Seagreen Offshore Wind Farm

Navigational Safety Plan

June 2020

Project Title	Seagreen Wind Energy Ltd
Document Reference Number	LF000009-CST-OF-PLN-0007

Navigational Safety Plan

Section 36 Consent Condition 17 and Offshore Transmission Asset Marine Licence Conditions 3.2.2.9

For the approval of Scottish Ministers

Rev	Date	Reason for Issue	Originator	Checker	ECoW	Approver
02	10/06/2020	For Approval	Anatec Ltd			

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Consent Plan Overview

Purpose of the Navigational Safety Plan

This Navigational Safety Plan (NSP) is submitted by Seagreen Wind Energy Limited (SWEL) on behalf of Seagreen Alpha Wind Energy Limited (SAWEL) (hereinafter referred to as Seagreen), to address the specific requirements of Condition 17 of the Section 36 (S36) Consents granted by the Scottish Ministers to SAWEL under section 36 of the Electricity Act 1989 (in respect of the Alpha Offshore Wind Farm (OWF)) and to Seagreen Bravo Wind Energy Limited (SBWEL) (in respect of the Bravo Offshore Wind Farm) on 10 October 2014 both as varied by the Scottish Ministers by decision letter issued pursuant to an application under section 36C of the Electricity Act 1989 on 28 August 2018 and, in respect of the consent applicable to the Bravo Offshore Wind Farm, as assigned to SAWEL on 22 November 2019.

The NSP also addresses the specific requirements of Condition 3.2.2.9 of the Offshore Transmission Asset (OTA) Marine Licence granted by the Scottish Ministers under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 on 10 October 2014, as varied on 6 March 2019 (the OTA Marine Licence) and conditions 3.1.1 and 3.2.1 of the Alternative Landfall Cable Marine Licence granted by Scottish Ministers on 21 November 2019 under the Marine (Scotland) Act 2010.

Seagreen Alpha and Seagreen Bravo OWFs and the OTA are collectively referred to as the 'Seagreen Project'. This NSP has been prepared to discharge consent conditions for the Seagreen Project simultaneously.

The overall aims and objectives of the NSP are:

- To set out the Navigational Safety Measures and temporary lighting and marking to be in place for the Construction Phase;
- To set out the Navigational Safety Measures to be in place for the Operational and Maintenance phase;
- To set out the construction exclusion zones to be in place during the construction of the Project;
- To detail the anchoring areas and buoyage in the vicinity of the Project;
- To ensure procedures are in place for the promulgation of information regarding the Seagreen project to the relevant stakeholders; and
- To ensure that emergency response procedures are in place should an emergency situation arise.

All Seagreen Contractors (including their Sub-Contractors) involved in the Seagreen Project are required to comply, with this NSP through conditions of contract.

Scope of the NSP

This Navigational Safety Plan covers, in line with the requirements of condition 17 of S36 and condition 3.2.2.9 of the OTA Marine Licence industry standards and good practice, the following:

- Navigational safety measures;
- Construction exclusion zones;
- Notice(s) to mariners and radio warnings;
- Anchoring areas;
- Temporary construction lighting and marking;
- Emergency response and coordination arrangements for the construction, operation and decommissioning phases of the development; and
- Buoyage

Structure of the NSP

The NSP is structured as follows:

Section 1 & 2.	Provides an overview of the Project and the consent requirements that underpin the content of this NSP. It also sets out the purpose, objectives and scope of the NSP and sets out the process for making updates and amendments.
Section 3	Provides information on the navigational safety measures to be implemented during construction.
Section 4	Provides information on the navigational safety measures to be implemented during operations and maintenance.
Section 5	Provides information on anchorage areas in the vicinity of the Seagreen Project.
Section 6	Provides information on the promulgation of information.
Section 7	Provides information regarding Emergency Response.
Section 8	Demonstrates compliance with the original application and commitments made.
Section 9	Lists the references made within this NSP
Appendices	Appendix A – Abbreviations and Definitions
	Appendix B – Change Management Process
	Appendix C – Compliance with ES Parameters
	Appendix D – Summary Mitigation Measures

Plan Audience

This NSP will be submitted for approval to the Scottish Ministers/Licensing Authority in consultation with other stakeholders, in relation to monitoring compliance with the specific requirements of the relevant consent conditions.

Compliance with this NSP will be monitored by: Seagreen's appointed Contractors; Seagreen's Ecological Clerk of Works (ECoW); and the Marine Scotland Licensing and Operations Team (MS-LOT).

Copies of the NSP are to be held in the following locations:

- Seagreen's head office;
- Seagreen's construction office and marine coordination centre; and
- At the premises of any Contractor (as appropriate), including the Seagreen ECoW, appointed by Seagreen.
- Aboard any vessel engaged in the Wind Farm/OTA.

1. Introduction

1.1 Consents and Licences

Seagreen Wind Energy Limited (SWEL, hereafter referred to as 'Seagreen') was awarded Section 36 Consents (S36 Consents) under the Electricity Act 1989 by Scottish Ministers on 10 October 2014 for Seagreen Alpha and Seagreen Bravo Offshore Wind Farms (OWFs), both as varied by the Scottish Ministers by decision letter issued pursuant to an application under section 36C of the Electricity Act 1989 on 28 August 2018 and, in respect of the consent applicable to the Bravo Offshore Wind Farm, as assigned to SAWEL on 22 November 2019. Marine Licences for Seagreen Alpha and Bravo OWFs and the Offshore Transmission Asset (OTA) (together the 'Marine Licences') were also awarded by Scottish Ministers in October 2014 under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009. Together the wind farms Seagreen Alpha and Seagreen Bravo and the OTA collectively comprise 'the Seagreen Project'.

In 2018, following application by Seagreen, the Alpha Marine Licence and Bravo Marine Licence were varied by Scottish Ministers. Subsequently, in 2019, the OTA Marine Licence was also varied by Scottish Ministers. In November 2019, a further Marine Licence was granted to Seagreen to permit an alternative landfall cable installation method (Alternative Landfall Cable Installation Marine Licence) which was varied in February 2020. In 2019, the Bravo Marine Licence was transferred from the name of Seagreen Bravo Wind Energy Limited (SBWEL) into the name of Seagreen Alpha Wind Energy Limited (SAWEL).

1.2 Project Description

The Seagreen Project is located in the North Sea, in the outer Firth of Forth and Firth of Tay region and comprises the OWFs (the Wind Turbine Generators (WTGs), their foundations and associated array cabling, together with associated infrastructure of the OTA (Offshore Substation Platform (OSP), their foundations and the offshore export cable), to facilitate the export of renewable energy to the national electricity transmission grid. The location of the Seagreen Project is shown in Figure 1.1.

The Seagreen Project will consist of the following key components:

- 150 WTGs comprising;
    - 114 WTGs installed on three legged steel jackets, each installed on suction bucket caissons;
    - 36 WTGs installed on up to four legged steel jackets, each installed on pin pile foundations;
- Two OSPs, each installed on up to 12 pin pile foundations;
- A network of inter-array subsea cables as detailed below;
    - Circa 300 kilometres (km) of inter-array cables to connect strings of WTGs on suction bucket caissons together and to connect these WTGs to the OSP;
    - Circa 55km of inter array cables to connect strings of WTGs on piled foundations together and to connect these WTG to the OSP; and
    - Circa 3km of interconnector cable to connect the two OSPs.
    - Inter-array cables will be buried where possible and where burial is not possible cable protection will be provided

- Three subsea export cables, totalling circa 190km in length, to transmit electricity from the OSP to the landfall at Carnoustie and connecting to the onshore export cables for transmission to the onshore substation and connection to the National Grid network. Export cables will be buried where possible and where burial is not possible cable protection will be provided.

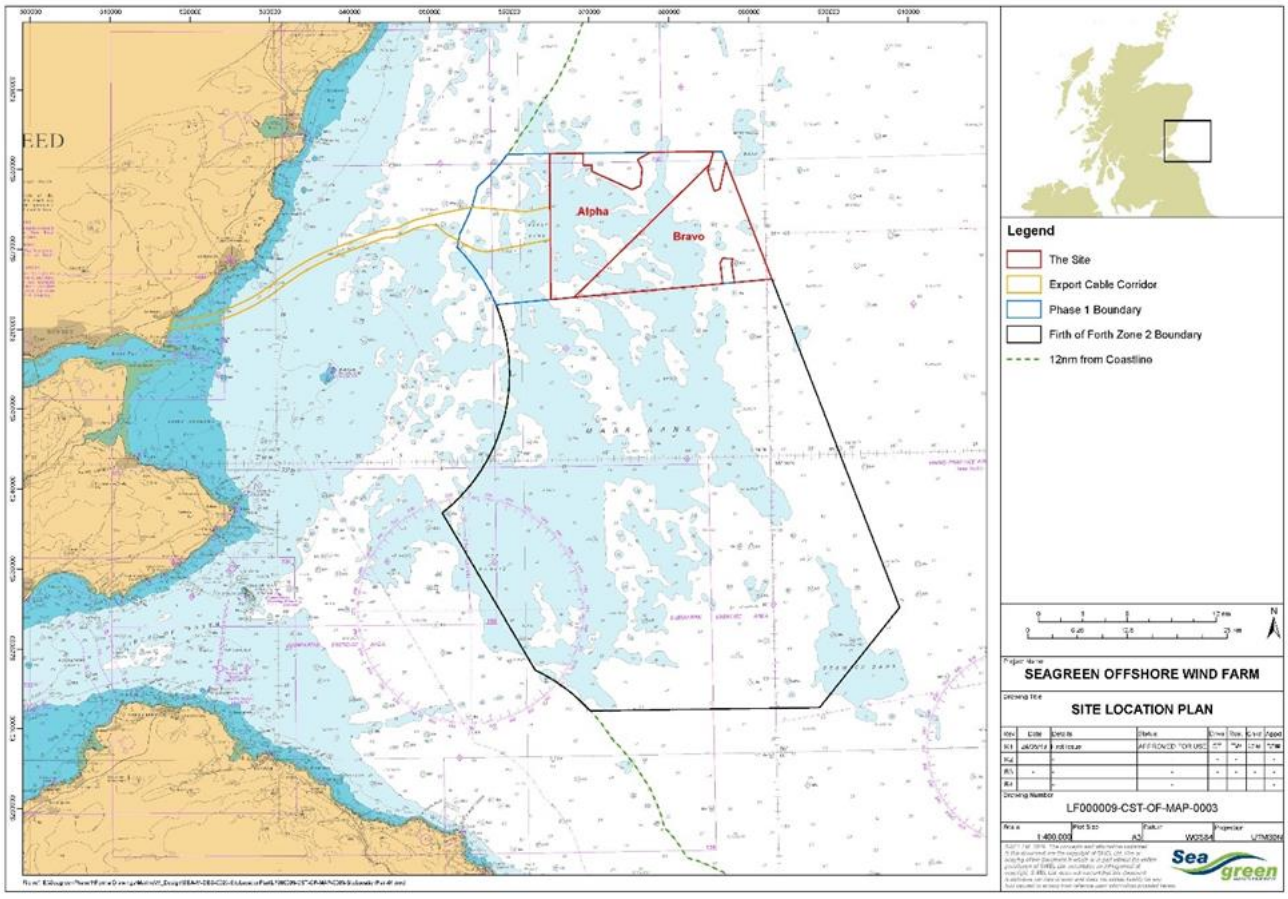


Figure 1.1 - Project Location

1.3 Consent and Licence Requirements

This Navigational Safety Plan (NSP) has been prepared to discharge Condition 17 of the S36 Consents, and Condition 3.2.2.9 of the Offshore Transmission Asset (OTA) Marine Licence.

Table 1.1: Consent Conditions to be discharged by this Navigational Safety Plan

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
Section 36	Condition 17	The Company must, no later than 6 months prior to the Commencement of the Development, submit a NSP, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following	This NSP will be submitted to the Scottish Ministers as

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
		consultation by the Scottish Ministers with Maritime and Coastguard (MCA), Northern Lighthouse Board (NLB) and any other navigational advisors or organisations as may be required at the discretion of the Scottish Ministers. The NSP must include, but not be limited to the Following issues:	required. The Scottish Ministers will undertake consultation as necessary.
		a) Navigational safety measures	Sections 3 (construction) and 4 (operation)
		b) Construction exclusion zones	Section 3.6
		c) Notice(s) to Mariners and Radio Navigation Warnings	Sections 6.2 and 6.3
		d) Anchoring areas	Section 5
		e) Temporary construction lighting and marking	Section 3
		f) Emergency response and coordination arrangements for the construction, operation and decommissioning phases of the Development	Section 7
		e) Buoyage	Section 3.4
Section 36	Condition 17	The Company must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current Marine Guidance Note (MGN) 371[1], and its annexes that may be appropriate to the Development, or any other relevant document which may supersede said guidance, prior to approval of the NSP. The Development must, at all times, be constructed and operated in accordance with the approved NSP (as updated and amended from time to time by the Company). Any updates or amendments made to the NSP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.	This NSP has taken into account and adequately addressed all of the recommendations of the MCA in the current MGN 543[1], and its annexes (see Section 2).

[1] MGN 371 has since been superseded by MGN 543, therefore this NSP has complied with the updated guidance.

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
OTA Marine Licence	Condition 3.2.2.9	The Licensee must, no later than 6 months prior to the commencement of the works, submit a NSP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with MCA, NLB and other navigational advisors or organisations as may be required at the discretion of the Licensing Authority. The NSP must include, but not be limited to the following issues:	This NSP will be submitted to the Scottish Ministers as required. The Scottish Ministers will undertake consultation as necessary.
		a) Navigational safety measures.	Sections 3 (construction) and 4 (operation)
		b) Construction exclusion zones.	Section 3.6
		c) Notices to Mariners and Radio Navigational Warnings.	Section 6
		d) Anchoring areas	Section 5
		e) Temporary construction lighting and marking.	Section 3
		f) Emergency response and co-ordination arrangements for the construction, operation and decommissioning phases of the Works	Section 7
		g) Buoyage	Section 3.4
		The Licensee must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current MGN 371, and its annexes, that may be appropriate to the works, or any other relevant document which may supersede said guidance.	This NSP has taken into account and adequately addressed all of the recommendations of the MCA in the current MGN 543[1], and its annexes (see Section 2).

In addition to the specific consent requirements for the development of a NSP, as set out in Table 1.1, this NSP also includes information to discharge a number of other consent conditions which are linked to the requirements of the navigational safety. These are set out in Table 1.2.

Table 1.2: Other consent conditions discharged by this NSP

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
Alpha and Bravo OWF Marine Licences	Condition 3.2.1.3	The Licensee must, as soon as reasonably practicable prior to the Commencement of the Works, notify the United Kingdom Hydrographic Office (UKHO) of the proposed Works to facilitate the promulgation of maritime safety information and updating nautical charts and publications through the national Notice to Mariners system.	Sections 6.2 and 6.3
		The Licensee must, as soon as reasonably practicable prior to the commencement of the works, ensure that local mariners, fishermen's organisations and HM Coastguard, in this case the Maritime Rescue Coordination Centre Aberdeen, are made fully aware of any Licensable Marine Activity through local Notice to Mariners or any other appropriate means.	Section 6.2.1
		The Licensee must ensure that details of the Works are promulgated in the Kingfisher Fortnightly Bulletin, as soon as reasonably practicable prior to the Commencement of the Works to inform the Sea Fish Industry of the vessel routes, the timings and the locations of the works and of the relevant operations	Section 6.2.1
		The Licensee must prior to the commencement of the works, complete an "Application for Statutory Sanction to Alter/Exhibit" form and submit this to the Northern Lighthouse Board ("NLB") for the necessary sanction to be granted.	Section 3.3.
Alpha and Bravo OWF Marine Licences	Condition 3.2.2.3	The Licensee must notify the UKHO of the progress of the Works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the Notice to Mariners system.	Sections 6.2
		The Licensee must notify from, Aberdeen to Eyemouth, local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Aberdeen, of the progress of the works through the local NtMs or any other appropriate means.	Section 6.2.2
		The Licensee must ensure that the progress of construction of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry of the vessel routes, the timings and the locations of the Works and of the relevant operations.	Section 6.2.2

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
		The Licensee must, notify the Licensing Authority, in writing, as soon as reasonably practicable, of any case of damage to or destruction or decay of the Works. The Licensing Authority will advise, in writing, of any remedial action to be taken and any requirements to display aids to navigation, following consultation with the MCA, the NLB or any such advisors as required.	Section 3.11
		The Licensee must ensure that any Emergency Response and Rescue Vehicle ("ERRV") and/or cable-laying vessel permitted to engage in the Works must be equipped with Automatic Identification System ("AIS") and Automatic Radar Plotting Aids ("ARPA").	Section 3.8
		The Licensee must ensure that no radio beacon or radio beacon operating in the marine frequency bands is installed or used on the Works without the prior approval of the Office of Communications ("OfCom").	Section 6.3
		The Licensee must ensure that navigational safety is not comprised by the Works. The navigable depth must not be altered by more than 5% of stated chart datum unless otherwise agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.	Section 3.10
Alpha and Bravo OWF Marine Licences	Condition 3.2.3.2	The Licensee must notify the UKHO of the Completion of the Works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.	Section 6.4
		The Licensee must, within one month of the completion of the works, provide the "as-built" positions and maximum heights of all WTGs, Metrological Masts, along with any sub-sea infrastructure, to the UKHO for aviation and nautical charting purposes.	Section 6.4
		The Licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Aberdeen, are made fully aware of the Completion of the Works.	Section 6.2.3
		The Licensee must ensure that the Completion of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry.	Section 6.2.3

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
		The Licensee must notify the Licensing Authority, in writing as soon as reasonably practicable, of any case of damage to or destruction or decay of the Works. The Licensing Authority will advise, in writing, of any remedial action to be taken and any requirement to display aids to navigation, following consultation with the MCA, the NLB or any such advisors as required.	Section 3.11
		The Licensee must ensure that no radio beacon or radar beacon operating in the Marine frequency bands is installed or used on the works without the prior written approval of OfCom.	Section 6.3
OTA Marine Licence	3.2.2.14	The Licensee must, as soon as reasonably practicable prior to Commencement of the Works, notify the UK Hydrographic Office ("UKHO") of the proposed works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.	Sections 6.2 and 6.3
		The Licensee must, as soon as reasonably practicable prior to the Commencement of the Works, ensure that local mariners, fishermen 's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Aberdeen are made fully aware of the Licensable Marine Activity through local Notice to Mariners or any other appropriate means.	Section 6.2.1
		The Licensee must consult with any local Harbour Master where appropriate, who may wish to issue local warnings to alert those navigating in the vicinity to the presence of the Works during construction	Section 6.2
		The Licensee must ensure that details of the Works are promulgated in the Kingfisher Fortnightly Bulletin, as soon as reasonably practicable prior to the Commencement of the Works to inform the Sea Fish Industry of the vessel routes, the timings and the location of the Works and of the relevant operations.	Section 6.2
		The Licensee must prior to Commencement of the Works, complete an "Application for Statutory Sanction to Alter/Exhibit" form and submit this to the NLB for the necessary sanction to be granted…….	Section 3.3
		……. The Licensee must, prior to the Commencement of the Works, and following confirmation of the approved DSLP by the Licensing Authority , provide the precise location and maximum heights of all OSPs and construction equipment over 150 m above lowest astronomical tide ("LAT"), and details of any lighting	Section 6.4

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
		fitted to all OSPs, to the UKHO for aviation and nautical charting purposes.	
OTA Marine Licence	Condition 3.2.3.5	The Licensee must notify the UKHO of the progress of the Works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.	Section 6.4
		The Licensee must notify, from Aberdeen to Eyemouth, local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Aberdeen, of the progress of the works through local Notice to Mariners or any other appropriate means.	Section 6.2.2
		The Licensee must ensure that the progress of construction of Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry of the vessel routes, the timings and the location of the works and of the relevant operations.	Section 6.2.2
		The Licensee must, notify the Licensing Authority, in writing, as soon as reasonably practicable, of any case of damage to or destruction or decay of the works. The Licensing Authority will advise, in writing of any remedial action to be taken and any requirement to display aids to navigation, following consultation with the MCA, the NLB or any such advisors as required.	Section 3.11
		The Licensee must ensure that any Emergency Response and Rescue Vehicle ("ERRV") and/or cable-laying vessel permitted to engage in the Works must be equipped with Automatic Identification System ("AIS") and Automatic Radar Plotting Aids ("ARPA").	Section 3.8
		The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of the Office of Communications ("OfCom").	Section 6.3
		The Works shall be marked and/or lighted as required by the NLB and the marking to be continued unless and until the Licensing Authority rescind this direction	Sections 3.3 and 4.3
		If it is desired to display any marks or lights not required by this licence then details must be submitted to the NLB and their ruling complied with.	Sections 3.3 and 4.3

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
		The display of unauthorised marks or lights is prohibited.	
		The Licensee must ensure the safety of navigation is not compromised by the Works. The navigable depth must not be reduced by more than 5% of stated chart datum unless otherwise, agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.	Section 3.10
OTA Marine Licence	Condition 3.2.4.5	The Licensee must notify the UKHO of the Completion of the Works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.	Section 6.2.3
		The Licensee must, within 1 month of Completion of the Works, provide the "as-built" positions and maximum heights of all OSPs, along with any sub-sea infrastructure, cable landing points and changes to navigable depths, to the UKHO for aviation and nautical charting purposes.	Section 6.2.3
		The Licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case the Maritime Rescue Coordination Centre Aberdeen, are made fully aware of the completion of the works.	Section 6.2.3
		The Licensee must ensure that the Completion of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry.	Section 6.2.3
		The Licensee must, notify the Licensing Authority, in writing, as soon as reasonably practicable, of any case of damage to or destruction or decay of the Works. The Licensing Authority will advise, in writing, of any remedial action to be taken and any requirement to display aids to navigation, following consultation with the MCA, the NLB or any such advisers as required.	Section 3.11
		The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of OfCom.	Section 6.3

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
Alternative Landfall Cable Installation Marine Licence	Condition 3.1.1	…The Licensee must ensure that, where the Works authorised by the licence are carried on as an alternative to nearshore cable laying operations under marine licence number 04678/14/0, that the works authorised by the licence are appropriately covered in the plans submitted under marine licence number 04678/14/0. Such plans are PEMP, EMP, DP, CoP, CMS, VMP, NSP, CaP, OMP, LMP and PS, as required by conditions 3.2.1.1, 3.2.1.2, 3.2.1.7, 3.2.2.3, 3.2.2.4, 3.2.2.8, 3.2.2.9, 3.2.2.10, 3.2.3.2, 3.2.2.14, and 3.2.2.5 of marine licence number 04678/14/0.	This NSP is compliant with the relevant conditions as per Table 1.1 and 1.2
	Condition 3.2.1	The Licensee must, no later than one calendar month prior to Commencement of the Works, notify the UKHO of the proposed Works, the Licensee must also notify the UKHO of the progress of the Works and of the Completion of the Works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications.	Section 6.4
		The Licensee must, no later than one calendar month prior to the Commencement of the Works, complete an “Application for Statutory Sanction to Alter / Exhibit” form and submit this to the NLB for the necessary sanction to be granted.	Section 3.3
		The Licensee must not exhibit, alter or discontinue navigational lighting of the Works without the Statutory Sanction of the Commissioners of Northern Lighthouses An ‘Application for Statutory Sanction to Exhibit/Discontinue’ form must be completed by the Licensee as fully as possible and returned to the NLB via e-mail to navigation@nlb.org.uk for the necessary sanction to be granted prior to exhibiting, altering or discontinuing navigational lighting.	Section 3.3 (for further information see LMP)
		The Licensee must, no later than one calendar month prior to Commencement of the Works and then on a weekly basis until Completion of the Works, ensure that local mariners, neighbouring port authorities, fishermen's organisations, local stakeholders and HM Coastguard, in this case the National Maritime Operations Centre (nmoccontroller@hmcg.gov.uk),	Section 6.2

Consent Document	Condition Reference	Condition Text	Reference to relevant Section of this NSP
		are made fully aware of the Works through local Notice to Mariners or any other appropriate means.	
		The Licensee must ensure that details of the Works are promulgated in the Kingfisher Fortnightly Bulletin, no later than one calendar month prior to Commencement of the Works and then fortnightly during construction and on Completion of the Works to inform the Sea Fish Industry of the vessel routes, the timings and the location of the Works and of the relevant operations.	Section 6.2
		…The Licensee must ensure that any vessels permitted to engage in the Works are marked in accordance with the International Rules for the Prevention of Collisions at Sea whilst under way, and in accordance with the UK Standard Marking Schedule for Offshore Installations if the vessel is secured to the seabed.	Sections 3.8 and 4.7
		The Licensee must ensure that navigable depth is not altered by more than 5% referenced to Chart Datum unless otherwise agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.	Section 3.10

1.4 Linkages with other consent plans and Consent Conditions

Section 36 Consent Condition 17 and OTA Marine Licence Condition 3.2.2.9 do not explicitly identify linkages between this and other Consent Plans. However, other conditions require that several Consent Plans be consistent with the NSP including the CMS, VMP and OMP.

1.5 Updates and Amendments

Should any updates to the NSP become necessary, the change management process for any updates required to the NSP, including resubmission of consent plans for approval, is outlined in Appendix B – the NSP Change Management Procedure.

2. Scope and Objectives of the NSP

This NSP has been prepared to address the specific requirements of the relevant conditions attached to the S36 Consents, Alpha and Bravo Marine Licences, OTA Marine Licences and the Alternative Landfall Cable Marine Licence (collectively referred to as 'the consents') issued to Seagreen and applies to all construction, as required to be undertaken, before the Final Commissioning of the Works.

The overall objective of this NSP is to ensure the safe navigation to and from the site for both project and third party vessels.

The NSP has the following primary functions:

- To set out the Navigational Safety Measures and temporary lighting and marking to be in place for the Construction Phase;
- To set out the Navigational Safety Measures to be in place for the Operational and Maintenance phase;
- To set out the construction exclusion zones to be in place during the construction of the Project;
- To detail the anchoring areas and buoyage in the vicinity of the Project;
- To ensure procedures are in place for the promulgation of information regarding the Seagreen project to the relevant stakeholders; and
- To ensure that emergency response procedures are in place should an emergency situation arise.

All Seagreen personnel and Seagreen's Contractors (including their Sub-Contractors) involved in the Seagreen Project must comply with the NSP.

This NSP has taken into account and adequately addressed all of the recommendations of the MCA in the current Marine Guidance Note (MGN) 543, and its annexes.

3. Navigational Safety Measures during Construction

3.1 Introduction

This section sets out the navigational safety measures that Seagreen will implement during the construction of the wind farm and OTA, specifically detailing the conditions required by the consent. The navigational safety measures set out in this section will also be in line with the procedures set out in the OWF and OTA Construction Method Statement s(CMS) (LF000009-CST-OF-MST-0001 and LF000009-CST-OF-MST-0002 respectively).

3.2 Marine Coordination Centre

Permission for construction vessels to enter the construction area and safety zones shall be managed by the Marine Coordination Centre (MCC) at Montrose, using a Permit to Work system.

The MCC will establish protocols for approaching and leaving the worksite, as well as a management system, to record the work being undertaken and the vessels and personnel undertaking that work.

The MCC shall protect the safety of the site using the appropriate methods such as guard vessels (see Section 3.5) where appropriate. Systems will be in place to address unauthorised vessels entering the site and emergency situations, as well as reporting mechanisms, to inform the relevant projects and stakeholders. Third party vessels are not prohibited from entering the overall construction area (assuming active Safety Zones are avoided, see Section 3.6), but communication will be established in the event that the construction vessels or the MCC identify a vessel that may be at risk from (or to) the activities.

3.3 Temporary Lighting and Marking

Marine and aviation marking, including lights, visual marks and construction buoyage will be provided in accordance with NLB, Civil Aviation Authority (CAA), MCA and the Defence Infrastructure Organisation (DIO) requirements. This information is detailed within the Lighting and Marking Plan (LMP) (LF000009-CST-OF-PLN-0010). During construction, the Seagreen Project shall be marked and lit as required by the NLB (and as set out in the LMP) and continued as such unless and until the Licensing Authority rescinds this direction.

Prior to commencing construction of the Seagreen Project, Seagreen will complete an “Application for Statutory Sanction to Alter/Exhibit” form and submit this to the NLB for the necessary sanctions to be granted.

If any additional marks or lights that are not required by the consent conditions or by other legal requirements are to be displayed, then details of such lights or marks shall be provided to the NLB and only displayed with the permission of the NLB (via Statutory Sanction where appropriate).

3.4 Construction Buoyage

The construction buoyage to be deployed during the construction phase is detailed in the LMP (LF000009-CST-OF-PLN-0010). In summary the perimeter of the site will be marked with buoys to alert mariners to the

construction activities occurring within the site, the positions and specifications of which have been agreed with the NLB.

3.5 Guard Vessels

It is anticipated that guard vessel/s will be deployed during certain key construction activities, where identified as necessary via risk assessment. The guard vessel/s will be used to make mariners aware of the works, monitor safety zones, and establish contact with any vessel that is approaching or infringing an active safety zone (see Section 3.6)

3.6 Construction Safety Zones

A safety zone is a scheme set out via the Energy Act 2004 and the Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007. It applies to territorial waters (<12nm) in or adjacent to Scotland and within the Renewable Energy Zone (>12nm). It allows a Safety Zone of up to 500 metres (m) (defined by the United Nations Convention for Law of the Sea) to be established around a fixed object, in order to control vessel movements within proximity to a navigational hazard. Safety zones prohibit third party marine users from entering within 500m of the structure at which the activity is being carried out due to navigational safety risk. The exception to this is during emergency incidents e.g., where a vessel is obliged to render assistance under International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974).

Prior to construction, Seagreen will apply to Marine Scotland[2] for the use of safety zones around any structure where construction activities are ongoing during the construction phase. This application will be in accordance with The Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007. The application will be accompanied by, amongst other items, a layout plan, construction programme and will include proposals for notifying relevant stakeholders, as required under the legislation.

The Safety Zones are “rolling”, i.e., they will follow the construction vessels from one location to the next and are based around the construction activity. Construction activities for which a Safety Zone would be applied for include but are not limited to:

- Installation of a foundation;
- Erection of turbine on the foundation;
- Installation of substation topsides;
- Inter-array cable connection at turbine foundation;
- Inter-array cable connection at substation foundation; and

[2] Responsibilities associated with safety zone applications were transferred from the Department for Business, Energy & Industrial Stratergy (BEIS) to Marine Scotland, as of 1st April 2017

- Export cable connection at substation foundation.

Additionally, 50m safety zones may be applied for around any structure where construction work is not ongoing, up until the point of commissioning of the wind farm, when operational mitigations would become active. The need for these safety zones and their implementation will be assessed within the Safety Zone application. It is noted that due to the interspatial distances between the WTGs, it is not anticipated that 50m safety zones will impede cruising routes from transiting between the WTGs.

Construction safety zones shall be monitored for infringements. Marine Scotland will be notified of any incidents of a vessel repeatedly infringing the safety zones, or any isolated incidents considered as representing dangerous behaviour, noting that the MCA will be included within any such correspondence. All notifications would be accompanied by supporting evidence of the infringement

3.7 Recommended Routes

Seagreen has identified suitable indicative vessel transit routes to the construction areas, to provide an indication as to likely passage to site that will be utilised by project vessels. Full details of these routes are provided in the Vessel Management Plan (VMP) (LF000009-CST-OF-PLN-0006).

These routes will be recommended for use by construction vessels in order that they do not increase the risk of encounters with other commercial, recreational or fishing traffic in proximity to the construction area, and to make local users aware of the areas where they are likely to encounter construction vessels associated with the Seagreen Project.

The routes are intended to provide an indication of the likely general passage of project vessels for the benefit of local marine stakeholders. As such they are not compulsory, and the Master of any vessel may alter their course should navigational safety dictate in line with COLREGS (IMO, 1972).

During the construction phase Seagreen will liaise with local port operators and other local marine users (e.g., fishing vessels) to appropriately manage vessel movements in the area.

3.8 Construction Vessels

Vessels used on site as part of the construction of the Seagreen Project will be audited by Seagreen for compliance with contractors' obligation to comply with legislation appropriate for their class and area of operation. The contractors shall also be required to ensure that the vessels' on-board Health and Safety requirements meet those laid out by the Seagreen Health and Safety Plans and Management Standards. The audits will follow the International Marine Contractor Association (IMCA) audit standard.

The audits will also check contractors' compliance with their obligation that vessel crews meet the requirements for the size, type and area of operation, in line with the Standards for Training, Certification and Watch keeping (STCW) set out by the IMO, and any site-specific requirements implemented by Seagreen above minimum standards.

Contact should be made with the relevant local MCA Marine Office with regards to any survey, inspection or safety related certification required, including any planned towage operations prior to works commencing.

All construction vessels will be marked in accordance with COLREGS (IMO, 1972) and equipped with AIS receivers and transmitters. Furthermore, details of any vessels of height greater than 91.4m (300 feet (ft)) (i.e., cranes) involved in construction activities will be passed on to the National Air Traffic Services (NATS) Aeronautical Information Service / CAA in time for it to be promulgated to aviation stakeholders, via a Notice to Airmen (NOTAM). Details of the types of construction vessels to be employed can be found within the VMP (Ref: LF000009-CST-OF-PLN-0006).

3.9 Cable Laying and other Restricted in Ability to Manoeuvre Operations

Vessels that are Restricted in their Ability to Manoeuvre (RAM) will be utilised during cable installation works. These shall comply with COLREGS (IMO, 1972) which is the international convention for regulating vessel movements. All vessels regardless of nationality are required to comply with this convention, to ensure that they do not interact with vessels that are restricted in their navigational ability. RAM vessels are able to transmit safety warnings on Very High Frequency (VHF) to inform other vessels of their actions using the 'sécurité' message if the messages contain important safety information relevant to navigation. Communications between the RAM vessels and the MCC will be ongoing throughout the associated operations.

RAM vessels shall comply with vessel type regulation information transmitted through AIS and show current and correct navigational status at all times, to ensure other vessels operational on AIS will identify that they are a vessel engaged in a restricted manoeuvrability operation.

Cable installation and protection activities will be publicised through the notification procedures (see Section 6), and if found to be necessary, guard vessels (see Section 3.5) may be employed during cable laying periods.

3.10 Navigable Depth

Seagreen shall ensure that the navigable depth is not reduced as a result of the Seagreen Project by more than 5% of stated chart datum unless otherwise agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.

4. Navigational Safety Measures during Operations and Maintenance

4.1 Introduction

This section sets out the navigational safety measures that Seagreen will implement during the operation and maintenance (O&M) phase of the wind farm and OTA, specifically detailing the conditions required by the consent.

4.2 Marine Coordination Centre

O&M activities will be managed from the MCC. The MCC will be the primary base of marine activities and coordinate all communications internally and to third parties. A copy of the Emergency Response Co-operation Plan (ERCoP) (see Section 7.3) will also be held at the MCC and it will be the main internal point of contact in the event of emergency incidents.

The MCC, as part of the necessary O&M facilities, will monitor the site via AIS, Radar and Closed Circuit Television (CCTV). By using these facilities, other marine users within and in proximity to the Seagreen Project can be monitored from the MCC. This will be in addition to visual observations by personnel on wind farm vessels working within and in proximity to the Seagreen Project.

Any vessel that is identified or observed to stray into a major maintenance safety zone (see Section 4.5) will be contacted by the MCC via multi-channel VHF radio, including digital selective calling, and warned that they have encroached into a safety zone. Any vessels which ignore such warnings and are considered to be a potential danger will be further requested to avoid the safety zones, and the details of the vessel may be reported to the MCA enforcement unit if deemed necessary.

4.3 Operational Lighting and Marking

Marine and aviation marking, including lights, visual marks and operational buoyage will be provided in accordance with the NLB, the CAA, MCA and Ministry of Defence (MOD) requirements. Detailed information relating to lighting and marking of the Seagreen Project during the operational phase is set out in the LMP (Ref: LF000009-CST-OF-PLN-0010).

Prior to commencing construction of the Seagreen Project, Seagreen will complete an “Application for Statutory Sanction to Alter/Exhibit” form and will submit this to the NLB for the necessary sanction to be granted.

If any additional marks or lights to those approved via the LMP or to those required as a result of other statutory obligations are to be displayed, then details of such lights or marks shall be provided to the NLB and only displayed with the permission of the NLB. This would include application for statutory sanction where appropriate.

4.4 Guard Vessels

It is anticipated that guard vessel/s will be deployed during certain major maintenance activities, where identified as necessary via risk assessment. The guard vessel/s will be used to make mariners aware of the works, monitor safety zones, and establish contact with any vessel that is approaching or infringing an active major maintenance safety zone associated with the operation (see Section 4.5).

4.5 Safety Zones during the Operational Phase

Safety zones of 500m radius will be applied for around any structure where major maintenance is ongoing, where major maintenance is as defined under the Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007. Full details will be provided within the Safety Zone Application.

Seagreen are not intending to utilise operational safety zones during normal operations, however this will be confirmed via assessment undertaken as part of the Safety Zone Application. An appropriate safety case and suitable monitoring arrangements will be presented within the Safety Zone Application for any safety zones applied for. It is noted that due to the interspatial distances between the WTGs, it is not anticipated that 50m safety zones will impede cruising routes from transiting between the WTGs.

4.6 Recommended Routes

Ports to be utilised during the O&M phase will depend on the maintenance activities, and as such cannot be defined at this stage, however, it can be confirmed that Montrose will remain the Marine Coordination Centre base. It is likely that project vessels visiting the Seagreen Project site will utilise similar routeing to that during construction (see Section 0).

These routes will be used by O&M vessels where practical based on origin port and are designed to not increase the risk of encounters with other commercial, recreational or fishing traffic within the sea area, and to make local users aware of areas where they are likely to encounter vessels associated with the construction of the Seagreen Project.

The routes are intended to provide an indication of the likely general passage of project vessels for the benefit of local marine stakeholders. As such they are not compulsory, and the Master of any vessel may alter course should navigational safety dictate in line with COLREGS (IMO, 1972). Further details of the indicative routes are provided in the VMP (Ref: LF000009-CST-OF-PLN-0006).

During the operational phase, liaison will also be ongoing with local port operators and other local marine users to appropriately manage vessel movements in the wider sea area.

4.7 Operational and Maintenance Vessels

All vessels used on site as part of the Seagreen Project during the operational phase will be audited to check compliance with contractor's obligations to comply with legislation appropriate for class and area of operation. The contractors shall also be required to ensure that the vessel on-board Health and Safety

requirements meet those laid out by the Seagreen Safety Management System (SMS). The audits will follow the IMCA audit standard and will be undertaken regularly during the operational phase.

The audits will also check contractors' compliance with their obligation that vessel crews meet the requirements for the size, type and area of operation, in line with the STCW set out by the IMO, and any site specific requirements implemented by Seagreen above minimum standards.

All O&M vessels will be equipped with AIS receivers and transmitters.

4.8 Restricted in the Ability to Manoeuvre Operations

RAM vessels may be required to be used during certain maintenance operations and shall comply with COLREGS (IMO, 1972). The RAM vessels will be able to transmit safety warnings on VHF to inform other vessels of their actions using the 'sécurité' message (if the messages contain important safety information relevant to navigation).

Any such maintenance operations will be publicised through the notification procedures (see Section 6.2.3), and if found necessary via risk assessment, guard vessels may be employed during certain activities (see Section 4.4).

5. Anchoring

5.1 Anchorage Areas

Charted and uncharted anchorages in the vicinity of the Seagreen Project are presented in Figure 5.1.

It should be noted that a vessel can anchor in any water which it deems to be safe and where anchoring is not prohibited (see Section 5.2). Anchoring is therefore at the discretion of the vessel Master but can be in conjunction with information provided by the MCC. Standard marine practice, however, requires that when a vessel proceeds to anchor, consideration is given to:

- Water depth;
- Seabed type and charted hazards, including cable/pipelines;
- Weather and tidal information, including current and predicted weather;
- Avoidance of prohibited anchorage areas;
- Consideration of other anchored vessels;
- Avoidance of known areas of other marine activity such as fishing or recreational boating; and
- Avoidance of main commercial routes, pilot boarding areas or other navigational features such as spoil grounds or subsea cables.

All vessels associated with the Seagreen Project will be required to take the above into consideration prior to anchoring as per standard marine practice. Construction/maintenance vessels requiring anchorage within the site will request permission to do so from the MCC. Where a vessel is unable to anchor due to operational constraints (e.g., a tug with a barge in tow) the above considerations will also be taken into

consideration should access to the site be delayed, for example, due to weather, and the vessel required to remain off site for any period of time.

5.2 Anchorage Areas to be avoided

Based on a review of the navigational features in the area, the only areas in proximity to the site where anchoring is explicitly prohibited is within the approach to Dundee in the River Tay, and within the Firth of Forth (see Figure 5.1).

It is noted that while anchoring is not strictly prohibited within the Danger Area D604 (located in the Tay as per Figure 5.1), all project vessels will follow the associated procedures included within the VMP, which include avoidance of the Danger Area altogether unless absolutely necessary (e.g., in the event of an emergency).

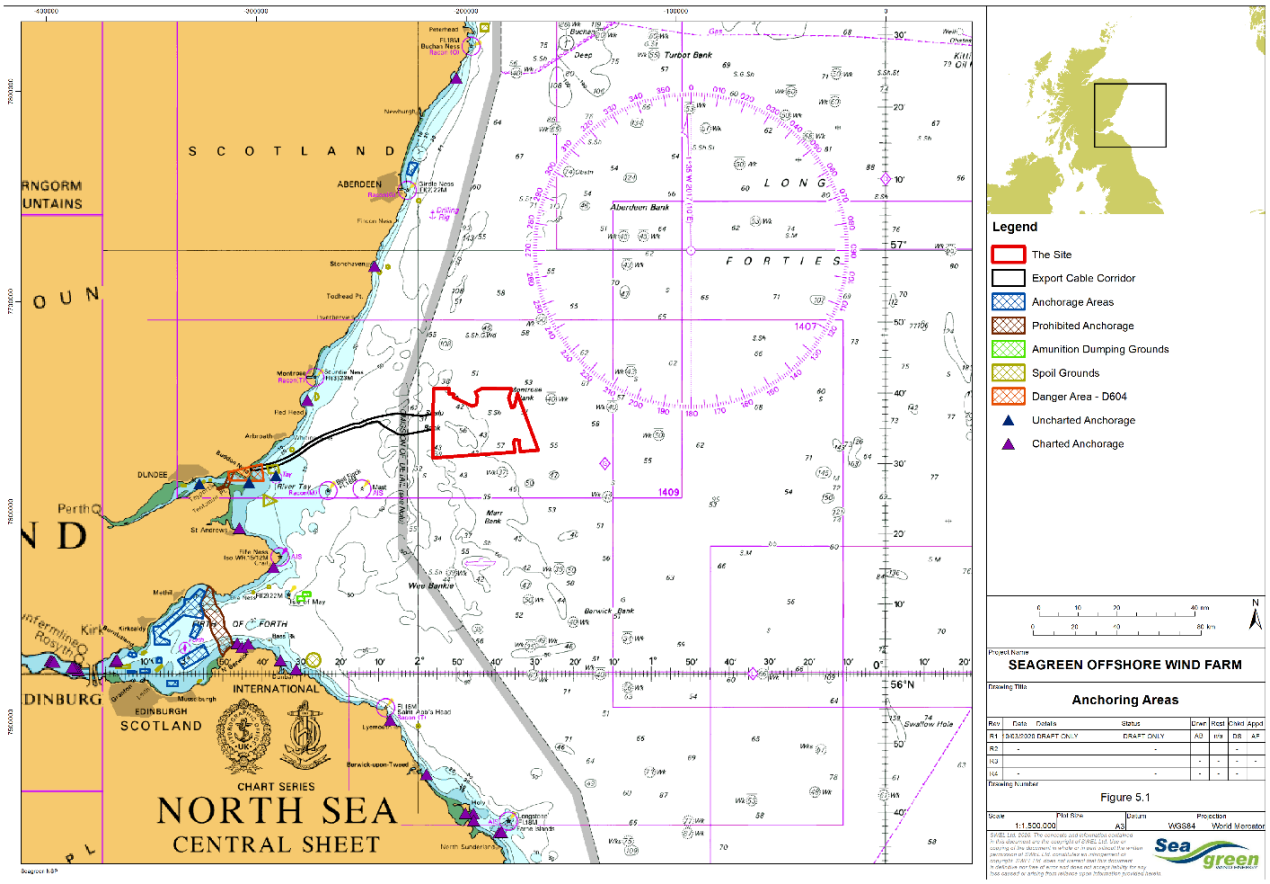


Figure 5.1: Anchoring Areas.

6. Promulgation of Information

6.1 Introduction

This section provides information on the proposed approach to distributing and issuing NtMs and other appropriate notifications to stakeholders and marine users, to advise them of activities associated with the Seagreen Project which may impact on their navigation.

6.2 Local Notices to Mariners

Local Notices to Mariners (LNtMs) will be issued when required during each phase of the Seagreen Project. The LNtMs will be concise, detailing navigational safety information and may include, but not be limited to, the information set out in Table 6.1

Table 6.1: Local Notices to Mariners Content

Information	Summary Description
Title	Shall clearly state the document is a LNtMs and provide a short relevant title about the scope of the topic. This should include the date of issue and the notice number.
Supplementary Information	Details of the organisation and project issuing the LNtMs and any relevant LNtMs issued prior to the current one.
Details	• Date / time of start / finish and location of works (coordinates) • Vessels on site including call signs • Activity being undertaken • Specific risks to navigation and presence of safety zones if applicable.
Contact Details	Sufficient details to allow mariners to contact the organisation issuing the LNtMs.
Guard Vessel and Safety Zones Details	Details of any guard vessels, or active safety zones.
Link to Additional Information	Provide only if absolutely necessary

Parties issued with LNtMs will include local Harbour Masters where appropriate, who may wish to issue local warnings to alert those navigating in the vicinity to the presence of the Works during construction

6.2.1 LNtM Issued Prior to the Commencement of the Development

Seagreen will, as soon as reasonably practicable, prior to the commencement of the construction of the Seagreen Project, make local mariners, fishermen's organisations and HM Coastguard (in this case the Aberdeen Coastguard Operations Centre (CGOC)), aware of the Licensed Marine Activity through LNtMs, publication in the Kingfisher Fortnightly Bulletin or any other appropriate means. Where any details promulgated on this basis change prior to commencement of construction, the relevant stakeholders would be notified as soon as is reasonably practicable.

6.2.2 LNtMs Issued during Construction

Seagreen will notify local mariners, fishermen and HM Coastguard (in this case Aberdeen CGOC), of the progress of the construction of the Seagreen Project through LNtMs, publication in the Kingfisher Fortnightly Bulletin, or any other appropriate means. This includes any faults to AtoNs which may impact upon navigational safety.

6.2.3 LNtMs Issued upon Commissioning and during Operation

Seagreen will ensure that local mariners, fishermen's organisations and HM Coastguard (in this case Aberdeen CGOC) are made fully aware of the completion of construction of the Seagreen Project.

Seagreen will inform relevant stakeholders via LNtMs, and publication in the Kingfisher Fortnightly Bulletin, or other appropriate means, of any planned or unplanned maintenance activities that are outside of day to day maintenance activities carried out by the Seagreen Project.

6.3 Radio Navigational Warnings

Radio Navigational Warnings may be issued if an activity or incident poses a danger to other marine users. Examples of when Radio Navigational Warnings could be issued at the Seagreen Project are:

- Failures to light signals, fog signals, buoys or other AtoN;
- Establishing major new AtoN;
- Cable laying activities; or
- Other underwater operations that may constitute potential dangers in or near shipping lanes.

Once the details of an activity on site are promulgated via the standard LNtMs process, the UKHO will then decide if the warning should be transmitted as a Radio Navigational Warning. If deemed as the appropriate action, the UKHO will issue the navigational warning. In the context of Radio Navigational Warnings, the UKHO act as the Navigational Area (NAVAREA) I (NE Atlantic) Co-ordinator for the IMO and International Hydrographic Organisation (IHO) Worldwide Navigational Warning Service (WWNWS) and also as the United Kingdom (UK) National Co-ordinator for issuing coastal navigational warnings.

The MCA, however, is the overarching body responsible for broadcasting the warnings and are the organisation responsible for charging to broadcast them.

For information, the broadcasts tend to be made in the following way, controlled by the UKHO:

- For vessels in NAVAREA1 broadcasts are made through Enhanced Group Safety NET within 30 minutes of receiving the navigational warning or at the next scheduled broadcast (every 12 hours). They are also broadcast by Navtex twice a day.
- As UK Coastal Navigational Warnings (WZs) by appropriate Navtex station at each transmission time (every 4 hours) or upon receipt of the information if it is of a vital nature. They are also broadcast by VHF or Medium Frequency (MF) radio from selected MCA stations at the next scheduled broadcast and every 12 hours thereafter.

Seagreen will require that no radio beacon or radar beacon operating in the Marine frequency bands are installed or used during the construction and O&M of the Seagreen Project without the prior written approval of the OfCom.

6.4 UKHO

Prior to the commencement of construction of the Seagreen Project the UKHO will be informed of the positions and maximum heights of all the WTGs and construction equipment that is 150m above LAT and of any OSP, to allow nautical and aviation charts updates.

Within one month of the final commissioning of the Seagreen Project, Seagreen shall provide locations accurate to three places of minute of arc and the heights of the WTGs to the UKHO to allow nautical and aviation chart updates and to confirm that the works have been completed.

6.5 CAA

As per CAA requirement, Seagreen will provide the Defence Geographic Centre (DGC) with accurate locations of the WTGs, accurate maximum heights, the lighting status of the WTGs and the estimated start / end dates for construction, together with an estimate as to when the WTGs are scheduled to be removed.

In order to make aviation stakeholders aware of any structures or large construction vessels that exceed 196ft (60m), stakeholders shall be notified through the means of a NOTAM. To arrange an associated NOTAM, Seagreen will also contact the CAA's Airspace Regulation (0207 453 6599, e-mail to AROps@caa.co.uk); providing the same information as required by the DGC at least 14 days prior to the start of the construction.

7. Emergency response

7.1 Introduction

This section sets out the key emergency and incident planning and reporting procedures to be followed during all phases of the Seagreen Project.

7.2 Emergency Response Plan

Seagreen has prepared an Emergency Response Plan (ERP) (Ref: LF000009-HSE-PLN-1). The ERP details the required internal emergency planning and response control measures to be implemented across the Construction and operational phase of the Seagreen Project by all Seagreen Personnel Contractors and Subcontractors. These internal measures will feed into the ERCoP (see Section 7.3) in terms of how Seagreen will cooperate with the MCA in emergency situations.

7.3 Emergency Response Co-operation Plan

Seagreen will provide a draft ERCoP for the OWF and OTA (following the MCA's template) for approval to the MCA prior to the commencement of construction. It is noted that the ERCoP is considered a live document which will be updated periodically in consultation with the MCA as and when relevant information becomes available.

Seagreen will comply with all MCA requirements in relation to SAR under MGN 543 (MCA, 2016), in particular SAR Annex 5 (MCA, 2018). In the event of an emergency at the Seagreen site, or at sea involving any personnel and/or vessels associated with the Seagreen Project, Seagreen will be responsible for providing immediate rescue and first aid medical response to a level appropriate to the circumstances of the incident, taking the location into account. Seagreen is also responsible for immediately alerting HM Coastguard of an emergency and for liaising and cooperating with the relevant CGOC to resolve the emergency.

Seagreen is also obliged, under international maritime agreements and practices to provide assistance, where it is possible to do so, to other vessels or persons in danger at sea nearby or within the Seagreen site or area, and/or when requested to assist by the relevant CGOC.

Seagreen may also need to provide its own vessels and other assets to respond or react to other maritime emergencies (e.g., pollution or a drifting vessel which presents an actual or possible threat to the safety of life or property in the Seagreen site). Full details will be included within the ERCoP, which will be based on the MCA HUB ERCoP template (MCA, 2019) as required. On this basis it will include the following:

- Roles and responsibilities of Seagreen in an emergency;
- Details of the installation to be built;
- CGOC;
- Search and Rescue (SAR) facilities and their response capability;
- Medical advice and assistance;
- Firefighting, chemical hazards, trapped persons etc;

- Survivor shore reception arrangements;
- Suspension/termination of SAR action;
- Criminal action and accidents to persons;
- Media relations;
- Exercises;
- Unexploded ordnance and wreck materials located on or near to Offshore Renewable Energy Installations (OREIs);
- Wreck or wreck material;
- Counter pollution; and
- Emergency Action Card (summarising all key details including SAR coverage).

7.4 Marine incident Reporting

All incidents and near misses will be recorded and logged by the MCC. A report will then be submitted through the Seagreen Project SMS, which will ensure that incidents and near misses are recorded and reviewed to assess the control measures at the Seagreen Project. Where such incidents are significant enough that they are required to be reported to the Health and Safety Executive, the Scottish Ministers will also be notified within 24 hours of Seagreen becoming aware of the incident occurring.

7.5 UK Marine Reporting Requirements

Within UK waters, all vessels are required to report any incidents related to navigational safety by the quickest means possible to the Marine Accidents Investigation Branch (MAIB). The MAIB has a dedicated reporting line for this purpose (+44 (0)23 8023 2527), which is staffed 24 hours a day. This includes all accidents and serious injuries.

Information required to be submitted will include:

- Details of the incident;
- Details of the vessel(s) involved; and
- Details of the personnel involved.

It is noted that it is the vessel (or vessel operators) responsibility to report any incident they are involved in or witness. However, Seagreen (via the MCC) will log details of all incidents internally and will cooperate fully with any subsequent investigation by the MAIB.

8. Compliance with the ES and ES Addendum

The relevant conditions of the S36 Consent and the Marine Licences require that the Seagreen Project be constructed in accordance with the methods assessed in the Application. Sections 9.1 and 9.2 set out information from the ES and 2012 application with regard to:

- Compliance with the parameters assessed; and
- Construction / operations related mitigation and management.

8.1 Compliance with Parameters Assessed in the ES

The ES for the Seagreen Project described the maximum design scenario that could be applied during the construction of the Development. This was presented as a 'Rochdale Envelope' incorporating a variety of options in relation to the development design and the approach to installation. In each case, the worst case design option was assessed in respect of each impact.

Since the grant of the consents for the Seagreen Project, the design of the Project and the approach to installation has been substantially refined, as set out within this NSP and in other relevant consent plans. To demonstrate compliance, with those methods assessed within the ES, Appendix C provides a tabulated comparison of project construction parameters as presented in the ES with this NSP.

8.2 Delivery of Construction-related Mitigation Proposed in the ES

The ES and for the Seagreen project detailed a number of mitigation commitments specific to construction and installation activities. Appendix D presents the commitments made by Seagreen in the ES to mitigation measures relative to construction methods and processes set out in this NSP. The table provides details of the commitments and a cross-reference to where each commitment is implemented.

A complete register of the mitigation, management and monitoring commitments made in the ES, required by consent conditions is set out in the commitment's registers included as part of the Project Offshore Construction Environmental Management Plan (CEMP).

9. References

Table 9.1 provides a list of Consent Plans that are relevant to this NSP. It is followed by a list of other document references relevant to the development of this plan.

Table 9.1 Seagreen Document References

SWEL Document Number	Title
LF000009-CST-OF-PLN-0010	Offshore Lighting and Marking Plan
LF000009-CST-OF-MST-0001	Offshore Wind Farm Construction Method Statement
LF000009-CST-OF-MST-0002	Offshore Transmission Asset Construction Method Statement
LF000009-CST-OF-PLN-0006	Offshore Vessel Management Plan
LF000009-HSE-MA-PRO-0008	Incident Reporting

IALA (2013), *IALA Recommendation O-139 – The Marking of Man-Made Structures.* Saint Germaine en Laye, France: IALA.

IMO (1974). *International Convention for the Safety of Life at Sea (SOLAS)*, IMO: London

IMO (1972). *Convention on the International Regulations for Preventing Collisions at Sea.* London: IMO.

MCA (2008), *MGN 371 (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response.* Southampton: MCA.

MCA (2016), *MGN 543 – OREIs – Guidance on UK Navigational Practice, Safety and Emergency Response Issues, Southampton: MCA*

MCA (2018). MGN 543 SAR Annex 5: Requirements, Guidance and Operational Considerations for Search and Rescue and Emergency Response, Southampton: MCA.

MCA (2019). MCA HUB ERCoP Template. Southampton: MCA.

The Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations (2007), Available online: http://www.legislation.gov.uk/uksi/2007/1948/contents/made [accessed 30/08/18].

Appendix A NSP List of Abbreviations and Definitions

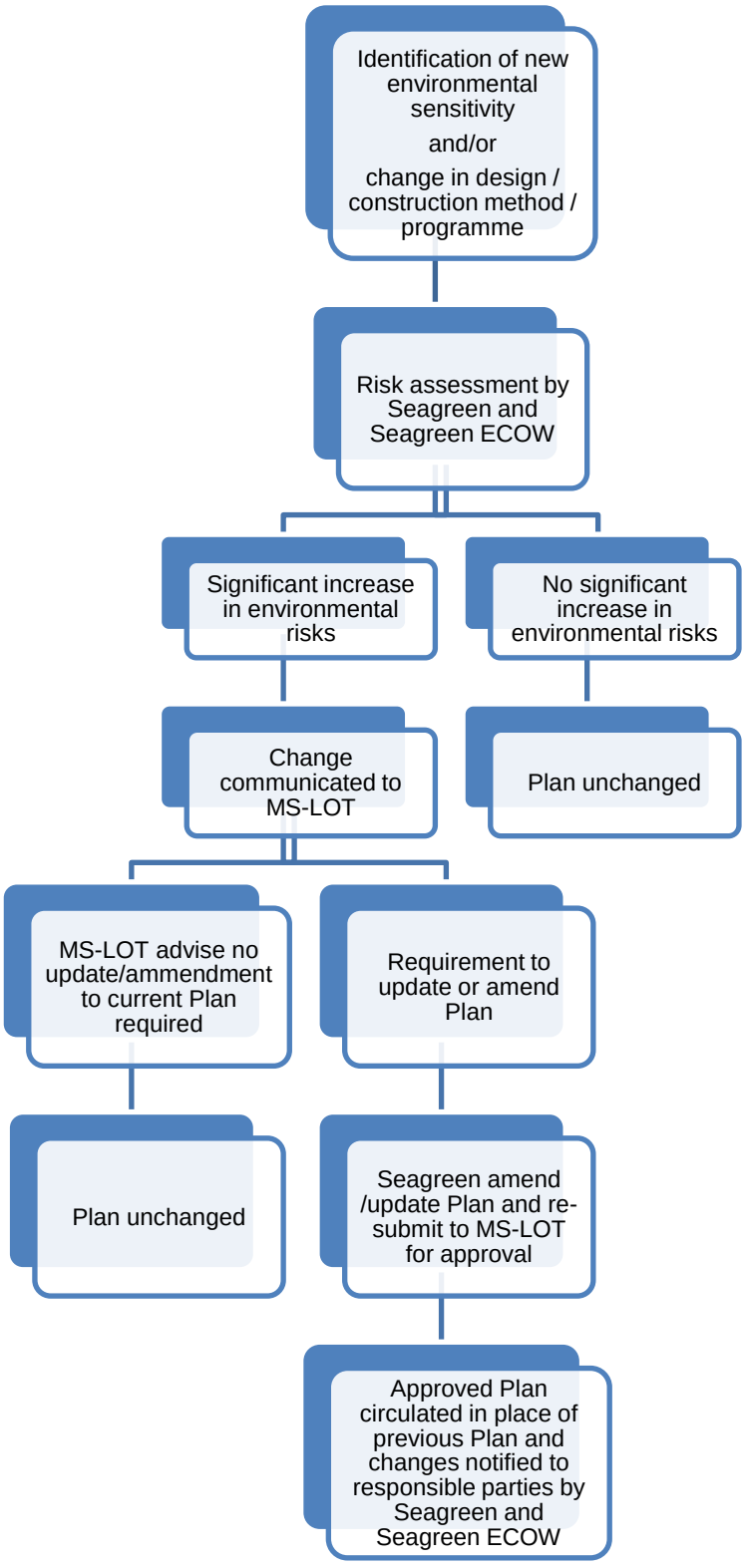
Term	Description
AIS	Automatic Identification System
Alpha Marine Licence	Marine licence granted by the Scottish Ministers under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 in respect of Seagreen Alpha Wind Farm on 10 October 2014 as amended by the revised marine licence granted by the Scottish Ministers on 28 August 2018 (reference 04676/18/0) and as further amended by the revised marine licence granted by the Scottish Ministers on 12 December 2019 (reference 04676/19/0).
Alternative Cable Landfall Marine Licence	Marine licence granted by the Scottish Ministers under the Marine (Scotland) Act 2010 in respect of the alternative cable installation methodology at landfall on 21 November 2019 (reference 07050/19/0
AtoN	Aids to Navigation
ARPA	Automatic Radar Plotting Aids
Audit	Inspection to confirm, compliance and identify and correct non-conformances
BEIS	Department for Business, Energy & Industrial Strategy
Bravo Marine Licence	Marine licence granted by the Scottish Ministers under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 in respect of Seagreen Bravo Wind Farm on 10 October 2014 as amended by the revised marine licence granted by the Scottish Ministers on 28 August 2018 (reference 04677/18/0) and as further amended by the revised and transferred marine licence granted by the Scottish Minsters on 12 December 2019 (reference 04677/19/0)
CAA	Civil Aviation Authority
CaP	Cable Plan
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CMS	Construction Method Statement
CGOC	Coastguard Operations Centre
COLREGS	International Regulations for the Prevention of Collisions at Sea
Commitments register	A register that sets out all commitments to manage and mitigate potential environmental impacts made by SWEL
(the) consents	Collective term used to describe the Section 36 consents and Marine Licences issued to SAWEL, SBWEL and Seagreen
Contractor	The CONTRACTOR as defined by the CONDITIONS OF CONTRACT
CoP	Construction Programme

Term	Description
DECC	Department of Energy and Climate Change
DGC	Defence Geographic Centre
DIO	Defence Infrastructure Organisation
DSC	Digital Sensitive Calling
DSLP	Design Specification and Layout Plan
ECoW	Ecological Clerk of Works
ERCoP	Emergency Response Co-operation Plan
ERP	Emergency Response Plan
ERRV	Emergency Response and Rescue Vehicle
ES	Environmental Statement
ft	Feet
HAT	Highest Astronomical Tide
IALA	International Association of Lighthouse Authorities
IHO	International Hydrographic Organisation
IMCA	International Marine Contractor Audit
IMO	International Maritime Organization
KISCA	Kingfisher Information Services and Cable Awareness
km	Kilometres
LAT	Lowest Astronomical Tide
LMP	Lighting and Marking Plan
LNtM	Local Notices to Mariners
m	Metres
MAIB	Marine Accidents Investigation Branch
Marine Licence	The three marine licences for the Seagreen Project, comprising, the Alpha Marine Licence the Bravo Marine Licence and the OTA Marine Licence
MCA	Maritime and Coastguard Agency
MCC	Marine Coordination Centre
MF	Medium Frequency
MGN	Marine Guidance Note

Term	Description
MOD	Ministry of Defence
MRCC	Marine Rescue Co-ordination Centre
MS-LOT	Marine Scotland Licensing and Operations Team
NATS	National Air Traffic Services
NAVAREA	Navigational Area
NLB	Northern Lighthouse Board
NM	Nautical Miles
NOTAM	Notice to Airmen
NSP	Navigational Safety Plan
NtM	Notice to Mariners
NRA	Navigational Risk Assessment
O&M	Operation and Maintenance
OfCom	Office of Communications
OMP	Operations Management Plan
OREIs	Offshore Renewable Energy Installations
OSP	Offshore Substation Platform means an alternating current Offshore substation platform which is a standalone modular unit that utilises the same substructure and foundation design as a wind turbine generator
OTA	Offshore Transmission Asset includes the transmission cable required to connect the Wind Farm to the Onshore Transmission Asset. This covers the OSPs and the cable route from the OSPs to the MHWS at the landfall at Carnoustie
OWF	the Wind Farm Assets
RAM	Restricted in their Ability to Manoeuvre
S36 Consents	Consent under section 36 of the Electricity Act 1989 granted by the Scottish Ministers on 10 October 2014 in respect of the Seagreen Alpha and Seagreen Bravo offshore wind farms, both as varied by the Scottish Ministers by decision letter issued pursuant to an application under section 36C of the Electricity Act 1989 on 28 August 2018 and, in respect of the Seagreen Bravo S36 Consent, as assigned, with the consent of the Scottish Ministers from SBWEL to SAWEL by assignation dated 22 November 2019 and intimated to the Scottish Ministers by intimation dated 27 November 2019
SAR	Search and Rescue

Term	Description
SAWEL	Seagreen Alpha Wind Energy Limited (company number 07185533) and having its registered office at No. 1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH
SBWEL	Seagreen Bravo Wind Energy Limited (company number 07185543) and having its registered office at No. 1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH
Seagreen (SWEL)	Seagreen Wind Energy Limited (SWEL), the parent company of Seagreen Alpha Wind Energy Ltd (SAWEL) and Seagreen Bravo Wind Energy Ltd (SBWEL), (company number 06873902) and having its registered office at No.1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH
Site	The area outlined in red in Figure 1.1 attached to the S36 consent Annex 1 and the area outlined in red and the area outlined in black in the figure contained in Part 4 of the Marine Licence*
SMS	Safety Management System
STCW	Standards for Training, Certification and Watch keeping
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
UXO	Unexploded Ordnance
VHF	Very High Frequency
VMP	Vessel Management Plan
Wind Farm Assets	Collective term to describe the WTGS, jacket structures, foundations and associated inter array cabling
WTG	Wind turbine generator
WWNWS	Worldwide Navigational Warning Service
WZs	Navigational Warnings

Appendix B The NSP Change Management Procedure



Appendix C Compliance with Environmental Statement (ES) parameters and processes

Construction parameter/process	ES	NSP
Key Parameters		
Number of WTGs	Up to 150	150
Number of Auxiliary Platforms	Up to five[3]	Two OSPs
Metrological masts	Up to six (30m in diameter)	None
Rotor Diameter	Max 167 m	164m
Minimum WTG Spacing	(5x rotor diameter) (610m – 835m)[4]	1,042m (excluding micrositing)
Blade Clearance	Minimum 26.1 m above LAT	37m-41m
Construction and Operational Processes		
Temporary lighting on structures during construction	May be used	As per Section 3.3, all structures will be marked as set out in the LMP.
Construction vessel markings	As per COLREGS	As per COLREGS, see Section 3.8
Safety Zones (500m)	500m 'rolling' safety zone around wind farm infrastructure during construction, major maintenance and decommissioning	These safety zones will be applied for as per Section 3.6 (construction) and 4.5 (operation).

[3] Number modelled within the Navigational Risk Assessment (NRA) (Anatec, 2012)

[4] Note this figure was revised within the S36 Consents to 1,000m.

Construction parameter/process	ES	NSP
		Safety zones during decommissioning will be applied for separately.
Safety Zones (50m)	Operational safety zone of 50m around each structure	As per Section 4.5, should Seagreen seek such safety zones, an appropriate safety case and monitoring arrangement would be included in the safety zone application.
Anchoring Areas	Pre-determined areas will be identified and marked as temporary anchorage areas for vessels associated with the Seagreen Project.	See Section 5.1.

Appendix D Summary of mitigation commitments

Source	Reference (ES Chapter and Paragraph)	Details of commitment	Implementation
ES	Chapter 1: Legislation paragraph 4.67	It is proposed that 'rolling' safety zones around construction vessels will be applied for during construction as per Section 104(1) Energy Act which includes transmission lines. Application for PA, PB and OTA.	Section 3.6
ES	Chapter 1: Legislation paragraph 4.68	It is also intended to make applications for the establishment of operational safety zones for PA and PB once final number and precise location of OWF structures has been determined.	Section 4.5
ES	Chapter 5: Project Description paragraph 5.114	A phased programme will be used to reduce safety exclusion areas while construction is in progress.	Approach to safety zones during construction will be detained in the Safety Zone Application as per Section 3.6.
ES	Chapter 5: Project Description paragraph 5.122	Relevant safety 'exclusion' zones will be applied for, for all marine operations.	Sections 3.6 and 4.5
ES	Chapter 5: Project Description paragraph 5.123	Temporary safety zones will be marked with a navigation buoy at each corner of the zone - subject to an NtM.	In line with current standard industry practice buoys are not proposed to be used to mark the safety zones. This will be detailed in the safety zone application process (see Sections 3.6 and 4.5). The entire site will be marked as a buoyed construction area via buoyage during the

Source	Reference (ES Chapter and Paragraph)	Details of commitment	Implementation
			construction phase (see Section 3.4).
ES	Chapter 5: Project Description paragraph 5.123	Temporary safety zones will be advertised using proper channels and liaison will take place prior to implementation with the relevant local sea users and bodies including the port authorities.	Sections 3.6, 4.5 and 6.
ES	Chapter 5: Project Description paragraph 5.124	A 500m 'rolling' safety zone will be sought around the wind farm infrastructure and for around the construction vessels during construction, major maintenance and decommissioning.	Sections 3.6 and 4.5 in line with the relevant legislation, safety zones will only apply around structures.
ES	Chapter 5: Project Description paragraph 5.210	It is likely that Seagreen will apply for an operational safety zone of 50m around each OWF structure in accordance with the relevant guidance from Department of Energy and Climate Change (DECC) *(*now BEIS*)*. Through the application for consent, Seagreen will seek to extinguish the rights of navigation within these distances of each structure in order to establish the desired safety zones. This will be done in accordance with section 36A of the Electricity Act 1989.	As per Section 4.5, Seagreen are not intending to apply for operational safety zones, however, this will be assessed as part of the Safety Zone Application.
ES	Chapter 5: Project Description paragraph 5.211	Once the OWFs are operational, operational safety zones of 500m will be applied during maintenance. An AIS and Closed Circuit Television (CCTV) from an onshore O&M Control Centre(s) will be in place to monitor vessel movements within the OWFs.	See Section 4.5. Should Seagreen apply for operational safety zones, a suitable monitoring arrangement will be included as part of the Safety Zone Application.
ES	Chapter 5: Project Description paragraph 5.213	A Marine Control Centre(s) for the OWFs will have AIS, video surveillance and radar coverage which will identify vessels with AIS facilities entering into the safety zone during O&M activities. Any vessel	See Section 4.2 and 4.5. Should Seagreen apply for operational safety zones, a

Source	Reference (ES Chapter and Paragraph)	Details of commitment	Implementation
		identified or observed to stray in to the safety zone will be contacted by a designated member of the crew of the O&M vessels or guard vessels or from the Marine Control via multi-channel VHF radio, including digital selective calling, and warned that they have encroached the safety zone. Vessels which ignore this warning and are considered to be causing a potential danger will be further requested and then the details of the vessel reported to the MCA enforcement unit.	suitable monitoring arrangement will be included as part of the Safety Zone Application.
ES	Chapter 14: Marine Mammals paragraphs 14.163 and 14.243	It is likely that safety zones of 50m may be applied for around infrastructure such as WTGs (maximum of 75), meteorological masts (maximum of three) and OSPs (maximum of three).	See Sections 3.6 and 4.5 – it is intended to apply for 50m pre-commissioning safety zones prior to operational mitigations becoming active.
ES	Chapter 15 Shipping & Navigation paragraph 15.183	The Project Alpha site is intersected by two 'medium -use' cruising routes and the Project Bravo site is intersected by one 'medium -use cruising route' which run in a north-south direction. However, vessels should be able to pass between turbines in suitable conditions (i.e., during good visibility and calm sea conditions), as well as being able to route around the Project Alpha and Project Bravo sites.	See Section 3.6 and 4.5.
ES	Chapter 15 Shipping & Navigation paragraphs, 15.277	Mitigation measures which can be implemented for the OWF development to reduce the level of impact; promulgation of information and warnings through Notices to Mariners, Kingfisher publications, fisheries liaison, local recreation clubs and marinas and further appropriate media on construction activities, cable installation works and other OWF matters;	Section 6 provides details in relation to promulgation of information.
		the use of guard vessels where appropriate to aid emergency situations and warn vessels;	Sections 3.5 and 4.4.

Source	Reference (ES Chapter and Paragraph)	Details of commitment	Implementation
		application for and use of safety zones to protect the construction/ decommissioning of the sites;	Section 3.6.
		- use of appropriate means to notify and provide evidence of the infringement of construction safety zones;	Section 3.6.
		- use of vessels that are 'fit for purpose' for the construction activities including marked in accordance with COLREGS and fitted with an AIS transponder to prevent them becoming a risk factor;	Section 3.8 (see VMP (Ref: LF000009-CST-OF-PLN-0006 for more information).
		- Aids to Navigation in line with International Association of Lighthouse Authorities (IALA) O-139 (IALA, 2008)[5] and MCA/ NLB Requirements (which will include a system of routine inspection and maintenance of lights and markings);	Section 3 and 4.3
		additional buoyage if required to assist safe navigation (this would be based on guidance from NLB);	Section 3.4
		- creation of an ERCoP with the relevant Maritime Rescue Co-ordination Centre (MRCC)[6] from construction phase onwards, including MCA standards and procedures for WTG shut -down in the event of a search and rescue, counter pollution or salvage incident in or around an OWF;	Section 7.3
		monitoring by radar, AIS and CCTV or other agreed means;	Section 4.2

[5] The Seagreen Project has complied with the most up to date version of IALA (2013).

[6] The Aberdeen Maritime Rescue Coordination Centre is now the Aberdeen CGOC.

Source	Reference (ES Chapter and Paragraph)	Details of commitment	Implementation
		-fenders/ bumper bollards installed on structures;	Seagreen do not propose to install fenders or bumper bollards on structures.
		-clear notification of works (especially pre charting of cables);	Section 6
		-cable details will also be provided to the UKHO for inclusion on Admiralty Charts;	See Section 6
		- any cables installed within the cable corridor will be notified to Kingfisher Information Services and Cable Awareness (KISCA) for inclusion in cable awareness charts and plotters for the fishing industry;	See Section 6
ES	Chapter 15 Shipping & Navigation paragraph 15.281	Monitoring will take place through the Seagreen Project's SMS. The SMS will include an incident/ accident reporting system which will ensure that incidents and near misses are recorded and reviewed, to monitor the effectiveness of the risk control measures in place at the site. In addition, any information gained from near misses/ accidents at other OWF sites is likely to be considered with respect to the control measures applied at Project Alpha and Project Bravo.	See Section 7.4 and 7.5.
ES	Chapter 15 Shipping & Navigation paragraph 15.283	CCTV will be installed to enable coverage of the OWF areas from key locations either on the WTGs or the substations. The CCTV will be adjustable for day/ night conditions and allow operators in a central control room to identify vessel names from a distance to facilitate radio communications.	Section 4.2
ES	Chapter 15 Shipping & Navigation paragraph 15.284	A MCC monitoring AIS will be used to monitor and record the movements of vessels around the Seagreen Project as well as company vessels working at the site.	Section 3.2 and 4.2.

Source	Reference (ES Chapter and Paragraph)	Details of commitment	Implementation
ES	Chapter 15 Shipping & Navigation paragraph 15.285	Any vessel observed to stray into a safety zone will be identified and contacted by a designated member of the crew of the OWF, guard vessel or from the MCC via multi - channel VHF radio, including Digital Selective Calling (DSC), and warned that they have encroached a safety zone.	Section 3.6 and 4.5
ES	Chapter 18 Military and Aviation paragraphs 18.32 and 18.33	The physical presence of cranes and WTGs on low flying activity can be mitigated by ensuring that information on construction activity is passed to the NATS Aeronautical Information Service in time to ensure that it can be promulgated to all affected airspace users. This is a mandated and recognised method of disseminating information concerning the presence of temporary hazards to aviation and will highlight the potential impact of the construction phase. It will detail the vertical heights of obstacles, initially those of a temporary nature such as cranes used to erect the WTGs and, progressively, the permanent wind farm. This communication with the NATS Aeronautical Information Service will be undertaken as a matter of due course in line with best practice guidelines for safeguarding aviation infrastructure.	Sections 3.8 and 6.5 (see LMP (Ref: LF000009-CST-OF-PLN-0010) for more information).
ES	Chapter 18 Military and Aviation paragraphs 18.68, 18.71 and 18.93	When developed the Project Alpha and Project Bravo sites will be clearly defined on all aviation charts in accordance with MOD and CAA requirements. Both Project Alpha and Project Bravo are over 40 km clear of the existing Helicopter Main Routes.	See Section 6.5 (see LMP (Ref: LF000009-CST-OF-PLN-0010) for more information).
ES	Chapter 22: Mitigation and Monitoring paragraph 22.31	Shipping and navigation mitigation measures will be required (see shipping and navigation commitments for full details).	Sections 3-7
ES	Chapter 22: mitigations and Monitoring paragraph 22.38	Military and Civil Aviation mitigation - the Seagreen Project will be clearly defined on all aviation charts in accordance with MOD and CAA requirements.	See Section 6.5 (see LMP (Ref: LF000009-CST-OF-PLN-0010) for more information).