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## Abbreviations and Acronyms

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ADR	Air Defence Radar
ATC	Air Traffic Control
CAA	Civil Aviation Authority
FoF	Firth of Forth
GDL	Gardens and Designated Landscape
HRA	Habitats Regulations Appraisal
ICOL	Inch Cape Offshore Limited
MoD	Ministry of Defence
NCN	National Cycle Network
O&M	Operation and Maintenance
OfTW	Offshore Transmission Works
OSP	Offshore Substation Platform
PSR	Primary Surveillance Radar
SLVIA	Seascape Landscape and Visual Impact Assessment
SPA	Special Protection Area
WTG	Wind Turbine Generator

## 18 Summary of Effects

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### 18.1 Introduction

- 1 This chapter presents a summary of the key findings of the assessment of the environmental effects of the Wind Farm and Offshore Transmission Works (OfTW) (the Development), alone and cumulatively with other relevant projects. The predicted residual environmental impacts of the proposals are reported for each receptor assessed, taking account of the potential for significant positive and negative environmental effects, and mitigation which has been committed to by Inch Cape Offshore Limited (ICOL). In terms of mitigation, the embedded mitigation and proposed commitment to the purpose of the relevant Inch Cape 2014 consent conditions for each topic can be found in each chapter (9 to 17).
- 2 As ICOL requires a separate consent under the *Town and Country Planning (Scotland) Act 1997* (as amended) for the Onshore Transmission Works (OnTW), a separate application was made to East Lothian Council for Planning Permission in Principle (PPP). An Environmental Impact Assessment (EIA) was submitted as part of the application in February 2018. At the time of writing the application this has not been determined.
- 3 As part of the assessment for the Development, and as documented in *Chapters 9 to 17* of this EIA report, any relevant impacts associated with the OnTW have been taken into consideration during this assessment (Development and OnTW impact assessment).
- 4 For more detailed information on the OnTW impacts, the EIA for this can be found on ICOL's website<sup>1</sup>
- 5 This chapter also includes all of the mitigation measures taken into account during the assessment of each technical chapter (Chapters 9 to 17). This information can be found in section 18.4 below.

#### 18.1.1 Inch Cape Offshore Limited Offshore Environmental Statement (ES) 2013

- 6 A full and competent EIA was carried out and submitted to Marine Scotland Licensing Operations Team (MS-LOT) in 2013. In 2014 ICOL received consent for a scheme that was reduced in turbine numbers from what was assessed in the EIA. The reason for these changes related only to potential impacts on ornithology. Whilst it can be seen below that the EIA in 2013 for ornithology assessed non-significant effects, RSPB and SNH raised concerns of cumulative effects with other projects thus resulting in the reduced turbine numbers.
- 7 As the reduction in turbine numbers related only to ornithology the impacts assessed in the 2013 Inch Cape ES have been presented for all receptors to contextualise the impacts associated with the consented scheme with those associated with this Development, a

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<sup>1</sup> At the time of writing the Onshore Substation EIA can be found here:  
[http://www.inchcapewind.com/publications/Onshore\\_Environmental\\_Statement/introduction2018](http://www.inchcapewind.com/publications/Onshore_Environmental_Statement/introduction2018)  
[Accessed: 10/08/18]

summary of the differences have also been provided. For ornithology, the impact assessment outcomes for the 2013 Inch Cape ES have been provided for completeness. For ornithology, due to the reduction in turbine numbers, it is also appropriate to compare the outcomes of the Appropriate Assessment (AA) carried out in 2014 by Marine Scotland as the Competent Authority with the outcomes of the Habitat Regulations Appraisal (HRA) presented in the HRA Report. As for the HRA report associated with this new application, the 2014 AA Marine Scotland considered the potential for adverse effects to site integrity for the following four SPAs – Buchan Ness to Collieston Coast, Fowlsheugh, Forth Islands and St Abb’s Head to Fast Castle and reached a conclusion of no adverse effects for each of these four SPAs, for both the Project-alone (or Development-alone in the case of the HRA report) and in-combination scenarios that were considered.

- 8 The following topics were assessed in the 2013 ES and were scoped out of this EIA for the Development, as the design changes proposed in the new application, coupled with no material changes to the baseline were unlikely to change the impact assessment, which were assessed as not significant. Therefore, the information presented for these topics has not been reproduced for the purposes of this EIA:
- Metocean and Coastal Processes;
  - Underwater Noise; and
  - Benthic Ecology.

## 18.2 Development Area- Summary of Effects

- 9 Table 18.1 below shows impacts scoped in to this EIA Report and assessed in relation to the Development Area unless where otherwise stated.
- 10 For reference the residual significance of impacts as concluded in the Inch Cape 2013 ES are presented.
- 11 For each impact, a summary of the differences between that assessed in 2013 and for this EIA report has been provided by the relevant expert professional in each field.

**Table 18.1: Summary of Effects – Development Area**

Impact	Receptor	Residual Significance	Residual Significance	Discussion
		Inch Cape 2013 ES	Inch Cape 2018 EIA Report	
<b>Natural Fish - Construction (and Decommissioning)</b>				
Barrier effects disturbance or physical injury associated with	Hearing specialists	(Mortality and injury) = Minor (not significant)  (Behavioural responses)	Not significant (Hearing Specialists)	Despite the increase in hammer energy between the design envelope proposed in the 2013 ES and the design envelope in this

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
construction noise (piling) –		Herring = Moderate (not significant) Cod & sprat = Minor/Moderate (not significant)		EIA report the impacts on hearing specialist fishes remain non-significant. The impact has been assessed on its own merits using a different noise model to that used in the original EIA report. Due to the inherent differences between the original and new model parameters, model outputs are not comparable.
<b>Marine Mammals - Construction (and Decommissioning)</b>				
Disturbance from increased noise from geophysical survey systems	All marine mammals	Not assessed	Not significant (Minor)	Impacts from geophysical survey systems were not assessed in the Inch Cape 2013 ES. However, the sound emitted by some systems has the potential to induce the onset of PTS if source levels are high and disturb marine mammals if the frequency/frequencies used are audible to them.  An EPS Risk Assessment will be conducted to determine whether an EPS licence will be required (in relation to the potential for disturbance) and current best practice mitigation will be used to minimise the risk of injury.

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
Displacement/ PTS from piling	All marine mammals	Not significant (Minor-Major in the medium term, Minor in the long term)	Not significant (Minor)	<p>The residual effects of PTS and displacement from piling at the Development are predicted to be of minor significance and less than those which were assessed as not significant in the 2013 Inch Cape ES (ICOL, 2013) and deemed acceptable for the 2014 Inch Cape Consent.</p> <p>Displacement from pile driving at Inch Cape is unlikely to affect the size or growth of the bottlenose dolphin population off the east coast of Scotland.</p> <p>While displacement from pile driving/ blasting at the cumulative projects may affect the size and growth of the population, the outputs from iPCoD suggest that the size of this effect is likely to be small. The precision of estimates from the current monitoring programme for this population (and other similar populations) suggest that an effect of this size is unlikely to be detectable.</p>
<b>Ornithology - Operation and Maintenance (O&amp;M) – Wind Farm and Export Cable Corridor (to Near Shore)</b>				
Displacement and barrier effects	Kittiwake (regional breeding population only)	<b>Development Alone</b> Not Significant	<b>Development Alone</b> Not Significant	The impacts of displacement and barrier effects remain not significant although the

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
		Negligible  <b>Cumulative</b> Not Significant Minor/moderate	Minor  <b>Cumulative</b> Not Significant Moderate (as assessed together with collision impacts)	significance level is now classed as minor for the Development alone and moderate for the cumulative (but noting that the cumulative assessment is for the combined effects of displacement/barrier effects with collisions). Changes to the advised approaches for assessing impacts from displacement and barrier effects and in the reference population sizes against which impacts are assessed mean that direct comparisons between the outcome of the assessments for the 2013 ES and this EIA report are difficult.
	Guillemot (regional breeding population only)	<b>Development Alone</b> Not Significant Minor  <b>Cumulative</b> Not Significant Minor/moderate	<b>Development Alone</b> Not Significant Minor  <b>Cumulative</b> Not Significant Minor/moderate	The impacts of displacement and barrier effects remain not significant, with the significance level classed as minor for Development alone and minor/moderate for cumulative (the same as for the assessment in the 2013 ES). Changes to the advised approaches for assessing impacts from displacement and barrier effects and in the reference population sizes against which impacts are assessed mean that direct comparisons between the outcome of the



Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				assessments for the 2013 ES and this EIA report are difficult.
	Razorbill (regional breeding population only)	<p><b>Development Alone</b> Not Significant Minor</p> <p><b>Cumulative</b> Not Significant Minor/moderate</p>	<p><b>Development Alone</b> Not Significant Minor</p> <p><b>Cumulative</b> Not Significant Minor/moderate</p>	The impacts of displacement and barrier effects remain not significant, with the significance level classed as minor for Development alone and minor/moderate for cumulative (the same as for the assessment in the 2013 ES). Changes to the advised approaches for assessing impacts from displacement and barrier effects and in the reference population sizes against which impacts are assessed mean that direct comparisons between the outcome of the assessments for the 2013 ES and this EIA report are difficult.
	Puffin (regional breeding population only)	<p><b>Development Alone</b> Not Significant Minor</p> <p><b>Cumulative</b> Not Significant Minor/moderate</p>	<p><b>Development Alone</b> Not Significant Minor</p> <p><b>Cumulative</b> Not Significant Minor</p>	The impacts of displacement and barrier effects remain not significant, with the significance level now classed as minor (for both Development alone and cumulative). Changes to the advised approaches for assessing impacts from displacement and barrier effects and in the reference population sizes against which impacts are assessed mean that direct comparisons between

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				the outcome of the assessments for the 2013 ES and this EIA report are difficult.
Collision risk impacts	Gannet (regional breeding population only)	<b>Development Alone</b> Not Significant Minor  <b>Cumulative</b> Not Significant Minor	<b>Development Alone</b> Not Significant Minor  <b>Cumulative</b> Not Significant Moderate	The impacts of collisions remain not significant although the significance level is now classed as minor for the Development alone and moderate for cumulative (although note that the design envelope in this EIA report is associated with a lower collision impact than that proposed in the 2013 ES in absolute terms). Changes to the advised approaches for estimating and assessing impacts from collisions and in the reference population sizes against which impacts are assessed mean that direct comparisons between the outcome of the assessments for the 2013 ES and this EIA report are difficult.
	Kittiwake (regional breeding population only)	<b>Development Alone</b> Not Significant Minor  <b>Cumulative</b> Significant Major	<b>Development Alone</b> Not Significant Minor  <b>Cumulative</b> Not Significant Moderate (as assessed together with displacement /	The impacts of collisions remain not significant although the significance level is now classed as minor for the Development alone and moderate for the cumulative (but noting that the cumulative assessment is for the combined effects of displacement/barrier effects with collisions). The conclusion of a

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
			barrier effect impacts)	non-significant cumulative impact does, in part at least, reflect the reduction in collision impacts associated with the design envelope in this EIA report (compared to that proposed in the 2013 ES). However, changes to the advised approaches for estimating and assessing impacts from collisions and in the reference population sizes against which impacts are assessed mean that direct comparisons between the outcome of the assessments for the 2013 ES and this EIA report are difficult.
	Herring Gull (regional breeding population only)	<p><b>Development Alone</b> Not Significant N/A – not assessed due to small numbers recorded in flight during boat surveys</p> <p><b>Cumulative</b> Not Significant N/A – due to lack of effects considered from the Development-alone</p>	<p><b>Development Alone</b> Not Significant Negligible</p> <p><b>Cumulative</b> Not Significant Negligible</p>	The impacts of collisions remain not significant and are classed as negligible for both the Development alone and cumulatively. The design envelope in this EIA report is associated with a lower collision impact than that proposed in the 2013 ES. However, changes to the advised approaches for estimating and assessing impacts from collisions and in the reference population sizes against which impacts are assessed mean that direct comparisons between the outcome of the assessments for the

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				2013 ES and this EIA report are difficult.
<b>Seascape Landscape and Visual Impact Assessment (SLVIA) – O &amp; M</b>				
Physical presence of Wind Turbine Generators (WTGs), Met Masts and Offshore Substation Platforms (OSPs) may affect:	Key characteristics of seascape and/or landscape character	Significant Negligible/minor – major  Significant impacts predicted for:  SA3: Cove Bay to Milton Ness (partial) SA4: Montrose Bay SA5: Long Craig SA6: Lunan Bay SA7: Lang Craig to the <u>Deil's Head</u> SA8: Arbroath to Monifieth SA12: St Andrews to Fife Ness SA13: East Neuk of Fife (partial) TAY13: Dispslope Farmland	Significant Negligible/minor - moderate/major -major  Significant impacts predicted for: SA3: Cove Bay to Milton Ness (partial) SA4: Montrose Bay SA5: Long Craig SA6: Lunan Bay SA7: Lang Craig to the <u>Deil's Head</u> SA8: Arbroath to Monifieth SA11: St Andrews Bay SA12: St Andrews to Fife Ness SA13: East Neuk of Fife (partial) TAY12: Low Moorland Hills (partial) TAY13 Dipslope Farmland (partial) TAY15: Lowland Basis (partial)	Despite the increase in the height of the proposed turbines, the geographic extent of predicted significant seascape and landscape character effects is broadly similar to those assessed in the 2013 ES. Significant effects on seascape and landscape character are also predicted for SA11: St Andrews Bay, and parts of TAY12 and TAY15.

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
	Landscape designations	<p>Significant Minor-moderate/major</p> <p>Significant impacts for: St Andrews to Fife Ness LLA Forth Islands LLA (Isle of May) Cambo Garden and Designated Landscape (GDL)</p>	<p>Significant Moderate-moderate/major</p> <p>Significant impacts for: South Aberdeenshire Coast SLA (partial) Forth Islands LLA (Isle of May) St Andrews to Fife Ness LLA St Andrews Links LLA Tentsmuir Coast LLA Cambo GDL</p>	<p>Despite the increase in the height of the proposed turbines, the geographic extent of predicted significant effects on designated landscape is broadly similar to those assessed in the 2013 ES. Significant effects are also predicted for parts of the South Aberdeenshire Coast LLA; as well the St Andrews Links and Tentsmuir Coast LLAs.</p>
	Visual amenity	<p>Significant Moderate/Major -Major for coastal settlements in Aberdeenshire, Angus and Fife and for inland settlements in Fife.</p> <p>Moderate/Major for A92, Fife Coastal Path and Edinburgh to Aberdeen train line and Major for National Cycle Network (NCN) Route 1.</p>	<p>Significant Moderate/Major -Major for coastal settlements in Aberdeenshire, Angus and Fife and for inland settlements in Fife.</p> <p>Moderate/Major for A92, Fife Coastal Path, NCN Route 1 and Edinburgh to Aberdeen train line.</p>	<p>Despite the increase in the height of the proposed turbines, the significant effects on visual amenity are broadly similar to those assessed in the 2013 ES.</p>

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
<b>Cultural Heritage - O&amp;M</b>				
Setting changes associated with the WTGs and OSPs	Bell Rock Lighthouse Signal Tower, Bell Rock Lighthouse, Tentsmuir Coastal Defences, St Andrews Cathedral and adjacent ecclesiastical remains, St Andrews Castle and Crail Airfield pillbox.	Not Significant Minor-Moderate	Not Significant Minor-Moderate	Setting effects upon the identified onshore receptors were assessed individually and cumulatively  The potential indirect impacts upon the setting of the selected cultural heritage assets have resulted in no residual significance for the 2013 ES and the design envelope in this EIA report.
<b>Commercial Fisheries – Construction (and Decommissioning)</b>				
Temporary loss or restricted access to fishing grounds	Scallop fishery	Moderate/Major	Moderate	The significance of the impacts for the Development Area alone has reduced from 2013 to 2018  The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018
	Creel fishery	Minor/Moderate	Minor	The impact for this fishery for both the Development Area alone and the Cumulative assessments have reduced because there are less turbines and cables to install so

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				reduced construction time and less infrastructure. Also Scotmap and the Creeling Study show less creeling on the site compared to the fishing maps identified by the fishermen.
	Squid fishery	Minor/Moderate	Minor	<p>The significance of the impacts for the Development Area alone has reduced from 2013 to 2018</p> <p>The impacts for the cumulative assessment have reduced because there are less turbines and cables to install. So reduced construction time and less infrastructure. Also Scotmap and VMS show less squid fishing on the site compared to the fishing maps identified by the fishermen.</p>
Increased steaming times to fishing grounds	Scallop fishery	Minor	Minor	<p>The significance of this impact for the Development Area alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018.</p>
	Creel fishery	Minor	Minor	The significance of this impact for the Development Area alone has remained the same from 2013 to 2018.

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018.
	Squid fishery	Minor	Minor	<p>The significance of this impact for the Development Area alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018.</p>
Displacement of fishing activity	Scallop fishery	Moderate	Minor/Moderate	<p>The significance of this impact for the Development Area alone has reduced because there is less fishing in the Development Area compared to 2013 (with scallop grounds moving to the north and north east as identified by Kafas <i>et al</i> (2013)). The reduction in infrastructure being installed also contributes to this reduction in impact.</p> <p>The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018.</p>
	Creel fishery	Minor/Moderate	Minor/Moderate	The significance of this impact for the Development Area alone has reduced because there are less



Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				<p>cables and less turbines to install. So reduced construction time and less infrastructure. Also Scotmap and the Creeling Study show less creeling on the site compared to the maps identified by the fishermen.</p> <p>The significance of this impact for the Cumulative assessment was not assessed in 2013. It was assigned a Minor/Moderate significance in 2018 because the majority of creel fishing is coastal with only less creeling within the developments.</p>
	Squid fishery	Minor/Moderate	Minor/Moderate	<p>The significance of this impact for the Development Alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the Cumulative assessment is no worse than 2013.</p>
<b>Commercial Fisheries - O&amp;M</b>				
Complete loss or restricted access to fishing grounds	Scallop fishery	Moderate/Major	Moderate	<p>The significance of this impact for the Development Alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the Cumulative assessment has</p>

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				remained the same from 2013 to 2018.
	Creel fishing	Minor/Moderate	Minor/Moderate	<p>The significance of this impact for the Development Alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the Cumulative assessment was not assessed in 2013. It was assigned a Minor/Moderate significance in 2018 because the majority of creel fishing is coastal with less creeling within the developments.</p>
	Squid fishery	Minor/Moderate	Minor/Moderate	<p>The significance of this impact for the Development Alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the Cumulative assessment is lower for 2018 because there is less infrastructure and also Scotmap and VMS (including Kafas et al 2013) would not support a Moderate significance</p>
Increased steaming times to fishing grounds	Scallop fishery	Minor	Minor	<p>The significance of this impact for the Development Alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the</p>

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				Cumulative assessment has remained the same from 2013 to 2018.
	Creel fishing	Minor	Minor	The significance of this impact for the Development Alone has remained the same from 2013 to 2018.  The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018.
	Squid fishery	Minor	Minor	The significance of this impact for the Development Alone has remained the same from 2013 to 2018.  The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018.
Displacement of fishing activity into other areas	Scallop fishery	Moderate	Moderate	The significance of this impact for the Development Alone has remained the same from 2013 to 2018.  The significance of this impact for the Cumulative assessment has remained the same from 2013 to 2018.
	Creel fishing	Minor/Moderate	Minor/Moderate	The significance of this impact for the Development Alone has remained the

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				<p>same from 2013 to 2018.</p> <p>The significance of the Cumulative assessment was not assessed in 2013. It was assessed in 2018 as Minor/Moderate because the majority of creel fishing is coastal with less creeling within the developments.</p>
	Squid fishery	Minor/Moderate	Minor/Moderate	<p>The significance of this impact for the Development Alone has remained the same from 2013 to 2018.</p> <p>The significance of this impact for the Cumulative assessment is lower in 2018 because there is less infrastructure and also Scotmap and VMS would not support a Moderate significance</p>
<b>Shipping and Navigation - O&amp;M</b>				
Increased vessel to vessel collision risk	Commercial vessels	Not Significant Minor	Not Significant Minor	Given the similar levels of commercial vessel traffic when compared to the data analysed in the 2013 ES and the lack of change to the Development Area boundary, the output of the collision modelling from the 2013 ES remains valid.
	Commercial fishing vessels	Not Significant Minor	Not Significant Minor	Although levels of fishing vessel traffic were greater in the winter period compared to the data

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				analysed in the 2013 ES, when considering additional mitigation measures such as marine traffic coordination to manage project vessels there is considered to be no change to the residual effect.
	Recreational vessels	Not Significant Negligible/Minor	Not Significant Negligible/Minor	Given the similar levels of recreational vessel traffic when compared to the data analysed in the 2013 ES and the lack of change to the Development Area boundary, the conclusions from the 2013 ES remain valid.
Creation of vessel to structure allision risk	Commercial vessels	Not Significant Minor	Not Significant Minor	Given the similar levels of commercial vessel traffic when compared to the data analysed in the 2013 ES and the lack of change to the Development Area boundary, the output of the allision modelling from the 2013 ES remains valid.
	Commercial fishing vessels	Not Significant Minor	Not Significant Minor	Although levels of fishing vessel traffic were greater in the winter period compared to the data analysed in the 2013 ES, when considering additional mitigation measures such as ensuring mariners are aware of the Wind Farm structures so that they can passage plan effectively, there is considered to be no

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				change to the residual effect.
	Recreational vessels	Not Significant Negligible/Minor	Not Significant Negligible/Minor	Given the similar levels of recreational vessel traffic when compared to the data analysed in the 2013 ES and the lack of change to the Development Area boundary, the conclusions from the 2013 ES remain valid.
<b>Socioeconomics – Construction of the Development</b>				
Construction Employment	Cromarty Firth ('Base' Scenario)	Not Significant Moderate (positive)	Significant Moderate/major significant (positive)	Despite the capacity used in the 2018 assessment being less than that of the 2013 assessment and the associated reduction in CAPEX, the residual significance for the Cromarty Firth is now Significant (positive) for the 'Base' scenario during construction. This is a result of supply chain capacity capabilities increasing within the Economic Study Area and particularly within the Cromarty Firth, meaning that more expenditure is spent within the area during the construction period, which could potentially result in an increase in the number of FTE jobs.
Construction Employment	Cromarty Firth ('High' Scenario)	Not Significant Moderate (positive)	Significant Major significant (positive)	Despite the capacity used in the 2018 assessment being less than that of the 2013 assessment and the associated reduction in

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				CAPEX, the residual significance for the Cromarty Firth is now Significant (positive) for the 'High' scenario during construction. This is a result of supply chain capacity capabilities increasing within the Economic Study Area and particularly within the Cromarty Firth, meaning that more expenditure is spent within the area during the construction period, which could potentially result in an increase in the number of FTE jobs.
Construction Employment	Economic Study Area ('Base' and 'High' Scenario minus Cromarty Firth)	Not Significant Minor (positive)	Not Significant Negligible/minor non-significant positive)	Despite the capacity used in the 2018 assessment being less than that of the 2013 assessment and the reduction in the associated CAPEX, the residual significance for the Economic Study Area ('Base' and 'High' Scenario minus Cromarty Firth) remains Not Significant during construction. This is a result of supply chain capacity capabilities increasing within the Economic Study Area.
<b>Socioeconomics – O&amp;M of the Development</b>				
O&M Employment	Economic Study Area ('Base' and 'High' Scenario)	Not Significant Minor (positive)	Not Significant Negligible/minor non-significant (positive)	Despite the capacity used in the 2018 assessment being less than that of the 2013 assessment and the reduction in the

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				associated OPEX, the residual significance for the Economic Study Area ('Base' and 'High' Scenario) remains Not Significant during O&M. This is a result of supply chain capacity capabilities increasing within the Economic Study Area.
<b>Aviation - O&amp;M</b>				
Air Traffic Control (ATC) Radar	Leuchars Station Primary Surveillance Radar (PSR)	Not Significant	Not Significant	The expected impact to the Leuchars PSR has not changed from the 2013 assessment. The residual significance remains not significant during O&M as the Civil Aviation Authority (CAA) have approved an Airspace Change Proposal in the form of a Transponder Mandatory Zone (TMZ) and associated radar blanking which will remove WTG radar returns and impact to the Leuchars Station PSR.



Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
Air Defence Radar (ADR)	Remote Radar Head (RRH) Brizlee Wood and RRH Buchan ADRs	Not Significant	Not Significant	Due to the increase in WTG blade tip height increased detectability of WTGs to the Brizlee Wood and Buchan ADR systems has been confirmed by the Ministry of Defence (MOD). The residual significance remains not significant as the ADRs have an enhanced signal processing capability which may enable specific mitigation to be implemented if this solution is not suitable, a technical solution will be agreed with the MOD prior to construction.

**18.3 Offshore Export Cable Corridor - Summary of Effects**

- 12 Table 18.2 below only shows impacts scoped in to this EIA Report in relation to the Offshore Export Cable Corridor.
- 13 For reference the residual significance of impacts as concluded in the Inch Cape 2013 ES are presented.

**Table 18.2: Summary of Effects – Offshore Export Cable Corridor**

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
<b>Marine Mammals - Construction (and Decommissioning)</b>				
Disturbance from increased noise from geophysical survey systems	All marine mammals	Not assessed	Not Significant (Minor)	<p>Impacts from geophysical survey systems were not assessed in the Inch Cape 2013 ES. However, the sound emitted by some systems has the potential to induce the onset of PTS if source levels are high and disturb marine mammals if the frequency/ frequencies used are audible to them.</p> <p>An EPS Risk Assessment will be conducted to determine whether an EPS license will be required (in relation to the potential for disturbance) and current best practice mitigation will be used to minimise the risk of injury.</p>

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
<b>Ornithology - Construction (and Decommissioning)</b>				
Direct disturbance/displacement	Species and populations which are qualifying features of the Outer FoF and St Andrews Bay Complex pSPA	Not significant Negligible	Not significant Minor/moderate	The impact of disturbance/displacement is not significant. The significance level for the Development alone is classed as minor/moderate in this EIA report. However, this is on the basis of a negligible magnitude of impact for a receptor of high sensitivity. Given that the impact is identified to be of negligible magnitude, there is considered to be no potential for cumulative impacts of ecological significance.
Indirect disturbance of habitats and prey	Species and populations which are qualifying features of the Outer FoF and St Andrews Bay Complex pSPA	Not significant Negligible	Not significant Minor/moderate	The impact of indirect disturbance of habitats and prey is not significant. The significance level for the Development alone is classed as minor/moderate in this EIA report. However, this is on the basis of a negligible magnitude of impact for a receptor of high sensitivity. Given that the impact is

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				identified to be of negligible magnitude, there is considered to be no potential for cumulative impacts of ecological significance.
<b>Ornithology -O&amp;M</b>				
Direct disturbance/displacement	Species and populations which are qualifying features of the Outer FoF and St Andrews Bay Complex pSPA	Not significant Negligible	Not significant Minor/moderate	The impact of disturbance/displacement is not significant. The significance level for the Development alone is classed as minor/moderate in this EIA report. However, this is on the basis of a negligible magnitude of impact for a receptor of high sensitivity. Given that the impact is identified to be of negligible magnitude, there is considered to be no potential for cumulative impacts of ecological significance.
Indirect disturbance of habitats and prey	Species and populations which are qualifying features of the Outer FoF and St Andrews Bay Complex pSPA	Not assessed	Not significant Minor/moderate	The impact of indirect disturbance of habitats and prey is not significant. The significance level for the Development alone is classed as minor/moderate in

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				this EIA report. However, this is on the basis of a negligible magnitude of impact for a receptor of high sensitivity. Given that the impact is identified to be of negligible magnitude, there is considered to be no potential for cumulative impacts of ecological significance.
Habitat loss	Species and populations which are qualifying features of the Outer FoF and St Andrews Bay Complex pSPA	Not assessed	Not significant Minor/moderate	The impact of habitat loss is not significant. The significance level for the Development alone is classed as minor/moderate in this EIA report. However, this is on the basis of a negligible magnitude of impact for a receptor of high sensitivity. Given that the impact is identified to be of negligible magnitude, there is considered to be no potential for cumulative impacts of ecological significance.

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
<b>SLVIA - Construction (and Decommissioning)</b>				
Presence of installation vessels and related works, and trenching of cable at landfall location may affect seascape character area, designated landscape and visual amenity.		Significant  Due to construction activities on or close to the foreshore there are likely to be significant effects on seascape and visual amenity, these will be localised and temporary in nature.	Significant  Construction (and decommissioning) works at the landfall will result in localised significant effects on a small part of the Edinburgh to Gullane seascape character area. These impacts will be localised and temporary in nature.	The effects of the Offshore Export Cable Corridor on seascape character and visual amenity are the same as those assessed in the 2013 ES.
<b>Commercial Fisheries - Construction (and decommissioning)</b>				
Temporary loss or restricted access to fishing grounds	<i>Nephrops</i> fishery	Not Significant Moderate	Not Significant Moderate	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Scallop fishery	Not Significant Minor/ Moderate	Not Significant Minor/Moderate	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Creel fishing	n/a	Not Significant Minor/Moderate	The impacts were not assessed in 2013 ES, but are not assessed as significant.
	Squid fishery	Not Significant Minor/ Moderate	Not Significant Minor/Moderate	The effects of the Offshore Export Cable Corridor are the same as those

<b>Impact</b>	<b>Receptor</b>	<b>Residual Significance Inch Cape 2013 ES</b>	<b>Residual Significance Inch Cape 2018 EIA Report</b>	<b>Discussion</b>
				assessed in the 2013 ES.
Increased steaming times to fishing grounds	<i>Nephrops</i> fishery	Not Significant Minor	Not Significant Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Scallop fishery	Not Significant Minor	Not Significant Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Creel fishing	Not Significant Minor	Not Significant Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Squid fishery	Not Significant Minor	Not Significant Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
Displacement of fishing activity into other areas	<i>Nephrops</i> fishery	Not Significant Moderate	Not Significant Moderate	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Scallop fishery	Not Significant Minor/ Moderate	Not Significant Minor/Moderate	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Creel fishing	n/a	Not Significant Minor/Moderate	The impacts were not assessed in 2013 ES, but are not assessed as significant.

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
	Squid fishery	Not Significant Minor/ Moderate	Not Significant Minor/Moderate	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
<b>Commercial Fisheries - O&amp;M</b>				
Complete loss or restricted access to fishing grounds	<i>Nephrops</i> fishery	Not Significant Negligible/ Minor	Not Significant Minor	The effects of the Offshore Export Cable Corridor are not significant as per the 2013 ES.
	Scallop fishery	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Creel fishing	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Squid fishery	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
Increased steaming times to fishing grounds	<i>Nephrops</i> fishery	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Scallop fishery	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.



Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
	Creel fishing	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Squid fishery	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
Displacement of fishing activity into other areas	<i>Nephrops</i> fishery	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Scallop fishery	Not Significant Negligible/Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Creel fishing	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
	Squid fishery	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	The effects of the Offshore Export Cable Corridor are the same as those assessed in the 2013 ES.
<b>Shipping and Navigation - O&amp;M</b>				
Effects on anchoring operations	Commercial vessels	Not Significant Negligible/Minor	Not Significant Negligible/Minor	Given that the Offshore Export Cable will be charted, that the depth of cover

Impact	Receptor	Residual Significance Inch Cape 2013 ES	Residual Significance Inch Cape 2018 EIA Report	Discussion
				should provide protection against anchors and given the large anchors used by commercial vessels (which means that snagging is unlikely) there is considered to be no change to the residual effect.
	Recreational vessels	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	Given that the export cables will be charted, that the depth of cover should provide protection against anchors and the very low number of recreational vessels which will be affected, there is considered to be no change to the residual effect.
Fishing Gear snagging risk (navigational safety risk)	Commercial fishing vessels	Not Significant Negligible/ Minor	Not Significant Negligible/Minor	Given that the Offshore Export Cable will be buried or protected where burial is not practicable, that the penetration depth of fishing gear is typically low and the low level of fishing vessel traffic which will be affected, there is considered to be no change to the residual effect.

**18.4 Mitigation Measures**

14 Table 18.3 below identifies all the mitigation measures, that have both been embedded into the design (and thus taken into account in the baseline assessment), and those additional

mitigation measures that have been proposed, to reduce the environmental effects of the Development on those receptors assessed.

- 15 As well as the mitigation measures, ICOL proposes to commit to the purpose of the relevant consent conditions granted for the Inch Cape 2014 Consent, as they relate to this application. Where the purpose of a consent condition is being proposed these have been identified in each relevant technical chapter and have not specifically been included below.
- 16 ICOL recognises that the Licensing Authority may wish to apply different or amended conditions to any consents that may ultimately be granted for this application, but would expect the main requirements, where still relevant, demonstrated by these conditions to remain a requirement in some form.

**Table 18.3 Embedded Mitigation Measures and Additional Mitigation Measures Included in the EIA**

Chapter	Title	Mitigation Measure
9	Natural Fish and Shellfish	Piling operations will incorporate a soft start procedure (build-up of hammer energy over a set time-frame) which will reduce the potential for noise-related fatality for all species.
10	Marine Mammals	Piling operations will incorporate a soft start procedure (build-up of hammer energy over a set time-frame) which will reduce the potential for noise-related fatality for all species.
		Implementation of marine mammal protection plans (MMPPs) for pile driving and use of geophysical survey systems, which will be finalised in the construction method statement (CMS)/ environmental management plan (EMP).
11	Ornithology	Development design has taken into account minimising the rotor swept area below 50 metres above mean sea level to reduce collision risk for birds
		A suitably qualified Ecological Clerk of Works (ECoW) will be appointed to the Development during construction. This will ensure compliance with mitigation and best practice is followed relating to disturbance of birds (notably qualifying features from the SPAs with connectivity to the Development).
		Develop effective post-consent monitoring programmes and share ornithology data, with a view to informing and further developing best practice measures.
12	Seascape, Landscape and Visual	WTGs will all be of similar dimensions regarding hub height and blade tip subject to WTG and substructure design and installation specification
		WTGs will all be pale grey in colour with a semi-matt finish.
		Grid or Offset Grid pattern to be the preferred starting point (based on FTOWDG 2011 design sensitivity analysis) for layout evolution

Chapter	Title	Mitigation Measure
		Avoid continuous gaps larger than the grid spacing on the perimeter WTGs which create channels and appear to separate the wind farm into groups
		Avoid single outlier WTGs (there will always be corner turbines)
		OSP positions to be within the main area of WTGs and not on the western peripheral edge of the Development Area
		ICOL note that there may be different types of mitigation possible to reduce the lighting visible associated with the operation of the WTGs. ICOL will continue to discuss these mitigation possibilities, which include engineering mitigation, to reduce the amount of light visible along the coast.
13	Cultural Heritage and Marine Archaeology	Development specific WSI will be prepared, in consultation with HES, once the final layout of the Development Area and OfTW infrastructure is established (which will be post consent, will take into account all known features insofar as possible). The WSI will set out the design and implementation of a programme of detailed mitigation works. This will comply with guidance current at the time of its development (presently The Crown Estate, 2010).
		Analysis of pre-construction survey data will be undertaken to refine the identified potential marine archaeology assets at infrastructure locations. Appropriate micro-siting allowance for identified assets will be agreed in consultation with HES. Known features will be avoided (with appropriate buffer) insofar as possible.
		Both the micro-siting allowance and AEZs will be detailed in the WSI described above. This will reduce any potential impacts on marine archaeology.
		The WSI will include a Protocol for Archaeological Discoveries (PAD) (The Crown Estate, 2014) which will be prepared in consultation HES. PAD will ensure that an agreed monitoring system is in place for unexpected or incidental archaeological finds. This will mitigate the risk of damage to any previously unrecorded archaeological remains.
		WTGs will all be pale grey in colour with a semi-matt finish.
		Grid or Offset Grid pattern to be the preferred starting point (based on FTOWDG 2011 design sensitivity analysis) for layout evolution
		Avoid continuous gaps larger than the grid spacing on the perimeter WTGs which create channels and appear to separate the wind farm into groups
		Avoid single outlier WTGs (there will always be corner turbines)
		OSP positions to be within the main area of WTGs and not on the western peripheral edge of the Development Area

Chapter	Title	Mitigation Measure
		ICOL note that there may be different types of mitigation possible to reduce the lighting visible associated with the operation of the WTGs. ICOL will continue to discuss these mitigation possibilities, which include engineering mitigation, to reduce the amount of light visible along the coast.
14	Commercial Fisheries	A Construction Management Plan (CMP) will be developed in consultation with Fishing Industry Representatives which establishes a protocol for engagement between ICOL and the fishing industry. This will include details on: <ul style="list-style-type: none"> <li>o Communication channels between the fishing community and ICOL through all phases;</li> <li>o Protocol for the navigation of construction and operation / maintenance vessels to and from the site (e.g. use of transit lanes that will reduce interaction with fishing activities); and</li> <li>o Procedures in the event of interactions between wind farm construction and operation and fishing activities.</li> </ul>
		500 m 'rolling' safety zones around working areas during construction, decommissioning and major maintenance activities will be applied for. Consultation will be undertaken with relevant stakeholders to ensure effective implementation and management of safety zones.
		Structures within the Development Area will be marked and lit in accordance with International Association of Lighthouse Authorities' (IALA) Recommendation O-139 on the Marking of Man-Made Offshore Structures (IALA, 2008). The final lighting and marking scheme will be agreed with the relevant stakeholders prior to construction.
		Cables will be suitably buried or will be protected by other means when burial is not practicable which will reduce the risk to fishing vessels from snagging.
		Cable burial plan, which will include monitoring and reporting of any exposures.
		Grid or offset grid layout of the WTG and OSPs.
		Commitment of use of concrete matting or rock dumping to reflect seabed conditions, where practical and appropriate.
		Commitment to picking up 'drop objects' from the seabed floor where possible.
		Commitment to an over-trawl-ability assessment.
		Promulgation of information and appropriate liaison will be carried out to ensure information on the works are circulated through agreed procedure e.g. Notices to Mariners, Kingfisher and other

Chapter	Title	Mitigation Measure
		appropriate media to allow vessels to effectively and safely navigate around the proposed sites.
		Suitable and sufficient assessment will be undertaken to ensure that all safety risks are reduced as far as reasonably practicable.
		Modifications to bottom towed fishing gear are being investigated in consultation by the offshore renewables industry and the fishing industry which may better enable fishing activities within and around operational wind farms.
		Defined navigational routes will be used by vessels. This will reduce the risk of disturbance to static gear.
		Participation in a regional CFWG to provide a forum for collaborative discussion and action in relation to offshore wind farm developments in the Forth and Tay area and their interactions with commercial fishing activities. ICOL will ensure the principle of the commitments (as identified below) will be:
		<ul style="list-style-type: none"> <li>o Provide regular contact for representatives of commercial fishermen and the Forth and Tay Offshore Wind Developers Group (FTOWDG) developers to promote communication and understanding;</li> </ul>
		<ul style="list-style-type: none"> <li>o Provide a forum to manage engagement through a project(s) lifecycle with particular focus on consenting, pre-construction planning and construction activities;</li> </ul>
		<ul style="list-style-type: none"> <li>o Provide input to general approaches, procedures and protocols with respect to CMPs and potential mitigation options, promoting standardisation where possible;</li> </ul>
		<ul style="list-style-type: none"> <li>o Agree specific offshore working practices relating to Marine Licence conditions where required;</li> </ul>
		<ul style="list-style-type: none"> <li>o Agree and maintain a current regional assessment of commercial fishing activities;</li> </ul>
		<ul style="list-style-type: none"> <li>o Identify and develop opportunities between the fishing/renewables industries in the Forth and Tay area; and</li> </ul>
		<ul style="list-style-type: none"> <li>o Establish a protocol for the removal of temporary works post-construction including appropriate verification.</li> </ul>
		ICOL have recognised that there is the potential for construction vessels outside the Development Area to cause issues for fishermen and inadequate communication between ICOL (including contractors) and the fishing industry. Appropriate mitigation will be included as part of the CFMS and through the appointment of a suitable FLO
15	Shipping and Navigation	WTGs will be designed in accordance with MGN 543 and procedures put in place for generator shut down and other operational

Chapter	Title	Mitigation Measure
		requirements in emergency situations to reduce impacts on SAR provision
		A 500 m 'rolling' Safety Zones will be established around working areas during construction, decommissioning and major maintenance activities to ensure vessels not associated with the works remain at a safe distance (further information can be found in Appendix 15C.1: Navigational Risk Assessment). Consultation will be undertaken with relevant stakeholders to ensure effective implementation and management of Safety Zones
		Inch Cape Wind Farm structures including the Offshore Export Cable will be marked on relevant United Kingdom Hydrographic Office (UKHO) Admiralty charts. Inter-array cables may also be charted depending upon the scale of the individual chart
		Inch Cape Wind Farm structures will be marked and lit in accordance with Recommendation O-139 on the Marking of Man-Made Structures (IALA, 2013) and the final lighting and marking scheme will be agreed with the relevant stakeholders prior to the commencement of construction though a lighting and marking plan
		WTGs will be designed and constructed to ensure that the minimum blade clearance is at least 22 m minimum above MHWS
		An Emergency Response Co-operation Plan (ERCoP) will be established for the Development and put in place for the construction, operations and maintenance (O&M) and decommissioning phases. The ERCoP will be based upon the MCA template and prepared in consultation with the MCA SAR safety branch
		Offshore Export Cables, Inter-array cables and the interconnector cables will be suitably buried or protected by other means when burial is not practicable in order to reduce the risk of snagging and mitigate any effect on magnetic compasses due to Electromagnetic Interference (EMF). Consultation will be undertaken with the appropriate stakeholders to ensure that safe Under Keel Clearance (UKC) requirements will be maintained and periodically monitored throughout the installation life
		Appropriate marine co-ordination (through a dedicated marine co-ordination function) of the Development's own vessels will be implemented in order to ensure that construction vessels do not create an additional risk to third parties
		A risk assessment will be carried out to determine any requirements for guard vessels during the construction phase or major maintenance (if necessary), any requirements will thereby be implemented accordingly
		Additional temporary buoyage, relating to partially constructed works, will be determined through risk assessment and agreed in consultation with the NLB

Chapter	Title	Mitigation Measure
		A monitoring plan will be determined for the Offshore Export Cables, which considers higher risk areas such as anchorage locations. Appropriate remedial action will be taken where required
		Vessel audits will be undertaken to ensure each such vessel is compliant with MCA, international and project safety management system requirement
		An advanced level of promulgation of information will be carried out for the O&M phase which is specifically targeted to receptors identified through consultation (including regular commercial operators, and fishing and recreational users). This will inform mariners of the location of the Wind Farm structures so that they can passage plan effectively. It will also ensure recreational and fishing users are aware of the potential for increased commercial vessel density inshore of the Wind Farm.
		Consideration will be given to any additional Aids to Navigation that result as a requirement of the finalised Development layout. This discussion will occur as part of the LMP and DSLP.
16	Socio economics	National, regional and local initiatives involving the Scottish Government and regional and local development agencies with the aim of providing enhanced skills training, supply chain enhancement, and support for business improvement working in the offshore wind industry will assist in realising and maximising the opportunities in the Economic Study Area and where appropriate ICOL will support these initiatives.
		Skills and training initiatives and the import of labour into the catchment area attracted by the available jobs.
17	Aviation	Compliance with CAP 393 Article 223 (CAA, 2018) which sets out the mandatory requirements for lighting of offshore WTGs.
		Legislation requires the fitting of obstacle lighting on offshore WTGs with a height of 60 m or more above the level of the sea at the Highest Astronomical Tide (HAT);
		o When four or more WTGs are located together in the same group, with the permission of the CAA only those on the periphery of the group need to be fitted with at least one medium intensity steady red light positioned as close as reasonably practicable to the top of the fixed structure; and
		o The obstruction light or lights must be fitted to show when displayed in all directions without interruption. The requirements of the angle of the plane of the beam and peak intensity levels are defined within CAP 393 (CAA, 2018).
		Compliance with CAP 437 (CAA, 2016a) which sets out a procedure to indicate to a helicopter operator that the WTG blades and nacelle



Chapter	Title	Mitigation Measure
		are safely secured in position prior to helicopter hoist operations commencing.
		CAP 437 states that this is best achieved through the provision of a helihoist status light located on the nacelle of the WTG within the pilot's field of view, which is capable of being operated remotely and from the platform itself or from within the nacelle;
		o A steady green light is displayed to indicate to the pilot that the WTG blades and nacelle are secure and it is safe to operate. A flashing green light is displayed to indicate that the WTG is in a state of preparation to accept hoist operations or, when displayed during hoist operations, that parameters are moving out of limits. When the light is extinguished this indicates to the operator that it is not safe to conduct helicopter hoist operations; and
		o Obstruction lighting in the vicinity of the winching area that has a potential to cause glare or dazzle to the pilot or to a helicopter hoist operations crew member should be switched off prior to, and during, helicopter hoist operations.
		A Lighting and Marking Plan will be submitted for approval to MS-LOT outlining the Development's lighting and marking strategy to mitigate the risk to aviation safety during all phases of the Development and will be in line with CAP 393 (CAA, 2018) and CAP 437 (CAA, 2016a).
		Appropriate information about the site construction and any associated lighting (where applicable), for example the height and temporary location of construction cranes, will be provided to the UK Aeronautical Information Service (NATS AIS) for promulgation within the UK IAIP (NATS, 2018).
		Prior to commencement of the Development, information will be circulated to relevant aviation stakeholders, including the UK Hydrographic Office (UKHO), which will include the positions and maximum heights of the WTGs and construction equipment above 150 ft above LAT for inclusion on aviation charts. The UK IAIP is updated on a monthly basis under the Aeronautical Information Regulation and Control (AIRAC) system. Information provided under the AIRAC system shall be distributed by AIS at least 42 days in advance of the effective date with the objective of reaching recipients at least 28 days in advance of the effective date.
		Notification of aviation stakeholders of the location and dimension of any wind energy development and the associated construction activities. Information regarding construction will be passed to the Defence Geographic Centre (DGC) and the General Aviation Awareness Council (GAAC) at least 10 weeks in advance of the erection of the first WTG and to follow up on the day with a confirmation that the activity has taken place. The data should include:

Chapter	Title	Mitigation Measure
		o Location, height (of all structures over 150 ft (45.7 m), date of erection, date of removal and lighting type (none, infra-red or lighting brightness); and
		o Local aerodromes identified during consultation should be notified, particularly any police helicopter or air ambulance unit.
		Appropriate liaison with NATS AIS will be completed to ensure information on the construction of the wind farm is circulated in a Notice to Airmen (NOTAM) and other appropriate media.
		The Wind Farm will be designed, operated and decommissioned as per MGN 543, including Annex 5 which details 'Standards and procedures for generator shutdown and other operational requirements in the event of a SAR, counter pollution or salvage incident in or around an Offshore Renewable Energy Installation (OREI)'. An Emergency Response Co-operation Plan (ERCoP) based on the MCA template and site Safety Management Systems, in consultation with the MCA will be created. Procedures will be followed in the event of an emergency during all phases of the Development.
		Commitment to an Airspace Change Proposal for a Transponder Mandatory Zone (TMZ) with the airspace regulator.
		Commitment to an Enduring Technical solution in so long as the solution is cost effective, time bound and subject to the usual MOD approach to mitigation (ALARP principle).