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Summary of Assessment

Chapter 14: Summary of Assessment

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Glossary

Application Site	The area within the red line Planning Boundary comprising the Onshore Transmission Works (OnTW), as defined.
Construction Compound	An indicative area within the Application Site used to accommodate the temporary work site including; construction parking, construction welfare facilities, construction meeting room, construction laydown and storage area, construction security facilities (fenced area/gate and security access) and construction security lighting.
dB (Decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2×10^{-5} Pa).
EIA Report	Report presenting the findings of the Environmental Impact Assessment (EIA).
ICOL's Offshore Transmission Works (OfTW)	Offshore substation platforms (OSPs) and their foundations and substructures, interconnector cables and Offshore Export Cables. This refers to either the Consented OfTW or Revised OfTW, as defined.
ICOL's Offshore Wind Farm	This includes proposed wind turbine generators, foundations and substructures and inter-array cables. This refers to either the Consented Offshore Wind Farm or Revised Offshore Wind Farm, as defined.
Landfall	Point where up to two Offshore Export Cables from ICOL's Offshore Wind Farm will be brought ashore.
Onshore Export Cables	Electricity cables from the Onshore Substation to the grid connection point.
Onshore Export Cable Corridor	The area within the Application Site where the proposed Onshore Export Cables will be laid.
Onshore Substation	The electrical substation comprising of all the equipment and associate infrastructure required to enable connection to the electrical transmission grid.
Onshore Transmission Works (OnTW)	All proposed works within the Application Site, typically including the Onshore Substation, cables transition pits, cable jointing pits, underground electricity transmission cables connecting to the Onshore Substation and further underground cables required to facilitate connection to the national grid. This includes all permanent and temporary works required. See <i>Chapter 5: Description of Development</i> for full details.
Original OnTW	The OnTW, as was granted planning permission in principle in September 2014, under ELC reference 14/00456/PPM.
Original OnTW ES	The Environmental Statement (ES) that was submitted to support the application for the Original OnTW in 2014.
Scoping Opinion	The Scoping Opinion adopted by ELC as to the scope and information to be provided in support of an application for the OnTW, as defined.
Scoping Report	Report prepared as the first stage of the EIA process in support of a request for a Scoping Opinion from ELC, under Regulation 17 of the EIA Regulations. The Report was submitted in July 2017.

Abbreviations and Acronyms

ASA	Archaeological Study Area
CEMP	Construction Environmental Management Plan
dB	Decibel
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
ICOL	Inch Cape Offshore Limited
LVIA	Landscape and Visual Impact Assessment
OfTW	Offshore Transmission Works
OnTW	Onshore Transmission Works
pSPA	Proposed Special Protection Area
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuD s	Sustainable Drainage System
ZTV	Zone of Theoretical Visibility

14 Summary of Assessment

14.1 Introduction

- 1 This chapter presents a summary of the predicted significant environmental effects of the Onshore Transmission Works (OnTW) presented within technical chapters 6 to 13 of this Environmental Impact Assessment (EIA) Report.
- 2 The predicted residual environmental effects of the OnTW are reported, taking account of the potential for significant environmental effects, and mitigation which has been committed to by Inch Cape Offshore Limited (ICOL).
- 3 Baseline data and technical studies undertaken for the Original OnTW ES have been used where relevant by technical specialist consultants with additional data collected, where required, to update and provide a relevant baseline for the Application Site in each of the relevant environmental disciplines. This allowed sufficient data to be collected and analysed to form an accurate account of the current status of environmental and human elements in the vicinity of the OnTW, at the same time filling in any gaps in existing historical data. The prediction of the potential effects from the OnTW and any embedded mitigation measures were then considered and presented within the EIA Report.
- 4 Baseline survey methodologies and coverage are described in detail in the relevant technical chapters 6 to 13 of this EIA Report. A summary of each of these assessments is presented below.

14.2 Ecology

14.2.1 Impact Assessment

- 5 Based on the findings of the desk study and field surveys the potential impacts resulting from construction, operation and decommissioning of the OnTW are considered to include, disturbance and contamination of habitats (particularly coast habitats associated with the Firth of Forth Special Protection Area (SPA), Ramsar Site and Site of Special Scientific Interest (SSSI) and Outer Firth of Forth and St. Andrews Bay Complex Proposed Special Protection Area (pSPA)) and disturbance of intertidal and near-shore waterbirds.
- 6 The assessment of impacts considers embedded mitigation designed to avoid or minimise these potential impacts. These include:
 - A Construction Environmental Management Plan (CEMP) setting out procedures to ensure all activities with potential to affect the environment are appropriately managed;
 - A pre-construction protected species survey will be undertaken to re-establish baseline conditions in respect to protected species;
 - Best Practise Measures in relation to locally occurring terrestrial mammals will be undertaken; and
 - Best Practise Measures in relation to breeding birds will be undertaken.

7 Consequently, during the construction phase the effects of these potential impacts are expected to be of no more than Minor / Moderate effect. During the operational phase, impacts are expected to be limited, occasional and temporary, the effects of which are predicted to be no more than Minor / Moderate effect. During the decommissioning phases effects are expected to be equivalent to, and potentially lower than, those predicted for the construction phase.

14.2.2 Cumulative Impact Assessment – the OnTW with Other Projects

8 The cumulative effects of the OnTW, in combination with those associated with the wider Inch Cape Offshore Wind Farm and Offshore Transmission Works (OfTW) and with other planned, consented or completed medium to large scale projects within 2 km, are not expected to increase the effects beyond those predicted for the OnTW in isolation.

14.2.3 Impact Interactions

9 The landscape planting designed to screen the Onshore Substation (see *Chapter 8: Landscape and Visual*) is expected to enhance the character and diversity of vegetation within the site of the former Cockenzie Power Station as well as providing shelter, foraging and breeding habitat for locally occurring fauna and is considered to represent a Minor positive effect. There are not considered to be any other impact interactions with other environmental disciplines associated with the OnTW.

14.3 Hydrology, Geology and Hydrogeology

14.3.1 Impact Assessment

10 Potential impacts considered included changes to runoff and flooding, groundwater infiltration, changes to the hydrogeological regime, water quality impacts due to construction materials/machinery, disturbance of mine shafts/shallow mineral workings, and disturbance of potentially contaminated soils.

11 Embedded Mitigation to remove or minimise these potential impacts includes the implementation of a Construction Environmental Monitoring Plan (CEMP), site investigation to inform the detailed site design and use of construction drainage systems, and a Sustainable Drainage System (SuDS).

12 As a consequence of the site design and embedded mitigation no significant impacts during construction or operation of the OnTW have been identified.

14.3.2 Cumulative Impact Assessment – the OnTW with Other Projects

13 Similarly, as a consequence of the site design and embedded mitigation no significant cumulative impacts during construction or operation of the OnTW have been identified. No additional mitigation is required.

14.3.3 Impact Interactions

14 No impact interactions have been identified.

14.4 Landscape and Visual

14.4.1 Impact Assessment

15 During the operation of the OnTW, the Onshore Export Cables will be underground, as such there will be no impact on landscape or visual amenity resulting from the Landfall or the Onshore Export Cable Corridor.

16 Implementation of the mitigation at the commencement of the construction phase will minimise effects on landscape character and visual amenity during the operation of the OnTW. Significant effects will be limited to the immediate vicinity occurring within 2 km to the west and south of the Onshore Substation, with significant effects on visual amenity on residents at Whin Park, Cockenzie, users of the John Muir Way, users of Core Paths 145, 146 and 284, users of Preston Links and users of the B1348. These will reduce with maturation of the tree planting proposed as part of the mitigation measures.

14.4.2 Cumulative Impact Assessment – the OnTW with Other Projects

17 Cumulative impacts have been assessed but it is not considered that these would differ from the landscape and visual effects of the OnTW on its own.

14.4.3 Impact Interactions

18 *Chapter 8: Landscape and Visual* shares direct linkages with *Chapter 6: Ecology* through the landscape planting designed to screen the Onshore Substation as detailed in *Section 14.2* above. The chapter also shares direct linkages with *Chapter 9: Cultural Heritage* through its assessment of relevant cultural heritage receptors.

19 The effects on local visitor and recreational attractions are also assessed within the chapter, as such the conclusions have informed the tourism assessment within *Chapter 12: Socio-Economic, Tourism, Land Use and Recreation*.

14.5 Cultural Heritage

14.5.1 Impact Assessment

20 For all but Cockenzie Harbour, no direct or indirect impacts upon cultural heritage assets arising from the OnTW for either Construction, Operation and Maintenance or Decommissioning have been identified.

21 With regards to Cockenzie Harbour a Minor adverse effect upon the receptors setting has been identified. It is however judged that in EIA terms, no significant effects on setting would be induced by the Onshore Substation.

14.5.2 Cumulative Impact Assessment – the OnTW with Other Projects

- 22 No cumulative direct or indirect impacts upon cultural heritage assets arising from ICOL's Offshore Wind Farm and ICOL's OfTW in combination with the OnTW for either Construction, Operation and Maintenance or Decommissioning have been identified. This includes setting impacts as no cultural heritage receptors within the Archaeological Study Area have been identified which have cumulative intervisibility with both the offshore turbines and the Onshore Substation.
- 23 Cumulative effects are considered in relation to the Blindwells development. Due to the location of the Application Site a significant distance from the Blindwells development, there are no identified significant effects in relation to the Application Site. It is therefore judged that there can be no significant interactions in relation to impacts to archaeology and cultural heritage between the overall OnTW and other works in the Archaeological Study Area (ASA).

14.5.3 Impact Interactions

- 24 The Effects of Operation and Maintenance (*Section 9.8.2*) of *Chapter 9: Cultural Heritage* has been informed in part by work completed by the Landscape and Visual Impact Assessment (LVIA) consultants through consideration of appropriate screening measures that are detailed within *Chapter 8: Landscape and Visual* which include walls and earth mounding parts of which will be planted with a mix of native tree and shrub species.
- 25 The Effects of Operation and Maintenance section of *Chapter 9: Cultural Heritage* has also been informed in part by an assessment of the Zone of Theoretical Visibility (ZTV) (Figure 8.1) that the LVIA consultants produced for *Chapter 8: Landscape and Visual*. Figure 8.1 shows the area predicted to have views of the Onshore Substation. As such, a list of Cultural Heritage receptors was identified for assessment of setting impacts and visited at least once, based on the ZTV and scoping responses.

14.6 Noise and Vibration

- 26 The noise and vibration assessment has indicated that the potential construction, operational and decommissioning effects associated with the OnTW are considered to be not significant.
- 27 Embedded mitigation, in the form of a landscape mitigation plan (see *Chapter 8: Landscape and Visual*), has been incorporated into the assessment of noise effects. In addition, some components of the Onshore Substation will be enclosed, namely the transformer tanks and shunt reactor tanks, providing noise attenuation in relation to these sources. Existing topography within the Study Area has also been incorporated.
- 28 With respect to construction noise and vibration, the assessment has been based on the guidance of BS5228:2009+A1:2014, and has concluded that noise associated with the construction phase would not exceed adopted daytime and night-time noise limits. With regards to vibration, it is unlikely that the proposed construction methods would give rise to significant vibration impacts and levels are expected to be below the threshold limits within BS5228-2:2009+A1:2014 for vibration impact.

- 29 An assessment of additional vehicles associated with the construction phase of the OnTW has been undertaken based on the results of the transport assessment and with reference to the *Design Manual for Roads and Bridges* (DMRB). The predicted increase in total traffic would be below 25 per cent, resulting in changes to existing noise levels of less than 1 dB.
- 30 The predicted operational noise levels are no more than 5 dB above the measured background noise levels, and within daytime and night-time limits as set by the World Health Organisation. Potential impacts associated with the decommissioning phase of the Onshore Substation would be similar to, and no worse than, those presented for the overall construction phase.

14.6.1 Cumulative Impact Assessment – the OnTW with Other Projects

- 31 There is considered to be no significant noise or vibration effects with other projects, namely the new settlement at Blindwells and at Longniddry South.
- 32 With regards to effects associated with construction activities, it is unlikely that the OnTW and these future residential-led developments would be under construction at the same time. Furthermore, these developments are not considered as ‘noise-generating’ and therefore would not have significant noise sources associated with their operation with the potential to affect the receptors within the study area for the OnTW.
- 33 In the same respect, due to the developments being ‘noise-sensitive’, it is considered that the operation of the OnTW would not have a significant impact on the future residential properties. It has been demonstrated that for receptors close to the OnTW, no significant impact has been predicted and this would also be the case at receptors located further away as noise decreases with increased distance from the source.
- 34 With respect to the consented car wash at the former gas holder site, this is a temporary consent for a period of one year only; therefore, based on the anticipated timescales for consent associated with the OnTW, it is not likely that the car wash and Onshore Substation would be operational at the same time. There are no other known noise-generating developments with the potential to significantly affect cumulative noise levels in the vicinity of the OnTW.

14.6.2 Impact Interactions

- 35 There is the potential for short term interactive effects to arise due to additional traffic movements associated with the construction of the OnTW. The assessment of noise impacts is therefore dependent on the results of the Traffic and Transport assessment (see *Chapter 11: Traffic and Transport*), which quantifies the number of vehicle movements during the construction phase. However, the potential effects of this impact interaction are not considered to be significant, whereby the total increase in traffic flows is predicted to be less than 25 per cent resulting in increases to existing noise levels of less than 1 dB.

14.7 Traffic and Transport

14.7.1 Impact Assessment

36 The assessment of significant effects resulting from the construction vehicles generated by the OnTW has been undertaken along the access route, consisting of the A1, A198, B6371 and B1348 Edinburgh Road. The assessment identified that receptors that were considered sensitive to changes in traffic flow were only present within the built-up area of Cockenzie on the B6371 East Lorimer Place and the B1348 Edinburgh Road. All other locations were considered to have receptors that were not sensitive to changes in traffic flow. The assessment considered the change in traffic flows along the access route as a result of the construction of the OnTW and the severance, driver delay, pedestrian delay, pedestrian amenity, accidents and safety and hazardous loads effects were all deemed to be Negligible / Minor.

14.7.2 Cumulative Impact Assessment – the OnTW with Other Projects

37 The cumulative assessment of significant effects was undertaken with the construction vehicles generated by the OnTW plus the construction vehicles generated by the Proposed New Settlement, Blindwells. There were no other developments in the surrounding area that would generate traffic along the OnTW access route during the same timescales as the construction of the OnTW. The cumulative assessment considered the change in traffic flows along the access route as a result of the construction of the OnTW and the severance, driver delay, pedestrian delay, pedestrian amenity, accidents and safety and hazardous loads effects were all deemed to be Negligible / Minor.

14.7.3 Impact Interactions

38 Increases in traffic flows generated by the construction of the OnTW could interact with other disciplines to have an effect from a noise and vibration, visual, air quality, dust and dirt, ecology or heritage and conservation perspective. There are direct links to the effects of noise and vibration and air quality and traffic flows have been provided to these disciplines. The effect of construction traffic upon receptors relevant to each of the above discipline is assessed within *Chapter 10: Noise and Vibration* and *Chapter 13: Air Quality*.

14.8 Socio-Economics, Tourism, Land-Use and Recreation

14.8.1 Impact Assessment

39 The greatest impact of the OnTW on employment and economic activity will arise during the construction period when it would support around 40 Full Time Equivalent jobs for a period of approximately 16 to 18 months. Indirectly, the proposed OnTW may also create further employment opportunities down the supply chain for those companies providing services to the contractors during construction. Although this will have a positive effect upon the local employment and the economy, it is not predicted that it will be significant.

Land Use

40 The OnTW will require the temporary direct disturbance of an area of up to 10.2 ha for the duration of the construction activities. It is considered that the proposed OnTW would be compatible with the likely future energy generation and transmission land uses of the site and surrounding area. No potential for significant adverse effects on land use are therefore predicted to occur.

41 Public Access and Recreation

42 Where public access along the John Muir Way will be temporarily disrupted during construction, maintenance or decommissioning activities, a suitable diversion that minimises the length of path affected will be put in place by ICOL along with signage at each end of the route where the route is diverted. Following the adoption of these mitigation measures, no significant effects are predicted upon this or any other public access routes as a result of the proposed OnTW.

Tourism

43 The construction phase of the OnTW has the potential to directly disrupt tourists using the Golf Coast Road which crosses through the Application Site. A local traffic management plan will be put in place to minimise any potential disruption to visitors using the Golf Coast Road during construction. With this mitigation in place, no significant effects are predicted to occur on visitor numbers using this route during construction. No potential for significant effects upon other tourism resources are identified during construction, operation and decommissioning of the OnTW.

14.8.2 Cumulative Impact Assessment – the OnTW with Other Projects

44 It is considered that the addition of ICOL's Offshore Wind Farm and ICOL's OfTW will result in no greater effects on socio-economic, land use, recreation and tourism than those predicted to occur during the construction of the OnTW in isolation.

45 Should the proposed OnTW be constructed in parallel or in close succession with the proposed Blindwells New Settlement there may be a potential for a significant temporary effect on local employment and the economy. No potential for any other significant cumulative effects on land use, recreation and tourism as a result of other development proposals are predicted.

14.8.3 Impact Interactions

46 The Tourism Study Area used within *Chapter 12: Socio-Economics, Tourism, Land Use and Recreation* was chosen to determine tourism routes and attractions with the potential to experience an indirect impact upon their use as a result of visual impacts. This reflects the Study Area used in the LVIA (see *Chapter 8: Landscape and Visual*), the conclusions of which informed the tourism assessment.

14.9 Air Quality

14.9.1 Impact Assessment

47 The air quality assessment indicates that the potential effects associated with the release of dust during construction and vehicular emissions during both construction and operation of the OnTW are considered to be 'not significant' with the adoption of a range of good practice mitigation measures. Typical measures include:

- provision of adequate water supply for use as dust suppression as necessary;
- imposition of a speed limit on site;
- minimisation of double handling of materials;
- rapid re-vegetation of earthworks and bunds; and
- cleaning of haul roads and vehicle wheels exiting site to minimise trackout.

14.9.2 Cumulative Impact Assessment – the OnTW with Other Projects

48 There is considered to be no significant risk of cumulative air quality effects with other projects, namely the Blindwells New Settlement.

14.9.3 Impact Interactions

49 There is the potential for short term interactive effects to arise as a result of general disturbance and nuisance on local residents within the Study Area resulting from the combined effects of air quality and noise resulting from construction machinery and from vehicle movements associated with the OnTW. The assessment of Air Quality effects is therefore dependent on the Traffic and Transport assessment (see *Chapter 11: Traffic and Transport*) which quantifies the number of vehicular movements.

50 The potential effects as a result of these impact interactions are not considered to be significant with the adoption of good practice mitigation measures.

14.10 Concluding Statement

51 Subject to embedded mitigation measures, for all disciplines except landscape and visual the EIA Report did not identify any potentially significant residual effects (in terms of the EIA Regulations) on any environmental or human receptors during the construction, operation and decommissioning of the OnTW.

References

Transport Scotland (2011). *Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 7 (HD 213/11 – Revision 1), Noise and Vibration.*