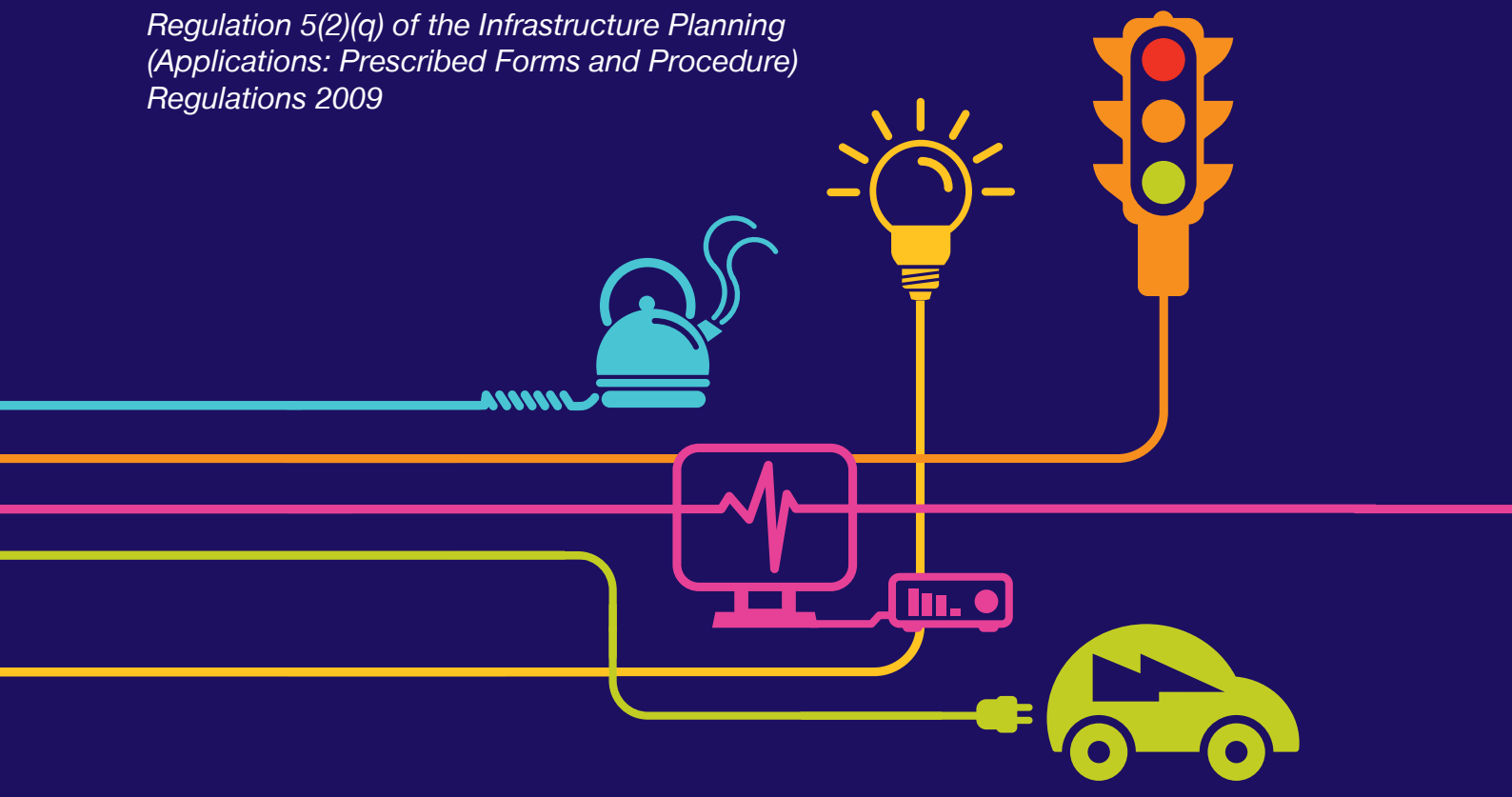
Document 5.26.2C

nationalgrid

Environmental Statement
Construction Environmental Management Plan
Appendix 1
Waste Management Plan

Hinkley Point C Connection Project

Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



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VOLUME 5.26.2C, CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX 1 – WASTE MANAGEMENT PLAN

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INSETS (VOLUME 5.26.2C)

EX1 EXECUTIVE SUMMARY

EX1.1 Waste Management Plan

EX1.1.1 This Waste Management Plan (WMP) forms an appendix (**Volume 5.26.2C**) to the Construction Environmental Management Plan (CEMP) and as such forms part of the delivery of National Grid's commitment to best practice.

EX1.1.2 This WMP was certified by the Secretary of State in accordance with Article 45 (Certification of plans etc.) of the DCO and will be implemented by National Grid and WPD via **Schedule 3, Requirement 5** of the DCO. National Grid and WPD will require their contractor(s) to adopt and implement the principles and procedures of the WMP during the construction of the Proposed Development. This will be secured through contractual agreements.

EX1.2 Purpose and Content of the Waste Management Plan

EX1.2.1 The objectives of the WMP (in order of preference, in accordance with the waste hierarchy) are:

- minimise raw materials consumed and the volume of waste produced;
- re-use any waste produced, where practicable;
- recycle waste, where reuse is not practicable;
- recover waste, where feasible; and
- dispose of any remaining waste streams in accordance with legislative requirements.

EX1.2.2 The purpose of this WMP is to set out the principles and procedures for the management of waste during the construction of the Proposed Development. Actions include, for example, the requirement for each of the main contractors for overhead lines, cables and substations (to include cable sealing end (CSE) compounds) to produce a Site Waste Management Plan (SWMP).

EX1.3 Principles and Standards

EX1.3.1 Principles and Standards that will be employed by the contractors to limit effects on the environment are detailed in section 3 of this document and include:

- the consumption of raw materials and production of waste shall be minimised, through sound design and good practice in procurement;
- if generated, opportunities for reusing or recycling the waste will be considered prior to disposal via landfill;
- waste materials shall be stored securely on site in order to prevent their escape and protect them against vandalism, vermin or outside interference;
- hazardous waste (e.g. paints, solvents, sealants) will be segregated on-site to avoid contaminating other material and waste streams;
- storage of waste on site shall either be:
    - within the scope of, and comply with, the requirements of one or more of the activities specified as exempt form Waste Management Licensing; or
    - carried out under an environmental permit issue by the Environment Agency (EA).

- waste management activities on sites operating under an environmental permit will be managed by a nominated Technically Competent Manager;
- all waste disposal contractors carrying waste shall be authorised to do so and all sites that receive the waste shall be authorised to do so;
- disposal of all waste will be accompanied by the relevant statutory transfer documentation that adequately describes the waste;
- quantities of waste generated will be recorded and monitored. Records will be kept for a minimum of three years;
- all employees and contractors will have a Duty of Care when controlling the carriage and disposal of waste to ensure it is handled in a responsible manner; and
- all staff and contractors working on the Proposed Development shall understand which waste should be deposited where.

EX1.4 Site Waste Management Plan

EX1.4.1 In addition each main contractor will prepare a SWMP which will include:

- a detailed action plan for the management of waste, including roles and responsibilities, methods of data collection and reporting procedures;
- an initial estimate of likely waste arisings, based upon the final design of the Proposed Development;
- proposals for managing the waste following the Waste Hierarchy to ensure that waste arisings are minimised, including 'designing out waste' and waste prevention measures;
- an analysis of waste management facilities, in accordance with Overarching National Policy Statement (NPS) EN-1; and
- details of any site waste storage facilities including the requirements of environmental permits and pollution control measures.

EX1.5 Communications and Training

EX1.5.1 To help ensure the principles, standards and requirements outlined at section 3.4 of this document are delivered, the contractor(s) will develop and implement comprehensive communications and training programmes for all relevant staff, to include the following:

- understanding the different sources, types and nature;
- the legal responsibilities for waste and its impact on the Proposed Development;
- the requirements of the WMP and CEMP (**Volume 5.26.1C**);
- how to conduct basic waste audits to identify, estimate and report quantities of waste;
- how to produce a SWMP;
- the roles and responsibilities of waste regulators and licensed carriers; and
- the roles and responsibilities of site personnel in the management of waste.

1. INTRODUCTION

1.1 General Introduction

1.1.1 This Waste Management Plan (WMP) forms an appendix (**Volume 5.26.2C**) to the Construction Environmental Management Plan (CEMP **Volume 5.26.1C**) which supports the application by National Grid Electricity Transmission plc (National Grid) under the Planning Act 2008 for a Development Consent Order (DCO) authorising the Hinkley Point C Connection Project (the Proposed Development). The DCO grants powers to construct and maintain a new 400,000 volt (400kV) and 132,000 volt (132kV) electricity connection across the authorities of West Somerset, North Somerset, Sedgemoor, South Gloucestershire and Bristol (Avon).

1.1.2 This WMP has been prepared by National Grid and Western Power Distribution (WPD) and presents the approach to and application of sustainable waste management procedures for construction of the Proposed Development.

1.1.3 This WMP was certified by the Secretary of State in accordance with Article 45 (Certification of plans etc.) of the DCO and will be implemented by National Grid and WPD via **Schedule 3, Requirement 5** of the DCO. National Grid and WPD will require their contractor(s) to adopt and implement the principles and procedures of the WMP during the construction of the Proposed Development. This will be secured through contractual agreements.

1.2 Background to the Proposed Development

1.2.1 The proposed Hinkley Point C Connection project includes the following principal elements:

- construction of a 57km 400kV electricity transmission connection between Bridgwater in Somerset and Seabank, near Avonmouth, comprising:
  - installation of a 400kV overhead line; and
  - installation of 400kV underground cables.
- modifications to existing overhead lines at Hinkley Point, Somerset;
- construction of three 400kV cable sealing end (CSE) compounds along the route of the connection;
- construction of a 400/132kV substation at Sandford, North Somerset;
- extension of the existing 400kV substation at Seabank;
- the removal of existing 132kV overhead lines and the construction of replacement 132kV overhead lines and 132kV underground cables;
- extensions/modifications to existing 132kV substations at Churchill, Portishead, Avonmouth and Seabank; and
- associated works, for example, temporary access roads, highway works, temporary construction compounds, scaffolding, work sites and ancillary works.

1.3 The Waste Management Plan

1.3.1 In accordance with their published approaches to sustainable design and construction National Grid and WPD will to seek to maximise resource efficiency, reducing the amount of waste generated, minimising water consumption and making the most efficient use of energy.

1.3.2 The objectives of the WMP are (in order of preference, in accordance with the waste hierarchy – see section 2.3, **Inset 2.1**):

- minimise raw materials consumed and the volume of waste produced;
- re-use any waste produced, where practicable;
- recycle waste, where reuse is not practicable;
- recover waste, where feasible; and
- dispose of any remaining waste streams in accordance with legislative requirements.

1.3.3 The purpose of this WMP is to set out the principles and procedures for the management of waste during the construction of the Proposed Development. It includes a series of principles and standard measures for waste management, in addition to a commitment to the production of Site Waste Management Plans (SWMP) for each of the principle components (overhead lines, underground cables and substations/CSE compounds), to include their associated works.

1.3.4 SWMPs help to manage and reduce the amount of waste produced by construction projects through a simple process of identification, input to design, continued measurement and management with a view of 'pushing up' waste through the waste hierarchy.

1.3.5 This WMP includes:

- a review and analysis of national and local planning policy and legislation related to waste (section 2);
- a description of National Grid and WPD policy, principles and procedures in relation to waste management (section 3);
- a description of the general types and an indication of likely quantities of waste likely to be generated by the Proposed Development (section 4); and
- an example SWMP (section 5).

1.4 Involvement of Local Authorities and Other Statutory Bodies

1.4.1 National Grid and WPD are committed to engaging with stakeholders including local authorities and other statutory and non-statutory bodies.

1.4.2 During the examination of the application, the local authorities and other stakeholders have had the opportunity to comment on the adequacy of the measures in this WMP. This includes the adequacy of the process and controls to be implemented. Any advice expressed by the bodies during the examination process has been considered and, where necessary, an updated draft of this WMP submitted to the Examining Authority.

1.4.3 Where required, permits from the Environment Agency (EA), will be sought prior to commencement of the relevant works.

1.5 Roles and Responsibilities

1.5.1 Indicative roles and responsibilities for Construction and Environmental Management are described at **Volume 5.26.1C, Inset 1.1** of the CEMP and includes a Project Level Safety, Health, Environment, Security and Quality (SHESQ) Manager, an Environmental Manager and an Environmental Clerks of Works.

1.5.2 These personnel will be responsible for ensuring the implementation and monitoring of the CEMP and its Management Plans, including the WMP.

2. UK POLICY AND LEGISLATION

2.1 National Planning Policy

2.1.1 An analysis of the requirements for waste management in Overarching National Policy Statement (NPS) EN-1 (Ref.1) has been carried out; details are provided in **Table 2.1**.

Table 2.1 NPS EN-1 Compliance

Para	Requirement	Section of ES	Compliance
5.14.6	The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a Site Waste Management Plan.	Arrangements for this are set out in section 4 of this document; an example layout provided at section 5 of this document.	The WMP describes principles and procedures for managing waste from the Proposed Development and identifies the requirement for the production and contents of the SWMPs, to be prepared during the detailed design phase, prior to commencement of construction. The SWMPs will set out in detail the arrangements for managing any waste produced for each of the main work streams: overhead lines, cables, substations and CSE compounds.
5.14.6	The arrangements described in the Waste Management Plan should include information on the proposed waste recovery and disposal system for all waste generated by the development, and an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation.	This will be addressed in the SWMPs.	Details on proposed recovery and disposal systems will be developed in the SWMP to be developed by the contractor; this will include an assessment of the impact of the waste arising from the Proposed Development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation.
5.14.6	The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.	This commitment is addressed in this document: section 1 (objectives of the WMP) and section 3 (waste management policy and waste management principles).	Sustainable waste management through the implementation of the waste hierarchy principles is described throughout the WMP, with a commitment to move up the hierarchy, beginning with a reduction in the resources used and subsequent reduction in the waste produced; followed by reuse, recycling and only when all other options have been discounted, disposal to a licensed waste facility.

Para	Requirement	Section of ES	Compliance
5.14.7	The IPC should consider the extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction, operation and decommissioning of the proposed development. It should be satisfied that: • Any such waste will be properly managed, both on-site and off-site; the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. • Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where that is the best overall environmental outcome.	This is described in section 3 of this document.	The WMP describes procedures for managing hazardous and non-hazardous waste on a construction site which include National Grid and WPD corporate procedures for waste management. The SWMPs will ensure that waste arisings are minimised and do not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area.

Waste Management Plan for England

2.1.2 The Waste Management Plan for England (WMPE) (Ref.2) provides an overview of waste management in England and fulfils the mandatory requirement in Article 28 of the revised Waste Framework Directive for Member States to adopt waste management plans and waste prevention programmes. It includes other required content as set out in Schedule 1 to the Waste (England and Wales) Regulations 2011.

2.1.3 Of particular relevance to the Proposed Development is a draft objective in the WMPE:

- Measures to be taken to ensure that by 2020 at least 70% by weight of construction and demolition waste is subjected to material recovery.

2.1.4 This objective has been taken into account in the principles outlined for the management of waste arisings during the construction phase of the Proposed Development and will be an important objective of the SWMPs.

2.1.5 The Waste Review 2011 (Ref.3) details the main policies which fall under the WMPE umbrella. This is supplemented by other information and policies contained within documents – in particular, Planning Policy Statement (PPS) 10: Planning for

Sustainable Waste Management' (Ref.4), which is soon to be updated and consulted on separately by the Department for Communities and Local Government.

2.1.6 A principal commitment in the Waste Review 2011 is to:

"*Prioritise efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste" (as set out at Article 4 of the revised Waste Framework Directive (Directive 2008/98/EC)).*

2.1.7 This commitment has been taken into account in the principles outlined for the management of waste arisings during the construction phase of the Proposed Development and will be incorporated into the SWMPs.

2.2 Regional and Local Planning Policy

2.2.1 Regional and local waste policies are contained within the West of England Joint Waste Core Strategy (adopted March 2011) and the Somerset Waste Core Strategy (adopted February 2013).

2.2.2 These Core Strategies are primarily focused upon providing the planning platform to manage the provision of waste facilities in these geographical areas. As such, they are not directly relevant to this WMP.

2.3 Legislation

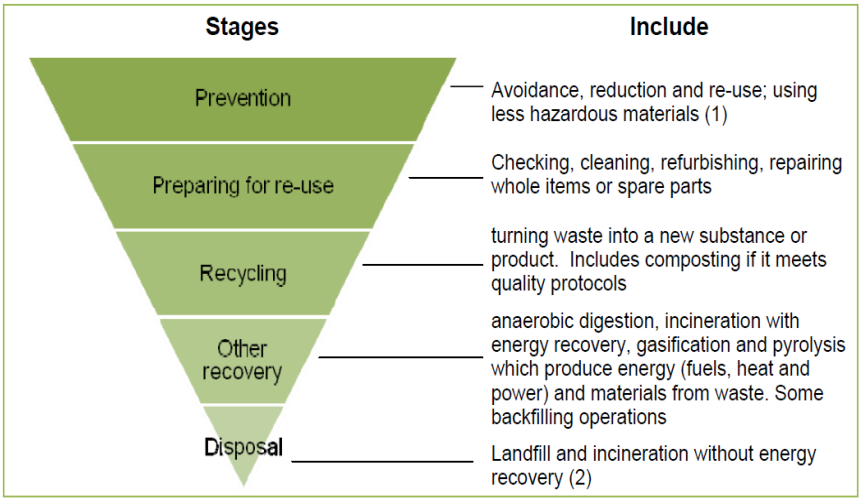
Revised EU Waste Framework Directive (2008/98/EC)

2.3.1 The revised Waste Framework Directive (2008/98/EC) (WFD) (Ref.5) provides the overarching legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste. The aim of the revised WFD is to promote waste prevention, increase recycling and ensure better use of resources, whilst protecting human health and the environment. It encourages the prevention and reduction of harmful waste by requiring Member States to take appropriate measures to encourage:

- the prevention or reduction of waste production and its harmfulness; and
- the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy.

2.3.2 The WFD's requirements are supplemented by other directives for specific waste streams.

Inset 2.1: Waste Hierarchy Summary (Defra, 2011) (Ref.6)



2.3.3 The WFD considers some wastes to be hazardous waste. A hazardous waste is defined as a waste that has one or more of the fifteen specified hazardous properties listed in Annex III to the WFD.

2.3.4 Waste classification is based on:

- the European List of Waste (LoW) (Commission Decision 2000/532/EC); and
- Annex III to Directive 2008/98/EC.

2.3.5 The LoW serves as a common encoding of waste characteristics in a broad variety of purposes like classification of hazardous wastes. Assignment of waste codes has a major impact on the transport of waste, installation permits (which are usually granted for the processing of specific waste codes), decisions about recyclability of the waste or as a basis for waste statistics.

2.3.6 The LoW will be used to determine the types of waste likely to be produced in the construction (indicative types and quantities are provided at section 4 of this WMP) and the methods of treatment suitable, for example which wastes can be recycled. The LoW has been transposed into UK Law through the List of Wastes Regulations (2005) (Ref.7).

Waste (England and Wales) Regulations 2011

2.3.7 The 2011 Waste Regulations (Ref.8) transpose the WFD into law and resulted in a number of changes to the management of waste. These changes are listed in EA guidance on the Waste Regulations (Ref. 9) and include:

- Placing greater emphasis on the waste hierarchy to encourage more waste prevention, re-use and recycling. The hierarchy will have to be applied by businesses transferring waste and by environmental permit holders whose

operations generate waste. The waste producer has the most important role in this.

- Some amendment to obligations under duty of care to take account of the waste hierarchy, such as a declaration on transfer notes and hazardous waste consignment notes.
- Introducing a two-tier carrier and broker registration system, including an obligation on waste producers carrying their own (non- construction/demolition) waste to register by end of 2013, and a new concept of 'dealer'.
- Minor amendments to the assessment of hazardous waste and to the consignment note procedures and record keeping requirements.
- Bringing certain categories of radioactive waste under waste control.

2.3.8 The Waste (England and Wales) (Amendments) Regulations 2012 (Ref.10) came into force on 1 October 2012. The amended Regulations relate to the separate collection of waste and amend the Waste (England and Wales) Regulations 2011 by replacing regulation 13 (Duties in relation to collection of waste).

2.3.9 The Site Waste Management Regulations 2008 required any project on a construction site with an estimated cost greater than £300,000 to prepare and update a SWMP. These regulations were revoked on 1 December 2013 when the Environmental Noise, SWMPs and Spreadable Fats etc. (Revocations and Amendments) Regulations 2013, came into force.

2.3.10 National Grid and WPD are committed to still work in the spirit of the requirements of the repealed regulations and will continue to produce SWMPs during the design phase for projects above the previous threshold or where it believes that a SWMP will be of benefit to a project.

Environmental Protection Act (EPA) 1990 (Duty of Care)

2.3.11 Section 34 of the EPA 1990 (as amended) (Ref.11) sets out the extent of the 'Duty of Care' owed by any person who imports, produces, carries, keeps, treats or disposes of controlled waste.

2.3.12 As described in the Code of Practice for the Duty of Care for Waste Management, published by the Department for Environment, Food and Rural Affairs (Defra), those subject to duty of care must try to achieve the following:

a) to prevent any other person committing the offences of depositing, disposing of or recovering controlled waste without a waste management licence, contrary to the conditions of a licence or in a manner likely to cause environmental pollution or harm to health;
b) to prevent the escape of waste, that is, to contain it;
c) to ensure that, if the waste is transferred, it goes only to an "authorised person" or to a person for "authorised transport purposes"; and
d) when waste is transferred, to make sure that there is also transferred a written description of the waste, a description good enough to enable each person receiving it to avoid committing any of the offences under (a) above and to comply with the duty at (b) above to prevent the escape of waste.

Hazardous Waste Regulations 2005

2.3.13 Hazardous waste is essentially waste that contains hazardous properties which if mismanaged has the potential to cause greater harm to the environment and human health than non-hazardous. As a result, strict controls apply from the point of its production, to its movement, management, and recovery or disposal.

2.3.14 The European Hazardous Waste Directive (91/689/EEC) was replaced by the revised European Waste Framework Directive (2008/98/EC).

2.3.15 The directive provides that additional record keeping, monitoring and control obligations from the 'cradle to the grave' are required when managing hazardous waste over non-hazardous waste, and that greater attention is required when different categories of hazardous wastes are mixed with each other or with non-hazardous wastes.

2.3.16 In the UK, hazardous wastes are covered by Hazardous Waste (England and Wales) Regulations 2005 (Ref.12).

2.3.17 The Hazardous Waste Regulations 2005 set out key requirements for the production and handling of hazardous waste. They include specific responsibilities for producers, carriers and receivers (consignees) of hazardous waste, to ensure that the waste causes no harm or damage.

3. NATIONAL GRID AND WESTERN POWER DISTRIBUTION WASTE MANAGEMENT PRINCIPLES AND STANDARDS

3.1 Environmental Policy

3.1.1 National Grid and WPD each maintains an Environmental Management System (EMS) to provide a framework within which to manage effects on the environment and to support the delivery of best practice. Both EMSs are certified to the International Standard ISO 14001:2004. Appointed contractors for the Proposed Development will be contractually obliged to work in accordance with National Grid's and WPD's EMSs, as outlined in **Volume 5.26.1C** (CEMP).

3.1.2 Both companies recognise that investing in, constructing and operating, a safe and reliable electricity infrastructure uses energy and raw materials, and produces waste. As a minimum, National Grid and WPD will comply with regulations and are both committed to reducing the environmental effects of their operations and to seek out opportunities to improve the environment and integrate sustainability into their decision making.

3.1.3 As part of its Environment Policy (Ref.13), National Grid seeks ways to use resources more efficiently through good design, use of sustainable materials, responsibly refurbishing existing assets, and reducing and recycling waste. National Grid's policy has been prepared in accordance with the waste hierarchy.

3.1.4 WPD's environmental commitments for 2010 to 2015 (Ref.14) include a target to reduce the level of waste being sent to landfill by 5%. WPD's Environmental Policy Statement includes a commitment to ensure that waste generated by the WPD network is continually kept to a minimum and where possible recycled, thus reducing the amount of waste being sent to landfill.

3.2 Sustainable Waste Management Principles

3.2.1 As described in section 2, the Waste Regulations 2011 impose a duty on all persons who produce, keep or manage waste, to apply the waste hierarchy. The principles of the waste hierarchy, also known as 'Sustainable Waste Management Principles', and examples of how they will be employed in the Proposed Development are described in the following paragraphs.

3.2.2 In particular, these principles will form the basis of SWMPs to be produced for each of the main components of the Proposed Development (overhead lines, underground cables and substations/CSE compounds, to include their associated works).

3.2.3 The sources, types and management of potential waste streams are referred to at a high level in this section; an initial estimate of arisings and further details of waste management proposals are provided in section 4 of this document.

Prevent

3.2.4 By reducing resources used, or increasing the efficiency in the use of resources, the amount of waste produced can be reduced. Excessive resources can be used in construction projects as a result of over-ordering, poor on-site waste segregation, a requirement for a high standard of finishing and a lack of space for storage of unused and waste materials.

3.2.5 The consumption of raw materials and waste will be minimised, through sound design and good practice in procurement.

3.2.6 The SWMPs will consider the application of WRAP Technical Solutions for Designing out Waste for Civil engineering Projects (Ref. 15), to reduce materials use as well as waste arisings. Both will be monitored as part of the SWMPs' review process.

Reuse

3.2.7 Opportunities for reusing 'waste' before recycling, recovery or disposal will be considered. For example, one of the principle waste materials generated by the Proposed Development would be excavated soils and substrate. Where possible, and appropriate, such materials will be re-used on site.

3.2.8 During the construction phase, working areas would be set out and temporary access roads constructed. This would involve stripping vegetation and topsoil for some of these areas. Surface vegetation, topsoil and subsoils will be stored separately for re-use and handled in accordance with the Defra guidance 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites'. Further details on the management of excavated soils and substrate is provided in section 4.3.

Recycle

3.2.9 If materials cannot be appropriately reused on site, they shall be assessed for their potential for recycling.

3.2.10 The principal recyclable waste produced by the Proposed Development would be steel and aluminium from the removal of existing overhead lines. Steel and aluminium are recyclable with a high degree of efficiency.

3.2.11 The granular stone haul road, which would be constructed using virgin aggregates, will be taken to an appropriate facility for recycling, for onward use, for example as secondary aggregate in the construction industry.

3.2.12 Other recyclable, general construction waste may be produced, such as wood, plastics and cardboard packaging. These will be segregated and stored for short periods on site in secure designated areas prior to removal from site to a recycling facility.

Recover

3.2.13 Stripped vegetation and removed trees (with landowner agreement except where this is identified for re-use or recycling) and general food waste will be taken to a composting, anaerobic digestion or biomass plant.

Disposal

3.2.14 The disposal of waste from the Proposed Development to landfill will be regarded as a last resort. All other options, as described above, will be considered prior to considering disposing of waste to landfill. If required, disposal will be undertaken in a safe and responsible manner ensuring that all waste carriers and management facilities are appropriately licensed, in accordance with the procedures outlined in this document.

3.3 National Grid and Western Power Distribution Waste Management Procedures

Background

3.3.1 Both National Grid and WPD have developed corporate procedures for Waste Management as part of their accredited EMSs. These include mandatory requirements for staff and suppliers.

3.3.2 Requirements that are of relevance to the Proposed Development are detailed in the following paragraphs.

Standards

3.3.3 A set of standard measures will be employed for the management of waste and are listed below; more detailed measures are set out after relating to Duty of Care, Hazardous Waste and the Storage of Waste:

- the treatment of recyclable waste materials from the Proposed Development will be undertaken off-site at an appropriate facility. Waste materials will be recovered and sorted on site for transportation and taken from site to the recycling facility;
- material will be stored for short periods on site in secure designated places in the identified construction working areas until taken away for recycling;
- all waste materials shall be stored securely on site in order to prevent their escape and protect them against vandalism, vermin or outside interference;
- hazardous waste (e.g. paints, solvents, sealants) will be segregated on-site to avoid contaminating other material and waste streams (For further details see Hazardous Waste section below);
- waste management activities on sites operating under an Environmental Permit will be managed by a nominated Technically Competent Manager i.e. the manager will be technically competent to manage the permitted activity, as defined by CIWM/WAMITAB's Operator Competence Scheme) (Ref.16);
- all waste management contractors carrying waste shall be authorised to do so and all sites that receive the waste shall be authorised to do so;

- a sample of waste management routes will be subject to an annual audit to confirm that waste is being managed correctly;
- management of all waste will be accompanied by the relevant statutory transfer documentation that adequately describes the waste and the documentation will be retained and be readily accessible;
- quantities of waste generated will be recorded and monitored. Records will be kept for a minimum of three years;
- an authorised waste management contractor will deal with the disposal of any fly-tipped materials discovered. Any fly-tipping will be reported as an environmental incident and notified to the local authority and/or EA to enable them to investigate the incident;
- all employees and contractors involved with the handling and managing of waste will have the relevant training and be assessed as competent and training records retained;
- all employees and contractors will have a Duty of Care when controlling the carriage and disposal of waste to ensure it is handled in a responsible manner;
- all waste containers shall be labelled to indicate the types of waste that may be deposited in them;
- all staff and contractors working on the project shall understand which waste should be deposited where, and that they are not allowed to use the facilities for the disposal of domestic waste. This will be delivered by toolbox talks; and
- a SWMP shall be produced for all projects costing over specified thresholds.

Duty of Care

3.3.4 All wastes produced by National Grid, WPD and their contractors are governed by waste management legislation. The producer of the waste is the holder of the waste generated by an activity.

3.3.5 As outlined in section 2 of this document, Duty of Care is a legal process designed to control the carriage and disposal of waste to ensure it is handled in a responsible manner from “cradle to grave”.

3.3.6 In line with the Duty of Care requirements, waste produced will be:

- transferred only to an Authorised Person accompanied by a Waste Transfer Note or Hazardous Waste/Special Waste Consignment Note; and
- not able to escape from anyone's control on site or in transit.

3.3.7 An Authorised Person is a Registered Waste Carrier, broker and/or the manager of a legitimate waste management facility, e.g. a waste disposal site.

3.3.8 If a third party employed by National Grid, WPD or one of their contractors, arranges waste disposal, and is not the waste producer, the Registered Waste Carrier or the manager of a waste disposal site, then that third party shall be a Registered Waste Broker.

3.3.9 Waste shall not be allowed to leave site unless Duty of Care checks are successfully completed.

3.3.10 Where a contractor is employed to undertake work that produces waste, it is the contractor's responsibility as producer of the waste to carry out the Duty of Care checks outlined above (including Registered Waste Carriers, Registered Waste Brokers, and Environmental Permits/Waste Management Licences for waste disposal sites or proof of exemptions from licensing).

3.3.11 However, National Grid and WPD retain a Duty of Care to ensure that waste is managed in a responsible manner; responsibility for contractors will vary between National Grid and WPD, depending upon which company is overseeing the particular works in question. The member of staff employing the contractor shall ensure the contractor has a system of works to ensure that adequate Duty of Care checks are being undertaken and shall carry out periodic checks to ensure the contractor is using only Authorised Persons.

3.3.12 The contractor shall provide evidence of Duty of Care checks that have been undertaken on request.

Non-Hazardous Waste

3.3.13 All non-hazardous waste arising from the work carried out by staff will be accompanied with a Waste Transfer Note when passed to a Registered Waste Carrier for removal from a site.

3.3.14 All Waste Transfer Notes will be signed by a trained site representative. Prior to signing, the trained site representative must check the Waste Transfer Note includes:

- the date(s) to which the Waste Transfer Note applies, this could be up to one year;
- name and address of the waste producer and the site of waste production;
- the type of waste produced including the quantity and how it is packaged;
- the appropriate European Waste Catalogue (EWC) code for the waste;
- the Standard Industry Code (SIC) of the business;
- the name and address of the person who is receiving the waste and details of the permit or exemption of the person receiving the waste;.
- registered Waste Carriers shall be checked using the information held on the EA's website;
- a final disposal site that is authorised to accept the waste; and
- a declaration that the waste producer has taken all reasonable measures to apply the waste hierarchy when the waste is transferred.

3.3.15 The site representative signing the Waste Transfer Note will ensure all Waste Transfer Notes are placed in the site Waste Management File and kept for a minimum period of three years.

Hazardous Waste

3.3.16 As outlined in section 2, the LoW identifies types of hazardous waste. If the waste is not listed, it shall be analysed for hazardous properties prior to disposal to ensure the appropriate method of disposal is arranged.

3.3.17 If a site produces more than 500kg of hazardous waste in a year, the Site Manager shall ensure the site is registered with the EA.

3.3.18 Hazardous waste will be correctly labelled, shall not be mixed with non-hazardous waste and securely contained preferably on hard standing.

3.3.19 A Hazardous Waste/Special Waste Consignment Note shall be completed for every movement of hazardous waste. Hazardous Waste/Special Waste Consignment Notes will be signed on behalf of National Grid or WPD by a trained site representative.

3.3.20 If hazardous waste is being returned to a depot for assessment it will be handled and transported appropriately. A waste carrier's license will also be obtained.

3.3.21 Hazardous Waste Consignment Notes will be placed in the Site Waste Management File and kept for a minimum period of three years.

3.3.22 All waste containers will be clearly labelled.

3.3.23 Materials potentially generating small volumes of hazardous waste such as oily rags, aerosols and dry cell batteries from mobile operations shall be returned to the nearest waste storage site for assessment to determine if the material is waste. Waste materials shall be assessed for their hazardous nature, potential for re-use, recycling or some other form of recovery prior to disposal.

Storage of Waste

3.3.24 Waste may be stored at construction compounds for a limited amount of time to help to limit the number of vehicle movements to and from site as far as possible to minimise effects on the local roads.

- storage of waste on site shall either be:
  - within the scope of, and comply with, the requirements of one or more of the activities specified as exempt from Waste Management Licensing; or
  - carried out under an environmental Permit issued by the EA.
- waste will be stored in secure designated areas, in enclosures or containers to prevent material being dispersed by the wind;
- designated areas will be sited at least 10m away from drains and watercourses to limit risk of escape and contamination of water courses;
- waste storage containers will be labelled with their waste type and their LoW code; any labelling will be consistent with Industry Best Practice at the time construction commences and reviewed annually;
- waste containers will be covered to prevent dust emissions and potential nuisances;
- the burning of any waste is prohibited;
- liquid wastes will be stored in containers within bunded zones with secondary containment of at least 110% capacity of the largest container or at least 25% of the total tank capacity inside the bunded zone (whichever is the greatest); and
- incompatible or hazardous wastes will be stored and handled in accordance with the Hazardous Wastes Regulations.

Site Waste Management Plan

3.3.25 National Grid and WPD require SWMPs to be prepared for construction projects exceeding specified thresholds (e.g. over £300,000 construction costs).

3.3.26 As has been described, for the Proposed Development, SWMPs will be produced for each of the major project components; overhead lines, cables, substations and CSE compounds.

3.3.27 The SWMPs shall record the following information:

- a description of the construction works (for the project component);
- proposals for managing the waste following the Waste Hierarchy to ensure that waste arisings are minimised, including 'designing out waste' and waste prevention measures;
- details of any decisions taken before the SWMP was drafted to minimise the quantity of waste produced on site;
- a description of each type of waste expected to be produced in the course of the project;
- an estimate of the quantity of each waste type that will be produced;
- identification of the waste management action proposed for each waste type, including reusing, recycling, recovery and disposal;
- a detailed action plan for the management of the waste, including roles and responsibilities, data collection and reporting procedures;
- details of any site waste storage facilities including the requirements of environmental permits and pollution control measures; and
- a declaration that material will be handled efficiently and waste managed appropriately.

3.3.28 Following the estimate of quantities and identification of waste management methods, an analysis of waste management facilities will be carried out, in accordance with NPS EN-1.

3.3.29 The SWMP will be updated as necessary, (if possible, every month; as a minimum every six months) to give a current picture of how the work is progressing against the waste estimates contained in the plan, this includes recording details of:

- types and quantities of waste produced and a comparison of the estimated quantities of each waste type against the actual quantities of each waste type;
- an explanation of any deviation from the SWMP;
- the identity of the person removing the waste (including waste carrier's registration number);
- all disposal documentation e.g. transfer and consignment notes, marked with the time and date of collection;
- details of the final destination of waste, a description of the waste type and the European Waste Classification (EWC) if appropriate;
- quantitative and qualitative estimate of site waste produced during construction;
- requirements for reporting under the Hazardous Waste Regulations; and

- an estimation of the cost savings that have been achieved by completing and implementing the SWMP.

3.3.30 SWMPs will be prepared in accordance with **Schedule 3, Requirement 6 (g)** of the DCO. An example SWMP is provided in section 5 of this document.

3.4 Communications and Training

3.4.1 To help ensure the principles, standards and requirements outlined in this document are delivered, the contractor(s) will develop and implement comprehensive communications and training programmes for all relevant staff, to include the following:

- understanding the different sources, types and nature;
- the legal responsibilities for waste and its impact on the Proposed Development;
- the requirements of the WMP and CEMP (**Volume 5.26.1C**);
- how to conduct basic waste audits to identify, estimate and report quantities of waste;
- how to produce a SWMP;
- the roles and responsibilities of waste regulators and licensed carriers; and
- the roles and responsibilities of site personnel in the management of waste.

3.4.2 All site personnel will be made aware of the principles of sustainable waste management, as outlined in the WMP, and any project component specific requirements of SWMPs, of relevance to their work.

4. WASTE TYPES AND VOLUMES

4.1 Introduction

4.1.1 As outlined in section 3 of this document (SWMPs), detailed information will be recorded on types and volumes of wastes produced and removed; methods of treatment, recovery or disposal and associated costs.

4.1.2 This section of the WMP provides an initial estimate of the likely types and volumes of waste arising as a result of the construction of the Proposed Development. These will be fully determined during the detailed design stage.

4.2 Waste Types

4.2.1 Broad descriptions of sources and types of waste arisings include:

- construction waste, including materials arising from the removal of 132kV overhead lines;
- commercial and industrial waste arising from the maintenance and operation of the Proposed Development; and
- 'municipal' waste arising from construction worker welfare facilities.

4.2.2 Typically waste falls into two main classifications as defined by the Landfill Directive (Ref.17) and European Council Decision (2003/33/EC) for the purposes of management and disposal (Ref.18).

- "hazardous waste" means any waste which is covered by Article 1(4) of Council Directive 91/689/EEC of 12 December 1991 on hazardous waste; and
- "non-hazardous waste" means waste which is not covered by 'hazardous waste'.

Construction and Demolition Waste Types

4.2.3 Construction and Demolition Waste includes both hazardous and non-hazardous wastes (Ref.19). Examples of each of are given below:

- Hazardous wastes include: asbestos; bituminous mixtures containing coal tar; coal tar and tarred products; any materials containing dangerous substances; cables containing coal tar or dangerous substances; unused or unset cement; paint or varnish remover; and organic solvents.
- Non-hazardous wastes include materials from the following list which are not identified as hazardous or potentially hazardous:
  - insulation materials;
  - concrete, brick, tiles and ceramics;
  - wood, glass and plastic;
  - other bituminous mixtures;
  - metallic waste, including cable;

- soil, stones and dredging spoil;
- other gypsum materials;
- paints and varnishes; and
- adhesives and sealants.

Determining the Waste Types and Quantities for the Proposed Development

4.2.4 An electricity transmission connection of this magnitude has not been constructed before and so, in order to provide an estimate of potential waste arisings, example data from other major cables and overhead lines projects was used.

4.2.5 For the cables, Ross Cables Project (Ref.20) was used as a 'base case'. Based upon the length of the 400kV connection for Ross Cables, National Grid Engineers estimated that the 400kV underground section for the Proposed Development was approximately four times the size and may, therefore be expected to generate four times as much waste. For the cables, therefore, waste was estimated at Ross Cables x4.

4.2.6 Similarly, for the overhead lines, Norton Spennymoor Project (Ref.21) was used as a 'base case'. Based upon the length of the 400kV connection for Norton Spennymoor, National Grid Engineers estimated that the 400kV overhead line section for the Proposed Development was approximately three times the size and may, therefore be expected to generate three times as much waste. For the cables, therefore, waste was estimated at Norton Spennymoor x3.

4.2.7 Based upon these figures, **Table 4.1** provides an estimate of the likely waste types and estimated volumes of waste arising.

Table 4.1 Forecast of Likely Waste Types and Arisings

Proposed Development Component	Material	Waste Type	EWC Code	Base Case Project (Tonnes)	Multiplier for HPCC (As per National Grid)	Estimated Volume (Tonnes)
400kV Underground Cables - Base Case Used: Ross Cables Project SWMP						
Construction	Metals	Waste metal	02 01 10	360	4	1440
	Packaging	Paper & cardboard packaging Plastic packaging	15 01 01 15 01 02	60.5	4	242
	Concrete	Concrete	17 01 01	100	4	400
	Tiles and Ceramics	Waste ceramics, bricks, tiles	10 12 08	12	4	48
	Timbers	Wood	17 02 01	150	4	600
	Soils and other Excavated Materials	Soil and stones	20 02 02	46200	4	184800
	Plastics	Waste plastics	02 01 04 07 02 13	5	4	20
	Oils	Fuel oil and diesel (hazardous waste)	13 07 01	11	4	44
	Other	Wastes not otherwise specified	10 12 99	305	4	1220
	Subtotal					**188814**
400kV Overhead Lines - Base Case Used: Norton-Spennymoor Overhead Line Project SWMP						
Construction	Aluminium	Aluminium	17 04 02	750	3	2250
	Glass			45	3	135
	Iron and Steel	Iron and steel	17 04 05	950	3	2850
	Concrete	Concrete	17 01 01	600	3	1800
	Paper and Cardboard Packaging	Paper & cardboard packaging	15 01 01	7	3	21
	Wood	Wood	17 02 01	25	3	75
	Biodegradable Waste	Biodegradable waste	20 02 01	250	3	750

Proposed Development Component	Material	Waste Type	EWC Code	Base Case Project (Tonnes)	Multiplier for HPCC (As per National Grid)	Estimated Volume (Tonnes)
	Plastic	Waste plastics	02 01 04 07 02 13	1	3	3
	Concrete, Bricks Tiles and Ceramics Contaminated	Concrete, Bricks Tiles and Ceramics Contaminated	17 01 06	340	3	1020
	Soil and other Excavated Materials	Soil and stones	20 02 02	500	3	1500
	Absorbents Filter Materials - Spill Kits	Absorbents Filter Materials - Spill Kits	15 02 02	1	3	3
	Mixed Construction and Demolition Waste	Wastes not otherwise specified	10 12 99	200	3	600
	Mixed Packaging	Mixed packaging	15 01 06	30	3	90
	Portable Toilets	Septic tank sludge	20 03 04	80	3	240
	Tiles and Ceramics	Waste ceramics, bricks, tiles	10 12 08	300	3	900
	Road Sweeper	Street sweeping residues	20 03 03	20	3	60
	Mixed Metals	Mixed metals	17 04 07	100	3	300
	Subtotal					**12597**
Removal of Overhead Line						
Pylons				**No. Pylons**	**Pylon Weight (Tonnes)**	**Totals**
F, W and G Route (132kV)	Steel (Pylons)	Iron and steel	17 04 05	246*	6.276	1525
Conductors				**km of Conductor (12 per span)**	**Conductor Weight (Tonnes/km)**	**Totals**
F and G Route	Aluminium Alloy (AAC)	Aluminium	17 04 02	696	1	696

Proposed Development Component	Material	Waste Type	EWC Code	Base Case Project (Tonnes)	Multiplier for HPCC (As per National Grid)	Estimated Volume (Tonnes)
W Route	Aluminium Alloy (AAC)	Aluminium	17 04 02	96	1	96
	Subtotal					**792**

*Based on preferred route Option A. Total would be 249 should alternative route Option B be selected.

4.3 Sources of Waste

Earthworks

4.3.1 As is shown in **Table 4.1**, the largest proportion of material/waste produced during the construction phase of the Proposed Development would be as a result of earthworks for the undergrounding of the 400kV underground cable route through the Mendip Hills and foundations of permanent structures, such as pylons, CSE compounds and substations, and temporary structures such as access roads. Waste material from these excavations would include:

- surface vegetation;
- topsoil, subsoil and substrate materials such as sand, depending on local geology, and stones; and
- made ground.

4.3.2 Where appropriate, the majority of excavated material would be retained on-site for re-use as backfill and landscaping during the construction and operational phases. This material would not then be classified as 'waste'. For the 400kV underground cables, approximately 68% of excavated material is estimated to be re-used on site through reinstatement and landscaping; for the 400kV overhead line, approximately 80% of excavated material is estimated to be re-used on site. This may not be appropriate in certain areas of high biodiversity or landscape value, or within Flood Zone 3, In these cases, other suitable parts of the Proposed Development site may be used or the materials taken off site for disposal. In the event contaminated soils are encountered during excavation, these will be segregated on site for disposal off site to an appropriate treatment facility or authorised landfill, in accordance with **section 3.4** of the CEMP, **Volume 5.26.1C**.

4.3.3 The Method Statement for Topsoil Stripping, provided at **Volume 5.3.2, Appendix 3G (8)** describes the method for removing and reinstating topsoil for the 132kV and 400kV underground sections of the Proposed Development.

4.3.4 Soil management will be carried out in accordance with the Soil Management Plans (Ref.22 and 23).

4.3.5 Surplus spoil is likely to be produced from the installation of underground cables, construction of CSE compounds and from pylon foundations. This will be reused

wherever possible, for example in the creation of mounding and landscaped areas around CSE compounds and screening bunds around construction compounds.

4.3.6 Where any of this material is to be 'discarded', and therefore come under the definition of waste, it would largely be classified as non-hazardous, inert waste.

Removal of Surface Vegetation

4.3.7 As described in paragraphs 3.2.8 and 3.2.13 of this WMP, stripped vegetation and removed trees (with landowner agreement except where this is identified for reuse or recycling) will be reused or recovered in line with the principles of sustainable waste management.

4.3.8 Details of the likely quantities and proposed management of such arisings will be provided in SWMPs.

4.3.9 **Volume 5.26.3C, paragraph 3.2.10** (the Biodiversity Mitigation Strategy (BMS)) states that *"All tree and hedgerow works will comply with BS3998:2010 Tree Work – Recommendations".* Within this British Standard, section 13.2 relates to the *"Disposal, utilization and retention of arisings".* Waste arisings from trees and hedgerows would also be subject to this standard, within the principles set out in this WMP.

4.3.10 Arboricultural arisings are considered by the EA in their position statement of 2010 regarding the environmental regulation of wood, to be virgin timber and not waste. This position is contingent on the material being mainly woody in composition and on the end use being one to which virgin timber is commonly put. Examples of such uses are provided by the EA and include:

- woodchip for landscaping;
- material for composting;
- fuel for an appliance; and
- a material to create or maintain a habitat as part of the natural cycle of land management.

4.3.11 A schedule of all proposed tree removal and pruning will be produced, with annotated plans, in accordance with **Schedule 3, Requirement 12 (2) (b)** of the DCO. It is anticipated that all material that will be produced by tree pruning and felling operations will meet the EA criteria for virgin timber and therefore be capable of not being classed as waste.

4.3.12 The treatment of such arisings will be detailed on a site by site basis along with the specification for pruning or removal, points of access and any other restrictions or requirements that are to be observed by the contractor. The preference will be to minimise both the distance and the amount of processing required.

Removal of the Temporary Haul Road

4.3.13 The temporary granular stone construction haul road will be removed using excavators and taken to an agreed storage area. Care will be taken to remove and

store the sub base and capping layers of stone separately. Once stockpiled, a method of disposal or re-use of the materials will be decided upon, following the principles of sustainable waste management and waste minimisation outlined in section 3 of this document and in compliance with the appropriate legislation.

4.3.14 All geotextile separator membrane and Tensar Trax Geogrid (or similar) will be disposed of into suitable skips on site.

Removal of Overhead Lines

4.3.15 The second most significant proportion of the waste arisings would be as a result of the removal of existing 132kV overhead lines as follows:

- the F Route between Bridgwater Substation and Portishead Substation;
- the W Route between Nailsea and Portishead Substation; and
- the 'G Route' from Portishead Substation to Avonmouth.

4.3.16 Altogether, 246 (Option A at Section F and G) or 249 (Option B at Section F and G) 132kV steel lattice pylons, of the type PL16 would be removed. Constructed from steel, the pylons are 26m high and their cross arms 9.4m across, at the widest point.

4.3.17 Between each of the pylons are conductors made of all aluminium alloy (AAAC). The PL16 has three cross arms; double rows of conductors extend from the end of each cross arm. This means that each span (distance between pylons) consists of 12 conductors. The approximate length of the F (and G) Routes to be removed is 57km; in the case of the W Route, a total of approximately 9km of conductors will be removed. The total length of conductor to be removed will be twelve times these distances.

4.3.18 In addition, six 400kV pylons would be removed in Section H.

4.3.19 Steelwork would be cut-up or dismantled on site and then removed to a facility for recycling.

General Waste

4.3.20 Waste produced by welfare facilities associated with the construction of the Proposed Development would be classified as municipal waste.

4.3.21 Other general wastes likely to be produced during the construction phase include:

- aggregate;
- cement;
- concrete;
- cardboard;
- packaging waste;
- timber (including trees removed as part of the Proposed Development); and
- scrap metal.

4.3.22 The management of this waste is described in section 3 of this document.

4.4 Construction Programme

4.4.1 For the purposes of this document, it is assumed that construction would commence in Q4 2015.

4.4.2 A final programme will be incorporated in the SWMP and will be used in the analysis of waste management facilities for the construction period.

5. EXAMPLE SITE WASTE MANAGEMENT PLAN

SITE WASTE MANAGEMENT PLAN

Responsibility

Name of Client	
Name of Principal Contractor	
Name of Person Who Drafted Plan	
Notes / Amendments	

Construction Project

Location (Address, postcode if appropriate)	
Estimated Project Cost	
Notes / Amendments	

Materials Resource Efficiency

Describe here any methods adopted during the conception, design and specification phase to reduce the amount of waste arising.

Method	Resource Saving (quantify if possible)

Waste Management

Declaration

The client and principal contractor will take all reasonable steps to ensure that-

(a) All waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations 1991; and

(b) Materials will be handled efficiently and waste managed appropriately.

Signatures

REPRESENTING CLIENT	**REPRESENTING PRINCIPAL CONTRACTOR**

WASTE DATA

Waste Type	Quantity (Tonnes)							
	Re-use on site	Re-use off site	Recycling on site	recycling off site	Other form of recovery on site	Other form of recovery off site	sent to landfill	Other Disposal
Estimates								
Inert								
Non-hazardous								

Hazardous								
Totals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Actual								
Inert								
Non-hazardous								

Hazardous								
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Difference Between Estimates and Actual	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Figure in **RED** indicates actual waste disposed was higher than estimate

Figure in **BLUE** indicates actual waste disposed was lower than estimate

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1 DECC, Overarching National Policy Statement for Energy (EN-1), 2011

2 DEFRA, The Waste Management Plan for England, 2013

3 https://www.gov.uk/government/publications/government-review-of-waste-policy-in-england-2011

4 PPS10 www.gov.uk/government/publications/planning-for-sustainable-waste-management-planning-policy-statement-10t

5 Directive 2008/98/EC on waste 'The Waste Framework Directive'

6 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69404/pb13529-waste-hierarchy-summary.pdf

7 List of Wastes Regulations (2005)

8 The Waste (England and Wales) Regulations 2011

9 The Waste Regulations (web page: http://www.environment-agency.gov.uk/business/regulation/129220.aspx)

10 The Waste Regulations (England and Wales) (Amendments) 2012

11 Environmental Protection Act 1990

12 The Hazardous Waste Regulations 2005

13 National Grid, Environmental Policy

14 WPD Environment responsibility Commitments (2010-2015): http://www.westernpower.co.uk/Social-Responsibility/Environment.aspx

15 WRAP, Designing Out Waste: A Design Team Guide for Civil engineering, Part 2: Technical Solutions

16 CIWM/WAMITAB, Operator Competence Scheme, Version 6. January 2014.

17 Council Directive 1999/31/EC of 26 April 1999 on the Landfill of waste – 'The Landfill Directive'

18 Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC (2003/33/EC)

19 UK Government, https://www.gov.uk/how-to-classify-different-types-of-waste/construction-and-demolition-waste

20 National Grid, Ross Cables Project, Waste Arisings Data

21 National Grid, Norton Spennymoor Project, Waste Arisings Data

22 Mott Macdonald, Hinkley to Avonmouth 400kv Underground Cable Transmission Recommendations for Soil Management, July 2013

23 Mott Macdonald, Hinkley to Avonmouth 132kv Underground Cable Transmission Recommendations for Soil Management, July 2013