FOREWIND

DOGGER BANK
TEESSIDE A & B

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Deadline IX Appendix 5 – Outline Code of Construction Practice – version 4

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Revision History

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Contents

1 Introduction

1.1 Introduction

1.1.1 This Outline Code of Construction Practice (CoCP) (version 4) is provided by Forewind Limited (Forewind) in relation to the Dogger Bank Teesside A & B offshore wind farms.

1.1.2 An Outline CoCP (version 1) (ref. 8.2) accompanied the final application and was submitted alongside a draft DCO, an Environmental Statement (ES), a Consultation Report and other statutory and non-statutory documents. This document supersedes the application version and versions 2 and 3 (submitted during the examination), and has been updated following a request by the ExA in their Rule 17 letter dated 21 January 2015 (ExQ R17-10). Cross references to the draft DCO within this document refer to the draft DCO version 7 as submitted at Deadline IX (ref. F-EXL-DCO-001_v7).

1.1.3 This statement is to be read in conjunction with:

- the Order limits plan;
- the onshore land plans;
- the onshore works plans; and
- the Environmental Statement.

1.2 The purpose of this document

1.1.4 In order to mitigate and appropriately manage the impacts of the construction of the onshore works[1] of Dogger Bank Teesside A & B, a broad range of mitigation measures are proposed throughout the ES, Statements of Common Ground (SoCG) agreed with stakeholders and further material presented through the examination of the application. This Outline CoCP brings together and secures all onshore construction related measures which will be implemented in accordance with Requirement 26 of draft DCO (v7).

1.1.5 If consent is granted, the content of the CoCP must be approved in writing by the relevant planning authority, and as appropriate the Highways Agency, following consultation with relevant statutory nature conservation bodies, prior to the commencement of any stage of the onshore works. The requirements of the final approved CoCP must then be implemented both by the future developers and operators of the projects and appointed contractors. Compliance with the CoCP is enforceable by the relevant planning authority throughout the onshore construction phase.

[1] For the purposes of this Outline CoCP, 'onshore' is defined as any works above the Mean Low Water Mark.

1.1.6 The Outline CoCP is to provide further detail and clarity on the framework and broad content of the final approved CoCP, and has been provided pursuant to Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the APFP Regulations), which allows for the submission of any other documents which are considered necessary to support the application.

1.1.7 Requirement 26 of the draft DCO (v7) provides for the final approved CoCP to be prepared in accordance with the principles established in the Outline CoCP.

2 Background

2.1 Development Consent Order (DCO)

2.1.1 Requirement 26 of draft DCO (v7) provides for a CoCP as follows:

"(1) No stage of the onshore works may commence until a code of construction practice (CoCP) in accordance with the outline Code of Construction Practice has been submitted to and approved in writing by the relevant planning authority and as appropriate the Highways Agency, following consultation with the relevant statutory nature conservation body.

(2) The CoCP must be written to reflect and ensure delivery of the construction phase mitigation measures included within the Environmental Statement and must include consideration of, but not be limited to, the following matters during construction of the onshore works—

(a) construction noise and vibration management;

(b) air quality including dust management;

(c) sustainable waste management during construction;

(d) traffic management and materials storage on site;

(e) water management (surface water and groundwater);

(f) the mechanism for the public to communicate with the construction teams, including contact details;

(g) land use and agriculture, including the management, excavation and removal of soils, land drainage, land quality and biosecurity;

(h) a method statement for the crossing of watercourses;

(i) method statements for horizontal directional drilling activities of highways, railways and apparatus within the Wilton Complex;

(j) plans for public and private access across the development Order limits, including details of the temporary re-routing of public rights of way during the construction of the authorised development including the provision of signage and other information alerting the public to the construction works and any re-routing; and

(k) management and mitigation of artificial light emissions.

2.1.2 The CoCP sets out the principles which any topic specific Construction Environmental Management Plans (CEMP) shall be drafted in accordance with. As such the CoCP is the overarching onshore mitigation plan. Requirement 27 of draft DCO (v7) provides for CEMPs as follows:

"(1) Prior to the commencement of each stage of the onshore works a Construction Environmental Management Plan (CEMP) for that stage, drafted in accordance with the principles set out in the approved CoCP, must be submitted to and approved by the relevant planning authority.

(2) All remediation, construction and commissioning works must be undertaken in accordance with the CoCP and CEMP, or any variation or replacement thereof previously approved by the relevant planning authority.

2.2 Stages of works and detailed design

2.2.1 **Chapter 5** Project Description of the ES (ref. 6.5) notes that construction of the various elements of the onshore works is likely to be completed in a number of stages. Requirement 17 of the draft DCO (v7) provides for the staging of onshore works and stipulates that works may not be commenced until a written scheme, setting out the phasing of construction of each stage of works, has been submitted to and approved in writing by the relevant planning authority. Requirement 17 also stipulates that the onshore works must be implemented in accordance with the approved scheme.

2.2.2 The stages split the development into the key construction activities likely to take place onshore. Stages identified in the draft DCO (v7) are:

- Stage 1 - Work Nos. 3A, 4A and 5A, being the landfall works for Dogger Bank Teesside A;
- Stage 2 - Work Nos. 3B, 4B and 5B, being the landfall works for Dogger Bank Teesside B;
- Stage 3 - Work Nos. 6A, 8A and 10A - 10K, being the HVAC and HVDC export cables and associated access for Dogger Bank Teesside A;
- Stage 4 - Work Nos. 6B, 8B and 10A - 10K, being the HVAC and HVDC export cables and associated access for Dogger Bank Teesside B;
- Stage 5 - Work No. 7 and 7L, 10H and 10I, being the converter station(s) and associated access for Dogger Bank Teesside A and B;
- Stage 6 - Work No. 8S, 8A, 10H - 10K, being the HVDC export cables and associated access for Dogger Bank Teesside A;
- Stage 7 - Work No. 8S, 8B, 10H - 10K, being the HVDC export cables and associated access for Dogger Bank Teesside B; and
- Stage 8 - Work No. 9, 10H - 10K, being the grid connection works and access for Dogger Bank Teesside A and B.

2.2.3 The written scheme is to set out the stages particular to that project and provide detail on the timescales within which each stage will commence, a summary of the key works, their anticipated commencement and duration and identification of interactions between the works covered by each stage. The written scheme will provide an over-arching project plan to highlight known interactions and overlap

between the construction timetables for both Dogger Bank Teesside A and Dogger Bank Teesside B, to the extent known at the time of submission.

2.2.4 Requirement 18 and 19 of the draft DCO (v7) stipulates that no stage of the onshore works may commence until details of the layout, scale, levels and external appearance of those works have been submitted to and approved in writing by the relevant planning authority.

2.3 Scope of this document

2.3.1 The purpose of the document is to establish the principles for appropriate mitigation and management to be applied during construction of the onshore works for Dogger Bank Teesside A & B offshore wind farms in order to maintain good levels of environmental protection and limit disturbance from construction activities as far as reasonably practicable. This formalises mitigation proposed within the ES and commitments made to key stakeholders throughout the development process.

2.3.2 The term 'construction' within the Outline CoCP includes onshore site preparation, material delivery, excavated material disposal, waste removal and related engineering and construction activities as defined in Part 1 of Schedule 1 in the DCO. For the purposes of this document, onshore construction includes:

i. Work No.'s 3A, 4A and 5A, 3B, 4B and 5B: The construction of the landfall works including joint transition bays;

ii. Work No.'s. 6A and 6B: The installation of the High Voltage Direct Current (HVDC) electrical systems for the connection of the project from the landfall to the converter substation;

iii. Work No. 7: Construction of up to two converter stations;

iv. Work No.'s 8S, 8A and 8B: The High Voltage Alternating Current (HVAC) connection system to the national grid connection point; and

v. Work No. 9 Any works required under the DCO for connection into the National Grid substation at Lackenby.

2.3.3 The principles detailed in this Outline CoCP are grouped as follows:

i. general principles of the construction phase;

ii. noise and vibration management;

iii. air quality, including dust management;

iv. waste management, including soil management;

v. land use and agriculture (including soil and land drainage systems);

vi. traffic and access management;

vii. water management (surface water and groundwater);

viii. Public Rights of Way (PRoW);

ix. terrestrial ecology, including the management of artificial light emissions;

x. terrestrial archaeology; and

xi. the protection of geological features.

3 General principles

3.1 Construction Environmental Management Plan

3.1.1 In accordance with Requirement 27 of the draft DCO (v7), prior to the commencement of each stage of the onshore works, a CEMP for that stage, drafted in accordance with the principles set out this CoCP, must be submitted to and approved by the relevant planning authority.

3.1.2 The future developers and operators of the projects must ensure that all construction and associated works are undertaken in accordance with the CoCP and CEMP, or any equivalent variation or replacement thereof previously approved by the relevant planning authority.

3.1.3 Each CEMP must specify control measures and mitigation measures, demonstrating how the appointed contractor will mitigate against specific environmental risks associated with the construction activities of that stage. CEMPs may vary in line with different internal management system requirements and templates established by each operator or contractor.

3.1.4 For each activity of work, the CEMP must identify:

i. specific construction work processes, including a requirement for a site induction for all personnel working on the site;

ii. the environmental impact of each process identified;

iii. specific mitigation measures to be used relating to that stage of work; and

iv. the relevant procedure or method of work to be followed.

3.2 Health and safety

3.2.1 Alongside the CoCP, the future developers and operators of the projects must provide a Health and Safety Statement which sets out the systems which will be established to address specified safety criteria.

3.2.2 The Health and Safety Statement must meet objectives and principles. In accordance with the Construction (Design and Management) Regulations 2007, a Notification/F10 form (or appropriate Regulations applicable at the time) must be issued to the Health and Safety Executive when undertaking a construction works that will last more than 30 days or involve more than 500 person days. The statement must also include details of temporary security measures required to secure construction materials and apparatus.

3.3 Considerate Constructors Scheme

3.3.1 The appointed contractors will be encouraged to register with the Considerate Constructors Scheme (or appropriate scheme applicable at the time), which is a voluntary code of practice that seeks to encourage contractors to:

i. reduce the negative impact on anyone affected by their work and leave a positive impression on their neighbours;

ii. be a considerate employer providing appropriate facilities for those who work for them; and

iii. reduce negative effects on the environment by working in an environmentally conscious and sustainable manner.

iv. The appointed contractors must provide a mechanism for the public to communicate with construction teams, including the supply and notification of principal contractor contact details.

3.4 Construction hours

3.4.1 In order to minimise disruption to the local community through noise and traffic, restrictions to construction working hours are secured in Requirement 28 of the draft DCO (v7) as follows:

> *"(1) Construction work for the onshore works and any construction-related traffic movements to or from the site of the relevant work must not take place other than between 0700 hours and 1900 hours Monday to Saturday, with no activity on Sundays, public or bank holidays, save—*
>
> *(a) where continuous periods of operation are required, such as concrete pouring and drilling;*
>
> *(b) for the delivery of abnormal loads to the onshore works, which may cause congestion on the local road network;*
>
> *(c) where works are being carried out on the foreshore;*
>
> *(d) where works are required to be carried out in an emergency; or*
>
> *(e) as otherwise agreed in writing with the relevant planning authority save where as required outside of these hours pursuant to details submitted and approved under any other requirement.*
>
> *(2) All construction operations which are to be undertaken outside the hours specified in paragraph (1) must be agreed with the relevant planning authority in writing in advance, and must be carried out within the times agreed in writing with the relevant planning authority."*

3.5 Restoration

3.5.1 In accordance with Requirement 34 of the draft DCO (v7), any land which is used temporarily for construction of the relevant stage of the onshore works, and not

ultimately incorporated in permanent works or approved landscaping, must be reinstated to its former condition, or such condition as the relevant planning authority may approve, within six months of completion of the onshore works, or such other period as the relevant planning authority may approve.

4 Noise and vibration management

4.1 Predicted potential effects

4.1.1 There is the potential for noise and vibration to be generated during the construction phase of the development, in particular from heavy plant and machinery.

4.1.2 **Chapter 29** Noise and Vibration of the ES (ref. 6.29) identifies six receptors within the working areas of the landfall, cable corridor and converter stations that may experience a minor impact or greater from construction work noise.

4.2 Content of the CoCP

4.2.1 Mitigation measures proposed in **Chapter 29** of the ES to reduce the impacts on the receptors noted above include:

i. Construction work for the onshore works and any construction-related traffic movements are limited to the hours stipulated in Requirement 28 of the draft DCO (v7), as described in Section 3.4.

ii. To reduce potential construction noise impacts at receptors where the magnitude of impact is predicted to be greater than low a solid site boundary hoarding fence, approximately 2.4m in height, could be erected prior to commencement of cable installation and remain in place until the works are complete in the relevant section of the cable route. Any fence would be located as close to the receptors as possible but still remaining within the easement.

i. A set of generic Best Practice working practices referred to as Best Practicable Means (BPM) are to be employed during the construction phase. Examples of typical BPM include:

- locating static noisy plant in use as far away from noise sensitive receptors as is feasible for the particular activity;
- ensuring that plant and equipment covers and hatches are properly secured and there are no loose fixings causing rattling;
- using the most modern equipment available and ensuring such equipment is properly maintained and operated by trained staff;
- using silenced equipment where possible, in particular silenced power generators if night time power generation is required for site security or lighting;
- ensuring that vehicles and mobile plant are well maintained such that loose body fittings or exhausts do not rattle or vibrate;
- ensuring plant machinery is turned off when not in use;

- imposition of vehicle speed limits for heavy goods vehicle traffic travelling on access roads close to receptors and ensuring that vehicles do not park or queue for long periods outside residential properties with engines running unnecessarily;
- ensuring, where practicable, that site access routes are in good condition with no pot-holes or other significant surface irregularities;
- maintaining good public relations with local residents that may be affected by noise from the construction works. Effective communication should be established prior to construction works, keeping local residents informed of the type and timing of works involved, paying particular attention to potential evening and night time works and activities which may occur in close proximity to receptors. Leaflet drops, posters and public meetings or exhibitions are an effective method of keeping local residents informed; and
- provision of contact details for a site representative in the event that disturbance due to noise or vibration from the construction works occurs; ensuring that any complaints are dealt with promptly and that subsequent resolutions are communicated to the complainant.

ii. If night time works are envisaged then a Section 61 Prior Consent Notice (or appropriate notice applicable at the time), should be sought from the relevant planning authority. This is a formal agreement that construction noise will be managed in accordance with 'best practicable means' (as outlined above).

5 Air quality, including dust management

5.1 Predicted potential effects

5.1.1 The construction works associated with the project have the potential to impact on local air quality conditions without mitigation in place, as acknowledged in **Chapter 30** Air Quality of the ES (ref. 6.30). In summary, the activities with the potential to impact local air quality are:

i. dust emissions generated by excavation, construction and earthworks along the cable route, construction of the converter stations and associated landscaping and enabling works at the existing NGET substation at Lackenby;

ii. emissions of exhaust pollutants, especially NO2 and fine particulate matter (PM10) from construction traffic; and

iii. emissions of NO2 and PM10 from non-road mobile machinery operating within the construction footprint.

5.2 Content of the CoCP

5.2.1 To reduce any impacts on air quality associated with earthworks mitigation measures are proposed in **Chapter 30** of the ES for the lead operator to implement, this includes the following:

i. When undertaking earthworks creating dust the following should be implemented:

- damping down all dusty activities and surfaces, especially during dry, windy weather;
- temporary covering of earthworks, or if possible secure covering during dry, windy weather;
- re-vegetation of earthworks and other exposed areas to stabilise surfaces;
- reuse hard core material where possible;
- removal of secure covers in small areas during work; and
- implementation of hessian or mulches where it is not possible to re-vegetate or cover with topsoil.

ii. In locations where trackout (the transport of dust and dirt from the construction site onto the public road network) occurs the following should be implemented:

- use of a wheel wash, limiting of vehicle speeds onsite, avoidance of unnecessary idling of engines and routing of site traffic as far from residential and commercial properties as possible;

- avoid dry sweeping of large areas;
- ensure vehicles transporting material entering and leaving sites are covered to prevent escape of materials during transport;
- use of a road sweeper to clean mud and other deposited particulates from hard-standing roads and footpaths; and
- use of hard surface haul routes where possible.

5.2.2 To reduce any impacts on air quality of emissions from construction phase Non-Road Mobile Machinery (NRMM) mitigation measures are proposed in **Chapter 30** of the ES for the lead operator to implement:

i. all NRMM use fuel equivalent to ultra-low sulphur diesel (fuel meeting the specification within EN590:2004);

ii. all NRMM will comply with either the current or previous EU Directive Staged Emission Standards (97/68/EC, 2002/88/EC, and 2004/26/EC). As new emission standards are introduced the acceptable standards will be updated to the previous and most current standard;

iii. all NRMM will be fitted with Diesel Particulate Filters conforming to defined and demonstrated filtration efficiency (load / duty cycle permitting);

iv. the ongoing conformity of plant retrofitted with Diesel Particulate Filters, to a defined performance standard, will be ensured through a programme of onsite checks; and

v. implementation of energy conservation measures including instructions to: throttle down or switch off idle construction equipment; switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded; ensure equipment is properly maintained to ensure efficient energy consumption.

6 Waste management, including soil management

6.1 Predicted potential effects

6.1.1 In relation to waste management, **Chapter 24** Geology, Water Resources and Land Quality of the ES (ref. 6.24) identifies that the key potential impacts in this area are likely to arise from the disposal of soil excavated during the construction phase.

6.2 Content of the CoCP (Soil Quality)

6.2.1 To reduce the risk of impacts from general site activities including spill and leakages to soil the mitigation measures in relation to soil quality include:

i. store oils and fuel within designated areas above ground and in impervious storage bunds with a minimum of 110% capacity to contain any leakages or spillages, in addition, ensure storage areas are regularly inspected to identify any leak or spills;

ii. limit refuelling activities to designated, impermeable surfaced areas and use drip traps where possible;

iii. check and maintain equipment regularly to ensure that leakages do not occur;

iv. have spill kits available on site at all times; and

v. ensure site inductions for all staff, to include the above procedures and the locations of spill kits.

6.3 Content of the CoCP (Waste)

6.3.1 The final CoCP will be based upon the draft Site Waste Management Plan (SWMP) produced as Appendix C Site Waste Management Plan Report of **Chapter 24** of the ES. This describes any decisions made when designing and planning the works which will minimise the quantity of waste produced on site. The SWMP also provides information on waste types that are expected to be produced through the construction of the project, including the quantity of each type of waste and the proposed waste management option for each waste produced (i.e. re-use, recycling, recovery or disposal on or off-site).

6.3.2 In summary, the waste hierarchy will be applied to determine the most sustainable waste management options to actively discourage sending waste to landfill. For example, soils will be reinstated where possible, but if this is not feasible then they may be re-used on site where a need has been identified.

6.3.3 Mitigation measures in relation to waste, as proposed in **Chapter 24** of the ES includes:

i. the waste hierarchy will be used to determine the most sustainable option for all wastes that are generated on site;

ii. topsoil will be stored separately from subsoil. The stockpile dimensions will be designed such that they do not result in erosion, pollution of watercourses or increased flooding in order to reduce the impact to the topsoil and subsoil through stockpiling;

iii. sustainable procurement methods, e.g. just in time delivery and just enough quantity of raw materials, will be used to minimise the amount required to be stored on-site; thereby lowering the risk of potential waste arisings from out of specification or excess materials;

iv. waste packaging will be returned to suppliers where possible;

v. all topsoil will be reinstated wherever possible;

vi. waste subsoil that will be sent off-site will be segregated from subsoil suitable for reinstatement on-site;

vii. suitable local schemes will be identified where possible, as appropriate receiving sites to encourage the off-site reuse of surplus subsoil – this promotes the waste hierarchy and will reduce vehicle emissions caused by longer journeys;

viii. all other wastes for off-site waste management will be stored in skips or other impermeable containers, preferably with lids (all waste liquid containers must have a lid);

ix. plastic, paper and card, metal and other dry residual wastes will be segregated in different containers in the contractor's compound to maximise dry-recyclable collection where possible;

x. any hazardous wastes will be stockpiled or stored separately from any non-hazardous stockpiles;

xi. stockpiles of soil will be covered or stored in bunded areas or up-gradient from drains and control waters or stored in impermeable containers (e.g. Skips), to prevent pollution from run-off;

xii. the CL:AIRE code of practice (or similar code of practice applicable at the time of works) will be followed to demonstrate that excavated material is not waste at the point of reuse. Where the CoP cannot be followed, the use of waste material will be covered by an environmental permit, or appropriate exemption from environmental permitting (e.g. re-use of waste hardcore for temporary roads);

xiii. stockpiles of excavated soil will not be stored for more than 12 months; and

xiv. a SWMP will be prepared to monitor wastes arisings on-site. This will also promote sustainable waste management practices by maximising waste

prevention, re-use and recycling for material destined for off-site waste management. This will actively discourage sending waste to landfill.

7 Land Use and Agriculture

7.1 Predicted potential effects

Without mitigation in place, the onshore construction works associated with the project have the potential to impact on agricultural land uses, as acknowledged in **Chapter 26** Land Use and Agriculture of the ES (ref. 6.26). The following potential impacts have been identified in relation to the construction phase on land use and agriculture:

i. Land taken out of existing use;
ii. Land isolated due to construction activities, and effectively taken out of existing use;
iii. Loss of areas subject to Environmental Stewardship Agreements;
iv. degradation of soils (including soil compaction);
v. loss of soil resource;
vi. impacts on land drainage systems;
vii. biological contamination;
viii. disturbance and nuisance; and
ix. secondary impacts (e.g. loss of earnings associated with the above impacts).

7.2 Content of the CoCP (Soil and Drainage)

7.2.1 To minimise land taken out of existing use the following mitigation measures, as outlined in **Chapter 26** of the ES, shall be implemented:

i. Following the completion of the construction stage the majority of the areas will be reinstated to their former condition and land use. The exception to this is the land at the converter stations site;
ii. The construction footprint will be minimised where possible and land reinstated to its former condition as soon as reasonably possible following cable installation, dependent on weather conditions.

7.2.2 To minimise impacts on Environmental Stewardship the following mitigation measures, as outlined in **Chapter 26** of the ES, shall be implemented:

i. Full and continued consultation with landowners/occupiers will be undertaken, and advice sought during the site planning and construction phase, to ensure that the potential impacts of construction activities upon land in Environmental Stewardship are minimised. This will be achieved through, for example the phasing of works to allow new environmental stewardship sites to be identified before existing stewardship sites are impacted; and
ii. Landowners/occupiers will be compensated for any resultant losses incurred as a direct consequence of the works.

7.2.3 To minimise impacts on degradation of soils the following mitigation measures, as outlined in **Chapter 26** of the ES, shall be implemented:

i. Soils handled, stored and reinstated by a competent contractor under Defra (2009) Construction code of practice for the Sustainable Use of Soils on Construction Sites;
ii. Topsoil will be stripped within all construction areas and stored adjacent to where it is extracted where practical;
iii. The subsoil excavated will be stored separately from the topsoil, with sufficient separation to ensure segregation;
iv. During wet periods, construction methods will be limited where vulnerability to soil compaction is identified;
v. Heavy plant and vehicles will only be able to use specific routes;
vi. The excavation footprint will be minimised where possible;
vii. In circumstances where construction has resulted in soil compaction, further remediation will be undertaken, through an agreed remediation strategy;
viii. Detailed pre and post soil condition surveys to a minimum depth of 1.5m will be undertaken to allow mitigation measures to be appropriately deigned and to monitor the success of the soil reinstatement, typically surveys would be undertaken for each landowner;
ix. The surveys will also include soil descriptions to be used to identify the soil's susceptibility to damage through the mechanism of compaction; and
x. Detailed method statements will be produced and agreed with the relevant regulator, in advance of the works. Contractors will be required to comply with these.

7.2.4 To minimise the loss of soil resource construction works will be carried out adhering to the MAFF (2000) Good Practice Guide for Handling Soils and Defra (2009) Construction code of practice for the Sustainable Use of Soils on Construction Sites.

Soils will be reinstated where possible and if this is not feasible then soils may be re-used on site where a need has been identified within the Site Waste Management Plan (Appendix C of Chapter 24 of the ES), which has been prepared and discusses the disposal options and waste hierarchy in more detail.

7.2.5 To minimise impacts on land drainage systems the following mitigation measures, as outlined in **Chapter 26** of the ES, shall be implemented:

i. Consultation with landowners and occupiers to establish existing drainage arrangements, location of drains (ideally access to drainage plans where available) and any other information;
ii. Working method statements produced for different drainage systems;
iii. Excavation of soil should only occur in suitable weather conditions, dependent on soil type;
iv. Where necessary the following techniques will be considered:
- Installation of pre-construction header drains on the uphill side of the working strip;
- Post-construction drains installed and stone backfill if required; and

- In areas of clay subsoil, pre-construction drainage will be installed to maintain existing drainage systems and avoid disruption to the cable installation due to water collecting in the excavated trenches.

v. Post construction, drains will be fully re-instated to their former condition and functioning, where possible;
vi. Minimising the period for which drains are not fully operational; and
vii. Where surface drains and ditches are encountered, and crossed via open-cut installation techniques they will be dammed and a pipe or pump will be installed to ensure water flow is maintained during the cable installation process.

7.2.6 Defra (2003) has identified a number of best practice measures to minimise the risk of spreading diseases, to minimise impacts on biological contamination, as outlined in **Chapter 26** of the ES, these best practice measures (or the equivalent best practice measures available at the time) shall be followed. Examples of these measures include (but are not limited to):

i. Agreeing access arrangements with landowners/occupiers in advance of any construction works taking place;
ii. Minimising where possible the movements of people, vehicles or equipment into areas where farm animals are kept; and
iii. Cleaning equipment upon arrival and departure

7.3 Content of the CoCP (Agricultural Access)

7.3.1 In order to minimise the area of land that is inaccessible during construction the cable route has been routed along field boundaries where practical; however, due to other constraints, it is recognised this was not possible in all cases and there will be some areas that shall become temporarily isolated.

7.3.2 Access to fields will be maintained wherever possible through careful construction planning. Access for farm vehicles, to land severed by the works, will be maintained where practicable in consultation with individual landowners and occupiers, and where necessary, crossing points will be agreed prior to the commencement of construction works in that location.

8 Traffic and access

8.1 Predicted potential effects

8.1.1 The construction phase for the development will result in traffic both within the site boundary and on the highways network, including heavy goods vehicles (HGVs). **Chapter 28** Traffic and Access of the ES (application ref. 6.28) identifies the potential for effects on traffic and access associated with the construction of the proposed project.

8.2 Content of the CoCP

8.2.1 The CoCP will encompass the content of the Traffic and Access Strategy, as detailed in **Chapter 28** of the ES. Recognising the need to manage the traffic impact 'the CoCP is to provide for the following requirements (embedded mitigation measures):

i. access to the development primarily from A or B roads, thereby minimising the impacts upon local communities and utilising the most suitable roads;

ii. access routes located close to the main A and B roads to reduce the impact upon local communities;

iii. the use of a remote haul route to reduce trips upon the highway network to distribute materials as well as reducing the number of points of access on to the highway network;

iv. the use of a haul route from the Wilton Complex under the A1053 (via an underpass) to the existing NGET substation at Lackenby to reduce traffic movements upon the B1380 where possible;

v. primary compounds and the converter stations site are located away from sensitive receptors to reduce the traffic impact upon local communities;

vi. the use of HDD for all (public highway) road and rail crossings to reduce the disruption to traffic from more conventional cut and cover techniques;

vii. the linear nature of the project will allow for the even distribution of activities and associated daily Heavy Goods Vehicle (HGV) demand; and

viii. the implementation of car-sharing amongst construction staff at a minimum ratio of 2.5 employees to a vehicle to reduce light commercial vehicle (LCV) traffic.

Site specific mitigation

8.2.2 Further site specific mitigation is detailed in Table 6.4 of the ES. The CoCP is to provide for the following requirements:

i. A1085 Coast Road:

- Temporary direction and warnings signs to advise of turning vehicles.
- Advisory 30mph speed limit in the vicinity of the access throughout the duration of the works.

ii. Redcar Road:

- Temporary direction and warnings signs on Redcar Lane to advise of turning vehicles.

iii. A174 south of Redcar:

- The geometry of the bell mouths will be such as to prevent vehicles from right turning in and out of the construction access and from crossing from one access to the other.
- Proposed to provide an advisory 30mph speed limit in the vicinity of the access throughout the duration of the works.
- Temporary direction and warnings signs to advise of turning vehicles.

iv. Grewgrass Lane:

- Proposed to provide an advisory 30mph speed limit in the vicinity of the access throughout the duration of the works.
- Temporary direction and warnings signs to advise of turning vehicles.

v. B1269:

- Proposed to provide an advisory 30mph speed limit in the vicinity of the access throughout the duration of the works.
- Temporary direction and warnings signs to advise of turning vehicles.

vi. Wilton Complex:

- Drivers will be directed to which entrance to use.

vii. B1380 High Street:

- Temporary direction and warnings signs to advise of turning vehicles.

Construction Traffic Management Plan

8.2.3 The CoCP is to be read in conjunction with a Construction Traffic Management Plan and the Construction Travel Plan.

8.2.4 Requirement 31 of Draft DCO (v7) requires:

(1) No stage of the onshore works may commence until written details of a construction traffic management plan (CTMP) and Construction Travel Plan (CTP), to be used for the management of construction traffic, has been submitted to and approved in writing by the relevant planning authority and the Highways Agency.

(2) *The CTMP and CTP must include details (including agreed routes) for abnormal indivisible loads (AIL) that will be delivered by road (or confirmation that no AILs will be required for construction of the authorised development). The details thereafter approved must be adhered to at all times during the time when AILs are to be transported to or from the authorised development by road.*

(3) *Notices must be erected and maintained throughout the period of construction at construction site exits, in accordance with the CTMP indicating to drivers the routes agreed by the relevant planning authority for traffic entering and leaving sites.*

(4) *Any drilling works that are to be undertaken under highways must be carried out in accordance with Highway Agency's Design Manual for Roads and Bridges.*

9 Water management

9.1 Predicted potential effects

9.1.1 **Chapter 24** Geology, Water Resources and Land Quality of the ES (ref. 6.24) identifies that the main impacts in relation to water resources associated with the construction phase of Dogger Bank Teesside A & B.

9.1.2 There is the potential that excavation of trenches and stockpiling of soil during construction may lead to the alteration of the existing discharge patterns and run-off of contaminated water or sediment entering the adjacent watercourses and water bodies.

9.1.3 Construction phase activities which involve the use of pollutants, such as oil or fuels, may also result in the contamination of surface water resources, but could also affect the groundwater.

9.2 Content of the CoCP

9.2.1 Requirement 24 of the draft DCO (v7) requires:

(1) No stage of the onshore works may commence until written details of the surface and (if any) foul water drainage system (including means of pollution control) for that stage have, following consultation with the relevant sewerage and drainage authorities and the Environment Agency, been submitted to and approved in writing by the relevant planning authority.

(2) The surface water drainage system works must restrict surface water discharge to no more than the greenfield run off rate (1.62 l/s) in line with the recommendations of the Flood Risk Assessment (Appendix B to Chapter 24 of the Environmental Statement).

(3) The submitted details must —

i. provide information about the design storm period and intensity, the method employed to delay and control the surface water discharged from the site (surface water drainage scheme);

ii. include a timetable for implementation (foul surface and water schemes); and

iii. provide a management and maintenance plan for the lifetime of the purposes schemes (foul and surface water management).

(4) The surface and foul water drainage systems must be constructed, managed and maintained in accordance with the approved details unless agreed otherwise and the timing/phasing arrangements embodied within the approved written details.

9.2.2 In order to mitigate the potential impacts to surface water quality where crossing or working near water courses, the following principles should be applied:

i. entry into water will be avoided where possible;

ii. all cables will be installed beneath the active channel bed;

iii. the top of the crossing will be kept below the top of the adjacent bank level to ensure that in the event of high flows, the water will overtop the obstruction, rather than resulting in impoundment and localised flooding;

iv. temporary crossings will be appropriately sized to maintain flow patterns and sediment conveyance, and avoid unnecessary changes to the hydromorphology of the watercourses;

v. clear span bailey bridges (or similar) will be used, in preference to culverts, to avoid impacts to the hydromorphology of the watercourses. Adherence to best practices and guidance to ensure the risk of pollution is minimised (see section 2);

vi. a temporary haul road bridge should be constructed if repeated crossings are required;

vii. if cement etc. is likely to be batched on site a suitable area should be designated and located at an appropriate distance from the watercourse;

viii. works will be thoroughly planned and controlled in order to minimise the risk of pollution;

ix. in areas where there is likely to be large quantities of silt generated, straw bales or sediment traps will be placed in the watercourse downstream to help filter out any silts;

x. where the water flow is high, water will be over pumped during construction to prevent flooding upstream;

xi. adherence to best practices and guidance to ensure the risk of pollution is minimised;

xii. if there is a requirement for dewatering of excavations, water will be pumped out and passed through a settlement tank or lagoon to allow suspended solids to settle out before being discharged to an appropriate location; and

xiii. appropriate treatment methods will be adopted prior to discharge of the water from any land drains uncovered during the construction phase.

9.2.3 In order to mitigate the potential impacts to surface water quality where stockpiling is used:

i. where earthworks are undertaken, soil and water will be managed with sufficient care to prevent surface water run-off;

ii. stockpiles will be designed and positioned in order to minimise erosion, pollution of watercourses or increase flooding; and

iii. all stockpiling will be undertaken at a safe distance from watercourses.

9.2.4 In order to mitigate the potential impacts to surface water quality where HDD is used, the following principles should be applied:

i. in accordance with best practice, the HDD will commence at a safe distance from the edge of the each watercourse. The distance will be agreed with the EA prior to commencement of the works;

ii. the process of HDD involves the use of bentonite (used as a lubricating agent and grout); in order to reduce the risk of pollution of surface waters and / or break out in the river bed the use of these materials will be carefully controlled;

iii. in order to reduce the likelihood of pollution from bentonite and / or grout when working near rivers, hydrophobic (water repelling) grout and quick setting mixes will be used; and

iv. if cement etc. is likely to be batched on site a suitable area will be designated and located at an appropriate distance from the watercourse.

9.2.5 In the discharge of contaminants to surface geology, soils and shallow groundwater, the following principles should be applied:

- good operational practices should be adopted in the construction phase; and
- store oils and fuel within designated areas in impervious storage bunds with a minimum of 110% capacity to contain any leakages of spillages.

9.2.6 In event of dewatering of groundwater to surface water, the following principles should be applied:

- If there is a requirement for dewatering of excavations, water will be pumped out and passed through a settlement tank or lagoon to allow suspended solids to settle out before being discharged to an appropriate location; and
- appropriate treatment methods will be adopted prior to discharge of the water from any land drains uncovered during the construction phase.

10 Public Rights of Way

10.1 Predicted potential effects

10.1.1 **Chapter 23** Tourism and Recreation of the ES (ref. 6.23) identifies a number of Public Rights of Way (PRoW) which may be temporarily affected by the onshore works.

10.1.2 In all cases, any need for a diversion, temporary closure or some form of crossing control will be assessed and agreed with the PRoW Officer at the relevant local authority. The need for closure of any other paths that are located adjacent to or close to the cable route will also require confirmation from the PRoW Officer.

10.2 Content of the CoCP

10.2.1 To reduce impacts on the use of PRoW the following measures shall be implemented as outlined in **Chapter 23** of the ES:

i. Liaison with the PRoW Officer to develop a PRoW strategy, including identifying suitable temporary diversion routes and/or plan appropriate temporary closures /crossing control;

ii. Good communication with local community to inform of any PRoW temporary diversions and closures, to avoid inconvenience;

iii. Minimise duration of closures wherever practicable, with consideration to public safety at all times; and

iv. Reinstatement of all features immediately following construction phase.

11 Terrestrial ecology

11.1 Predicted potential effects

11.1.1 **Chapter 25** Terrestrial Ecology of the ES (ref. 6.25) sets out the likely significant effects on terrestrial ecology as a result of construction. These can arise from direct effects such as habitat loss, habitat fragmentation and the killing and injuring of animals, or indirect effects such as disturbance from lighting at night.

11.1.2 The key sensitive designated sites are identified as within 5km of the study area (see **Chapter 25**) includes:

i. Teesmouth and Cleveland Coast SPA and Ramsar site;

ii. five Sites of Special Scientific Interest (SSSI) (South Gare and Coatham Sands SSSI, Saltburn Gill SSSI, Lovell Hill Pools SSSI, Redcar Rocks SSSI, Tees and Hartlepool Foreshore and Wetlands SSSI); and

iii. two Local Nature Reserves (LNRs) (Guisborough Branch Walkway LNR and Flatts Lane Woodland Country Park LNR).

11.1.3 None of these statutory designated sites however fall within the cable route or converter stations corridor. The closest site is the Lovell Hill Pools SSSI which is just over 2km south at its closest point. Further, none of the sites are linked in any way to the proposed works areas and therefore no impacts are anticipated on any statutory designated sites and therefore no specific measures are required within this code.

11.2 Content of the CoCP

11.2.1 A range of mitigation measures are provided for throughout **Chapter 25** of the ES. These mitigation measures extend to:

i. habitats within the Redcar to Saltburn Coast Local Wildlife Site (LWS);

ii. hedgerows;

iii. bats;

iv. wintering birds;

v. breeding birds;

vi. badgers; and

vii. otters.

11.2.2 To mitigate the impact of construction activities on Redcar to Saltburn Coast LWS, the following principles should be applied:

i. construction working areas will be minimised as far as practicable, especially at the foreshore, and will be fenced to ensure there is no encroachment outside of the agreed working areas;

ii. no storage of materials or machinery will be permitted outside the working width and within the boundary of the LWS;

iii. an Ecological Clerk of Works (ECW) will provide toolbox talks to contractors, supervise vegetation clearance prior to construction and oversee key construction activities;

iv. inform Tees Valley Wildlife Trust in advance of works taking place;

v. strict adherence to all mitigation measures outlined for dust in Chapter 30 Air Quality, including damping down dusty surfaces, temporary covering of earthworks and the implementation of a 'Dust Management Plan'; and

vi. reinstatement of habitats affected by the works following construction.

11.2.3 To mitigate the impact of construction activities on hedgerows, the following principles should be applied:

i. the working areas will be clearly marked out on site to prevent any unnecessary damage or disturbance to land outside the development footprint;

ii. ideally, any vegetation clearance shall be undertaken outside the breeding bird season (early March to end of August inclusive, with seasonal variation). If this is not possible, an ecologist will check the area prior to clearance for active nests. Any active nests will be left in situ with an appropriate buffer within which no works will be undertaken until the nest is no longer occupied; and

iii. following construction, the hedgerow will be reinstated as soon as possible. Hedgerows will be re-planted with native, regionally appropriate, species rich planting grown locally.

11.2.4 To mitigate the impact of construction activities on bats, the following principles should be applied:

i. the working areas will be clearly marked out on site to prevent any unnecessary damage or disturbance to land outside the development footprint;

ii. for night-time lighting at the converter stations site and compounds, and for any occasions where task lighting is required, low pressure sodium lamps will be used (instead of mercury or metal halide lamps). The lighting should be directional and spill minimized through the use of hoods, cowls, louvres or shields. Ideally, movement sensors will be used to reduce the overall duration that lighting is on each night;

iii. following construction, the hedgerow will be reinstated as soon as possible. Hedgerows will be re-planted with regionally appropriate, species rich planting;

iv. should any trees require removal, a bat visual assessment and surveys (if required) will be undertaken. Mitigation will be designed and a licence (if required) obtained from Natural England prior to works; and

v. at the converter stations site, as part of screening, areas of additional native woodland and copses will be planted. This will improve the existing woodland habitat within the converter stations site and provide further opportunities for foraging bats.

11.2.5 To mitigate the impact of construction activities on wintering birds, the following principles should be applied:

i. construction activities within the coastal fields and at the landfall location will be avoided during the key months of November – December. A combination of the following mitigation measures shall be implemented during the remaining autumn/winter months (October, January – March inclusive) in order to reduce impacts further:

- clear fencing of the working area and restriction of personnel movements outside the working area;
- installation of hoarding along the edge of the working area to reduce visual disturbance;
- strict adherence to all mitigation measures outlined in Chapter 29 Noise and Vibration;
- noise levels will be kept to a minimum and wherever possible silenced equipment and sound mufflers will be used; and
- supervision of key stages of the works by an Ecological Clerk of Works (ECW).
- Following construction, reinstatement of all land within the working footprint.
- In addition, a construction method statement for landfall works will be produced prior to the commencement of landfall works (Work Nos. 3A, 4A and 5A and Work Nos. 3B, 4B and 5B) in consultation with Natural England and Marine Management Organisation and submitted and approved as a part of CoCP by the relevant planning authority.

11.2.6 To mitigate the impact of construction activities on breeding birds, the following principles should be applied:

i. the working areas will be clearly marked out on site to prevent any unnecessary damage or disturbance to land outside the development footprint;

ii. ideally, any vegetation clearance will be undertaken outside the breeding bird season (early March to end of August inclusive, with seasonal variation). If this is not possible, an ecologist will check the area prior to clearance for active nests;

iii. should an active nest be found during construction, works will cease immediately and an exclusion zone (the extent will depend on the species sensitivity)will be set up around the nest until the young have fledged;

iv. if the bird is a Schedule 1 species (not anticipated since none have been recorded during surveys), then work will cease and Natural England consulted with regard to an appropriate course of action to avoid disturbance to the species;

v. ensure construction plant and traffic activity is kept to designated access roads to avoid disturbance to ground nesting birds;

vi. following construction, reinstatement of all habitats to their former condition, including hedgerow re-planting with regionally appropriate, species rich planting; and

vii. at the converter stations, as part of screening, areas of additional native woodland and copses will be planted. This will improve the existing woodland habitat within the converter site and provide further opportunities for breeding birds.

11.2.7 Badgers are known to be present in the local area and the construction phase of works is not programmed to begin (earliest) until mid-2015. There is therefore the potential for further setts to have been constructed within or close to the working area. To mitigate the impact of construction activities on badgers, the following principles should be applied:

i. a brief walkover survey will be undertaken of the proposed works area (including cable route, compounds, HDD locations, access points etc.) and up to 50m around, to ensure that no new badger setts have been constructed prior to works beginning;

ii. should a badger sett be identified, appropriate mitigation (e.g. licensing) would be implemented prior to works commencing; and

iii. a means of escape (e.g. plank of wood) will be provided in any excavations left open overnight.

11.2.8 Whilst no signs of otter were recorded during the surveys, on a precautionary basis and for reasons of legal compliance; mitigation will be undertaken for the species. To mitigate the impact of construction activities on otters, the following principles should be applied:

i. during the construction phase of works, the site compounds will be securely fenced to prevent otters entering the compounds. There will be strict adherence at all times to pollution prevention guidelines, in order to minimise the risk of pollution;

ii. during the brief walkover survey for otters, the five watercourses that will be crossed by the cable will be re-assessed for their potential to support otter; and

i. should any watercourse be considered suitable for the species, an otter survey will be undertaken and if otter signs are detected, appropriate mitigation would be implemented in advance of works taking place.

12 Terrestrial archaeology

12.1 Predicted potential effects

12.1.1 The construction process of the HVDC cable route and the HVAC route have the potential to have a direct impact upon buried archaeological remains due to the removal of topsoil and the excavation of trenches along their working width. In addition the works compounds and the infrastructure to be constructed at the converter stations also require removal of topsoil which could impact upon archaeological remains. Terrestrial Archaeology is considered in **Chapter 27** Terrestrial Archaeology of the ES (ref 6.27).

12.2 Content of the CoCP

12.2.1 The CoCP will be in accordance with the approved Written Scheme of Investigation (WSI) in relation to archaeological investigation. This is in accordance with, and will be enforced through Requirement 25 of the draft DCO (v7). In summary, the WSI will identify where field work and/or a watching brief are required, and the measures to be taken to protect, record or preserve any significant archaeological remains that may be found. It will include:

i. a pre-construction programme of archaeological evaluation;

ii. the programme and methodology of site investigation and recording;

iii. the programme for post investigation assessment;

iv. the provision to be made for analysis of the site investigation and recording;

v. the provision to be made for publication and dissemination of the analysis and records of the site investigation; and

vi. nomination of a competent person or organisation to undertake the works set out within the WSI.

12.2.2 A range of mitigation measures are provided throughout **Chapter 27** of the ES. These mitigation measures extend to:

i. Brickearth Extraction Pit;

ii. Geophysical Survey Area 8a;

iii. Geophysical Survey Area 11;

iv. Geophysical Survey Area 17; and

v. Previously unrecorded assets.

12.2.3 In order to mitigate the potential impacts to archaeological assets during construction:

i. an archaeological mitigation strategy will be produced which will set out the methodology for conserving the archaeological resource and will entail a systematic programme of archaeological investigation comprising one or all of the following stages of work:

- detailed desk-based research;
- trial trench evaluation;
- detailed excavation, post-excavation assessment and analysis;
- watching brief during specific construction activities, recording and reporting; and
- deposition of archive with RCBC and Tees Archaeology.

ii. the mitigation strategy will be discussed and agreed with RCBC; and

iii. all stages of field work and reporting will be in accordance with IfA guidance and a WSI.

12.2.4 In order to mitigate the potential impacts to archaeological assets during construction in relation to the World War II gun emplacement, located at the landfall immediately landward of the Coast Road, prior to construction works, the asset will be fenced to create a physical barrier between the asset and construction activities.

13 Protection of Geological features

13.1 Predicted potential effects

13.1.1 General trenching, piling and drilling activities associated with the construction of the High Voltage Direct Current (HVDC) and High Voltage Alternating Current (HVAC) cable routes have the potential to have a direct impact upon geological features. The protection of geological features is considered in **Chapter 24** Geology, Water Resources and Land Quality of the ES (ref. 6.24).

13.2 Content of the CoCP

13.2.1 A range of mitigation measures are provided for in **Chapter 24** of the ES which reduce the impacts on underlying geology. This include measures for avoiding the likelihood of spills and leakages, such as:

i. the implementation of properly designed shoring systems to avoid unstable excavations;

ii. the removal of superficial deposits should be minimised wherever possible;

iii. storage of oils and fuel within designated areas in impervious storage bunds with a minimum of 110% capacity to contain any leakages of spillages;

iv. limiting of refuelling activities to designated, impermeably surfaced areas and use drip traps where possible;

v. checking and maintain equipment regularly to ensure that leakages do not occur;

vi. having spill kits available on site at all times; and

vii. ensuring site inductions are completed for all staff including contractors and sub-contractors; include the above procedures and the locations of spill kits.

14 Summary

14.1.1 The sections of this Outline CoCP bring together and summarise mitigation proposed through the ES and following discussions with stakeholders including the local community. It is considered that the measures outlined in the CoCP will ensure that the construction of the onshore element of the proposed development is carried out in a manner which results in good levels of environmental protection and limits disturbance from construction activities as far as reasonably practicable.

14.1.2 By securing this mitigation through Requirements within the draft DCO, and the submission of a binding CoCP post-consent based upon the detail in this outline, it is considered that the impacts of the construction phase will be controlled sufficiently to ensure the construction will be carried out in a responsible and safe manner.