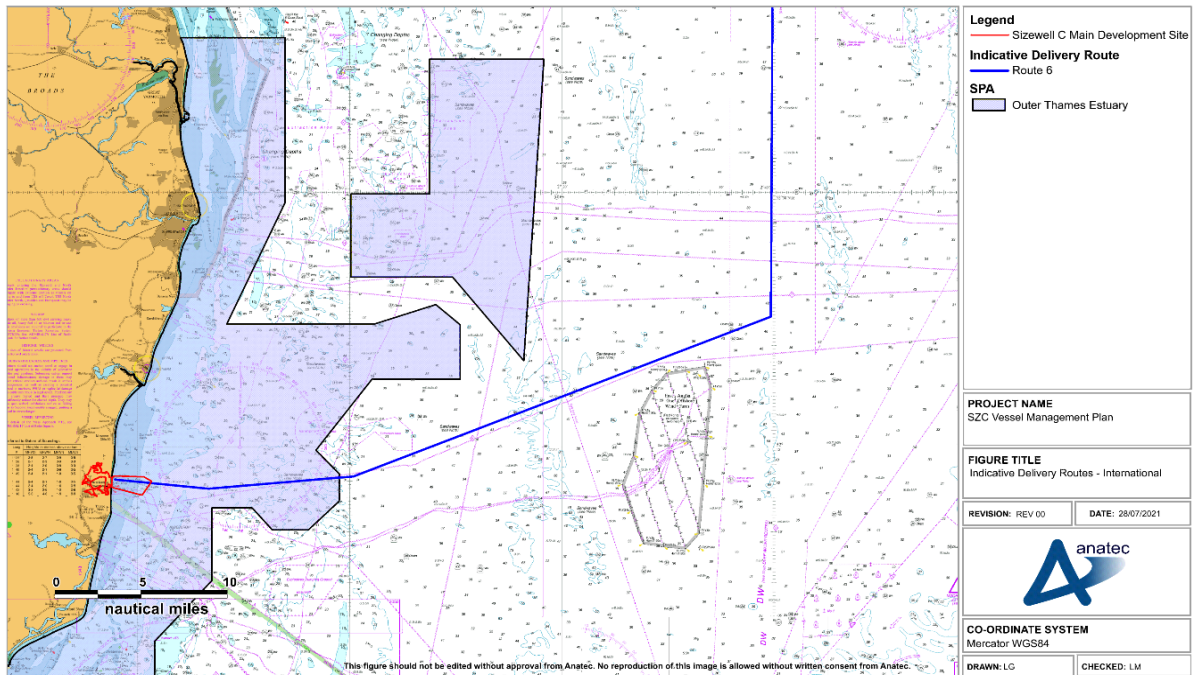
- 3.1.16 ~~4.1.14~~ It is noted that vessels transiting to the ~~BLFs~~ permanent BLF and the MBIF from further south ~~would be~~ are expected to join the Sunk Traffic Separation Scheme (TSS)<sup>2</sup> from the south and then follow a similar route as Route 5 above.
- 3.1.17 ~~4.1.15~~ ~~An indicative route~~ Indicative routes for vessels travelling from international ports to the north and east ~~is~~ are presented in **Plate 4.4**. Route 6 is a direct route using existing shipping lanes, while Route 7 is a less direct route which minimises adverse impacts to the SPA. It is noted that routing may be required to change depending on the approval and construction of offshore wind farms in the area. ~~This route is~~ These routes are predominantly for vessels expected from international ports further afield to supply specific AILs and materials.

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<sup>2</sup> Traffic Separation Schemes are areas in the sea where navigation of ships is highly regulated and designed to create *lanes* in the water with ships in a specific lane all travelling in (roughly) the same direction. The Sunk TSS is TSS for the approaches to the Thames Estuary.



Plate 4.43.5: Indicative Delivery Routes – International



4.1.16 — The Applicant commits to implementing the use of alternative routes where considered necessary, dependent on the outcome of monitoring the effects of vessel movements on bird populations (see section 5).

- 3.1.18 ~~4.1.17~~ It should be noted that routes are indicative ~~routes are~~ corridors and are not intended to be prescriptive for the purposes of navigation and will not be followed precisely by every vessel. All vessels ~~shall~~ must passage plan as per the International Regulations for the Safety of Life at Sea (SOLAS) (Ref. 2-).
- 3.1.19 ~~4.1.18~~ Vessels may deviate from these ~~indicative~~ routes for a variety of health and safety reasons at the discretion of the vessel's Master, including:
- Compliance with COLREGS (Ref. 1) or SOLAS (Ref. 2);
  - Traffic density;
  - Prevailing weather, tidal or sea state conditions;
  - Navigational hazards as indicated on charts or notified through Notices to Mariners or other such sources;
  - Due to a vessel originating from or being bound for a destination not indicated by the transit routes;
  - Such other reasons as the Master of a vessel may deem relevant for the purposes of ensuring the safety of his vessel or another vessel.

## 4 ~~5~~ MONITORING, MANAGEMENT AND MITIGATION

### 4.1 ~~5.1~~ Background

4.1.1 Red-throated divers are only present in the Outer Thames Estuary SPA in the winter period, ~~this being defined for this species as from October-April inclusive. There are therefore no constraints to vessel movements, in relation to this species during May to September.~~ There are no currently planned vessel movements in the winter periods. There is significant available capacity in the summer months and currently planned vessel movements, and potential increases in vessel movements and compensation for poor weather conditions are unlikely to require movements in winter. There is therefore no expected conflict between the planned vessel movements and the presence of Red-throated divers in the Outer Thames Estuary SPA.

4.1.2 Should exceptional vessel movements in the winter period become necessary during the course of the Sizewell C project then specific vessel routings and Vessel Management Plans must be prepared at that time and submitted to the MMO for approval. Those routings and associated monitoring/mitigations must be developed according to the hierarchy described in Section 3.1.3, and must be subject to approval by the MMO pursuant to DML Condition 31a, following consultation with the Ecology Working Group.

### ~~5.2~~ ~~Vessel Monitoring~~

~~5.2.1 In the event that vessel movements are used during October-April, the vessel movements will be monitored to confirm the delivery routes used. This will be done via Automatic Identification System (AIS) monitoring or a suitable alternative.~~

### ~~5.3~~ ~~Ecological Monitoring~~

~~5.3.1 In the event that vessel movements are used during October-April, monitoring of wintering red-throated divers will be undertaken. Monitoring will be undertaken during each year of vessel movements, if any movements are undertaken during the October-April period.~~

~~5.3.2 The approach to monitoring will require the approval of the Ecology Working Group<sup>3</sup> (EWG). The surveys of vessel-based disturbance to red-throated divers will include either (i) observers aboard vessels undertaking deliveries to Sizewell C or (ii) the use of drone surveys flown advance of~~

<sup>3</sup>Ecology Working Group, as defined in Schedule 11 of the Deed of Obligation

~~the vessels; (or a combination of these approaches). If field observers are used, these observers will be experienced in sea-bird surveys, with at least 100 days of experience of vessel based monitoring.~~

- ~~5.3.3 — The survey methodology will be deployed on a trial basis for the first ten vessel movements in the first winter of vessel use. These trials will be used to refine the survey approach to maximise the extent to which divers are detected and the methodology will then be finalised and submitted for the approval of the EWG.~~
- ~~5.3.4 — The objective of the methodology deployed will to record the presence of divers both on the sea and in flight and particularly divers which take flight in the presence of the vessel. A working assumption will be made that divers which take flight in the presence of the vessel have been disturbed by the vessel.~~
- ~~5.3.5 — Thresholds for the number of birds disturbed by vessel movements and which constitute disturbance of the population will be developed in the context of the SPA population and the thresholds will require the approval of the EWG. The thresholds will include ‘acute’ and ‘chronic’ disturbance and the thresholds will include one which relates to the number of divers displaced (or apparently displaced) per vessel km.~~
- ~~5.3.6 — The objective of monitoring and any resultant changes to vessel movements is to ensure that red-throated diver populations are not adversely impacted by Sizewell C vessel movements, through substantive disturbance of feeding or resting birds and this will be ensured by using the thresholds described above and deploying alternative vessel routes to ensure the thresholds are observed.~~
- ~~5.3.7 — The monitoring results would be shared with the SZC Co ecologist and the Ecological Clerk of Works (EcOW) on a daily basis and with the EWG monthly for any month during October-April during which vessel movements are being undertaken.~~
- ~~5.3.8 — In the event that large numbers of divers are detected as being displaced by a single vessel movement (‘acute disturbance’), the SZC Co ecologist and / or the ECoW will have the authority to direct subsequent vessels to an alternative route for a period of a week. In this period the extent of displacement would be discussed with the EWG and a decision taken as to whether the alternative routing should be maintained for an extended period.~~
- ~~5.3.9 — In relation to lower levels of disturbance (‘chronic disturbance’), the EWG would determine whether the monitoring over longer periods indicates that substantive disturbance to red-throated divers is occurring based on the~~

~~thresholds described, on one or more of the preferred vessel routes being used see section 4.1.6, such that this disturbance could lead to an adverse effect on integrity of the SPA. If the EWG conclude that this is the case, the Environmental Review Group<sup>4</sup> would be advised and a decision taken to direct the vessels to use a pre-defined alternative vessel route (see plate 4.2), subject to the considerations defined in section 4.1, so far as these considerations relate to vessel safety and / or COLREGS or SOLAS.~~

## 4.2 ~~5.4~~ Vessel Disturbance Mitigation

4.2.1 ~~5.4.1~~ The following measures to minimise vessel disturbance ~~will also~~ must be implemented, where relevant:

- Avoid and minimise vessel traffic, ~~where possible,~~ during the most sensitive time period for red-throated diver between November and March. This measure is followed in this OVMP by focusing deliveries on the April to October period.
- Restrict vessel movements where possible to existing navigation routes (where the densities of divers are typically relatively low). This measure is followed in this OVMP by defining preferred routes **2A** and **3B** which are Natural England's preferred routes.
- Where it is necessary to go outside of established navigational routes, avoid rafting birds and where possible avoid disturbance to areas with consistently high diver density.
- Avoid over-revving of engines to minimise noise disturbance.
- Brief the vessel crew on the purpose and implications of these vessel management practices (through, for example, tool-box talks).

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<sup>4</sup>Environmental Review Group, as defined in Schedule 11 of the Deed of Obligation

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5      **6** REFERENCES

Ref. 1.    ~~Ref 1.~~—IMO (1972), COLREGS, IMO, London.

Ref. 2.    ~~Ref 2.~~IMO (1974). SOLAS, IMO, London.

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## ~~APPENDIX A: ADDITIONAL FIGURES~~

### ~~A.1. Figure showing Outer Thames Estuary SPA~~

## APPENDIX A: VESSEL MOVEMENTS AND REQUIREMENTS

A.1.1. Vessels will support the construction and operation of Sizewell C, but cross the SPA on their way to and from Sizewell C. The infrastructure and works required is explained in the **Construction Method Statement** (Doc Ref. 6.3 3D(D)) (secured pursuant to Requirement 8 of the **dDCO**). The four vessel requirements are:

- Permanent Beach Landing Facility (BLF): allows for the import and export of Abnormal Indivisible Loads (AILs) during construction and operation of the Sizewell C project. It is served by a North Sea Barge with tug.
- Temporary Marine Bulk Import Facility (MBIF): allows for import of bulk aggregate during the Sizewell C construction phase. It is served by self-discharging coaster vessels. It may be possible to deliver other cargos to the temporary MBIF once bulk aggregate import is complete during the construction period.
- General site access is required for dredging and mooring
- Construction vessels will be required for the construction of the marine works.

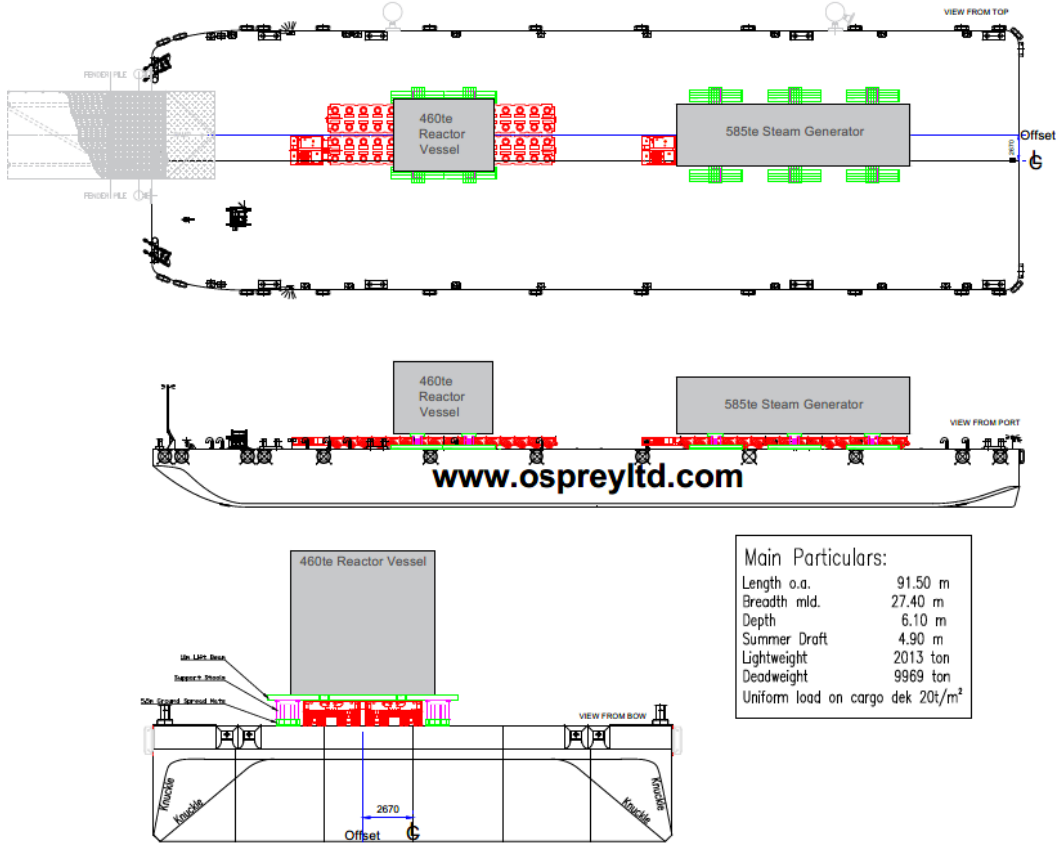
### A.2. Permanent BLF

A.2.1. The Permanent BLF is described in the CMS (Doc Ref. 6.3 3D(D)) (secured pursuant to Requirement 8 of the **dDCO**). The Permanent BLF design is optimised for a particular size of North Sea Barge (NSB) which, when ballasted correctly, provides a smooth graded transition to the land via the in-built roll-on / roll-off mechanism.

A.2.2. The NSB will be unpowered and will be towed and manoeuvred using a tug power unit. Due to low draft, specific shallow water vessels are expected to be necessary, at least for parts of the berthing/ offload/ departure process (e.g. Shoalbuster tugs). Details of typical vessels and a grounded landing operation are provided in **Plates 2.1 to 2.3** below:



**Plate 5.1: North Sea Barge**



**Plate 5.2: Shoalbuster Tug Power Unit**

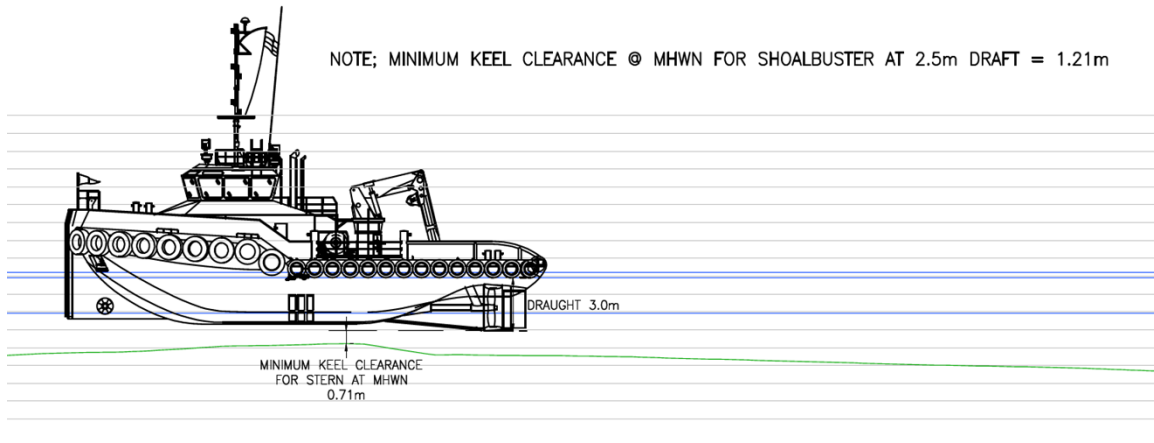


Plate 5.3: Typical NAABSA landing

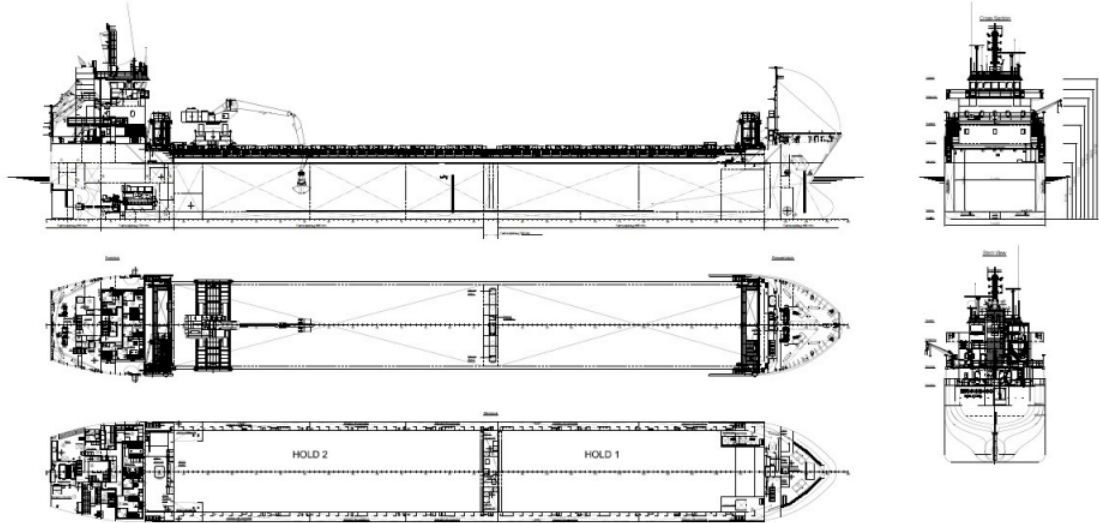


A.3. Temporary BLF (MBIF)

A.3.1. The Temporary BLF, also referred to as the Marine Bulk Import facility (MBIF) is described in the CMS (Doc Ref. 6.3 3D(D)) (secured pursuant to Requirement 8 of the dDCO). The design of the facility is optimised for a typical coastal cruiser in the 6 – 7000 tonne class, nominally loaded to 4500 tonnes as permitted by the draft available at the landing position. All vessels will be self-powered and rigged for self-unloading into the receiving hopper.

A.3.2. Details of a typical vessel are provided below in Plate 2.4:

**Plate 5.4: Indicative Bulk Carrier Vessel**



## APPENDIX B: ESTIMATED VESSEL MOVEMENTS

- B.1.1. **Error! Reference source not found.** presents a summary of the estimated vessel movements per season associated with the permanent BLF and the MBIF.
- B.1.2. The figures in the body of Error! Reference source not found. represent the estimate of the number of landings of each type in each year. These represent estimates only, and are expected to vary to reflect factors such as the achievable degree of consolidation of AILs on individual barges, compensation for weather-related delays, changes to quantities for import, etc.
- B.1.3. Each “landing” comprises two journeys: one inbound and one return journey.
- B.1.4. The “Inshore Support Vessels per Landing” column in Table 3.1 indicates the number of ancillary vessels required in attendance at each landing. These insure support vessels will be the harbourmaster’s craft and/or a shallow-draft tug. For a single Permanent BLF landing, the seagoing journey will be attended by two local support vessels: a shallow-draft tug and the harbourmaster’s craft. For a MBIF delivery, the seagoing journey will be attended by one local support vessel: the harbourmaster’s craft. The inshore support vessels may remain on station pending subsequent deliveries or may return to a local base for fuelling, maintenance, crew change, etc. Mooring facilities for inshore support vessels remaining on station are incorporated into the design of the permanent BLF and MBIF.

**Table 5.1: Seasonal capacity and anticipated deliveries**

Cargo deliveries SZC Marine Facilities											
Summer Season											
Facility	Maximum availability of Cargo deliveries	Inshore support vessels per landing	Season								
			2025	2026	2027	2028	2029	2030	2031	2032	2042-2142 (10 yearly)
			Current assessment								
BLF (AIL, Sea Defence)	100	2	0	0	7	28	28	20	1	100	30
MBIF	400	1*	160	160	0	0	0	0	0	40	0
<b>Total</b>	<b>500</b>		160	160	7	28	28	20	1	140	30
Winter Season											
Facility	Maximum availability of Cargo Landings	Inshore support vessels per landing	Season								
			2025	2026	2027	2028	2029	2030	2031	2032	2042-2142 (10 yearly)
			Current assessment								
BLF	0	2	0	0	Facility unavailable						
MBIF	200	1*	0	0	Retained for resilience					Decommissioned	
<b>Total</b>	<b>200</b>		0	0	0	0	0	0	0	0	0

- B.1.5. Support vessels at or near the shore will be required to attend each cargo delivery as follows:
- Permanent BLF: the towed barge and tug power unit operating as a joined pair are counted as a single vessel combination.
  - For Permanent BLF, each cargo will be attended by an additional shallow water tug on standby at the dock for additional control during mooring.
  - For MBIF operations, a tug will not normally required to be in attendance. A vessel which is unable to manoeuvre from the berth will continue to discharge and then ride out the low tide on station. It will then be repaired and depart under its own power or will be towed and moored offshore using the Marine Works tug and wait for a larger tug from a local port to take it back to a port for repair. Where no Marine Works tug is available, a bespoke tug will be provided.
  - A vessel which is unable to discharge will self-manoevrue off station under its own power. Should tug towage be required (in case of a concurrent discharge and propulsion failure on a fully laden vessel), the Marine Works tug will be called off station from the marine heads location to manoeuvre a crippled vessel into deeper water. Where no Marine Works tug is available, a bespoke tug will be provided.
  - For all manoeuvres at the marine facilities the Harbour Master's vessel may be in attendance
  - Winter availability of the MBIF is not currently expected but the potential for availability is retained for resilience and, therefore, included in this OVMP.