



Galloper Wind Farm Project
Response to Development Consent Order
Part 3 Requirement 28
Construction Code of Practice (Onshore)

June 2013
Document Reference – GWF R28 050613

Galloper Wind Farm Limited



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1 INTRODUCTION

1.1 General

- 1.1.1 This document relates to the proposed Galloper Wind Farm (GWF) project, to be constructed off the coast of Suffolk, and associated infrastructure to connect to the national electricity transmission system at Sizewell, Suffolk. It forms part of a series of submissions to Suffolk Coastal District Council in response to requirements set out in Part 3 of the Galloper Wind Farm Order 2013.
- 1.1.2 The Galloper Wind Farm Order 2013 was made by on the 24th of May 2013, having received a direction from the Secretary of State for Energy, following an examination by the National Infrastructure Directorate of the Planning Inspectorate.
- 1.1.3 The CCOP is essentially the same as the draft submitted by GWFL with the application and revised during the examination process, except that it has been edited to make it appropriate to the first stage of the development, the Enabling Works. Section 2 of this document sets out the relevant Requirement being addressed, whilst the draft CCOP contained in Appendix 1 sets out GWFL's interpretation of this Requirement and how it will be met.
- 1.1.4 The CCOP refers to a number of subsidiary plans or schemes that. It is proposed that the principal contractor for each stage of the project will prepare CCOP. The plans include the following, which will be reviewed by the GWFL Environmental manager and monitored on site by the GWFL Environmental Clerk of Works -
- Construction Environmental Management Plan
 - Site Waste Management Plan
 - Construction lighting scheme
- 1.1.5 The following plans, required by the CCOP have been prepared as drafts by GWFL, in consultation with SCDC and SCC, and will be kept as working documents and revised as required -
- Construction Traffic Management Plan
 - Local Liaison Plan

Where plans have been prepared by GWFL, the principal contractor will be required to adopt and comply with the plans.

2 DCO PART 3 REQUIREMENT

2.1 Requirement 28 – Construction Code of Practice

2.1.1 The Draft DCO states:

No part of the connection works or the transmission works shall be commenced until a construction code of practice relating to the relevant part of the relevant works has been submitted to and, after consultation with the highway authority and Natural England, approved by the relevant planning authority in relation to the relevant part of the relevant works.

The code shall cover all the subject areas set out in the final draft code submitted as part of the examination and as certified by the decision-maker and any other matters the relevant planning authority reasonably requires. The code approved in relation to the relevant part of the relevant works shall be followed in relation to those works, unless otherwise agreed by the relevant planning authority.

Appendix 1: Galloper Offshore Wind Farm, Construction Code of Practice Version June 2013



Galloper Wind Farm Project

Onshore Construction Code of Practice
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1 INTRODUCTION

1.1 General

1.1.1 This document relates to the proposed Galloper Wind Farm (GWF) project, to be constructed off the coast of Suffolk, and associated infrastructure to connect to the national electricity transmission system at Sizewell, Suffolk. The draft CCOP formed part of the Application documents supporting the Application for a Development Consent Order (DCO) by GWFL to the Infrastructure Planning Commission (IPC) for authority to construct and operate GWF. This Construction Code of Practice (CCOP) is secured by a requirement attached to the DCO that was authorised by the Secretary of State for Energy on the 24th of May 2013.

1.1.2 This CCOP has been designed to provide protective provisions that address the main environmental issues that have been identified relating to the onshore works, from Mean Low Water Springs (MLWS) to the connection into National Grid Electricity Transmission's plc (NGET) existing overhead transmission assets, both existing and proposed, during the site preparation, construction and commissioning phases of the project.

1.1.3 The CCOP provides a vehicle, enforceable through the DCO, through which the Local Authorities (LAs) can gain confidence that environmental impacts associated with the construction of the onshore infrastructure will be formally controlled and mitigated. The CCOP will achieve this through agreed site practices and mitigation and reinforces commitments made in the Environmental Statement (ES). It also complements the other requirements set out in Schedule 1, Part 3 of the DCO.

1.2 Purpose and Scope

1.2.1 The purpose of this document is to support the construction management team in its duties to help ensure that the pre-construction and construction phases of the onshore elements of GWF comply with:

- European and UK legislation;
- relevant requirements in the DCO;
- environmental commitments as set out in the ES; and
- environmental and construction best practice.

1.2.2 This document has been compiled with the objective of bringing together these aspects into one cohesive document for the onshore works and formalises commitments made to the LAs and certain statutory consultees in the ES. It provides for mitigation measures identified in the ES that accompanies the Application that are not secured by other means.

1.2.3 The intention of the CCOP is to define minimum standards of construction practice that GWFL will require as a responsible Client. These measures are

intended to protect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of the proposed onshore works.

1.2.4 Failure to adhere to the provisions within the final approved CCOP will be considered to be non-compliance with requirement 28 of the DCO, which states:

“...The code approved in relation to the relevant works shall be followed in relation to those works, unless otherwise agreed in writing by the local planning authority.”

1.2.5 The onshore works and geographical scope of this document are defined to include:

- Export cable(s) installation from MLWS to the transition bays, including directional drilling;
- Temporary works associated with beach, directional drilling and transition bay excavation;
- Onshore cable(s) installation along the cable corridor including jointing bays and directional drilling;
- Temporary works associated with the cable corridor and substation enabling works;
- Substation, access road and peripheral works installation;
- Interface between the GWFL assets and existing NGET assets including substation, sealing end compound(s), intermediate gantries and downloads from existing overhead line(s); and
- Reinstatement and mitigation works enacted during the construction phase.

1.2.6 Herein, as in the DCO, these works are collectively referred to as the ‘transmission works’ and the ‘connection works’. In practice, it is expected that the benefit of the DCO in relation to the transmission works will be transferred to NGET, who will deliver those works.

1.2.7 The scope of this document is not intended to identify the responsibilities at a “grass roots” level or provide specific detailed methods, but rather to outline approaches to be taken and highlight the proposed content of the code. Practical compliance arrangements would be dealt with via a construction Environmental Management Plan (onshore works) (“EMP”) issued direct to the contractor(s) (see **Section 2.4.6** and other targeted construction procedures, for example, Site Waste Management Plan (SWMP), Ecological Mitigation and Monitoring Plan and Landscape Management Plan).

1.2.8 The EMP will amplify some of the environmental management requirements in the final agreed CCOP, detailing how these elements will be managed and

expectations on the contractors to comply, as well as details for formally discharging obligations, roles and responsibilities, monitoring and corrective action. Other management protocols set out in this CCOP will be developed and implemented for the construction stage and subsequent approval sought with the LAs. Taken together the CCOP and other management protocols will ensure suitable actions are taken in the prevention, reduction and offsetting of impacts as described in the ES.

- 1.2.9 Subsidiary construction procedures and plans such as the EMP and SWMP will be developed by contractors. as the project proceeds and when all necessary consents have been obtained to carry out the construction activities.
- 1.2.10 In addition to this CCOP, GWFL has produced a draft Local Liaison plan, addressing how the community will be kept informed, how enquiries will be dealt with and a draft scope for a Local Liaison Committee. This plan involves interaction with the community and needs to be flexible to adapt to changing circumstances. The draft plan is being submitted for comment to SCDC as a separate document so that it is flexible and can be adapted easily as the project develops.
- 1.2.11 This CCOP is submitted for approval, taking into account views from relevant consultees including the Highways Authority (Suffolk County Council) and Natural England. The Environment Agency were also consulted regarding the draft CCOP a protocol has been agreed whereby they will be asked to comment on the contractors Construction Environmental Management Plan and invited to a site meeting once the contractor is established on site to discuss pollution prevention measures.

2 GENERAL PRINCIPLES

2.1 Construction Principles

- 2.1.1 GWFL's Construction Manager and the construction management team will be responsible for implementation of the CCOP provisions, for monitoring and ensuring that the various construction contractors are in compliance with these requirements. The practical arrangements and responsibilities conferred to the construction contractors will be detailed in further management protocols to be developed, including the construction EMP and SWMP.
- 2.1.2 The provisions of the CCOP (or relevant CCOP for a particular element of the works) will be incorporated into the contracts for the construction of GWF, and will be required to be adhered to as a requirement of the DCO. GWFL and its contractors implementing GWF will be required to comply fully with the terms of the CCOP.
- 2.1.3 The aims are to mitigate nuisance to the public and to safeguard the environment during construction. Construction activities will be monitored and policed by an Environmental Clerk of Works (ECW) supported by other specialists as necessary (e.g. ecological, landscaping or archaeological watching briefs, auditors).
- 2.1.4 In this document, "construction" includes all pre-construction site preparation, enabling works, and materials delivery, earthworks, waste removal and all engineering, construction and commissioning activities. The agreed CCOP will apply throughout the construction, commissioning and period of GWF, including reinstatement of temporary works. Provision will be made for monitoring and auditing compliance and rectifying any breaches of the CCOP during construction.

2.2 Environmental Principles

- 2.2.1 GWFL is committed to continual improvement in environmental performance based on the principles of sustainable development. The implementation of an environmental management plan is a cornerstone of this process. All employees and sub-contractors of GWFL have a responsibility to ensure the utmost consideration for the environment. To achieve this GWFL will:
- Strive to continually improve environmental performance by working by the principles of sustainable development;
 - Employ best management practices to minimise any adverse effects to the environment and ensure all relevant environmental legislation is complied with;
 - Comply with the conditions of the DCO and supplementary Schedules and this CCOP;

- Throughout construction, apply appropriate pollution prevention principles and follow the project EMP plans to continually improve performance; and
- Measure and openly report environmental performance.

2.2.2 The main aim is to construct GWF in an environmentally sound manner.

2.2.3 All staff and sub-contractors involved in the construction of the GWF project will be committed to achieving environmentally sound operations through effective management practices. This will be achieved by:

- Complying with all relevant legislation. A GWF Register of Legislation will be maintained and communicated effectively to relevant personnel who will ensure all aspects are complied with;
- Taking all reasonable steps to avoid pollution of the environment;
- Minimising waste generation and maximising recycling of waste,
- Proper management of hazardous substances, ensuring correct handling and storage;
- Undertaking Environmental Risk Assessment on method statements;
- Reviewing all construction and operations procedures to ascertain which areas may have possible environmental impacts;
- Implementing all necessary mitigation measures to control those operations that may have a significant effect on the environment;
- Evaluate environmental performance, on a regular basis, through appropriate audits and reviews and to strive for constant improvement towards environmental best practice; and
- Ensuring all sub-contractors and staff are adequately trained for the tasks they are to undertake and are aware of all environmental implications.

2.3 Health and Safety Principles

2.3.1 GWFL fully understands its duties under health and safety legislation including the Health and Safety at Work Act 1974, the Construction (Design and Management) Regulations 2007 (CDM 2007), the Construction (Health, Safety and Welfare) Regulations 1996, and the Management of Health and Safety at Work Regulations 1999.

2.3.2 GWFL is committed to protecting employees, contractors and third parties (including visitors and the general public) from ill-health, injury or harm arising from construction of the onshore works. Appropriate management controls will be developed to manage and control risk, provide safe systems of work and reduce the consequences of failures and harm to people.

2.3.3 GWFL is committed to:

- integrating Health and Safety (H&S) into how GWFL do business;
- working systematically to understand and manage all risks related to GWFL's business activities;
- taking responsibility for our own and other's safety and security, including stopping unsafe acts and conditions. This will be done by establishing a just, fair and open safety culture that rewards safe and responsible behaviour;
- providing a safe and attractive place to work and a healthy working environment characterised by respect, trust and cooperation;
- establishing H&S management systems incorporating work processes, goals and performance indicators in the overall management of business;
- assessing GWFL's H&S performance by adopting continuous improvement processes based on surveys and risk assessments. Industry best practice, as a minimum, shall be used for benchmarking;
- demonstrating the importance of H&S through hands-on leadership and behaviour;
- ensuring that all employees are made aware of their respective duties and responsibilities for H&S management by effectively communicating GWFL's Policy to all employees, ensuring that they are made aware of their individual obligations;
- providing GWFL employees with the necessary resources, equipment and training to deliver according to designated responsibilities, and ensuring that all Contractors have the systems in place to comply with GWFL's H&S Policy;
- cooperating with GWFL's contractors and suppliers based on mutual trust;
- ensuring that GWFL's emergency preparedness, in the case of accidents, shall do the utmost to reduce injury and loss; and
- ensuring necessary quality in GWFL's plants and maintenance to prevent accidents.

2.3.4 A GWF H&S policy will be implemented in line with corporate integrated Management Systems that incorporate the parent company's H&S Principles.

2.3.5 The overall responsibility for H&S management throughout the project is vested with the Project Manager. Project governance procedures for H&S will be developed, adjusted and implemented throughout the construction of the project executed in accordance with the Construction Stage H&S Plan and the CDM Management Plan.

2.3.6 CDM 2007 sets out duties and requirements on clients, principal contractors, contractors and designers in order to integrate H&S into the planning and management of projects. The focus being on planning and management

throughout construction projects from design concept through to decommissioning.

2.3.7 GWFL shall comply with standard requirements for CDM 2007 compliance and co-ordination. The intention is to ensure that:

- Construction safety through design is given the highest priority;
- CDM principles/duties are adopted at an early stage and at the appropriate level;
- legislative compliance is achieved; and
- an auditable and robust approach is adopted for project design development and competence of designers.

2.3.8 The project will ensure that project roles including Client, CDM-coordinator, Designer and Principal Contractor(s) according to CDM Regulations and ACoP, are nominated.

2.3.9 A water supply main is located toward the western boundary of Pillbox Field. Northumbrian Water, as the owners of the water supply main have been consulted by GWFL with regard proposed crane oversail areas which pass above the water supply main. The prime concern raised by Northumbrian Water was with regard the health and safety of employees if maintenance of the water supply main needed to be carried out. GWFL have agreed to provide Northumbrian Water with the detailed proposals with regard construction of the tower arm before construction commences.

2.4 Implementation Responsibilities

2.4.1 GWFL will have overall responsibility for ensuring that the commitments within this CCOP are executed, complied with and discharged. It will manage the co-ordination of submissions to the LAs for approval and also for notifications and provision of survey and other data pursuant to certain duties herein. The Construction Project Manager will be responsible for ensuring commitments are being met and management protocols and construction procedures are audited and remedial actions enforced

2.4.2 GWFL's contractors and subcontractors will be required to comply with the requirements for construction management and environmental mitigation works, be they civil works for the purposes of mitigation, method statements including environmental management measures, or good practice, to ensure mitigation is effectively delivered during construction.

Construction Environment Management Plan

2.4.3 The onshore Construction EMP will set out the specific control measures necessary to deliver the requirements of the CCOP, providing the vehicle through which the environmental and amenity impacts associated with the onshore construction of GWF will be managed. The EMP has three functions:

- to provide requirements to contractors on how to prevent and/or mitigate environmental impacts occurring in order to comply with this CCOP;
- to provide a compliance tool to ensure statutory consents, including those measures set out herein, are complied with; and
- to provide a means to monitor, measure and improve project environmental performance.

2.4.4 The EMP for GWF will focus on the compliance and policing of the construction phase to ensure that mitigation commitments, ecological management, pollution prevention measures, incident reporting and environmental site best practice are adhered to by the Contractor; to include for example:

- defined controls set out for physical and ecological environment mitigation;
- measures to minimise effluent discharge including oils and chemicals and procedures to deal with any spills and incidents;
- a chemical risk assessment to include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance;
- waste management and disposal arrangements;
- incident reporting, non-conformance, corrective action and audit provisions; and
- measures set out to minimise impacts on public amenity, including requirements for lighting, noise, transport and landscape mitigation.

2.4.5 The Construction Project Manager and the construction management team will review the EMP and ensure there are adequate resources to fully implement it.

Site Waste Management Plan

2.4.6 GWFL will establish a SWMP to ensure appropriate arrangements are in place for dealing with any waste produced during the construction phase and to ensure legal compliance in terms of waste carriage, transfer and disposal.

2.4.7 Waste generated during the construction phase of GWF has an environmental impact, during production of the waste and also disposal. Waste not disposed of properly may have an impact upon the environment, posing a hazard to other users, and can directly affect the amenity of local stakeholders.

2.4.8 GWFL will comply with relevant waste legislation under its Duty of Care and actively promote the waste hierarchy in terms of promoting waste re-use, recycling and minimisation.

2.4.9 The main objectives with regard to managing the generation and disposal of waste are as follows:

- to minimise the generation of waste during the construction and operational phases, wherever possible;
- to encourage re-use, wherever possible;
- to ensure appropriate segregation and storage of waste;
- to ensure correct disposal of waste generated; and
- personnel to understand waste management plans.

2.4.10 The objectives set out in 2.4.9 will ensure that any waste generated is closely monitored in terms of legal compliance and that waste prevention, re-use or recycling opportunities are maximised.

2.4.11 It is proposed that waste oils will be stored with secondary containment accommodating 110% of the storage tank capacity to prevent oil escaping to the environment. Procedures required for storage, removal and accidental spillage will be defined in the “Pollution Incident Response Plan” with spill kits available adjacent to the oil storage unit. The following best practice measures are proposed:

- drip trays provided for machinery and emptied as necessary;
- machinery repaired and maintained, where practicable, in suitable designated locations;
- facilities provided to ensure appropriate waste management and waste separation;
- wheel washing facilities located away from watercourses; and
- any pumped water discharged via settlement ponds or filter strips prior to direct discharge to vegetation, (although no ponding in excavations is foreseen).

Local Community Liaison

2.4.12 Maintaining good public relations with local residents that may be affected by noise or other amenity aspects caused by the construction works will be managed by GWFL and co-ordinated on site by a designated member of the construction management team. A proactive public relations campaign will be put in place, 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 will be employed to keep local residents informed.

2.4.13 A designated local community liaison officer nominated from the construction management team will field and respond to any public concerns, queries or

complaints in a professional and diligent manner as set out by a project community and public relations procedure which will be submitted for comment to the LAs.

2.4.14 Residents groups in the relevant area and local fishermen will be contacted (in writing) in advance of the proposed works and ahead of key milestones. This information will include a timetable of works, a schedule of working hours, the extent of the works, and a contact name, address and telephone number in case of complaint or query. Information will also be displayed on the information board adjacent to the Sizewell Beach café. Enquiries will be dealt with in an expedient and courteous manner. All complaints will be logged, investigated and where appropriate take rectifying action.

2.4.15 In order to build on the experience of construction communications during the Greater Gabbard project, GWFL propose (in addition to the above) to establish a local liaison committee made up of representatives of GWFL and representatives of the main contractors for the onshore and offshore works. GWFL believe the following is appropriate:

- GWFL will invite the District Council, relevant local parish councils, and other relevant local interest groups to nominate representatives to join the local liaison committee
- The liaison committee will provide a forum in which consultation can take place to consider the effects and issues which may arise from the onshore and offshore works during their construction
- The liaison committee will meet on a regular basis, expected to be once every 3 months during the construction of the onshore and offshore works.
- GWFL will determine when to hold meetings of the Liaison Committee and will carry out appropriate advance publicity, in consultation in both cases with the Suffolk Coastal District Council and the Sizewell Residents Association.
- GWFL will nominate their own representative as a liaison officer to act as a consistent point of contact for members of the liaison committee. The Liaison Officer may be supported by a direct day-day contact from the principal contractor on the site for immediate construction queries. The GWFL liaison officer will be a member of the liaison committee.
- Regular letters/newsletters and email updates will be provided to the liaison committee between meetings for wider dissemination to the local community

3 GENERAL SITE ARRANGEMENTS

3.1 Working Hours

3.1.1 Working hours are specified in requirement 29, Schedule 1, Part 3 of the DCO. During the construction period normal working hours will be between 0700 hours and 1900 hours Monday to Saturday, with no activity on Sundays or public holidays

3.1.2 In certain circumstances, when work is required to be undertaken at specific times to maintain construction programme or address particular logistical, construction or environmental constraints (e.g. tidally dependent works), such as continuous processes lasting more than 12 hours or where emergency works are required, different working hours may be required. These are set out in the DCO and include:

- where continuous periods of operation are required, such as concrete pouring and directional drilling;
- for the delivery of abnormal loads to the relevant works, which may cause congestion on the local road network;
- where works are being carried out on the foreshore;
- where connection works to the overhead power lines are being carried out; and
- as otherwise agreed in writing with the relevant LAs.

3.1.3 Consideration of local activities that may act cumulatively with or be affected by GWFL construction activities taking place outside of normal working hours are controlled by draft DCO requirement 28(2) which requires all construction operations which are to be undertaken outside of normal working hours are to be agreed with the relevant planning authority in writing in advance.

3.1.4 Traffic movements relating to construction staff travel to and from their place of work are not included in the timeframes quoted above.

3.2 Construction Site Layout and Good Housekeeping

3.2.1 Prior to any enabling works being carried out, investigations and all appropriate actions shall be undertaken concerning existing infrastructure, structures, walls, roadways, sewers, cables and other services, apparatus and installations. Ground radar survey and other survey findings have been recorded for subterranean infrastructure and services and will be provided to all contractors prior to works commencing. Existing infrastructure will be safeguarded from harm, disturbance or deterioration during the construction period.

3.2.2 A good housekeeping policy shall be applied across all construction areas throughout the construction period. This shall include the following requirements:

- all working areas shall be kept in a clean and tidy condition;
- all site compound areas shall be non-smoking. Specific areas within the worksites shall be designated as smoking areas and shall be equipped with containers for smoking waste. These shall not be located at the boundary of working areas or adjacent to areas deemed sensitive to local residents, workers or visitors;
- open fires and burning of rubbish are prohibited at all times;
- radios (other than two-way radios used for the purposes of communication related to the works) and other forms of audio equipment shall not be operated on any worksite;
- site waste susceptible to spreading by wind or liable to cause litter shall be stored in enclosed containers;
- waste shall be removed in skips at frequent intervals and the site kept clean and tidy;
- static plant should have suitable drip tray protection;
- hoardings and boundary fences shall be frequently inspected, repaired and repainted as necessary;
- adequate welfare facilities shall be provided for all site staff and visitors; and
- food waste shall be removed frequently.

3.2.3 All working areas shall be inspected as required by a site inspection programme (if required under the Environmental Management Plan) and a written report on compliance with this section of the CCOP shall be provided to the Construction Project Manager on a regular basis. Access to all areas of the works shall be given to any relevant visiting inspectors under the site inspection programme. GWFL shall give visiting inspectors all reasonable assistance during their site inspection.

3.2.4 During earthworks, topsoil and subsoil will be separated, stored and adequately protected during construction.

3.2.5 Reinstatement of field drains and drainage systems shall be undertaken where necessary following excavation.

3.2.6 **Sections 3.3, 3.4, 4, 5, 8 and 9** provide additional specific details relating to site arrangements, layout and housekeeping. Further specific detail and management measures will also be set out in the EMP.

3.3 Screening and Fencing

3.3.1 Site fencing requirements are controlled under requirement 24, Schedule 1, Part 3 of the DCO, which requires details of permanent and temporary fencing, walls and other means of enclosure to be submitted to the relevant planning authority for approval before any onshore works can commence.

This section summarises the expected proposals in greater detail pursuant to this requirement.

3.3.2 All working areas shall be sufficiently and adequately fenced off from members of the public and to prevent animals from straying on to the construction areas. Hoardings shall be selected to suit the location but may be:

- a wire mesh fence, where appropriate for minimum security needs; or
- a 2.4m minimum height, plywood faced, timber framed boundary hoarding or other hoarding providing equivalent security and noise attenuation in the vicinity of noise sensitive neighbours; or
- other designs where a particular appearance, acoustic rating or ecological performance is considered to be required and is agreed with the LAs.

(a) Woodland/Hedgerow protection

3.3.3 Full details showing the position of fencing to protect all woodland areas, trees and hedgerows shown to be retained within the development will be submitted to the LAs and approved prior to construction. The protective fencing will comply with BS 5837, and be erected to demarcate the canopy spread of the trees and hedgerows.

(b) Temporary works fencing along cable route

3.3.4 Temporary stock proof fencing will be constructed along the boundaries of the temporary works area along the remaining parts of the onshore works not described above, including along the cable corridor and directional drilling/transition bay working area in accordance with the fencing specification for fences set out in the Specification for Highway Works, Vol. 3 (BS1722 Part 2), or equivalent, using single wire detail or sheep netting with similar horizontal spacing.

(c) Temporary works fencing beach area

3.3.5 Heras fencing, or other equivalent fencing types, will be utilised to enclose any temporary works, including excavation of directional drilling reception pits or beach cable pull-in. All installation activities on the beach will be managed to ensure that the construction works are protected to reduce, so far as reasonably practicable, inconvenience to the public and to ensure the safety of the public and site staff.

3.3.6 The location and design of site boundaries, hoarding and temporary structures adjacent to the public highway shall permit adequate visibility at junctions and proper forward visibility along the highways in accordance with Department for Transport guidance and the requirements of the local Highway Authority.

3.3.7 An information board shall be provided detailing information on the site programme and estimated duration of the works, together with the web

address and the 24 hour telephone number for use by members of the public who wish to lodge complaints or comments.

- 3.3.8 All temporary fencing and hoarding shall be removed as soon as reasonably practicable after completion of works.

3.4 Lighting and Visual Intrusion

- 3.4.1 Permanent lighting arrangements are controlled in requirement 31, Schedule 1, Part 3 of the DCO and are not relevant to the CCOP. This section of the CCOP deals with construction related lighting.

- 3.4.2 Details of the location, height, design and luminance of all floodlighting to be used during the construction of the project, together with measures to limit obtrusive glare to nearby residential properties, will be set out in a written scheme to be submitted to the LAs for approval prior to construction commencing.

- 3.4.3 Temporary construction buildings, equipment and lighting shall be sited so as to minimise visual intrusion and light spillage, in so far as is consistent with the safe and efficient operation of each worksite

- 3.4.4 Site lighting shall be positioned and directed to minimise nuisance to footpath users, residents, to minimise distractions to passing drivers on adjoining public highways and to minimise skyglow, so far as reasonably practicable.

- 3.4.5 Lighting spillage will avoid or minimise impacts on ecological resources, including nocturnal species. Further details on control measures are provided in **Section 9**.

- 3.4.6 So far as is practicable, all power to temporary lighting shall be taken from mains supplies rather than from portable generators. Where portable generators are used, industry best practice will be followed to minimise noise and pollution from such generators.

- 3.4.7 The approved lighting scheme will be maintained throughout the construction of the relevant works.

3.5 Site Security

- 3.5.1 Adequate security shall be exercised by GWFL to protect the public and staff, prevent theft from or damage to the works, and prevent unauthorised entry to or exit from the site. Site gates shall be closed and locked when there is no site activity and appropriate security measures shall be implemented.

3.6 Temporary Living Accommodation

- 3.6.1 There are no proposals for providing temporary living accommodation for construction staff.

3.7 Welfare

- 3.7.1 The construction areas shall be serviced by temporary construction offices and necessary welfare facilities, including mess rooms, locker rooms, showers and toilet facilities, plus facilities for mobile construction teams either at the beach area or along the cable corridor, in compliance with relevant legislation and codes of practise.

3.8 Clearance of Site on Completion

- 3.8.1 Restoration of land is controlled under requirement 33, Schedule 1, Part 3 of the DCO. Areas temporarily affected by works will be restored to at least their original condition through planting, smoothing of tracks, and/or natural regeneration as agreed with the LAs and landowners.
- 3.8.2 Agricultural land that is not part of the operational footprint, i.e. most of the cable corridor, will be fully reinstated to allow existing land use practices to resume.
- 3.8.3 Reinstatement of temporary works will take place following the completion of each phase of activity, or otherwise at least within six months of completion of construction.
- 3.8.4 Specific controls for reinstatement of beach sediments and access arrangements are covered in **Section 4**. Any geotextile or other matting to protect dune/beach sediments from construction traffic along the access routes will be removed.

3.9 Emergency Planning in relation to Sizewell Nuclear Power Stations

- 3.9.1 GWFL and EDF Energy will work together to agree a detailed Emergency Response Plan for each relevant part of the GWF Onshore Works, through integration with the 'on-site' emergency plan. This plan is overseen by the Emergency Planning Consultative Committee which is chaired by EDF Energy and has a wide public sector membership, including SCDC and SCC.
- 3.9.2 The Emergency Response Plan for each relevant part of the GWF Onshore Works will be agreed before construction work commences on that part of the works.
- 3.9.3 Contractors employed on by GWFL will be required to comply with the relevant Emergency Response Plan.

4 TRANSPORT MANAGEMENT

4.1 Objective

4.1.1 This section presents an outline Construction Traffic Management Plan (CTMP) which reflects the findings of the ES and sets out standards and procedures for managing the environmental impact of traffic associated with the construction works. Prior to commencement of construction a detailed CTMP will be agreed with the local authorities based on the outline included in this section.

4.2 General Provisions

4.2.1 Measures will be implemented in order to minimise the potential impacts on public highways, including public rights of way, from construction traffic and all activities associated with the onshore construction works (also see **Sections 4.3-4.8**).

4.2.2 There are no proposals during construction for any temporary road closures or the closure, or diversion, of any public rights of way.

4.2.3 Any temporary traffic signs, road markings, lamps, barriers and traffic control signals, and such other measures as are necessary in accordance with good highway management practice, will be erected and thereafter maintained for the duration of the construction activity to which they are relevant. This will be undertaken in accordance with the Department for Transport's Chapter 8: Traffic Safety Measures and signs for road works and temporary situations (2006).

4.2.4 Traffic signs will be provided in accordance with the Traffic Sign Regulations and General Directions 2002 for each access as follows:

- as advance warning of the approach to the construction site(s) and access points;
- for control of traffic leaving the site, "Give Way" signs and road markings shall be in place; and
- the precise location of each sign shall be determined by the Contractor and agreed with the highway authority.

4.2.5 No work that affects the public highway shall be commenced until all traffic safety measures necessitated by the work are fully operational.

4.2.6 Areas/locations of parking provision for site and construction traffic shall be defined prior to the commencement of works.

4.2.7 No daytime or overnight parking of site or construction vehicles outside any construction compounds or worksites shall be allowed except where the delivery or removal of materials is taking place at that location or with prior agreement with the local authority.

- 4.2.8 Any damage to street furniture, as a consequence of construction activities connected with GWF, shall be reported to the Construction Project Manager and the appropriate owner or authority (unless the appropriate owner cannot be identified) immediately on discovery of the damage. Any damage shall be replaced or made good as soon as practicably possible and to the reasonable satisfaction of the owner of the street furniture or other feature.

4.3 Construction Traffic Management Plan

- 4.3.1 Neither the connection works nor the transmission works shall be commenced until a Construction Traffic Management Plan has been submitted to and approved in writing by the highways authority in relation to the relevant works. The CTMP will include the following measures:
- Phasing deliveries as far as reasonably practicable to ensure that HGV movements are evenly spread through the day to avoid unnecessary traffic congestion;
 - Ensuring HGVs and abnormal loads use the prescribed construction traffic route to the site;
 - Providing details of how the agreed construction traffic route will be identified for deliveries and how this will be monitored to ensure that traffic does not select alternative routes;
 - Timing of continuous activities to avoid known periods of peak traffic activity and to avoid major community activities;
 - Introduction of temporary traffic calming measures (speed restrictions) along Lover's Lane and Sizewell Gap Road (subject to obtaining necessary approval from the relevant Highway Authority), to minimise pedestrian severance. This is in line with suggestions received from local residents during formal consultation;
 - Ensuring measures are in place to minimise the effects of nuisance from construction traffic noise and vibration, dust and air quality; and
 - Any other compliance measures set out in **Section 4** of this CCOP.
- 4.3.2 The CTMP will take account of safety implications along the route, looking at particular features such as the bends on the B1122 south west of Middleton Moor where there have been loss of control accidents in the past and the approaches to the household waste site on Lovers Lane.
- 4.3.3 It is anticipated that temporary traffic calming measures (speed restrictions) can be achieved by a Temporary Order or orders. GWFL agree to pay to the Council on completion of the Temporary Order reasonable legal costs incurred in the negotiation, preparation and execution of the Order or orders, which is expected to be approximately £1,000 per order.

- 4.3.4 GWFL and its contractors will ensure that, where practicable, onsite haul roads are maintained in good condition with no pot-holes or other significant surface irregularities to reduce nuisance from mobile plant noise.
- 4.3.5 Construction traffic will be monitored and controlled through implementation of the CTMP.

4.4 Construction Site Access

- 4.4.1 Construction site access points are set out in the DCO application and are almost identical to those utilised during the GGOWF construction.
- 4.4.2 Shared existing access points to agricultural fields shall be agreed for use for construction purposes with landowners and tenants, as necessary.
- 4.4.3 Where directional drilling or cable pull-in works take place on the foreshore, the construction footprint will be fenced from the public in such a way that users of the coastal paths and public rights of way do not experience any severance to access along the foreshore. This will be in agreement with the Rights of Way officer at the LA and in accordance with the approved plans.
- 4.4.4 The design specification and implementation of any new temporary vehicular access to the proposed substation, or any other temporary works areas, shall be laid out and completed in accordance with an agreed design that has been submitted and approved by the highways authority, prior to commencement of construction. The access shall be made available for use at an appropriate time to ensure the interests of highway safety.
- 4.4.5 All access from the site onto the highway shall be of sufficient width to accommodate two-way traffic, wherever practicable. The highway authority will be consulted about any temporary access arrangements, particularly from a road safety perspective, prior to construction of temporary access or accommodation works.
- 4.4.6 Any existing rights of way across a part of the site or site access point shall be maintained to allow safe passage of users. All reasonable precautions shall be taken to prevent or reduce any disturbance or inconvenience to the owners, tenants or occupiers of adjacent properties, and to the public generally.
- 4.4.7 The permanent access to the new substation shall be via the existing access road constructed for the GGOWF, west of Sandy Lane.

4.5 Works Affecting Highways and Public Rights of Way

- 4.5.1 Before carrying out any work for the construction of any part of GWF which will involve interference with a highway, or the traffic in any highway, GWFL shall submit details to the highway authority regarding:
- the proposed commencement date of the works;

- the area of the carriageway or footway to be occupied and duration; and
- the proposed methods of construction in order to minimise inconvenience to the public.

4.5.2 During periods where vehicles need to access the foreshore this will be undertaken with additional supervising banksmen to ensure the safety of other users of the coastal footpath and beach area.

4.5.3 Where construction vehicles require access along the foreshore, a temporary protective surface will be laid (e.g. geotextile matting) to ensure potential damage to the footpath and beach substrate during construction is minimised, with any residual damage subsequently repaired where practicable (also see Section 9).

4.6 Road Cleanliness

4.6.1 Use of a wheel wash, or other wheel cleaning solution, will be implemented where necessary on route to site boundary access points that lie contiguous with the public highway, particularly during periods of earthworks and heavy or persistent rain. The wheel wash location shall be agreed with the LAs and the Environment Agency (EA) so as to ensure that silt laden wheel wash run-off does not enter road drains or watercourses.

4.6.2 The provision of hardstanding areas for vehicles will be made available for vehicles to be cleaned prior to leaving the site.

4.6.3 Use of road sweepers to clean mud and other deposited material from the public highway will be utilised, as necessary, to suppress dust and to reduce hazards to public road users.

4.7 Highway Reinstatement

4.7.1 If any part of any highway has been broken up or disturbed during construction, GWFL shall make good the subsoil, foundations and surface of that part of the highway. The reinstatement of that part of the highway shall be carried out by GWFL, to the reasonable satisfaction of the highway authority, in accordance with such requirements as to specification of material and standards of workmanship as may be prescribed for equivalent reinstatement work by regulations made under section 71 of the New Roads and Street Works Act 1991 (as amended).

4.7.2 Condition surveys of the agreed route for HGV traffic from the A12 to the site (as shown in ES Figure 25.1) will be carried out by GWFL to a standard agreed with the highways authority before and after construction works, to enable an assessment of those elements of the highway that need to be reinstated as a result of GWF construction traffic for the Onshore Works. Prior to commencement of any survey, GWFL will communicate with EDF Energy, GGOWL and the highway authority to ascertain if a recent condition

survey has already been carried out for any works in the Sizewell area which can be used as the pre-construction condition survey for GWF.

4.8 Vehicle Controls

4.8.1 The CTMP will be produced for subsequent approval and agreed with the highway authority. This plan will set out the agreed routes for contractors which must be used by HGVs accessing the site and how large plant will be delivered to the site. In addition:

- Agreed HGV routes to the site shall be enforced through such measures as inclusion of a condition in all relevant contracts that HGVs will follow the designated HGV Route at all times when accessing or egressing the site and implementing procedures such as monitoring of site entrances during site set-up and deliveries, recording of vehicle numbers and public liaison;
- HGVs shall be sheeted and cleaned as necessary;
- All reasonable measures shall be taken to ensure that delivery vehicles do not wait on the highway prior to entering the site; and
- All loading and unloading of vehicles will take place off the public highway, as far as is reasonably practicable, and not at the site entrance.

4.8.2 Where it is necessary to move large and/or heavy loads, construction plant, materials and spoil (including vehicles used for carrying such when running empty) those responsible shall limit the use of public highways as far as is reasonably practicable.

4.8.3 Lorries shall enter and exit the site in a forward direction except in special cases where space or operational restrictions do not permit this. In such cases, the contractor will appoint a competent banksman to provide assistance. The entry/exit visibility conditions at relevant locations will be set out in the CTMP to the highway authority prior to commencement of works.

4.9 Construction Port Car Parking Strategy

4.9.1 The port(s) required for offshore construction activities associated with GWF have not yet been identified. Based on the experience of similar schemes, there may be potential for impacts to the local community associated with offshore construction workers car parking for the duration of their seagoing duties, even where such parking is lawful.

4.9.2 To minimise the potential for these impacts, once the GWF construction port(s) have been identified, GWFL undertake to work with the principal contractor(s) and the relevant local authority to assess car parking needs and availability during the construction phase of the project. This information will

be used to develop a car parking strategy in consultation with the relevant local authority before the commencement of the offshore construction works.

5 NOISE AND VIBRATION

5.1 Objective

5.1.1 Construction activity by its very nature can generate adverse noise and vibration impacts on receptors in close proximity to the development site. In particular, with GWF, noise and vibration associated with construction plant and drilling equipment are likely to be potential sources for adverse noise and vibration effects.

5.1.2 The main objectives with regard to managing construction noise are to:

- Comply with relevant legislation and standards relating to construction noise and the requirements of the DCO; and
- Minimise noise and vibration impacts on nearby residents to acceptable levels.

5.2 Control Measures

5.2.1 Noise control and management measures will be set out within the EMP. Key control measures will be derived from the following legislation/standards:

- BS5228 - Noise and vibration control on construction and open sites;
- Environmental Protection Act 1990; and
- Noise and Statutory Nuisance Act 1993.

5.2.2 GWFL will liaise with Suffolk Coastal District Council's Environmental Protection Officer (Clive Pink 01394 444349) regarding the arrangements for activities that have the potential to attract complaints, including any impact pile driving and HDD operations.

5.2.3 GWFL will implement best practice noise control and management techniques to be implemented and controlled through the EMP, which include:

- Where noisy plant cannot be located away from sensitive receptors, temporary screening or an enclosure will be provided. Noise attenuation fencing will typically be of a 2.4 m minimum height, plywood faced, timber framed boundary hoarding, of a surface density of not less than 7 kg/m² or other hoarding providing equivalent security and noise attenuation.;
- Use of silenced equipment, as far as possible, (in particular silenced power generators if night time power generation) is required for drilling, site security, temporary traffic lights or lighting;
- Ensuring plant machinery is turned off when not in use;
- Ensuring that vehicles and mobile plant are well maintained such that loose body fittings or exhausts do not rattle or vibrate;

- Ensuring no music or radios are played on site;
- Ensuring that vehicles do not park or wait outside residential properties with engines running unnecessarily; and
- Ensuring, where practicable, that access routes are in good condition with no pot-holes or other significant surface irregularities.

5.2.4 Site personnel will be informed about the need to minimise noise as well as about the health hazards of exposure to excessive noise. Their training should include advice relating to the proper use and maintenance of tools and equipment, the positioning of machinery on site to reduce noise emissions to neighbouring residents, and the avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment. Construction contractors will adhere to the codes of practice for construction working set out in BS 5228 'Code of Practice for noise and vibration control on construction and open sites' insofar as these are reasonably practicable and applicable to the construction works.

5.3 Notifications

5.3.1 Where particularly intense or unusual periods of activity during construction may give rise to greater noise levels at nearby properties than typical of the majority of the construction phase GWFL will advise residents no later than 24 hours in advance of the works commencing, and give an estimate of how long the elevated noise levels may continue.

5.3.2 Contact details for a site representative will be provided in the event that disturbance due to noise or vibration from the construction works occurs; ensuring that any complaints are dealt with pro-actively and that subsequent resolutions are communicated to the complainant.

5.4 Monitoring

5.4.1 No construction noise survey monitoring is proposed unless complaints are received. Where complaints are received monitoring shall be conducted to investigate. If construction noise exceeds the target levels advised by the LAs (currently 64 dB(A) (1 hour Leq)) proactive measures will be taken by the construction team to reduce noise levels at source including revised plant activity schedules, training regarding site rules or disciplinary action to staff.

5.4.2 The mitigation measures described above will be monitored by the ECW throughout the construction phase as set out in the EMP. If a non-conformity with any of the mitigation measures is identified, it will be recorded during a site audit and appropriate remedial actions will be implemented.

5.4.3 Noise survey measurements will be carried out during GWF commissioning to confirm equipment noise levels and compliance with off-site operational noise limits. The scope of such monitoring will be agreed with the LAs and will consider any tonal implications.

6 AIR QUALITY

6.1 Objective

6.1.1 During construction, a range of environmental management controls will be implemented via the EMP to prevent or minimise the release of dust and air pollutants from exhaust emissions entering the atmosphere and/or being deposited on nearby receptors.

6.2 Control Measures

(a) Vehicle and Plant Emissions

6.2.1 The EURO standards set emission limits for several pollutants from different types of vehicles. Construction vehicles will be required to comply with relevant EURO standards. Drivers will be required to:

- switch off their vehicle's engine when stationary to prevent exhaust emissions (and noise). An authorised person may request a driver to switch off their engine if they believe a stationary idling offence (under reg.98 of the Road Vehicles (Construction and Use) Regulations 1986 (SI 1986/1806) is being committed. Failure to comply is an offence; and
- keep their engines in tune and their catalysts working efficiently. In practice, emissions are controlled through the MOT. All vehicles used by contractors must comply with MOT emission standards at all times. Vehicle owners can be prosecuted if their vehicle emits substances in excess of the standards.

6.2.2 In addition, a range of construction site best practice measures will be adopted, including:

- Construction vehicles and static plant will be well maintained. If continuous emissions of dark smoke occur then the relevant machinery will be identified to the Contractor who shall be required to investigate a practicable solution to reduce exhaust particulates; and
- All non-road mobile machinery (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.

6.2.3 Contractors will also be encouraged to use fuel equivalent to ultra low sulphur diesel (fuel meeting the specification within EN590:2004), use plant fitted with Diesel Particulate Filters (DPF), or have a DPF retrofit programme.

(b) Dust

6.2.4 With reference to the Building Research Establishment (BRE) guidance and the Greater London Authority and London Councils Best Practice Guidance¹, a range of environmental management controls will be developed for the temporary works including:

- Damping down surfaces during dry and windy weather using water bowsers;
- Long term stockpiles or exposed surfaces shall be sealed/vegetated to minimise dust blow;
- Erection of appropriate hoarding and/or fencing, particularly next to identified sensitive properties adjacent to the cable route, to reduce dust dispersion and restrict public access, and sheeting of vehicles removing excavated material off site;
- Use of a wheel wash (where practicable); limiting of vehicle speeds on site; avoidance of unnecessary idling of engines; and routing of site traffic as far from residential and commercial properties as practicable;
- Prevention of dust-contaminated run-off water from the site;
- Use of a road sweeper to clean mud and other deposited material from the public highway;
- on-site vehicle speeds shall be limited to less than 20 mph;
- HGVs shall be sheeted during off site transportation of friable construction materials and spoil;
- There shall be no burning of waste on site; and
- Completion of temporary works area reinstatement, landscaping works and drainage as soon as practicable after construction completion to reduce the effect and duration of bare soil being exposed before vegetation growth stabilises the soil surface.

6.3 Monitoring

6.3.1 No specific survey monitoring for air quality impacts is proposed. The mitigation measures described above will be monitored by the ECW throughout the construction phase as set out in the EMP. If non-conformity with any of the mitigation measures is identified, it will be recorded during a site audit and appropriate remedial actions will be implemented.

¹ Building Research Establishment (BRE) (2004) *Controlling Particles, Vapour and Noise Pollution from Construction Sites*, Greater London Authority and London Councils (2006). *The Control of Dust and Emissions from Construction and Demolition - Best Practice Guidance*

7 DISPOSAL OF WASTE AND CONTAMINATED MATERIAL

7.1 General

- 7.1.1 Before works commence a SWMP will be developed. **Section 2.4.6** sets out measures for waste management and compilation of the SWMP.
- 7.1.2 The site levels will be set so that no soil will need to be imported or removed from site during the construction of the landform. The calculations allow for a small surplus of topsoil which will be stored on site until reinstatement is complete and any excess will be spread across the arable land before it is returned to agriculture. Surplus excavated material from later stages of the project will be removed from site. .
- 7.1.3 Based upon desk studies of historical land use and subsequent consideration of risk, contaminated ground is not envisaged to be encountered across the GWF onshore footprint. However, should unexpected sources of pollution be encountered, consultation of suitably qualified contaminated land professionals will be conducted and excavation work would then take place in accordance with a pre-agreed method statement. If required, GWFL will identify any “hazardous waste” as defined in the Hazardous Waste (England and Wales) Regulations and The List of Waste Regulations 2005 so that it can be suitably managed and disposed of. Such measures will be set out in the SWMP.

8 PROTECTION OF THE WATER ENVIRONMENT

8.1 Objective

8.1.1 The main objectives with regards to managing hydrological effects are as follows:

- Ensure that appropriate measures are in place to prevent contaminants from entering the surrounding environment;
- Ensure that soils are not polluted within the GWF area and that any spills are dealt with expediently to avoid contamination of pathways;
- Ensure that no contaminants enter the Sizewell Wents SSSI area; and
- Comply with relevant legislation and good practice in terms of managing storm water runoff in a construction zone.

8.1.2 Water infiltration rates of soil at GWF are good, however, if storm water runoff from any unvegetated areas, built and/or hard stand surfaces does occur during construction it has the potential to carry contaminants into road drains or natural watercourses including those in the Sizewell Wents SSSI, located to the north of the substation construction area. The main risk to the water environment is likely to be from introduction of potential pollutants to groundwater.

8.2 General Provisions

8.2.1 In order to minimise potential impacts, to geology, hydrogeology and land quality, associated with the construction phase (for example leaks or spills associated with construction works or disturbance of any existing areas of contamination), GWFL will adhere to the EA's Pollution Prevention Guidance (PPG) notes, as well as general good construction practice, including:

- PPG01 – General guide to the prevention of water pollution;
- PPG05 – Works near or liable to affect watercourses;
- PPG06 – Working at construction and demolition sites;
- PPG08 – Storage and disposal of used oils;
- PPG11 – Preventing pollution at industrial sites;
- PPG20 – Dewatering of underground ducts and chambers;
- PPG 21: Pollution incident response planning; and
- Control of water pollution from construction sites – A guide to good practice, CIRIA (2001).

8.3 Control Measures

8.3.1 To minimise the risk of accidental pollution incidents the EMP will include a Pollution Incident Response Plan in line with PPG21. This will include

mechanisms to control surface water run-off from the site and pollution prevention and response planning.

8.3.2 Controls for surface and foul drainage are contained in requirement 24, Schedule 1, Part 3 of the draft DCO, which require GWFL to provide written details of surface and (if any) foul drainage systems (including pollution controls mentioned above) for approval to the LAs prior to works commencing. In accordance with requests from SCC as highways authority, GWFL will include provision to intercept surface water run off from the site to prevent flows onto the public highway (C288 Sizewell Gap and U2838 Sizewell Hall Roads). In particular, measures will be provided to intercept surface water flows to prevent surface water and silt flowing onto the highway from the site including the vehicular access from the C228.

8.3.3 The following good construction practice measures shall also be adopted during construction:

- Minimisation of length of time that excavations are kept open;
- Reinstatement of the excavated areas using appropriate fill materials if required;
- Construction excavation, earthmoving and soil storage areas to be situated as far as possible from any surface water bodies;
- All fuel storage will occur within bunded fuel tanks with a bund capacity of at least 110% of the tank volume. A minimum volume of fuel will be stored on site. The location of all fuel storage will be such that it minimises the risks to surface and groundwater;
- All fuel and chemical storage will be located a minimum of 20m away from all watercourses;
- Construction compounds will generally comprise a permeable crushed stone or aggregate surface laid on a geotextile membrane which will allow direct infiltration of rainfall run-off at the same time as trapping and filtering any sediment and contaminates. Where hard surfacing is considered for utilisation in potentially high risk areas of the construction compound, positive surface water collection systems for the management of rainfall-run-off to prevent the pollution of ground water will be considered where appropriate. This might include the use of trapped gullies and / or penstock valves on the inlet to formal soakaways.
- Oil, water and silt separators will be used where applicable on construction compound surface water management systems to remove oils and fuels accidentally spilled/accumulated during construction of GWF. These will be maintained in accordance with the manufacturer's instructions to ensure they remain efficient;
- Spill mats and drip trays will be used with containers wherever necessary;

- Pollution control packs will be positioned at suitable, accessible areas to allow immediate reaction to any pollution incident. Staff will be trained in their use. Packs will be checked weekly and replaced after an event with any contaminated material disposed off correctly (see **Section 7**);
- An onsite briefing about the importance of the water supply, water bodies and use of pollution control packs will be disseminated to all site personnel.
- Particular care will be taken when working with concrete as it is highly alkaline and can cause serious pollution to controlled waters;
- Any waste water from the directional drilling processes contaminated with drilling mud shall be removed from site and disposed of correctly;
- Surface runoff will be stored and monitored in accordance with the requirements to be agreed with the EA; and
- Any wheel washes used in site compounds will have self contained water and silt collection systems and these waters will be monitored prior to discharge.

8.3.4 Measures are required to minimise and deal with any excavated waste requiring offsite disposal in the appropriate manner and in line with relevant legislation. The following mitigation measures will be adopted during the works:

- Minimisation of the volume of materials excavated so far as reasonably practicable;
- Any material excavated and requiring disposal off site will be characterised and disposed of in accordance with the Landfill Regulations 2002 (as amended);
- Any imported filled material used for backfill will be tested to confirm that it is chemically and physically suitable for its proposed use; and
- All potential waste activities will be undertaken in accordance with the Environmental Permitting (England and Wales) Regulations 2010.

8.3.5 A SWMP will be prepared, which will ensure that any waste arising is closely monitored and that waste prevention, re-use or recycling opportunities are maximised (see **Section 2.4.6**).

8.3.6 A surface water drainage strategy has been developed to ensure that the surface water runoff rate remains as 'greenfield'. The drainage plan incorporates Sustainable Drainage Systems (SuDS) to both reduce and attenuate surface water associated with GWF. Infiltration tests carried out at GGOWF (in accordance with BRE Digest 365) have confirmed that ground conditions across the site are suitable for such techniques, with the poorest calculated infiltration rate ($1 \times 10^{-5} \text{m/s}$) used within the design.

- 8.3.7 The drainage plan includes the use of dry swales (a type of open vegetated channel) alongside the access road, filter drains along of the inside toe of the landform and soakaways within the substation compound. The main compound area will be drained via piped networks which will collect the surface water runoff from other hard standing areas and will discharge it to ground via cellular soakaways. In accordance with best practice, all surface water runoff generated from hard standing areas within the main compounds, other than roofs, will pass through an oil separator before being discharged to ground to remove any hydrocarbon pollutants present in the runoff.

8.4 Control and Management of Foul Drainage

- 8.4.1 If the permanent connection to the foul sewer is not available during the construction phase, the foul water and sewage effluents produced by the construction workforce shall be contained by temporary foul drainage facilities to be installed. In the case of the latter, all foul water shall be disposed of off-site by a licensed contractor.

8.5 Monitoring

- 8.5.1 As there are no watercourses identified within or bounding GWF, or directly impacted, no specific survey monitoring for water quality impacts is proposed. The mitigation measures described above will be monitored by the ECW throughout the construction phase as set out in the EMP. If non-conformity with any of the mitigation measures is identified, it will be recorded during a site audit and appropriate remedial actions will be implemented.

9 ECOLOGY

9.1 Objective

9.1.1 Requirement 27 in Schedule 1, Part 3 of the draft DCO requires the submission and approval of an ecological management plan to deliver the commitments in the ES in relation to ecological mitigation and enhancement.

9.1.2 In delivering the approved plan, measures will be implemented in order to minimise the potential impacts on terrestrial ecology, including birds and inter-tidal ecology, ranging from pre-construction surveys, through initiation of temporary works associated with the onshore construction enabling works phase, to building the transmission and connection works. Detailed control measures during construction are set out below.

9.2 Control Measures

9.2.1 Detailed working methods for mitigation measures or pre-construction survey methods in or near designated habitats or affecting protected species will be developed in consultation with Natural England and submitted to the LAs for approval.

Generic

9.2.2 To minimise the risk of accidental pollution incidents, the construction method statements will include a Pollution Incident Response Plan in line with PPG21. This will include mechanisms to control surface water run-off from the site and pollution prevention and response planning.

9.2.3 Where species may be affected by noise disturbance, best practice noise control and management techniques will be employed.

9.2.4 Construction lighting will be low intensity and appropriately located/directed in order to minimise lighting disturbance for bats and birds (see **Section 3.4**).

9.2.5 Areas temporarily affected by works will be restored to at least their original condition through planting, smoothing of tracks, and/or natural regeneration in accordance with ecological or landscaping objectives.

9.2.6 All construction activities, where mitigation or monitoring is required, will be monitored and policed by an ECW.

9.2.7 All site personnel will be briefed on these commitments ahead of construction.

9.2.8 The construction methods which will be used to minimise negative effects on Sizewell Marshes SSSI and the Suffolk Shingle Beaches CWS will be set out in future versions of the CCOP for the relevant works.

Site set up and methods

- 9.2.9 The working footprint will be minimised, so far as reasonably practicable and all temporary works areas will be demarcated with road pins and tape prior to the start of construction.
- 9.2.10 Where possible, GWFL will ensure that work compounds and access tracks etc. are not located in, or adjacent to, habitats of ecological value e.g. water courses, woodland, and hedgerows.
- 9.2.11 Where possible, construction work areas will be accessed using existing tracks and roads; any access routes required across sensitive habitats, e.g. beach habitats, will be discussed in advance with Suffolk Wildlife Trust and Natural England.
- 9.2.12 Directional drilling methods will be used to cross both Sizewell Gap road and the access road to Sizewell Hall. This will ensure that the four hedges lining both these roads are retained and undamaged during construction thereby reducing potential impacts on reptiles, bats and birds.

Beach works

- 9.2.13 Directional drilling methods will be employed to avoid sensitive shingle dune habitats above MHWS, thereby avoiding the qualifying features associated with the Suffolk Shingle Beaches CWS.
- 9.2.14 The directional drilling reception pit footprint will be minimised, so far as reasonably practicable, to avoid unnecessary excavation of shingle.
- 9.2.15 During shingle excavation works, at the directional drilling reception pits, shingle layers will be segregated and stored separately and replaced in the same sequence to retain the structural integrity of the shingle matrix and minimise post-construction wash out of shingle.
- 9.2.16 Where access is required across the dune and shingle habitats (to the directional drilling launch site) temporary gridded matting, or similar, will be placed along all such access routes to minimise disturbance to habitats from vehicles.
- 9.2.17 Any stock piled shingle will be placed away from any adjacent sensitive habitats under the supervision of an ECW.
- 9.2.18 Based on experience from GGOWF, the beach profile will be monitored at the location of the directional drilling reception pit to identify any potential slumping of shingle following construction to identify any need for future action.

Reptiles

- 9.2.19 Directional drilling methods will be utilised to avoid some areas of optimal reptile habitat, i.e. under the dune habitats (1.4ha), under Sizewell Gap road and the Sizewell Hall access road (avoiding the loss of 0.1ha of hedgerows

lining those roads) known to support reptiles. For the remaining 0.65ha of habitats known to support reptiles, a dedicated reptile mitigation strategy will be developed in consultation with Natural England, Suffolk Wildlife Trust, SCDC and SCC. GWFL will implement the agreed reptile mitigation strategy in full and in accordance with the strategy unless otherwise agreed in writing with SCDC. A programme to translocate reptiles from the construction footprint will be undertaken prior to commencement of construction works, subject to receipt of any necessary licences.

9.2.20 A 0.85ha reptile translocation receptor site has been identified to the south east of GWF (between Sizewell Gap road and Sandy Lane). The area shall be formally agreed with Natural England and both protection and enhancement measures established to protect the area from construction.

9.2.21 Subject to the terms of any licence, the detailed mitigation strategy will include methodology for the translocation of reptiles from habitats that cannot be avoided during construction (woodland edge habitat). The strategy will include:

- Reptile exclusion fencing arrangement (including fencing at the receptor site to prevent ingress of existing reptile populations);
- Proposed trapping methodology – timing and methods; and
- Details of the proposed receptor site; location, existing reptile populations and evidence of sufficient reptile carrying capacity.

9.2.22 Further habitat improvements (to improve the reptile carrying capacity) will be undertaken at the identified reptile receptor site, including creating wood piles to provide reptile refugia and improving habitat connectivity between the receptor site and Sizewell Wents.

9.2.23 Protection measures and methods to ensure quick regeneration of foreshore habitats (optimal reptile habitats) will be implemented.

9.2.24 All works on site that could potentially cause harm to reptiles (e.g. installation and removal of exclusion fencing and habitat manipulation) will be supervised by an ecological watching brief.

Bats

9.2.25 A pre-construction bat roost presence/absence survey of trees likely to be affected (either to be felled or disturbed) will be undertaken in advance of any construction works, to confirm the survey findings.

9.2.26 Should bat roosts be identified ahead of construction, a dedicated bat mitigation strategy will be developed by GWFL in consultation with Natural England.

9.2.27 Lighting will be placed as far from linear features (potentially suitable for foraging and commuting bats) as is conducive with security and engineering

requirements. Those lights closest to features will take into account the following:

- Light intensity will be as low as is permissible; and
- Light spill towards any retained linear features will be reduced to a minimum (using cowls as necessary)

9.2.28 2.5ha of new woodland and woodland edge planting around the GWF substation will offer new bat foraging opportunities as these habitats establish.

Breeding Birds

9.2.29 Any necessary vegetation clearance will, where possible, be undertaken outside of the breeding bird season, which runs between the start of March to the end of August. Preventative measures may also be deployed to deter breeding birds from nesting on the ground prior to enabling works beginning. Where clearance unavoidably coincides with this season, clearance will only take place immediately following a search for the presence of nesting birds immediately prior to work commencing by an ecological watching brief.

9.2.30 Any felled/cleared vegetation will be removed, destroyed, or chipped before the beginning of March, to prevent birds nesting in piles of suitable material.

9.2.31 To discourage ground nesting birds from using the areas within the proposed working footprint prior to and during construction, vegetation within the site will be cut to low levels and maintained, to prevent vegetation establishing and offering suitable nesting habitat.

9.2.32 If nesting Schedule 1 birds are found (which are afforded additional protection under the Wildlife and Countryside Act 1981 (as amended)) works should halt and Natural England be contacted immediately.

9.2.33 If nests of non-Schedule 1 birds are found, the nests will be marked (with an exclusion zone) and avoided. Clearance of vegetation around nests will not be undertaken until the birds have fledged. If the birds are showing signs of disturbance (i.e. leaving the nest for longer than 30 minutes on any one occasion) then the exclusion zone will be increased.

9.2.34 The new landform will include a mixture of woodland, scrub and grassland planting which will provide suitable habitat for nesting and foraging birds.

9.2.35 Bird boxes will be provided on retained trees in the site to provide nesting habitat to compensate for the temporary loss of trees.

Other Species

9.2.36 A walkover survey will be undertaken prior to construction to confirm the presence/absence of badger setts which may not have been previously recorded. If works are to occur within 30m of an active main badger sett, a

Natural England licence to disturb a badger sett will be applied for prior to the works taking place.

9.2.37 Areas of suitable hibernating habitat for hedgehogs will be hand searched and removed from the area prior to works.

9.2.38 In order to ensure that otters, badgers and hedgehogs are not impacted during the construction phase, simple construction house-keeping activities will minimise any disturbance, including:

- covering of any trenches or pits or providing a means of escape for any animal that might fall in (e.g. a ramp);
- construction materials safely stored away at the end of the day; and
- natural linear access features outside the limits of the temporary works areas are left unobstructed.

9.3 Notifications

9.3.1 GWFL will notify the LAs and relevant stakeholders (including Natural England as necessary) that temporary works are fully re-instated and all approved mitigation completed effectively and seek acknowledgement that the works have been discharged satisfactorily, or advised that remedial action is required to be undertaken.

9.4 Monitoring

9.4.1 Requirements for completing European protected species pre-construction surveys are set out in requirement 33, Schedule 1, Part 3 of the draft DCO. Where required these are described in the Sections above. Measures for the protection and mitigation of protected species are also in requirement 31, whereby plans shall to be submitted to and approved by the LAs prior to construction.

9.4.2 No specific long term monitoring plans are proposed for terrestrial ecological features.

10 ARCHAEOLOGY AND CULTURAL HERITAGE

10.1 Objective

- 10.1.1 Archaeological controls are addressed in requirement 26, Schedule 1, Part 3 of the draft DCO, which requires GWFL to provide a written scheme of investigation (WSI) for approval by the LAs, following consultation with English Heritage.
- 10.1.2 Measures will be implemented for the onshore works in order to manage the potential impacts on archaeology and cultural heritage from excavation and topsoil strip works associated with GWF construction.

10.2 Control Measures

- 10.2.1 A staged programme of archaeological mitigation will be undertaken across the onshore construction works footprint, which will comprise appropriate archaeological monitoring of any intrusive works required as part of the onshore construction activities.
- 10.2.2 The WSI will be prepared to set out procedures for managing any features that appear to be of archaeological importance that are discovered in the course of construction works. The WSI will ensure compliance with the relevant legislation and will be finalised and agreed with the LAs, in consultation with the Suffolk County Council Archaeologist, prior to construction works commencing. For areas of deeper excavation, such as the substation site and the cable trenches, it is expected that the WSI will recommend an archaeological watching brief.
- 10.2.3 A 'Protocol for Unexpected Discoveries of Archaeological Importance' will also be developed in order to reduce adverse effects of the development by enabling people working on the project to report their discoveries or recovered material rapidly and effectively. Watching briefs may also be used to record and recover any material as it is discovered during the earthworks and enabling works phase.

11 LANDSCAPE AND VISUAL IMPACT

11.1 Objective

11.1.1 The connection and transmission works will introduce new built features into the landscape that need to be mitigated in the context of minimising impacts to local amenity and the Area of Outstanding Natural Beauty (AONB). The cable corridor and substation has been located as close as possible to the GGOWF consented area to avoid landscape disturbance beyond areas already affected by built development. Design and landscaping form a key part of the mitigation objectives.

11.2 Control Measures

11.2.1 There are areas of existing tree planting within and around the GWF footprint associated with Sizewell Wents plantation as well as new planting due to GGOWF. Although areas of trees will be lost as part of the proposal, some areas are to be retained and managed. Where practicable, the measures are to be implemented in compliance with *BS 5837:2005 Trees in Relation to Construction*.

11.2.2 In order to ensure that no additional root damage is caused to retained trees, all excavated material resulting from foundation excavation work or any other works, will be deposited within defined temporary storage areas. Similarly any topsoil stockpiles will be located in defined temporary storage areas until required for final finishing of landscaped areas.

11.2.3 In general, protective fencing will extend to the root system of retained trees, subject to assessment on site. The guidance contained within BS 5837:2005 establishes the process for identifying the Root Protection Area (RPA) based on the stem diameter of the tree.

11.2.4 Landscaping works will be carried out in accordance with British Standards *BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces)* and *BS 3936-1:1992 Nursery stock. Specification for trees and shrubs* unless otherwise agreed in writing with the local planning authority.

11.2.5 Landscaping works in Pill Box field will be required to comply with guidance from Essex and Suffolk Water on tree planting recommendations in the vicinity of water mains. This guidance, along with a plan showing the location of the water main in Pill Box field, will be included in the final version of the relevant CCOP to be issued to contractors who will carry out the work.

11.2.6 Under requirement 22, Schedule 1, Part 3 of the draft DCO a landscaping scheme will be submitted for approval from the LAs prior to construction. The scheme will include details of all proposed hard and soft landscaping works, including:

- location, number, species, size and planning density of any proposed planting, including any trees;
- cultivation, importing of materials and other operations to ensure plant establishment;
- proposed finished ground levels;
- hard surfacing materials;
- vehicular and pedestrian access, parking and circulation areas;
- minor structures, such as furniture, refuse or other storage units, signs and lighting;
- proposed and existing functional services above and below, ground, including drainage, power and communications cables and pipelines, manholes and supports;
- details of existing trees to be retained, with measures for their protection during the construction period;
- retained historic landscape features and proposals for restoration, where relevant; and
- implementation timetables for all landscaping works.

11.2.7 Where tree planting is to be carried out in the vicinity of overhead lines National Grid will be provided with the detailed landscaping plans in advance of them being carried out in order that an assessment of whether any safety documents would need to be produced to protect worker health and safety.

11.2.8 Where the cable corridor will, unavoidably, disturb areas of existing vegetation within both the AONB and the Heritage Coast, these will be replaced with appropriate new planting using species of similar habitat, type and character. Details of these will be agreed with the LAs. The following measures are expected to form part of the proposed landscaping scheme, within the principles set out in the Application's Landscape Mitigation Strategy:

- Details describing the finished floor level of the substation;
- Measures set out to minimise the loss of existing trees;
- Provision of a profiled screening landform;
- Providing a wider continuous belt of woodland around the substation development;
- Low level planting to avoid gaps in the woodland screening;
- Extending the woodland planting southwards from the substation to screen oblique views of the development;
- Reinstatement of trees, shrubs and hedgerows where they can be included in the completed development;

- Replacement of existing gaps in hedgerows; and
- Use of dull, recessive colours for structures including buildings, equipment and fencing.

11.2.9 Site management personnel will monitor the construction works on an ongoing basis to ensure that all protective fencing remains in place and in good condition for the duration of the construction works. Any repairs required will be completed as soon as practicable.