12 MATERIAL ASSETS – GENERAL

12.1 INTRODUCTION

1 This chapter presents an evaluation of the proposed development as set out in Chapter 6, **Volume 3B** of the Environmental Impact Statement (EIS), in relation to Material Assets - General.

2 Chapter 6, **Volume 3B** of the EIS describes the full nature and extent of the proposed development including elements of the overhead line (OHL) design and the towers. It provides a factual description, on a section by section basis, of the entire line route. The principal construction works proposed as part of the development are set out in Chapter 7, **Volume 3B** of the EIS.

3 The information contained within this chapter is concerned with material assets of the Cavan Monaghan Study Area (CMSA) as defined in Chapter 5, **Volume 3B** of the EIS, specifically focusing on:

- Utilities: Gas Pipeline, Electricity Lines and Telecoms;
- Aviation: Airfields and Ballooning; and
- Waste.

4 In this chapter, the existing environment is examined with regards to current utilities, aviation and waste infrastructure, potential impacts on the surrounding environment resulting from the proposed development are evaluated and appropriate mitigation measures are proposed.

5 This chapter should be read in conjunction with Chapters 6 and 7**, Volume 3B** of the EIS, and Chapters 6, 7, 8 and 11 in this volume of the EIS.

12.2 METHODOLOGY

6 This section of the EIS has been prepared in accordance with relevant EU and Irish Legislation and guidance, including the requirements of Annex IV of the Environmental Impact Assessment (EIA) Directive and in accordance with Schedule 6 of the *Planning and Development Regulations 2001* (as amended) and conforms to the relevant requirements as specified therein.

7 The following guidelines were referred to while preparing this appraisal:

- Environmental Protection Agency (EPA) (2002). *Guidelines on the Information to be contained in Environmental Impact Statements;*
- EPA (2003). *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)*; and
- Department of the Environment Community and Local Government (DoECLG) (2013). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessments.*

8 The scope of the appraisal is based on a review of legislation, guidance documents, other EISs feedback from public consultation, consultation with prescribed bodies, consultation with An Bord Pleanála (the Board), the Irish Aviation Authority (IAA) and on a consideration of the likelihood for significant impacts arising, having regard to the nature of the receiving environment and the nature and extent of the proposed development.

9 The scoping opinion received from the Board (refer to Appendix 1.3, **Volume 3B Appendices** of the EIS) identified the following issues as being relevant to this chapter of the EIS:

- Identify the enhancements to existing electricity network infrastructure;
- Information on the likely effects on public utilities and services along the route corridor, and in particular any proposed re-routing of overhead electricity lines; and
- Assessment of potential impacts on aviation transport.

10 This section sets out how the appraisal of material assets, specifically utilities, aviation and waste were evaluated for the proposed development. The objective of this chapter is to identify existing utility, aviation and waste infrastructure and determine whether these features place constraints on the proposed development. Impacts during construction, operation and decommissioning that the proposed development may have on utilities, aviation and waste infrastructure are also examined and mitigation measures which may be required to minimise any adverse impacts of the proposed development are identified and considered (refer to **Sections 12.5** and **12.6**).

11 The evaluation is based on the fact that existing best practices in design, construction and operation are employed for the proposed development as set out in this EIS.

12.3 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

12 This section describes the characteristics of the proposed development and indicates how the material assets are affected by the proposed development.

13 The main potential impacts on waste infrastructure and utilities occur during the construction phase and details of said impacts are included in **Section 12.5**.

14 The main potential impacts on aviation occur during the operation phase, details of said impacts are included in **Section 12.5** and mitigation measures must take account of the long term nature of transmission infrastructure.

12.4 EXISTING ENVIRONMENT

12.4.1 Evaluation of Baseline - Utilities

12.4.1.1 Gas Pipeline

15 Information provided by Bord Gais Networks on the gas pipeline distribution network does not indicate the presence of any gas infrastructure in the CMSA.

16 There is a gas pipeline which lies just outside the defined CMSA, running between Drogheda and Bailieborough, with a pipeline off this serving Kingscourt, Carrickmacross and Lough Egish. It is proposed to extend the Drogheda - Bailieborough gas line to Cootehill. This information is contained the *Final Re-evaluation Report* (April 2013) and a map illustrating the constraints within the CMSA is presented in Appendix C of this *Re-evaluation Report* (refer to Appendix 1.2, **Volume 3B Appendices** of the EIS).

12.4.1.2 Electricity Lines and Telecoms

17 The most significant electricity line in the CMSA is the Flagford - Louth 220 kV OHL which runs in an east-west direction to the south of Kingscourt. There are three 110 kV OHL's: Louth - Rathrussan, Lisdrum – Louth and Arva – Shankill. There are also a number of medium voltage 38 kV lines crossing the CMSA. Overall in the CMSA there is approximately 217km of existing medium and high voltage lines (91km of 38 kV, 83km of 110 kV and 43km of 220 kV). In addition there are thousands of kilometres of low voltage (20 kV and 10 kV) and telephone OHLs in the CMSA. This information is contained the *Final Re-evaluation Report* (September 2013) and a map illustrating the constraints within the CMSA is presented in Appendix C of the *Re-evaluation Report* (refer to Appendix 1.2, **Volume 3B Appendices** of the EIS).

12.4.2 Evaluation of Baseline – Aviation

12.4.2.1 Airfields

18 There are no licenced airfields in the CMSA. The IAA has indicated that there may be a number of unlicensed airfields and landing strips in the CMSA.

12.4.2.2 Ballooning

19 There are no ballooning companies or clubs operating in the CMSA.

12.4.3 Evaluation of Baseline – Waste

20 In the CMSA the only EPA licensed waste facility located within 500m of the OHL is the Scotch Corner Landfill in Monaghan. A list of the waste management facilities in the CMSA can be found in **Appendix 7.2**, **Volume 3C Appendices** of the EIS.

12.5 POTENTIAL IMPACTS

21 During the preparation of this EIS, an evaluation of the likely significant effects of all aspects of the proposed development has been undertaken.

22 The material asset impacts of the proposed development are divided between the construction and the operational phases of the proposed development.

12.5.1 Do Nothing

23 In the 'Do Nothing' scenario, the OHL will not proceed and the baseline material asset environment, save for the potential for general development outside of the scope of this project, will remain unchanged. The existing environment remains the same and no material assets are impacted.

12.5.2 Construction Phase

24 The construction programme is anticipated to last approximately three years from commencement of site works (refer to Chapter 7, **Volume 3B** of the EIS for further details on construction). The construction of the OHL will be undertaken in five general stages, according to the following sequence, on a rolling programme of estimated durations:

- Stage 1 – Preparatory Site Work;
- Stage 2 – Tower Foundations;

- Stage 3 – Tower Assembly and Erection and Preliminary Reinstatement;
- Stage 4 – Conductor / Insulator Installation; and
- Stage 5 – Final Reinstatement of Land.

25 The construction phase will have potential impacts on utilities and waste. It will be a requirement of the contractor appointed to construct the proposed development, to prepare a detailed Construction Environment Management Plan (CEMP) prior to the commencement of construction operations. The objective of this plan will be to minimise the impact caused by the construction stage of the proposed development. Refer to Appendix 7.1 **of Volume 3B Appendices** of the EIS for an outline CEMP.

12.5.2.1 Construction Material Storage Yard

26 The construction material storage yard for the proposed development will be a temporary ESB yard located south-east of Carrickmacross, County Monaghan. The site is located immediately adjacent to the southern side of the N2 National Primary Road. This ensures appropriate accessibility to all parts of the alignment of the proposed transmission line.

27 The site (approximately 1.42ha) is required for the storage of material, adequate vehicular movements and access to material within the site.

28 Facilities at the construction material storage yard for segregation of waste will be made available to optimise reuse and recycling of construction waste and correct disposal of domestic waste. This is in keeping with the principle of the Construction Waste Management Plan (CWMP) which will form part of the CEMP (see **Section 12.6.1.3.2**).

29 The measures proposed below in the CWMP shall be the minimum measures implemented at the construction material storage yard with regards to waste material.

12.5.2.2 Gas Pipeline

30 There are no crossings of gas pipelines.

12.5.2.3 Electricity Lines and Telecoms

31 There are a number of existing electricity and telecom lines, which will be crossed by the proposed development.

32 The proposed development crosses three existing electricity high voltage OHLs:

- Flagford - Louth 220 kV OHL;
- Louth - Rathrussan 110 kV OHL; and
- Lisdrum – Louth 110 kV OHL.

33 For further details on the crossing of overhead lines, refer to the *North-South 400 kV Interconnection Development Identification and Resolution of Conflicts with Existing Overhead Line Infrastructure* included as, Appendix 7.3**, Volume 3B Appendices,** of the EIS.

12.5.2.4 Construction Waste

34 As with any infrastructural project, there will be excavated material during the construction of the proposed development, specifically in relation to the tower foundations. Typically 34m^3 of excess soil will be excavated at each intermediate tower location with approximately 230m^3 of excess soil excavated from angle towers. A worst case scenario would be that all excavated material (10,500m^3 for all the towers in CMSA) would be sent off-site to a licenced /permitted waste recovery facility / landfill.

35 Timber waste will be generated from hedgerows, tree lines and forestry to clear open space for OHL development.

12.5.3 Operational Phase

36 The operational phase will have potential to generate a negligible amount of waste.

12.5.3.1 Operational Waste

37 It is envisaged that little waste will arise from the operational phase of the proposed development. Waste generated in the operational phase will include light cleaning waste arising in maintenance and cleaning operations, the replacement of lighting units as required, oils arising from occasional maintenance activities and packaging materials.

12.5.4 Decommissioning

38 The proposed development will become a permanent part of the transmission infrastructure. The expected lifespan of the development is in the region of 50 to 80 years. This will be achieved by routine maintenance and replacement of hardware as required. There are no plans for the decommissioning of the OHL. In the event that part of, or the entire proposed infrastructure is to be decommissioned, all towers, equipment and material to be decommissioned will be removed off site and the land reinstated. Impacts would be expected to be less than during the construction phase and would be of short term duration.

12.6 MITIGATION MEASURES

39 The construction methods carried out by the ESB and its contractors will be in line with international best practice and will fully comply with relevant health and safety requirements.

40 It will be a requirement of the contractor appointed to construct the proposed development to prepare a detailed CEMP prior to the commencement of construction operations. The CEMP will include method statements and work programmes that provide more detailed phasing of work based on the methodologies described in Chapter 7, **Volume 3B** of the EIS and the mitigation measures contained in this EIS. The objective of this CEMP will be to minimise the impact caused by the construction stage of the proposed development.

12.6.1 Construction

12.6.1.1 Electricity Lines and Telecoms

41 A site specific risk assessment must be completed where the crossing of existing electricity and telecom services is necessary. Consultation will take place with service providers, prior to any construction works in the proximity of existing telecoms services likely to be impacted, as required.

42 Refer to **Section 12.5.2.3** for details on where the crossing of existing OHL and telecom services is necessary during construction, maximum efforts will be made to minimise disruption to the service. Extreme caution will be exercised during the construction of towers to ensure that no cables will be disturbed. Care will be taken when stringing conductors. Certain obstacles along a straight have to be guarded such as road / railway crossings and other distribution lines by way of temporary guard poles (refer to Chapter 7, **Volume 3B** of the EIS for further details on construction).

12.6.1.2 Gas Pipeline

43 During the construction phase, the locations of identified underground gas pipelines will be confirmed with the relevant utility. As set out in this chapter, it is not envisaged that any gas pipeline will be encountered. This is a standard requirement for all construction projects.

12.6.1.3 Waste

12.6.1.3.1 Legislation

44 All waste arising during the construction and operational phases will be managed and disposed of in a way that ensures compliance with the provisions of the following legislation:

- *Waste Management Act 1996 (as amended);*
  - *Waste Management (Amendment) Act 2001* [S.I. No. 36/2001]*;*
  - *Protection of the Environment Act 2003 [S.I. No. 27/2003]; and*
  - *Environment (Miscellaneous Provisions) Act 2011 [S.I. No. 20/2011].*
- *European Communities (Waste Directive) Regulations 2011* [S.I. No. 126 of 2011];
- *Waste Management (Facility Permit and Registration Regulations) 2007* [S.I. No. 821/2007];
- *Waste Management (Facility Permit and Registration Regulations) 2008* [S.I. No. 86/2008];
- *Waste Management (Collection Permit) Regulations 2007* [S.I. No. 820/2007];
- *Waste Management (Collection Permit) (Amendment) Regulations* 2008 [S.I. No 87/2008];
- DoECLG (2006). *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects*; and
- Meath County Council. *Waste Management Plan for the North East Region 2005-2010.*

45 Waste management will be carried out in accordance with *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects* (2006) produced by the Department of Environment, Community and Local Government (DoECLGs).

46 A requirement of the *Waste Management (Facility Permit and Registration) Regulations 2007, as amended,* is to obtain a Certificate of Registration, if excavated material is being disposed or recovered. The extract from the regulations is as follows:

> "*Classes of activity subject to registration with local authority or the agency. Recovery of excavation or dredge spoil, comprising natural materials of clay,*

silt, sand, gravel or stone and which comes within the meaning of inert waste, through deposition for the purposes of the improvement or development of land and the total quantity of waste recovered at the site shall not exceed 25,000 tonnes."

12.6.1.3.2 Construction Waste Management Plan (CWMP)

47 A CWMP (which will form part of the CEMP) will be implemented to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Department of the Environment, July 2006, *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects*. The key principles underlying the plan will be to minimise waste generation and to segregate waste at source.

48 Facilities for segregation of waste will be made available to optimise reuse and recycling of construction waste and correct disposal of domestic waste. On site segregation of waste will be provided by the contractor using skips for timber, steel, general waste, and recyclables.

49 The measures proposed below shall be incorporated into this plan and shall be the minimum level of mitigation to be included in this CWMP:

- Disposal of construction waste will be to licensed / permitted disposal facilities;
- Regulations in relation to waste management will be adhered to;
- Excavated material will be re-used on site where appropriate and where it is possible to do so;
- Other waste generated will be removed off site by licensed contractors for appropriate treatment / disposal or recycling at licensed facilities;
- Soil material will be tested regularly by a qualified company prior to removal to ensure material is inert;
- Where applicable, temporary site sanitary facilities will be connected to a holding tank which will be pumped out as required and disposed of in an appropriate manner to a licensed disposal facility;
- Fuels or chemicals stored on site will be stored in an enclosed, bunded unit and located a safe distance from mobile generators or electrical equipment;
- Hazardous waste oils and oil contained material will be stored in designated bins and disposed of by a licensed hazardous waste contractor;

- Spill kit bags / bins will be made available at construction sites and in relevant vehicles, should a spill occur; and
- Portable bunds will be used when refuelling to avoid fuel spills.

Topsoil

50 All topsoil excavated in the construction of tower foundations will be reinstated where possible. Where practical and appropriate, excavated subsoil will be used for associated construction and landscaping purposes on site. This will allow the material to be beneficially reused and would have no traffic implications or waste disposal to an outside site. Due to the relatively small footprint of each tower, there will not be a large amount of subsoil excavated at each tower location. Typically 34m^3 of excess soil will be excavated at each intermediate tower location with approximately 230m^3 of excess soil excavated from angle towers. Where the excavated material will not be used onsite, all surplus soils will be transported to a licensed waste recovery facility and / or landfill, refer to Appendix 7.2**, Volume 3C Appendices** of the EIS.

51 In the unlikely event that any soil / subsoil is deemed to be contaminated, it will be stored separately from the inert soil / subsoil and it will be sampled and tested. The material will be appropriately classified as non-hazardous or hazardous in accordance with the criteria for the acceptance of waste at landfills, before being transported to an appropriately licensed facility by permitted contractors. The transport of materials will be carried out by contractors licensed und*er the Waste Management (Collection Permit) Regulations 2007, as amended*.

Waste Steel, Copper and Aluminium

52 Waste steel, copper and aluminium will be stored separately in a metal skip and recycled using a licensed waste company and recycling facility. Other construction waste will include excess material, damaged material, waste timber and packaging waste, and will be stored in designated skips / bins on site for collection by a licensed waste contactor.

Hazardous Waste

53 Waste oils and oil contained material will be stored in designated bins and disposed of by a licensed hazardous waste contractor.

General Waste

54 General domestic type waste consisting of mixed food waste and food packaging, polystyrene, cardboard and plastic etc. will be generated during construction works by construction workers at the tower sites and stringing areas. This waste will brought back to the construction material

storage yard where it will be segregated correctly and placed in designated skips / bins for collection by a licensed waste contractor.

Foul Effluent

55 Temporary facilities will be provided for construction works at tower locations and at the construction material storage yard. The contractor will provide chemical toilets / holding tank and provide for regular collection by a licensed company for discharge to the nearest local authority sewage treatment plant.

Timber

56 Qualified and certified timber contractors will recover / dispose of all timber waste arising from clearing hedgerow, tree lines and forestry (refer to **Chapter 6**, of this volume of the EIS for further details on the flora and fauna impacts).

12.6.2 Operation

12.6.2.1 Waste

57 Light waste generated in the operational phase of the proposed development arising in maintenance and cleaning operations, replacement for lighting units as required, oils arising from occasional maintenance activities and packaging materials will be removed off site by licensed contractors for appropriate recovery / disposal at licensed facilities.

12.7 RESIDUAL IMPACTS

12.7.1 Gas Pipeline

58 Adherence to the mitigation measures will ensure there are no residual impacts associated with the proposed development.

12.7.2 Electricity Lines and Telecoms

59 Adherence to the mitigation measures will ensure there are no residual impacts associated with the proposed development.

12.7.3 Airfields

60 As there are no licensed airfields in the CMSA there are no residual impacts associated with the proposed development.

12.7.4 Ballooning

61 As there are no ballooning enterprises operating in the CMSA there are no residual impacts associated with the proposed development.

12.7.5 Waste

62 To manage construction waste, the main contractor will be required to develop, implement and maintain a CEMP during the construction works. The main contractors will be required to minimise waste and to segregate waste at source. An outline CEMP has been included in **Appendix 7.1, Volume 3B** of the EIS, and forms part of the application documentation. All relevant mitigation measures set out in the EIS are included in the outline CEMP and will be incorporated into the final CEMP.

63 The main waste arising will be inert soil, which will be reused for onsite purposes. Where the excavated material will not be used onsite, all surplus soils will be transported to a licensed waste recovery facility and / or landfill, this ensures the provisions of the *Waste Management Act 1996,* and subsequent amendments and regulations, and any of the relevant Local Authorities Waste Management Plans.

64 All other waste generated from construction activities will be sent to licensed waste recovery facilities, where possible. It is envisaged that the fraction of waste arising from the proposed development which will be sent to landfill will be minimal consisting only of the residual fraction of the domestic type waste generated by the construction workers which cannot be recovered. All other materials such as paper, plastic, glass etc. will be segregated and recycled.

65 Following good waste management practices it is not expected that waste arising from the proposed development will give rise to any significant impacts.

12.8 INTERRELATIONSHIPS BETWEEN ENVIRONMENTAL FACTORS

66 This chapter should be read in conjunction with Chapter 6 and Chapter 7, **Volume 3B** of the EIS and **Chapters 6, 7, 8** and **11** of this volume of the EIS, for a full understanding of the main interrelationships between these environmental topics.

12.9 CONCLUSIONS

67 The mitigation measures which will be outlined in the CEMP (refer to Appendix 7.1. **Volume 3B Appendices** for an outline CEMP) will be implemented as part of the construction management. It is considered that the operation phase of the proposed development will have

no significant impacts and adherence to the mitigation measures will ensure there are no residual impacts associated with the proposed development.