

Appendix 3B

Draft Outline Construction Environmental Management Plan

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1. Introduction

1.1 Purpose of the Outline CEMP

- 1.1.1 This Draft Outline Construction Environmental Management Plan (Draft Outline CEMP) sets out the management measures that Cadent Gas Ltd's (Cadent) (the 'Applicant') appointed principal contractor(s), and any other appointed contractor(s) will be required to adhere to and implement for all construction activities as part of the North West Hydrogen Pipeline Project (hereafter referred to as 'the Project').
- 1.1.2 This Draft Outline CEMP supports the Draft Environmental Statement (ES) for the Project which informs a second round of Statutory Consultation to be undertaken in Autumn 2024 (for further detail see **Chapter 1: Introduction**). It will be updated to accompany the Final ES and an application to the Secretary of State for Development Consent Order (DCO) (the 'Application') by the Applicant for powers to construct, operate and maintain the Project.
- 1.1.3 This document includes mitigation requirements identified within the following, principle, Draft ES chapters:
- **Chapter 5: Biodiversity;**
 - **Chapter 6: Historic Environment;**
 - **Chapter 7: Water Environment;**
 - **Chapter 8: Landscape and Visual;**
 - **Chapter 9: Air Quality;**
 - **Chapter 10: Noise and Vibration;**
 - **Chapter 11: Traffic and Transport;**
 - **Chapter 12: Ground Conditions;**
 - **Chapter 13: Agriculture and Soil Resources;**
 - **Chapter 14: Land Use;**
 - **Chapter 15: People and Communities;**
 - **Chapter 16: Major Accidents and Disasters;**
 - **Chapter 17: Greenhouse Gas assessment; and**
 - **Chapter 18: Climate Change Resilience.**
- 1.1.4 Each Draft ES chapter can be found in **Volume 2**, with supporting appendices and Figures in **Volumes 3 and 4** respectively. The updated Outline CEMP will form part of the suite of DCO application documents and a DCO Requirement will be included to require the submission of a CEMP prior to the commencement of the Project, in accordance with the Outline CEMP.

- 1.1.5 Prior to the commencement of development, a CEMP will be prepared by the Applicant and/or its appointed EPC Contractor and submitted to the relevant planning authorities for approval. Once approved, the CEMP will be the management document that will be referenced by construction staff on a day-to-day basis. It will provide a documented procedure for controlling and mitigating environmental impacts and for preventing or minimising disruption to local residents and businesses during the construction phase of the Project.

1.2 Summary of the Project

- 1.2.1 The Project is part of the wider 'HyNet North West' programme that will produce, store and distribute hydrogen as well as capture and store carbon from industry in the North West of England and North Wales. By enabling a fuel transition to hydrogen, HyNet North West will create and maintain local jobs, enabling long-term sustainability for businesses and supporting financial security for communities across the region.
- 1.2.2 The Project includes the construction, operation and maintenance approximately 100km of new pipeline to distribute hydrogen to industry and for blending with the gas network in the North West. This also includes a number of Hydrogen Above Ground Installations (HAGIs) (including Block Valve Installations (BVIs) as described in **Chapter 2: The Project**), which are required to control the flow and pressure of hydrogen at key points along the proposed pipeline.
- 1.2.3 The Project would connect to the Hydrogen Production Plant at the Stanlow site as the source of hydrogen for onward distribution to the Network. The pipeline would continue to the Central Hub at the centre of the Network, which serves as the connection and onward distribution point to the North, East and South corridors, which would extend to locations near St. Helens, Partington and southeast of Northwich respectively. The Project would also link to underground hydrogen storage facilities in Cheshire used to balance supply and demand through the network. The location of the Project is illustrated by the Draft Order Limits in **Figure 1.1** of the Draft ES.
- 1.2.4 The proposed key components of the Project are shown in **Figure 1.2** of the Draft ES and can be summarised as follows:
- Hydrogen Pipeline Network (HPN) across the North West region:
 - ▶ West Corridor: Stanlow Hydrogen Production Plant (HPP) to Central Hub HAGI, incorporating Rocksavage HAGI; spurs to customers at Intergen, Rocksavage.
 - ▶ North Corridor: Central Hub HAGI to St Helens, incorporating HAGIs at Higher Walton and Clock Face; spurs to customers at Ingevity, Warrington; Novelis, Warrington; NGF Europe Ltd., Clock Face; NSG Pilkington Greengate Works, St Helens; and Glass Futures, St Helens.

- ▶ East Corridor: Central Hub HAGI to Partington HAGI, incorporating a HAGI at Warburton and BVI near Sworton Heath; spurs to Cadent AGI, Warburton; and customers at Partington Cadent AGI; and Basell Polyolefins, Partington. Work is ongoing with other potential customers in Partington who would construct their own pipelines to the HAGI.

- 1.2.5 South Corridor: Central Hub HAGI to Hydrogen Storage Facility (HSF) at salt caverns located north of Middlewich, incorporating a HAGI at the HSF and a BVI near the A556 (Chester Road). Further detail about the Project is provided in **Chapter 2: The Project**.
- 1.2.6 All works for the Project must be carried out in accordance with the construction management plans including this Draft Outline CEMP. It is proposed to include a Requirement within the draft DCO as a mechanism to secure this obligation.
- 1.2.7 Revisions to the Outline CEMP, including other referenced management plans, may be undertaken during the examination of the Application, if required. Revisions will be incorporated, and the document updated and submitted in Examination where necessary. This document will be the final Outline CEMP.

1.3 Objectives of the Outline CEMP

- 1.3.1 The purpose of the Outline CEMP is to provide a consistent approach to the control of construction activities for the entire project and mitigate potential effects on people and the environment. The objectives of the Outline CEMP are to:
- provide a mechanism for ensuring the delivery of environmental measures (other than those which will be secured through specific requirements of the draft DCO), to avoid, reduce or compensate for environmental effects identified in the ES;
 - ensure compliance with legislation and identify where it will be necessary to obtain authorisation from relevant statutory bodies;
 - provide a framework for compliance auditing and inspection to ensure the agreed environmental aims are being met; and
 - ensure a prompt response to any non-compliance with legislative and draft DCO Requirements, including reporting, remediation and any additional mitigation measures required to prevent a recurrence.
- 1.3.2 While the Project will be consented through the draft DCO, a number of sections of this Draft Outline CEMP reference consents, permits and licences that will be required during construction. These include, for example, protected species licences granted by Natural England and various consents relating to water granted by the Environment Agency. On the presumption that the regulatory authorities would not permit the works unless the potential impacts have been identified, assessed, and an appropriate management approach defined, it is assumed that these licensable activities are considered measures adopted as part of the Project. This Draft Outline CEMP does not seek to specify or duplicate the exact measures that would be contained within those consents or licences for which application(s) are to be made at the appropriate time.

- 1.3.3 The Draft ES contains details of the other consents and licences the Applicant currently believes will be required to construct the Project, which will be obtained outside of the DCO process. A Consents Register will be maintained during construction which will document all existing consent conditions, all new applications made and the status of the applications.

2. Environmental Management

2.1 Process

- 2.1.1 The Project will be developed in compliance with all relevant legislation, consents and permits. Any statutory requirements listed in this document and industry good practice guidance which has informed each part of the document are not to be seen as exhaustive.
- 2.1.2 The Applicant is the company responsible for the delivery of the Project, in whom the powers of the DCO would be vested. As such, the Applicant is responsible for all the works, which includes overseeing and assuring the activities carried out by their contractor(s). The supply chain of contractor(s) to deliver this Project will be contractually required to deliver the construction works in accordance with all relevant DCO Requirements, including the adoption of the objectives and control measures set out in the CEMP and the other construction management plans.
- 2.1.3 The Applicant maintains an Environmental Management System (EMS) to provide a framework within which to manage and reduce their effects on the environment. The EMS is accredited to ISO14001:2015¹ and is updated periodically to reflect and comply with updated standards. The appointed contractor(s) will prepare their own Project EMS in accordance with the Applicant's EMS prior to construction commencing.
- 2.1.4 The contractor(s) would be required to undertake assurance including monitoring and auditing to verify compliance with this Outline CEMP, DCO Requirements, other relevant consents and permits, as well as all legal obligations.
- 2.1.5 The Applicant would undertake audits and inspections to monitor that the contractor(s) comply with the CEMP and other applicable requirements.

2.2 Overall Responsibility

- 2.2.1 The overall responsibility for ensuring compliance with the CEMP lies with the Applicant.
- 2.2.2 The Applicant will establish a site management team to oversee the process of construction and manage the EPC Contractor. On the matter of environmental management key responsibilities will be:
- To lead by example and champion all areas of environmental management; and
 - Ensure that appropriate resources are in place to effectively implement the CEMP and deliver all legal requirements.

¹ International Organization for Standardization (ISO). (2015). ISO 14001:2015 Environmental management systems — Requirements with guidance for use. ISO; Geneva.

2.3 Contractor

- 2.3.1 Reporting to the Applicant, the CEMP shall be implemented and controlled on the construction site by the contractor(s). To ensure that the CEMP remains relevant, it will be the contractual responsibility of the contractor(s) to take ownership of the CEMP, including regular reviews.
- 2.3.2 To be confirmed in the CEMP, indicative key responsibilities for the contractor(s) include:
- Ensure that the CEMP and associated documents and control methods are effectively implemented on site on a day-to-day basis;
 - Fully investigate and act on any environmental incidents and report findings to the senior site manager;
 - Conduct and document weekly environmental inspections;
 - Ensure that environmentally orientated briefings and toolbox talks are being delivered to the site workforce;
 - Implement and maintain environmental controls on site;
 - Ensure action is taken on any spills/incidents that occur on site; and
 - Report any activity that has potential to have an environmental effect immediately to the senior site manager.

2.4 Contractors Site Management

- 2.4.1 To be confirmed in the CEMP, indicative site management responsibilities include:

Senior site manager

- 2.4.2 The senior site manager's responsibilities include:
- Ensure that appropriate resources are in place to effectively implement the CEMP and deliver all legal requirements;
 - Review the CEMP throughout the construction process to ensure it remains relevant and effective in identifying and managing environmental risks;
 - Report and agree in writing any amendments to the CEMP with the relevant planning authority in accordance with the provisions in the DCO;
 - Ensure that all legal requirements are identified and met;
 - Implement the use of CEMP management plans and ensure applicability to the site operations;
 - Ensure that the site is safe and that hazards are identified and secured;
 - Undertake (or nominate others) to undertake audits;
 - Monitor performance during construction of the Project against statutory requirements, objectives and targets;

- Ensure the accurate reporting of resource usage e.g., energy and water;
- Ensure that all documentation referencing environmental procedures and policy are relevant and up to date;
- Manage all necessary documentation to demonstrate compliance with appropriate legislation for the required period;
- Identify necessary levels of environmental competence in staff and ensure necessary training is delivered to personal;
- Manage investigation and resolution of complaints; and
- Ensure correct procedures are followed in case of an environmental incident.

Construction supervisor(s)

2.4.3 The construction supervisor's responsibilities include:

- Ensure that the CEMP and associated documents and control methods are effectively implemented on site on a day-to-day basis;
- Fully investigate and act on any environmental incidents and report findings to the senior site manager;
- Conduct and document weekly environmental inspections.
- Ensure that environmentally orientated briefings and toolbox talks are being delivered to the site workforce;
- Implement and maintain environmental controls on site;
- Ensure action is taken on any spills/incidents that occur on site; and
- Report any activity that has potential to have an environmental effect immediately to the senior site manager.

Subcontractors

2.4.4 The subcontractor's responsibilities include:

- Compliance with direction given in the site induction;
- Proactively approach environmental issues whilst on site;
- Site staff should ensure they are fully aware of the environmental procedures in place and if they have any questions, they should be directed towards the senior site manager;
- Ensure all construction activities are carried out in line with the procedures detailed in the CEMP; and
- Report any environmental incident to the senior site manager.

2.5 Contact Details

2.5.1 Contractor details to be confirmed in the detailed CEMP.

2.6 Environmental Management, Risk Management and Auditing

Overall Site Management Actions

- 2.6.1 All environmental documentation shall be kept on site at all times and be available for inspection by internal and external auditors and regulators. Site personnel shall be made aware immediately if any significant changes in work procedures are implemented.
- 2.6.2 Relevant documentation shall include the following:
- Final CEMP and supporting management plans;
 - Site weekly checklist;
 - Impacts and aspects matrix;
 - Environmental risk assessment;
 - Pollution prevention plan including emergency response; and
 - Training and responsibilities matrix.
- 2.6.3 Weekly environmental inspections shall take place on site by the senior site manager. The findings of these inspections and any associated actions shall be appropriately documented on the weekly checklist.
- 2.6.4 The Applicant will liaise as necessary with the relevant authorities and regulatory bodies with regard to all construction related consents, exemptions and DCO Requirements. A consents schedule shall be completed and held on site, detailing relevant information from date of application.
- 2.6.5 Where specific limitations are set through any licence or requirement, this is to be clearly identified and regularly reviewed to ensure compliance.

Pollution Prevention Planning and Emergency Response

- 2.6.6 The contractor will prepare and implement appropriate measures to control the risk of pollution associated with construction activities, materials and extreme weather events and document these in an incident control plan as part of the detailed CEMP.
- 2.6.7 The contractor will be required to investigate and provide a report to the relevant authorities and regulatory bodies in the event a pollution incident occurs, including the following matters:
- A description of the pollution incident, including its location, the type and quantity of contaminant and the likely Receptor(s);
 - A description of the contributing factors;
 - Adverse effects and the measures implemented to mitigate adverse effects; and
 - Recommendations to reduce the risk of the incident re-occurring.

- 2.6.8 When preparing response measures, the Contractor will consult with relevant regulatory authorities and other parties which may include Health and Safety Executive (HSE) (Construction), the Fire Authority, Environment Agency (EA), Natural England (NE), utilities companies and the relevant local authorities.
- 2.6.9 The Contractor will develop, prior to the commencement of construction, an emergency procedure in consultation with the emergency services for potential risks during construction and will be required to follow the procedure in any site emergency.
- 2.6.10 This site emergency planning procedure is set out at **Section 3.3** of this Draft Outline CEMP. Contact details shall be clearly displayed on site and information explained to all site personnel. The Pollution Prevention Plan shall contain a clear detailed plan of the site which indicates the location of sensitive receptors such as watercourses and drainage points.
- 2.6.11 Emergency phone numbers and the method of notifying the relevant local authorities and all other relevant regulatory authorities including emergency services will be included, along with contact numbers for the EPC Contractor's key personnel.
- 2.6.12 In the event of an environmental incident, procedures must be followed to ensure risks of further spillages/migration of pollutants are minimised. Procedures will contain a clear detailed plan of the site which indicates the location of sensitive Receptors such as watercourses and ditches.
- 2.6.13 An appropriate number of spill kits will be located within these areas and clearly marked on the plan. Drip trays will be utilised under machinery where there may be a risk of leaks of oil and diesel.
- 2.6.14 Guidance for Pollution Prevention (GPPs) provide environmental good practice guidance for the whole UK but form regulatory guidance for Northern Ireland, Scotland and Wales only. There are currently 29 guidance documents available with the following considered to be of greatest potential relevance to the construction of the Project:
- GPP 1: Understanding your environmental responsibilities - good environmental practices;
 - GPP 2: Above ground oil storage tanks;
 - GPP 3: Use and design of oil separators in surface water drainage systems;
 - GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer;
 - GPP 5: Works and maintenance in or near water;
 - PPG 6: Working at construction and demolition sites;
 - GPP 8: Safe storage and disposal of used oils;
 - PPG 18: Managing fire water and major spillages; and
 - GPP 21: Pollution incident response planning.

2.6.15 Guidance specific to England is issued by Defra on its website entitled, 'Pollution prevention for businesses'. Activities during the construction process shall be undertaken in line with the guidance, relevant topics include:

- Polluting substances;
- Activities that produce contaminated water;
- Correct use of drains;
- Storing materials, products and waste;
- Unloading and moving potential pollutants;
- Construction, inspection and maintenance; and
- How to set up an environmental management system.

2.6.16 All the above guidance shall be complied with unless otherwise agreed with the relevant planning authority.

Considerate Constructors Scheme

2.6.17 The Applicant intends to register the Project with the Considerate Constructors Scheme (CCSc). The CCSc is a non-profit-making, independent organisation founded by the construction industry to improve its image. The CCSc is neither grant maintained, nor funded by the government, and is solely financed by its registrations. The CCSc Code of Considerate Practice commits those sites and companies registered with the Scheme to be considerate and good neighbours, as well as respectful, environmentally conscious, responsible and accountable. Registered sites must also consider their appearance and safety.

2.6.18 This commitment is maintained by the CCSc monitoring registered sites and by the display of posters around the construction site, setting out the Code to which the sites or companies are committed. If passers-by wish to comment, the name and telephone number of the site management or company contact are clearly displayed, alongside the freephone telephone number of the CCSc's administration office.

2.6.19 CCSc Monitors who are drawn from the senior ranks of all disciplines within the construction industry, with a fairly even division between architects, engineers, contractors and surveyors, visit the site on a regular basis. The Monitor acts as an 'informed member of the public' and is looking at how the site represents the company and the industry. During the visit, the Monitor will assess the perimeter of the site, the access to the site offices and the facilities provided for the operatives. The Monitor will also review whether the site's procedures are in accordance with the Scheme's Code of Considerate Practice.

2.6.20 The Monitor will write a report which will include the score achieved against each of the eight categories of the Scheme's Code of Considerate Practice. The purpose of this score is to indicate how well the site is performing against the Code.

- 2.6.21 The Project will comply with the CCS Code of Considerate Practice and target to maintain a high-level score on each site monitor's visit. The construction sites serving the Project shall clearly display the associated posters and banners allowing local residents to identify all contact numbers. The Applicant and the EPC Contractor will ensure all works carried out are undertaken in a manner which not only ensures best practice, but also minimal cause for complaint by the public and disruption to third parties.

3. General Requirements

3.1 Summary of Construction

- 3.1.1 This section sets out an overview of the construction programme and methodology for the Project. More detailed information on the construction methodology can be found in **Chapter 2: The Project**.
- 3.1.2 The construction methodology is not a detailed account of how the Project would be built as it remains important that construction contractor(s) have appropriate flexibility with which to deploy new technologies and efficiencies. This indicative construction methodology and programme does provide an overview of the likely scenario within which the eventual construction programme would be in general accordance with and has been assessed as part of the EIA.
- 3.1.3 Pipelines are constructed within the pipeline “spread” or temporary working width, which is a corridor of land extending along the route. Pipe laying can be likened to a production line with successive activities moving along the spread. Activities include: site preparation, pipeline stringing, welding, inspection, laying and testing. Once complete, reinstatement would be undertaken across the temporary working width.
- 3.1.4 Pipeline construction is generally focused on the spring and summer months (March to September) with an aim to reduce impacts on agricultural land. The works for crossings and pipelines in the streets may occur outside the typical pipelaying season and throughout the year. It is expected that each corridor would take 12-18 months to construct.
- 3.1.5 Once a section is prepared the installation of fabricated sections can typically advance at 150m – 350m per day depending on diameter and local conditions. In more congested areas, and when pipe diameter and weights are larger, progress is slower and the advance may be only tens of metres per day.
- 3.1.6 Various construction crews would work on the main pipeline spread plus road, rail and watercourse crossings. Work crews would be located at several locations at any one time and move forward as the work progresses across the section they are working on. Equally at times during the construction period there would be no active work at particular locations. Each crew would typically have 30 persons and the total workforce would be up to 1,000 personnel split across all project spreads.
- 3.1.7 Different plant and vehicles are required according to the activities of pipe laying, developing trenchless crossings, HAGI or BVI construction and temporary compounds. These will include plant of varying height such as mobile telescopic and crawler cranes, 360 tracked excavators and side booms for pipelaying. Use of larger equipment such as cranes would be temporary and generally short-term dependent on the task, plant suitability and availability.
- 3.1.8 Construction of a HAGI typically takes from six to twelve months and may be in progress at any point during the year, subject to any local constraints. Construction of BVIs would typically take up to four months.

3.2 Overarching Principles

- 3.2.1 The general management of the Project is important in maintaining the health and safety of the public and construction staff and mitigating the potential impact of general site construction activities.

Health and Safety

- 3.2.2 Each appointed contractor will prepare a construction phase Safety, Health and Environment (SHE) Plan prior to construction works commencing. A construction phase SHE Plan will be prepared by the contractor(s) for each element of the Project, including HAGIs, BVIs and pipelines. The Plans will ensure that adequate arrangements and welfare facilities are in place to cover:
- the safety of construction staff;
 - the safety of all other people working at or visiting the construction site;
 - the protection of the public in the vicinity of the construction site;
 - defined and adopted emergency procedures, including emergency access arrangements; and
 - appropriate training and information being provided to personnel.
- 3.2.3 The contractor(s) Construction Phase SHE Plan will be reviewed and accepted by the Applicant prior to construction commencing.
- 3.2.4 The Applicant would ensure that adequate arrangements are in place to discharge its duties under the Construction (Design and Management) Regulations, 2015² (CDM Regulations).
- 3.2.5 The contractor(s) would be regularly audited on its health, safety and environmental performance. All procedures and processes would be periodically reviewed internally by the contractor(s) and by the Applicant.
- 3.2.6 The contractor(s) would be required to report all accidents and incidents to the Enablon System (IMS) within 48 hours of the incident being brought under control. This 48-hour time frame has been made available to assist the project delivery teams in determining the correct version of events and key facts prior to the incident being recorded in IMS.

Code of Conduct

- 3.2.7 The contractor(s) will be a member of the Considerate Constructors Scheme or an equivalent scheme and will adhere to a Code of Conduct. The Code of Conduct will include sections on respecting the environment and respecting communities.
- 3.2.8 The contractor(s) will establish a process to monitor where workers are staying by type of accommodation and location. The results of this monitoring will be provided to the Applicant and will be available to local authorities on request.

² UK Government. (2015). The Construction (Design and Management) Regulations 2015. (Online). Available at: <https://www.legislation.gov.uk/ukxi/2015/51/contents/made> (Accessed August 2024).

Community Liaison

- 3.2.9 The Applicant is committed to ensuring that the local community are provided with information regarding relevant construction activities. Information relating to the Project is and would continue to be readily available on the project website which has been established by the Applicant. This would include the project programme, progress updates, and contact details for the Project so that members of the public or businesses can request information or make an enquiry relating to the construction activities.
- 3.2.10 A community relations team will staff a project email account and telephone helpline to manage enquiries from the general public and local businesses. Contact details will be widely promoted and displayed at appropriate locations around the site hoarding.
- 3.2.11 A Communications Log will be maintained to record all communications with members of the public and other interested parties including general enquiries and complaints. These will be reported to the Applicant by the community relations team. All enquiries, whether a query or a complaint, will be dealt with in a timely manner.

3.3 General Site Management

Construction Working Hours

- 3.3.1 Standard construction working hours would be 10 hours per day (08:00 to 18:00) from Monday to Saturday, with no works on Sundays or Bank Holidays. There may be the need for some extended working hours, for instance, night working to minimise traffic disruption at road crossings, but this would be subject to agreement with the Local Planning Authority.
- 3.3.2 There would also be the need for continuous (24-hour) working for some activities, due to the need to work continuously on specific construction activities and reduce impacts on third party assets/ statutory undertakers. Such activities include:
- tunnelling and Horizontal Directional Drilling;
 - pipe pulling at trenchless crossings; and
 - pipeline testing.

Construction Site Layout and Good Housekeeping

- 3.3.3 The layout and operation of the construction compounds, working areas and site offices will comply with the commitments in this Draft Outline CEMP.
- 3.3.4 The Applicant will ensure that site layouts for the construction areas (e.g., temporary construction compounds) will be arranged to reduce the land required and the environmental impacts as far as reasonably practicable, having due regard to the constraints for each site for example:
- noise generating activities will be sited away from noise-sensitive receptors where practicable;
 - appropriate signage will be employed across the sites;

- storage sites, temporary offices, fixed plant and machinery will be positioned appropriately (e.g., away from sensitive receptors);
- appropriate speed limits will be imposed on construction compounds and temporary access roads line with the speed limits specified in the Construction Traffic Management Plan (CTMP); and
- measures will be implemented to provide effective preventative pest and vermin control and prompt treatment of any pest and vermin infestation. Adequate arrangements will be made for disposing of food waste and other material attractive to vermin.

3.3.5 Good housekeeping practices will be applied at all times and all working areas will be inspected as required, using a site audit programme and a written report on compliance will be provided to the Applicant on a monthly basis.

3.3.6 In particular, the layout, appearance and operation of the construction site, site offices and compounds will be managed as follows:

- all working areas will be kept in a clean and tidy condition;
- smoking areas at site offices, compounds and construction sites will be equipped with containers for smoking waste and will not be located at the boundary of working areas or adjacent to neighbouring land;
- all necessary measures will be taken to minimise the risk of fire;
- workers will maintain a reasonable and appropriate standard of dress at all times and will not use foul language or display lewd or derogatory behaviour;
- appropriate measures, such as use of enclosed containers, will be employed to store waste susceptible to spreading by wind or liable to cause litter;
- fencing and other means of enclosure will be inspected as required and repaired as necessary;
- adequate welfare facilities will be provided for all construction staff. All toilets will be serviced and kept clean;
- good personal hygiene will be promoted by the contractor(s) for the workforce, particularly when using site mess facilities; and
- site accesses, accesses to site compounds and roads in the vicinity of site access points will be maintained and kept clean as required.

Fencing

3.3.7 Working areas will be appropriately fenced from members of the public and to prevent livestock from straying into a working area. The Applicant will ensure, as far as reasonably practicable, that the visual intrusion of the construction compounds on the local community, local residents and users of local amenities is minimised. Temporary 2.4m to 3.6m security fencing (Heras or similar) will be installed around construction compound boundaries where there are potential views into the compound from nearby sensitive receptors and screening would not be provided by elements surrounding the compound (for example temporary earth

bunds), or existing screening (for example areas of hedgerow or woodland) is not present outside the compound boundary.

- 3.3.8 Temporary fencing will be regularly inspected/maintained and will be removed as soon as reasonably practicable after completion of the works.

Lighting

- 3.3.9 The temporary construction compounds will include lighting for the safety of personnel working during the hours of darkness (typically winter months), in the form of task lighting (erected temporarily for a specific task) or lighting maintained for the duration of the use of the compounds. This lighting would only be used whilst work is in progress. Lighting for security purposes may be required and it may be necessary for this to be on for extended periods. Lighting would be installed such that light spill outside the compound near residents and ecological receptors is limited e.g., through considering the height of the columns, lux levels and use of shields etc. Further information is provided within the Draft Outline Lighting Strategy.

Security

- 3.3.10 The contractor(s) will ensure that temporary construction compounds, including offices, are adequately secured to protect the public and prevent unauthorised entry to and from the site. Access to the temporary construction compounds will be limited to specified entry points only and personnel entries/exits will be recorded and monitored for both security and health/safety purposes.

Emergency Planning Procedures

- 3.3.11 Emergency procedures will be developed which will take into account the anticipated hazards and conditions at each work site or location (e.g., for each of the temporary construction compounds). Such procedures will include appropriate procedures such as fire and site evacuation, emergency pollution control measures, severe weather plan and emergency response plans for flooding events.
- 3.3.12 Emergency procedures will also ensure that emergency phone numbers, evacuation routes and muster points and the method of notifying the relevant local and statutory authorities are documented. The procedures will be displayed at the work sites and included as part of the site induction for all staff.

Welfare

- 3.3.13 Welfare cabins and toilets will be provided on site at the construction compounds for the use of construction workers with welfare vans provided elsewhere. Workers' Safety Information Sheets and Control of Substances Hazardous to Health (COSHH) safety data sheets will be prominently displayed in welfare cabins and vans covering work practices. Where portable generators are used, industry best practice will be followed to minimise noise and pollution from such generators.

Reinstatement

- 3.3.14 The Contractor(s) would clear all temporary working areas and accesses when they are no longer required for the works. On completion of the construction works, and in accordance with a landscape scheme, all plant, materials and temporary works/structures would be removed. Land used temporarily would be reinstated to an appropriate condition relevant to its previous use and in accordance with the Outline Soils Management Plan³ and Outline Peat Management Plan (a draft version of the latter was provided with the PEIR and again as **Appendix 13A** of the Draft ES), which will be produced for the Final ES that will accompany the DCO application for the Project.
- 3.3.15 Reinstatement of the working area would be undertaken typically including regrading, subsoil ripping to relieve compaction and removal of debris. Topsoil would be reinstated to the former depth.
- 3.3.16 Where possible, previous land uses would be re-established e.g., agricultural areas and fencing established in accordance with agreements with landowners and in consideration of the necessary easements. Areas of landscaping and required habitat reinstatement, including tree and hedgerow planting, would be implemented through a landscaping scheme that would be prepared and delivered in accordance with a requirement of the DCO.
- 3.3.17 Drainage altered during construction would be reinstated and where necessary, new drainage would be laid. All temporary materials such as bog mats, road fill, temporary culverts and geotextile membrane will be removed during the reinstatement works.

³ To be submitted as part of the DCO application documents

4. Topic-Specific Management Measures

4.1 Introduction

4.1.1 On behalf of the Applicant, an Environmental Impact Assessment (EIA) has been undertaken and reported in the Draft ES by WSP UK Limited. The Draft ES reports on those aspects of construction that could have an environmental impact and, where appropriate, proposes mitigation. Chapters of the Draft ES that have identified mitigation requirements relevant to the Outline CEMP are:

- **Chapter 5: Biodiversity;**
- **Chapter 6: Historic Environment;**
- **Chapter 7: Water Environment;**
- **Chapter 8: Landscape and Visual;**
- **Chapter 9: Air Quality;**
- **Chapter 10: Noise and Vibration;**
- **Chapter 11: Traffic and Transport;**
- **Chapter 12: Ground Conditions;**
- **Chapter 13: Agriculture and Soils;**
- **Chapter 14: Land Use;**
- **Chapter 15: People and Communities;**
- **Chapter 16: Major Accidents and Disasters;**
- **Chapter 17: Greenhouse Gas assessment; and**
- **Chapter 18: Climate Change Resilience.**

4.1.2 The information obtained through the EIA will be used to determine the mitigation methodology to be utilised during construction. Where significant risks are identified, specific management plans are to be put into place and details of these are found within this Outline CEMP. Method statements will incorporate the mitigation for the assumed risk. Any changes to work packages must be reassessed prior to any commencement of work.

4.2 Biodiversity

4.2.1 An assessment of the potential likely significant biodiversity effects resulting from construction of the Project has been undertaken and is set out in Draft ES **Chapter 5: Biodiversity.**

- 4.2.2 In line with good practice, the Outline CEMP will ensure that any risk of impacts on biodiversity features arising from environmental changes from the Project are managed via specific management plans and the employment of standard good practice measures. The Outline CEMP, which will accompany the Final ES and the Application, will be supported by a suite of linked and supporting documents where impacts to specific biodiversity features are considered. These documents include the Tree and Hedgerow Protection Strategy, Invasive Non-Native Species (INNS) Management Plan, Outline CTMP, Drainage and Water Management Plan (DWMP) and Outline Biodiversity Mitigation Strategy (BMS).
- 4.2.3 An Ecological Clerk of Works (ECoW) will be employed to administer the above strategies and plans.
- 4.2.4 The Project will also employ an Arboricultural Clerk of Works (who may also act as the ECoW).

4.3 Historic Environment

- 4.3.1 An assessment of the potential likely significant historic environment effects resulting from construction of the Project has been undertaken and is set out in Draft ES **Chapter 6: Historic Environment**.
- 4.3.2 Prior to the commencement of the project, an Archaeological Written Scheme of Investigation (WSI) (see **Appendix 6G**) will be prepared by the Applicant (and its appointed archaeological contractor), the scope of which is to be agreed with the relevant Planning Authorities and submitted as part of the DCO application. The WSI will set out the programme of archaeological evaluation for the Project; this will include overarching research aims and approach to evaluation and mitigation with respect to the recording of archaeological remains in areas where the assessment has identified potential for these to be present.
- 4.3.3 To minimise the risk of compaction of archaeological remains and to reduce perceptual change within the setting of heritage assets, construction routes are to use existing accesses, as far as possible. Also, HGV construction routes are to avoid Conservation Areas within settlements, where possible, as considered in the Outline CTMP (a Draft of which is provided in **Appendix 11B** of this Draft ES).
- 4.3.4 The Outline Landscape and Ecological Management Plan (LEMP) will secure relevant measures to avoid loss of hedgerow and trees that provide screening for heritage assets, where possible. In the instance that hedgerow or tree removal is required, the LEMP will secure the reinstatement of specimens as similar to the extant trees (in species, age and size) as possible.

4.4 Water Environment

- 4.4.1 An assessment of the potential likely significant water environment effects resulting from construction of the Project has been undertaken and is set out in Draft ES **Chapter 7: Water Environment**.

- 4.4.2 The CEMP will detail measures to be implemented to minimise disturbance and/or pollution to the water environment and will provide details of measures to protect environmental receptors. All aspects of the construction work will be in accordance with the Construction (Design and Management) Regulations 2015. In addition, work will be completed in accordance with advice notes, guidance documents and Environment Agency PPGs.
- 4.4.3 A Drainage and Water Management Plan (DWMP) will be prepared for all construction activities to support the CEMP, building upon the Outline Drainage Strategy (see **Appendix 7F, Annex 7F6: Outline Drainage Strategy**). The DWMP will incorporate SuDS principles and specify appropriate treatment and attenuation storage to ensure any discharges to watercourses are uncontaminated and limited to greenfield rates. This will set out surface water drainage measures for the pipeline swathe and associated haul road networks, construction compounds, laydown areas and HAGI/ BVI construction sites. It will also specify measures for the treatment and discharge of dewatered groundwater. The DWMP will be developed by the construction contractor post granting of the DCO and prior to commencement of works and will be secured through a DCO requirement.

4.5 Landscape and Visual

- 4.5.1 An assessment of the potential likely significant landscape and visual effects resulting from the construction and operation of the Project has been undertaken and is set out in Draft ES **Chapter 8: Landscape and Visual**.
- 4.5.2 The CEMP will include measures to minimise the visibility of activity within construction compounds and material storage areas, the impact of construction traffic upon sensitive visual receptors, including settlements and the loss of hedgerow and trees during the construction phase.
- 4.5.3 The Outline Landscape and Ecological Management Plan (LEMP) provides measures to minimise landscape and visual effects during the operational phase of the Project, such as:
- the role of above ground infrastructure,
 - replacement planting to minimise long-term hedgerow/tree loss and its long term management,
 - enhancement of existing hedgerows and
 - reinstatement of land disturbed as part of the construction phase and thereafter not required as part of the Project.
- 4.5.4 The Outline Lighting Strategy provides measures to minimise the night-time visual impact of the construction and operation of the Project.

4.6 Dust and Air Quality

- 4.6.1 An assessment of the potential likely significant air quality effects resulting from construction of the Project has been undertaken and is set out in Draft ES **Chapter 9: Air Quality**.

- 4.6.2 Where practical, sensitive sites will be avoided by the temporary construction compounds and permanent project elements including SSSIs, Local Nature Reserves, Local Wildlife Sites, Ancient Woodland, areas of consented development, areas of historic landfill and other known areas of potential contamination, National Trust Land, Listed Buildings and Scheduled monuments.
- 4.6.3 Also, good practice air quality measures, including the development of a Dust Management Plan will be applied as described in IAQM (2014) guidance. These measures are provided in **Table 9.8 of Chapter 9: Air Quality**.

4.7 Noise and Vibration

- 4.7.1 An assessment of the potential likely significant noise and vibration effects resulting from the construction and operation of the Project has been undertaken and is set out in Draft ES **Chapter 10: Noise and Vibration**.
- 4.7.2 In general, noise levels from construction activities will be monitored to ensure that specified noise limits are not exceeded at any noise sensitive location identified by the Applicant.
- Where works are expected to be undertaken in the same location for a duration of one month or more, the Category A limit of 65 dB $L_{Aeq,12 \text{ hours}}$ would apply. Where works are for longer than 10 days, but less than a month, 75 dB $L_{Aeq, 12 \text{ hours}}$ has been applied as the limit.
 - Where works are fewer than 10 days in a single location, a limit of 75 dB $L_{Aeq, 12 \text{ hours}}$ would apply, and the nature and duration of the works communicated to the nearby affected sensitive receptors.
- 4.7.3 Measures to control and reduce construction noise emissions may include:
- Selection of quieter plant;
 - Reducing intensity of works;
 - Scheduling works to avoid multiple activities near to noise sensitive locations;
 - Scheduling works to avoid noise sensitive times of day;
 - Provision of local screening;
 - Provision of boundary screening; and
 - Provision of plant movement alarms that vary the loudness level according to ambient noise levels.

4.8 Traffic and Transport

- 4.8.1 An assessment of the potential likely significant traffic and transport effects resulting from the construction and operation of the Project has been undertaken and is set out in Draft ES **Chapter 11: Traffic and Transport**.
- 4.8.2 A Draft Outline Construction Traffic Management Plan (CTMP) has been produced to support the Draft ES, **Chapter 11: Traffic and Transport (Appendix 11B)**.

- 4.8.3 The detailed CTMP will be agreed with the relevant planning authority in consultation with the relevant highways authorities prior to the commencement of Project and will include a HGV Access Strategy.
- 4.8.4 In addition to the CTMP, the Applicant will prepare a crossing schedule (building upon that provided in **Appendix 2B: Crossing schedule**) which will include a crossing methodology for each crossing of road, rail, Public Right of Way (PRoW) and watercourse and a Public Rights of Way Management Plan (PRoWMP), which will set out details of the impacts of the Project on the PRoW network and Open Access Land (OAL), and the management and mitigation required. **Appendix 11C** presents the Draft Outline PRoWMP.

4.9 Ground Conditions

- 4.9.1 An assessment of the potential likely significant ground conditions effects resulting from the construction of the Project has been undertaken and is set out in Draft ES **Chapter 12: Ground Conditions**.
- 4.9.2 A Materials Management Plan (MMP) will be developed by the Principal Contractor that outlines where excavated non-waste materials will be reused in line with the CL:AIRE (2011), and the definition of a Waste Code of Practice (DoWCoP). The MMP will secure the implementation of construction strategies that will seek to maximise the reuse of excavated clean materials from the pipeline construction corridor, where practicable and feasible. The MMP will include a declaration by a Qualified Person that the MMP has been completed in accordance with the DoWCoP and that best practice is being followed.

4.10 Agriculture and Soil Resources

- 4.10.1 An assessment of the potential likely significant effects on agriculture and soil resource resulting from the construction of the Project has been undertaken and is set out in Draft ES **Chapter 13: Agriculture and Soil Resources**.
- 4.10.2 Soils will be managed in accordance with Defra 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (CCOP). A Soil Management Plan (SMP) will be developed for use during construction to protect soil resources and agricultural land quality.
- 4.10.3 For potential areas where peat cannot be avoided by the temporary works or permanent development elements of the Project, an Outline Peat Management Plan will be produced (a preliminary version of which is provided as **Appendix 13A**), including the measures to be employed to protect peat during handling, storage and reinstatement, to promote its reuse within the Draft Order Limits where possible, or offsite if a suitable receptor site can be identified, and avoid it becoming waste. The Outline Peat Management Plan will be used in conjunction with the SMP.

4.11 Land Use

- 4.11.1 An assessment of the potential likely significant land use effects resulting from the construction, operation and decommissioning of the Project has been undertaken and is set out in Draft ES **Chapter 14: Land Use**.
- 4.11.2 With respect to minerals, incidental or surplus minerals extracted from the Project will be re-used wherever possible. Where excavations take place, materials taken out of the ground will be stored close to the location of excavation and then re-used to backfill the excavations once the pipelines are laid. Surplus minerals remaining after this exercise (due to either displacement or bulking of ground materials) will then be considered for re-use.
- 4.11.3 The Draft Outline PRoWMP (**Appendix 11C**) will ensure that effects upon users of cycling and walking routes and PRoWs will be suitably managed and thus minimised.

4.12 People and Communities

- 4.12.1 An assessment of the potential likely significant people and communities effects resulting from the construction and operation of the Project has been undertaken and is set out in Draft ES **Chapter 15: People and Communities**.
- 4.12.2 The Project will be subject to standard best practice mitigation measures employed to avoid and minimise potential effects on local businesses and recreational facilities and more widely on tourism and recreation facilities. Relevant measures will be set out in the Outline CEMP, Outline CTMP and Outline PRoWMP, which will accompany the Final ES and the Application.

4.13 Major Accidents and Disasters

- 4.13.1 An assessment of the potential likely significant major accidents and disasters effects resulting from the construction and operation of the Project has been undertaken and is set out in Draft ES **Chapter 16: Major Accidents and Disasters**.
- 4.13.2 The CEMP to be produced prior to commencement of construction will detail measures to be implemented and regulated through relevant regulations such as CDM Regulations 2015 to avoid or reduce impacts during the construction phase. In accordance with these regulations, the CEMP will require risk assessment of construction activities (including any necessary earthworks or demolition activities) and this assessment will cover and mitigate where necessary the potential impact of all major accidents or disasters including those affecting non-human receptors and people affected by the work, including the public. These include adopting measures to manage fire risk, electrical hazards and structural integrity (including excavations) throughout the construction process.

- 4.13.3 All construction activity will be undertaken in accordance with the requirements of the Health and Safety at Work Act (1974), Management of Health and Safety at Work Regulations 1999, Pipelines Safety Regulations 1996 and the CDM Regulations 2015, to ensure that the risk associated with such activities is identified and reduced to As Low As Reasonably Practicable (ALARP).

4.14 Greenhouse Gas assessment

- 4.14.1 An assessment of the potential likely significant Greenhouse Gas effects resulting from the construction, operation and decommissioning of the Project has been undertaken and is set out in Draft ES **Chapter 17: Greenhouse Gas Assessment**.
- 4.14.2 Measures to reduce embodied carbon in construction materials and encourage circular economy principles, reduce GHG emissions from construction plant and equipment and minimise emissions from construction traffic will be set out in the CEMP. Such measures may include:
- The use of efficient construction processes, where practicable;
 - Maximising the opportunity to use more sustainable materials and products with reduce embodied carbon emissions and materials/resources featuring recycled content;
 - Avoiding disposal of construction waste to landfill, maximising recycling, and reuse of waste where possible;
 - Using modern and efficient low emission construction plant and delivery vehicles, and/or those powered by electricity from alternative/lower carbon fuels where practicable. Construction contractors will ensure high performance of plant and equipment through correct and efficient operation, maintenance, and servicing of vehicle fleet to avoid polluting emissions.

4.15 Climate Change Resilience

- 4.15.1 An assessment of the potential likely significant climate change resilience effects resulting from the construction, operation and decommissioning of the Project has been undertaken and is set out in Draft ES **Chapter 18: Climate Change Resilience**.
- 4.15.2 Construction activities will be planned through use of a Risk Assessment Method Statement (RAMS) alongside safety bulletins as part of the CEMP. The RAMS will put in place procedures in the case of extreme weather (high temperatures, extreme winds, flooding, wildfire risk). This may include altering the construction programme to delaying affected activities, changing shift patterns, Personal Protective Equipment (PPE) and toolbox talks.
- 4.15.3 Planting to support landscaping and biodiversity (secured via the LEMP) will be selected in light of future climate change parameters and will identify additional maintenance activities if required.

5. Conclusion

- 5.1.1 The Draft Outline CEMP outlines the mechanisms, management systems, plans and procedures appropriate to the control of environmental effects during the construction of the Project. As an outline document it will be updated with additional detail for the Final ES that will accompany the DCO application for the Project. Once the appointed EPC Contractor(s) is/are engaged and the exact methods and means by which the Project will be constructed is confirmed. A detailed CEMP will be produced in line with this Outline CEMP, following grant of the DCO and would be agreed with the LPA and (if relevant) statutory consultees before the commencement of works.

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