

SP MANWEB

Reinforcement to the North Shropshire Electricity Distribution Network



Document Reference: 6.15
Environmental Statement
Non-Technical Summary

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November 2018

SP MANWEB

**Reinforcement to the North Shropshire
Electricity Distribution Network**

NON-TECHNICAL SUMMARY

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The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Regulation 5(2)(a)

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Environmental Statement: Non-Technical Summary

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CHAPTER 1: INTRODUCTION

1.1 GENERAL INTRODUCTION

- 1.1.1 This document provides a summary, in non-technical language, of the Environmental Statement (ES) for the Reinforcement to the North Shropshire Electricity Distribution Network (the 'Proposed Development'), which would be developed by SP Manweb.
- 1.1.2 SP Manweb plc (SP Manweb) are applying to construct, operate and maintain a new 22.5km 132kV electrical circuit between the existing SP Manweb Substations at Oswestry and Wem in North Shropshire, together with associated temporary construction works. The circuit would be a combination of a 1.2km underground cable and 21.3km overhead line. To accommodate the new circuit, works are also required at the existing Oswestry and Wem Substations and six short sections of existing SP Manweb lower voltage overhead lines would be undergrounded (see Figure 1.1 'Location Plan' below).
- 1.1.3 Above ground connections equal to or greater than 132kV and longer than 2km, are classed as Nationally Significant Infrastructure Projects (NSIPs). Under Section 37 of the Planning Act 2008, the consenting process therefore requires the application to be submitted to the Planning Inspectorate for a Development Consent Order (a 'DCO'). This would be granted by the Secretary of State for Business, Energy and Industrial Strategy.
- 1.1.4 The ES presents the findings of an assessment of the likely significant effects of the Proposed Development on the environment.

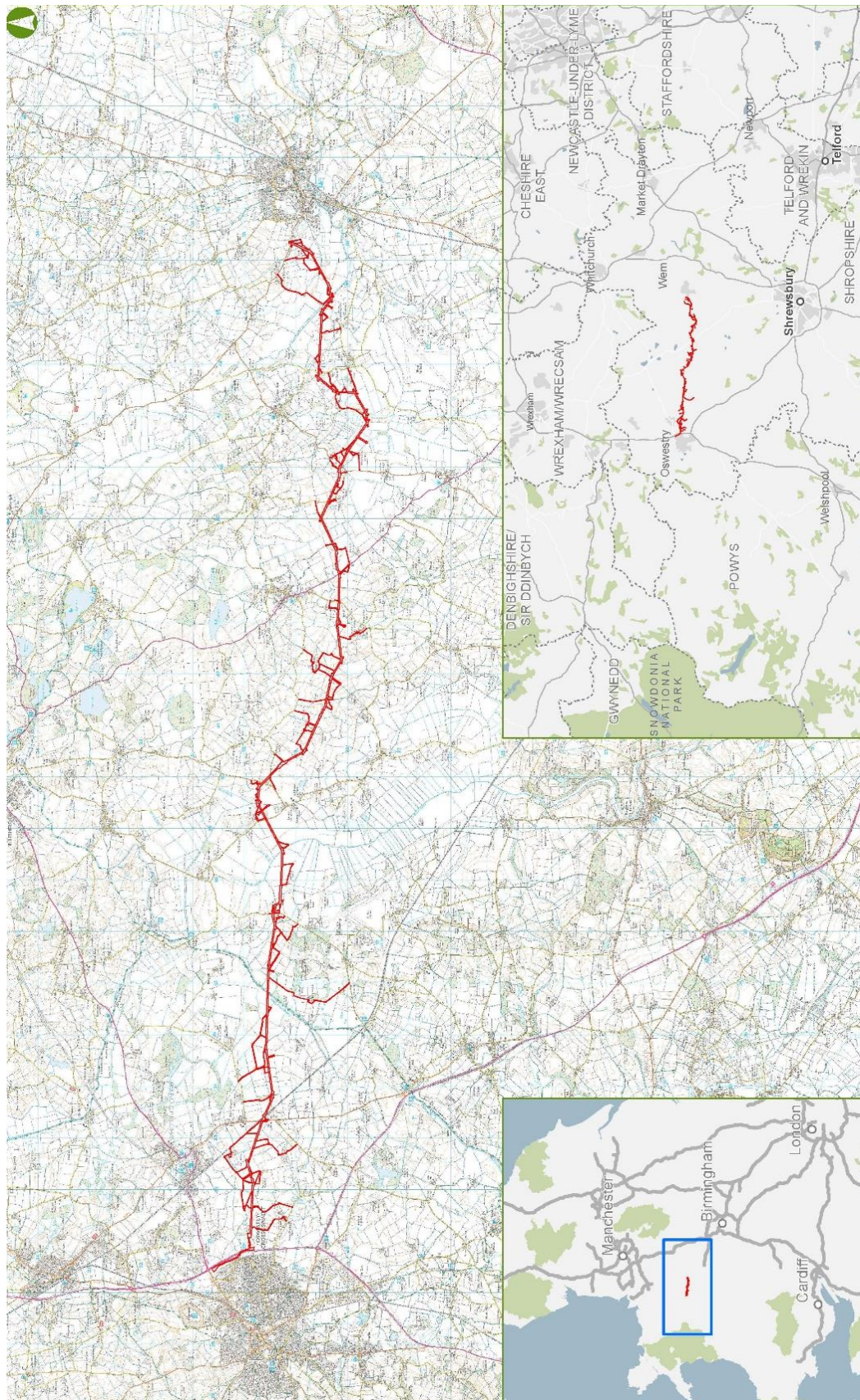


Figure 1.1 'Location Plan'

1.2 THE APPLICANT - SP MANWEB

- 1.2.1 The Proposed Development is being promoted by SP Manweb, which manages and operates the electricity network at 132kV and below in Cheshire, Merseyside, North Wales and Shropshire.
- 1.2.2 SP Manweb holds the Electricity Distribution License (issued under the Electricity Act 1989 (the 1989 Act)¹. Section 9 of the 1989 Act requires SP Manweb to develop and maintain an efficient, coordinated and economical system of electricity distribution. It also has an obligation under Schedule 9 of the same 1989 Act to have regard to preserving the natural and built heritage environment, and to do what it can to mitigate any effects which proposals would have on these.
- 1.2.3 In responding to these duties when building new electricity installations, SP Manweb ensures that the environment is considered from the start of the process. Every effort is made to identify potential environmental issues at the earliest planning and design stage of a project, and to avoid or minimise any potential harm.

1.3 NEED FOR THE PROJECT

- 1.3.1 National Policy Statement (NPS) EN-1² sets out that it is critical that the UK continues to have secure and reliable supplies of electricity as part of the transition to a low carbon economy. NPS EN-1 also highlights an urgent need for new electricity transmission and distribution infrastructure to be provided.
- 1.3.2 From its analysis of the electricity network in North Shropshire, SP Manweb has identified a need to develop a new 132kV circuit to reinforce the electricity network in this area.
- 1.3.3 This is supported by Shropshire Council, who in 2015 also acknowledged the

¹ HM Government (1989), Electricity Act. HMSO, London

² Department for Energy and Climate Change (July 2011), Overarching Energy National Policy Statement (EN-1)

need to upgrade the electricity network³ to support future growth plans identified in the Shropshire Economic Growth Strategy 2017 – 2021⁴, its Local Plan⁵ and adopted Shropshire Council Site Allocations and Management of Development (SAMDev) Plan⁶. There is therefore an urgent need to substantially increase the capacity of the network if the social and economic plans for the county are to be achieved.

- 1.3.4 SP Manweb secured investment approvals for an £18m scheme to reinforce the network by installing a new 132kV electrical circuit from Oswestry Substation to Wem Substation. This was identified as the preferred scheme after consideration had been given in 2015 to a number of alternative design and route options. SP Manweb refers to the elements of this new electrical circuit as the ‘Proposed Development’, which is described in detail below.

1.4 PROJECT OVERVIEW

- 1.4.1 The Reinforcement to the North Shropshire Electricity Distribution Network, the ‘Proposed Development’, comprises a new 22.5km 132kV electrical circuit between the existing SP Manweb Substations at Oswestry and Wem in North Shropshire, together with associated temporary construction works. The circuit would be a combination of a 1.2km underground cable and 21.3km overhead line. To accommodate the new circuit, works are also required at the existing Oswestry and Wem Substations and six short sections of existing SP Manweb lower voltage overhead lines would be

³ <http://shropshire.gov.uk/media/2201631/Shropshire-s-Implementation-Plan-2016-17.pdf>

⁴ Shropshire Economic Growth Strategy 2017 – 2021. Shropshire Council (2017)

⁵ The Local Plan comprises several planning documents, known as Development Plan documents (LDDs). When adopted the policies and guidance contained in these LDDs play an important role in the assessment of individual planning applications within Shropshire. Further information can be found at <https://shropshire.gov.uk/planning-policy/local-planning/>

⁶ Shropshire Council Site Allocations and Management of Development (SAMDev) Plan. Shropshire Council (2015)

undergrounded. To facilitate the construction works seven temporary laydown areas are located along the route and the use of temporary access tracks (primarily along existing farm tracks) would be required. The project is described in greater detail in Chapter 2 of this NTS.

1.5 WHAT IS AN ENVIRONMENTAL IMPACT ASSESSMENT (EIA)?

1.5.1 Environmental Impact Assessment (EIA) is the process of identifying, evaluating and mitigating likely significant environmental effects of a project. It promotes the early identification and evaluation of likely significant effects and enables appropriate mitigation (i.e. measures to avoid, reduce or offset negative effects or enhance beneficial effects) to be identified and incorporated into the design of a project, or commitments to be made to other mitigation, such as environmentally sensitive construction methods and practices.

1.5.2 The assessment is designed to help produce an environmentally sympathetic project and to provide decision makers and statutory consultees with the environmental information they require during the determination of applications for development consent and/or planning permission.

1.6 WHAT IS AN ENVIRONMENTAL STATEMENT (ES)?

1.6.1 The results of the EIA are reported in an Environmental Statement (ES), which in this case consists of a number of documents prepared by SP Manweb. As per Schedule 4 of the EIA Regs the following information is included:

- A description of the development – (see Section 1.2 of Chapter 1 ‘Introduction’ (**DCO Document 6.1**));
- A description of reasonable alternatives – (see Chapter 2 ‘Alternatives and Design Evolution’ (**DCO Document 6.2**));
- A description of present and future environmental baseline – (see Sections x.5 of individual topic chapters (**DCO Documents 6.6 – 6.11**))

which detail the present and future environmental baseline relevant to individual disciplines);

- A description of the factors likely to be significantly affected by the development – (see Sections x.6 of individual topic chapters (**DCO Documents 6.6 – 6.11**));
- A description of the likely significant effects of the development – (see Sections x.6 – x.9 of individual topic chapters (**DCO Documents 6.6 – 6.11**) and Chapter 12 ‘Cumulative Effects’ (**DCO Document 6.12**));
- A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment – (see Sections x.3 of individual topic chapters (**DCO Documents 6.6 – 6.11**));
- A description of mitigation measures envisaged – (see Section 4.6 of Chapter 4 ‘Approach and General Methodology’ (**DCO Document 6.4**)); and
- This document is the non-technical summary.

1.6.2 The ES forms DCO Documents 6.0 – 6.16 of the application for an Order granting development consent.

1.7 THE NON-TECHNICAL SUMMARY (NTS)

1.7.1 Although the ES is written in a way that is clear and as understandable as possible, it is nevertheless a large document, which includes some detailed technical information and language. The Non-Technical Summary (NTS) therefore provides an outline of the content of the ES in a way which is intended to be readily accessible to all readers by avoiding, where possible, the use of overly technical language.

1.7.2 The EIA Regulations require that a Non-Technical Summary provides a summary of the information provided under paragraphs 1 to 8 of Schedule 4 of Regulation 18(3), i.e., ‘Information for Inclusion in Environmental Statements’.

1.7.3 In line with the above regulation, the remainder of the Non-Technical Summary is therefore structured as follows:

- **Chapter 2: Project Description and Baseline Context.** This section provides a description of each element of the Proposed Development, including how it would be constructed.
- **Chapter 3: Project Alternatives.** This section provides a description of the alternatives considered during the development and routing process.
- **Chapter 4: EIA Methodology and Assumptions.** This section describes the methodologies used to assess and identify the likely significant effects on the environment.
- **Chapter 5: EIA Findings.** This section describes the environmental baseline, predicted significant effects and any measures to avoid, prevent, reduce or offset any identified significant effects, for both the construction and operational phase.
- **Chapter 5: Risks to the Proposed Development:** This section describes the methodologies used to assess and identify the likely significant effects on the environment.
- **Chapter 6: Summary**

CHAPTER 2: PROJECT DESCRIPTION INCLUDING BASELINE CONTEXT

2.1 PROPOSED DEVELOPMENT OVERVIEW

2.1.1 As noted in Chapter 1 of this NTS, the Reinforcement to the North Shropshire Electricity Distribution Network, the 'Proposed Development', comprises a new 22.5km 132kV electrical circuit between the existing SP Manweb Substations at Oswestry and Wem in North Shropshire, together with associated temporary construction works. The circuit would be a combination of underground cables and overhead line. Works are also required at the existing Oswestry and Wem Substations to accommodate the new circuit.

2.1.2 The Proposed Development includes the following elements:

- Works within the boundary of the existing SP Manweb Substation at Oswestry including underground cable and the installation of electrical switchgear and associated equipment;
- Approximately 1.2km of 132kV underground cable between Oswestry Substation and a 132kV terminal structure at Long Wood (SJ 31132 29877);
- Approximately 21.3km of 132kV of overhead line supported by Trident wood poles from the terminal structure at Long Wood (SJ 31132 29877) to the existing SP Manweb Substation at Wem; and
- Works within the existing SP Manweb Substation at Wem including the installation of a new 132kV to 33kV transformer.

2.1.3 The Proposed Development also includes work to facilitate the new electrical circuit including:

- Undergrounding six short sections of existing SP Manweb lower voltage overhead lines in order to ensure safe electrical clearance for the new overhead line; and

- Temporary works required for the construction of the new overhead line including seven temporary laydown areas, welfare unit, security cabin, access tracks, vegetation clearance and reinstatement planting.

2.1.4 The construction compound for the Proposed Development would be located at the existing SP Manweb depot at Maesbury Road, Oswestry Industrial Estate, where site offices and welfare facilities are already in place. As this is an existing depot this compound is not included within the application. The construction compound would cater for the following:

- Bulk delivery (HGV) and storage of materials, the main components being wood poles, wood baulks, conductor, stay wire, crossarm assemblies and insulators; and
- Storage of construction plant and equipment.

Baseline Context

2.1.5 The Proposed Development is situated within the administrative county area of Shropshire. It passes through a scenic, farmed landscape of arable fields and pasture with occasional villages, scattered residential properties and woodland. To the west of the Proposed Development lies the historic town of Oswestry, and to the east the smaller historic market town of Wem. The Proposed Development also passes close to the smaller settlements and hamlets at Middleton, Babbinswood, Rednal, Lower Hordley, Bagley, Cockshutt, Noneley and Commonwood.

2.1.6 In addition to a number of rural roads, the Proposed Development crosses the A5(T), the Shrewsbury to Crewe rail line and the B5009 to the west, the A528 and B4397 towards the centre of the project, and the B5063 to the east at Wem.

2.1.7 Shropshire's geology is diverse. The Proposed Development crosses part of the Shropshire Plain, which covers much of North Shropshire. The plain is a basin of Permian and Triassic New Red Sandstone, overlain by a small area of Jurassic Sandstone near Wem.

2.1.8 The landform of the area through which the Proposed Development passes is typical of the Shropshire Plain, being low lying and relatively flat or gently undulating. There are some areas of higher ground (between 90 – 110m AOD) in the north-west, close to Oswestry, and in the central part of the study area, close to Kenwick Lodge and Stanwardine in the Wood.

2.1.9 The Proposed Development crosses the floodplain of the Rivers Perry and Roden.

Order Limits and Design Flexibility

2.1.10 The 'Order Limits' identify the area for which the application for an Order granting development consent is being sought. The Order Limits is in effect a construction and operation corridor, where all the proposed work would be undertaken. The Order Limits includes land for the permanent installation of the new 132kV circuit (including works at the existing substations, the overhead Trident wood pole line, sections of undergrounding (both the proposed 132kV circuit and sections of existing lower voltage line), and temporary works for construction).

2.1.11 The width of the Order Limits (excluding the substations) is 25m wide for the overhead line section and 20m wide for the underground cable section. This allows for some flexibility to allow for small changes to the design. These changes could, for example, be in response to identification of unsuitable ground conditions during construction or previously undiscovered archaeological features. This degree of flexibility has been taken into consideration in the EIA.

2.1.12 The Order Limits therefore allow:

- For each pole to move laterally along the overhead line route.; and
- To deviate vertically in height not exceeding 2m upwards or any extent downwards from the heights shown in the Pole Schedule (see Appendix 3.1 (**DCO Document 6.3.1**) of the ES).

- 2.1.13 The Order Limits also follows the construction accesses from public roads. Each construction access would be between 3m and 5m wide and, apart from one location where a new gate would be installed, would use existing field gates or openings.
- 2.1.14 Seven temporary lay-down areas for the temporary storage of poles and other equipment are included within the Order Limits and have been identified along the route. These are located adjacent to construction accesses.

2.2 CONSTRUCTION OF THE PROPOSED DEVELOPMENT

Pre-Construction Enabling Works

- 2.2.1 Construction would commence with the preconstruction enabling works and any undergrounding or diversion of lower voltage overhead line.
- 2.2.2 Tree and vegetation removal would be undertaken where required. Any affected hedgerows would be lifted and replaced within 48 hours.

Site Set Up

- 2.2.3 Site set-up works would include delivery of materials and equipment to the existing construction compound, setting up of temporary storage areas and erection of any temporary signage on roads and footpaths.
- 2.2.4 Where the proposed overhead line crosses roads, railways, and other infrastructure (e.g. the existing 400kV overhead line and telephone wires) certain precautionary works have to be completed prior to the commencement of conductor stringing. Over major roads (A and B-class roads dependent on usage) and the railway temporary scaffolds would typically be used. Where the proposed overhead line crosses the River Perry and the Montgomery Canal, the conductors would be strung across without the need to access the water or banks.

Overhead Line Construction Sequence

- 2.2.5 Overhead line construction follows a standard sequence of activities and overhead line conductors are usually erected from one end of the overhead line in short sections. Works are usually carried out sequentially and

construction plant would move from one location to the next until stringing is completed.

2.2.6 For single-circuit wood pole lines these activities include:

- Preparation of accesses;
- Excavation of foundations;
- Delivery of poles;
- Erection of poles;
- Undergrounding/diversion of lower voltage lines where necessary for safety clearances;
- Delivery of conductor drums and stringing equipment;
- Insulator and conductor erection and sagging;
- Clearance and reinstatement; and
- Commissioning.

2.2.7 Any topsoil and subsoil excavated would be stored separately so that it can be put back once construction activities were completed. The construction compound would be in use for the duration of the construction.

Demobilisation

2.2.8 This would include removal of any temporary storage areas, access tracks, and signage. Following construction the reinstatement of any surfaces damaged or effected by the construction, for instance farm tracks or grass verges would be undertaken.

Construction Compound

2.2.9 The construction compound would be located at the existing SP Manweb depot at Maesbury Road, Oswestry Industrial Estate, where site offices and

welfare facilities are already in place. As the depot already serves as a maintenance and construction compound for other SP Manweb works it is not included within the application for an Order granting development consent. The construction compound would cater for the bulk delivery (HGV) and storage of materials, the main components being wood poles, wood baulks, conductor, stay wire, crossarm assemblies and insulators; and also the storage of construction plant and equipment.

Construction Access Tracks

- 2.2.10 Construction access tracks would originate from public roads and follow existing field/farm tracks or follow existing field boundaries along the edge of fields, prior to connecting with the Order Limits for the overhead line. Each construction access would be between 3m and 5m wide and, apart from one location where a new gate would be installed, would use existing field gates or openings.
- 2.2.11 Access requirements would vary according to the construction activity, but would typically be required for an excavator (JCB and/or tracked 360 degree excavator) JCB or similar agricultural 'loader', 4x4 Hiab lorry (Hiab is the common term for a lorry loader crane) and 4x4 pick-ups. Access would also be required for 1 tractor, 1 mobile elevated working platform (MEWP) and cable trailers.

Temporary Laydown Areas

- 2.2.12 Seven temporary laydown areas have been identified at convenient locations along the route. These are located short distances from the public highway and accessed via the construction accesses using the existing accesses to the farms. The laydown areas would be used to support the construction on site and provide flexibility to avoid travelling to and from the main construction compound. Construction traffic movements would be minimal as the laydown areas will only be used when there is a need to store plant overnight to save going back to the compound. The laydown areas are likely to be used for a short space of time as places where workers drive to and park their vehicles

before transferring into construction vehicles and driving to the work site. The use of the laydown areas is being agreed with landowners and potentially, not all seven laydown areas will be used.

- 2.2.13 The laydown area adjacent to Wem Substation would potentially be in use for up to six months and would house a welfare and security unit.

Oswestry Substation

- 2.2.14 Works at Oswestry Substation would comprise the installation of electrical switchgear and associated equipment (including 132kV cable sealing ends and 132kV circuit breaker) and underground cable.

Underground Cables

- 2.2.15 The 132kV underground cable would typically be laid as a depth of 1m below ground level in a trench approximately 1m wide, excavated by a JCB type excavator. The cable would be installed in 200mm diameter ducts laid at a depth of about 1.4m in agricultural land to ensure a final minimum depth of 975mm can be maintained.
- 2.2.16 The lower voltage underground cables would typically be laid at a depth of 0.8m below ground level in a trench approximately 0.6m wide, excavated by a JCB type excavator. The cables would be installed in 160mm diameter ducts laid to a depth of 800mm within the trench.
- 2.2.17 It is expected that the underground cables would at some point intersect with existing underground services, such as water mains or sewage pipes. The normal procedure in such cases is to provide a deeper trench for the underground cable and tunnel under the existing services.
- 2.2.18 Topsoil excavated from the cable trench would be segregated and then used to complete the backfilling. Dependent on the ground conditions, suitable imported backfill material may be used to backfill the trench.
- 2.2.19 For the A5(T) crossing SP Manweb would use a process known as horizontal directional drilling (referred to as HDD). HDD works by sending a boring head from a send pit (entry pit) to navigate along a predetermined alignment to a

receive pit. Once a small diameter passageway has been created, the machine is outfitted with a reaming head to widen the tunnel. The entry/receive pits would be located either side of the A5(T) within the Order Limits. The HDD would cross under an existing high pressure gas main.

2.2.20 Diagram 2.1 below illustrates a typical HDD profile.

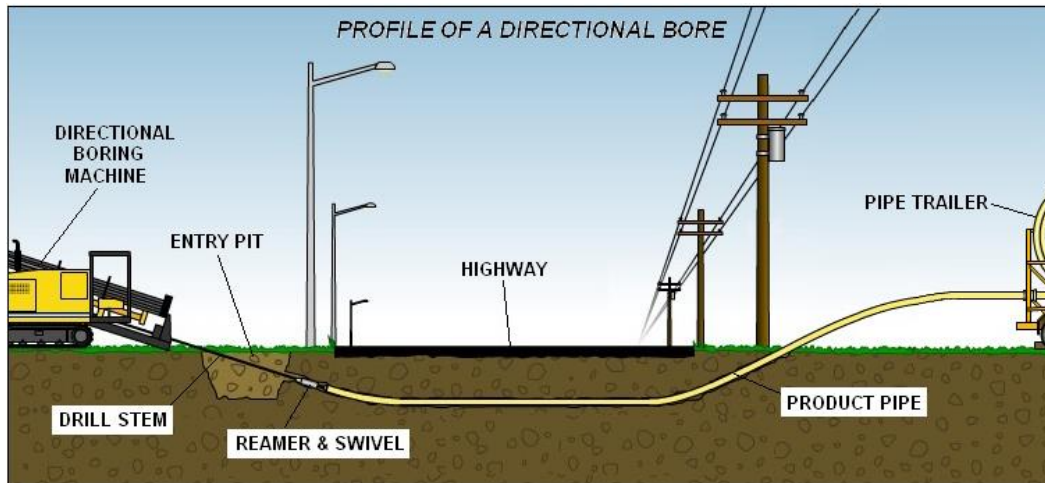


Diagram 2.1 – Illustration of a typical HDD profile

Dismantling and Removal of Lower Voltage Cables

2.2.21 Following the pre-construction enabling works the next phase of the lower voltage diversion works involves dismantling and removal of the section of lower voltage overhead line that has been diverted. All conductor, fittings, wood poles, stay wires etc. would be dismantled and removed from site to the main construction compound.

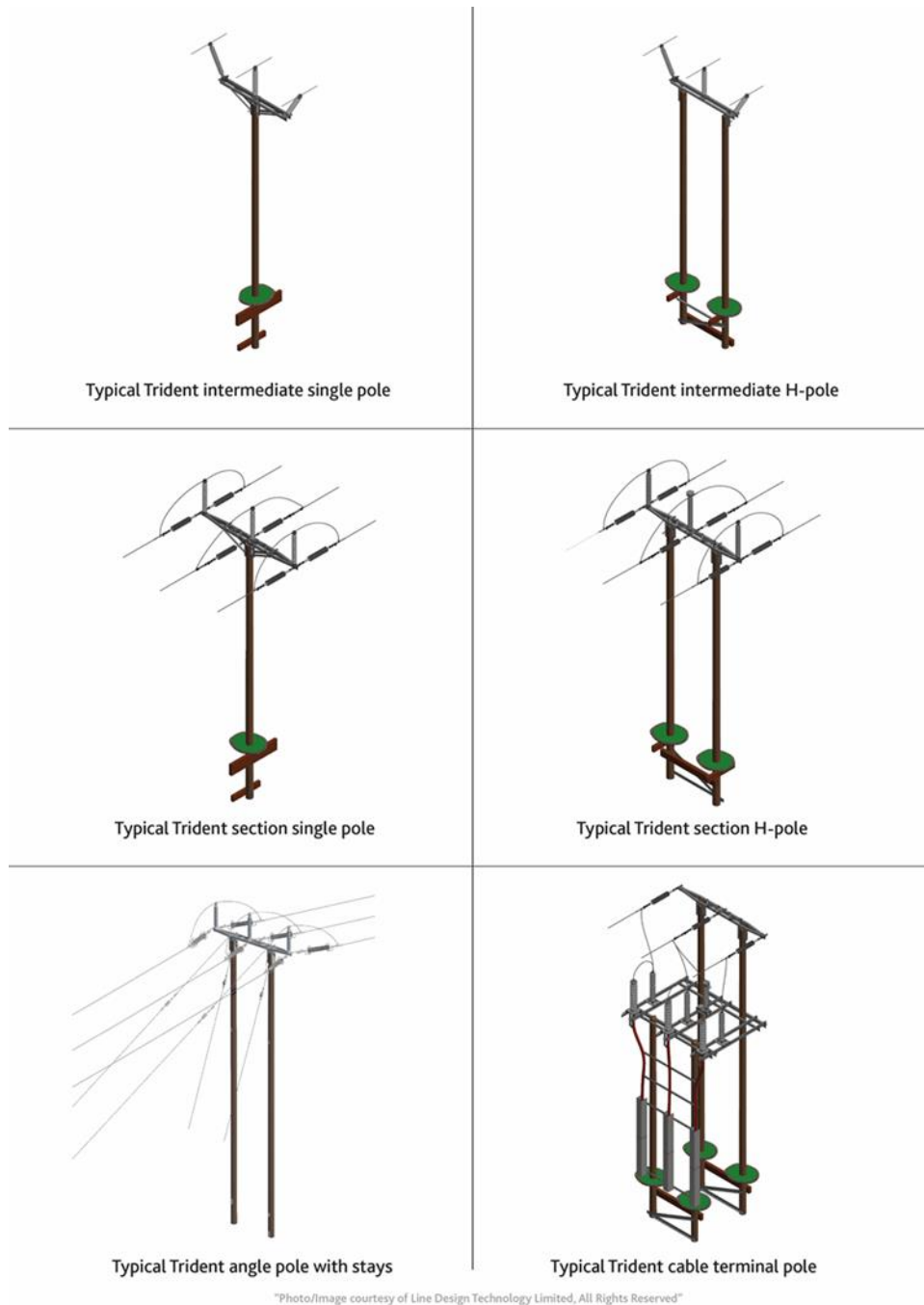
Overhead Line

2.2.22 The proposed wood pole overhead line design (Trident) is shown in Diagram 2.1 at the end of this Section (2.2). The proposed overhead line includes a total of 176 structures, which are categorized as either terminal, intermediate, section or angle poles, and can be either a single wood pole or double wood pole ('H-pole'). These vary in diameter between 300mm and 450mm, subject to the height of the pole.

2.2.23 The pole top structure includes a supporting galvanized steel cross arm, and carries three aluminium conductors mounted on insulators, one of which

includes an optical fibre for internal SP Manweb operational use. Including the steelwork on top of the pole (which is around 2m tall), the Trident wood poles scheduled for this project are typically about 14m above ground. The maximum overall height of the poles including the steelwork is not expected to exceed 18m, and the minimum overall height is expected to be just over 11m.

- 2.2.24 Galvanised steel stay wires ('stays') are installed to resist the lateral mechanical forces acting on the pole structures in order to keep the structures vertical. These stay wires are used where the line changes direction and at terminal positions. Stay wires are attached near to the top of the structures and anchored in the ground by a below ground timber foundation block.
- 2.2.25 The average distance between the wood pole structures ('span length') is 122m. The longest span length along the Proposed Development is approximately 200m and the shortest 51m.
- 2.2.26 The line would be directly embedded into the ground and the hole backfilled with excavated topsoil or an appropriate crushed-stone aggregate. Additional support where required would be provided by a below ground timber foundation block.



Photo/Image courtesy of Line Design Technology Limited, All Rights Reserved

Diagram 2.2 – Illustration of different Trident pole types

Wem Substation

2.2.27 The plant to be installed at the Wem Substation is a 132kV cable gantry, line isolator, associated busbars, a 132kV to 33kV transformer, 33kV cable to existing 33kV outdoor bay and a 33kV circuit breaker. This plant would all be located within the existing substation boundary.

2.3 INDICATIVE PROGRAMME

2.3.1 It is currently anticipated that (subject to consent being granted insert date) work on site would commence in 2020. Construction is anticipated to take approximately 12 months. The construction phase should therefore be completed and the Proposed Development operational in 2021.

2.3.2 It is further anticipated that the works would be undertaken during the following months:

2020											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Enabling Works											
			Main Construction Activities								
						Reinstatement Works					

2.4 OPERATION AND MAINTENANCE OF THE PROPOSED DEVELOPMENT

Future Access and Maintenance

2.4.1 Permanent access rights would be secured through the DCO. Future access arrangements for periodic maintenance and fault repairs would be arranged with the relevant landowners as required.

2.4.2 132kV wood pole overhead lines and underground cables generally require very little maintenance. As per OHL-01-014 the typical asset life expectancy of conductor is 54 years, insulators 40 years, steel work 70 years and wood poles 40 years.

2.4.3 Maintenance activities for the Proposed Development are driven by the type of equipment (overhead line, underground cable etc.) and current adopted practice outlined within SP Energy Networks policy documents.

2.4.4 Individual policies are reviewed and updated (if required) every 3 to 5 years. The information presented below in Table 2.1 is based on SP Energy Network’s current policy.

Table 2.1 Inspection and Maintenance		
Location	Inspection Frequency (ASSET-01-021)	Maintenance Intervals (SUB-01-009 and
Oswestry Substation	Monthly (foot)	Between 1 and 3 years depending on type of switchgear
132kV underground cable	Annual (foot)	None
132kV Overhead Line	Annual (Helicopter), Biannual (foot)	Based on condition assessment*
Wem Substation	Monthly (foot)	Between 1 and 3 years depending on type of switchgear

2.5 DECOMMISSIONING

2.5.1 As the connection is required for network reinforcement purposes it would be permanent infrastructure and therefore decommissioning has not been considered further. In the unlikely event that decommissioning was required, the activities would be very similar to those for construction, i.e. creation of construction access tracks and temporary working areas, traffic movements, and working hours.

CHAPTER 3: PROJECT ALTERNATIVES

3.1 INTRODUCTION

3.1.1 This section provides an outline description of the design process and main alternatives to the Proposed Development considered by the developer, SP Manweb, and a comment on the reasons for the final choice.

3.1.2 SP Manweb has taken steps over a period of more than two years to consider alternatives through:

- Consideration of Network Design Options;
- Consideration of 132kV design solutions between Oswestry and Wem;
- An initial broad route corridor stage;
- Narrower 100m wide line routes;
- The Preferred Line Route (November 2017) within a 25m wide corridor considered in the Preliminary Environmental Information Report (PEIR)⁷;
- The route of the Proposed Development considered within this ES.

3.1.3 Diagram 3.1 (on the following page) summarises the process that was followed in developing the scheme.

⁷ https://www.spenergynetworks.co.uk/userfiles/file/SPM_NS RP_PEIR.pdf

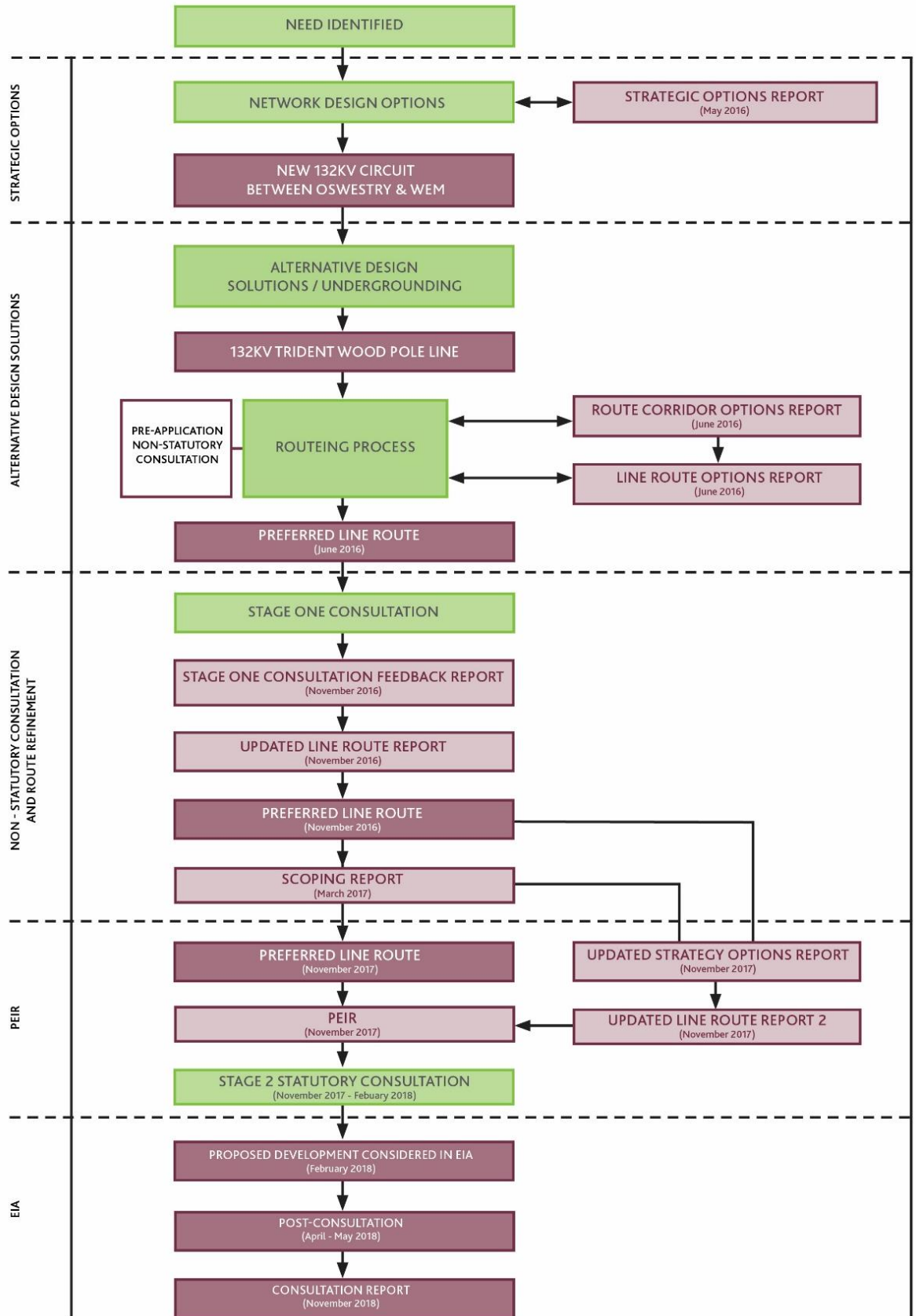


Diagram 3.1 – Design process for the Proposed Development

3.2 NETWORK DESIGN OPTIONS

- 3.2.1 Initial work in the strategic options stage (2016) considered the technical requirements of the network, and both the economic and high level environmental considerations.
- 3.2.2 A 'do-nothing' approach would result in overloading of the system and inability to meet voltage demands, resulting in non-compliance of SP Manweb's distribution licence.
- 3.2.3 Various technical options, including the upgrading of substation equipment, increasing the rating of existing lower voltage 33kV circuits, increasing the number of 33kV circuits and taking a supply from the nearby 400kV circuit operated by National Grid plc were discounted due to likely increased costs and environmental impacts.
- 3.2.4 A number of options involving new 132kV networks with new 33kV circuits were considered, but discounted due to the length of the circuits required, subsequent costs and likely significant environmental impacts.
- 3.2.5 The conclusion of the options appraisal was therefore that the preferred design solution for upgrading the electricity supply in North Shropshire was to install a new 132kV circuit between Oswestry and Wem Substations. This was deemed to be acceptable in environmental terms and would also be the most cost effective and technically efficient option.

3.3 132KV DESIGN SOLUTIONS BETWEEN OSWESTRY AND WEM

- 3.3.1 The main alternative design solutions for the Oswestry to Wem 132kV connection included steel lattice towers, heavy duty wood poles, Trident wood poles and 132kV underground cable. Trident was selected since it provides a suitable engineering option and is suited to the local geography and likely loading conditions in this low-lying part of rural Shropshire. A Trident wood pole line would achieve good integration with the rural landscape through which it passes, is lighter and shorter and less visible than steel towers and heavy duty wood poles, and allows for greater flexibility in avoiding potential environmental issues.

3.3.2 Undergrounding the entire length of the route would be a factor of 2.2 – 2.8 times more expensive than an overhead line option, which SP Manweb considered was not justified given that the overhead line route selected minimises environmental impacts. Instead, SP Manweb considered undergrounding the new circuit only in particularly sensitive locations, where the effects of the 132kV overhead line would give rise to serious concerns. This approach accords with NPS-EN-5 which states that, undergrounding should only be considered where it brings significant benefits which would *'clearly outweigh any extra economic, social and environmental impacts and the technical difficulties are surmountable'* [NPS EN-5 (paragraph 2.8.9)]. Routeing activities established that the overhead line route selected did not give rise to serious concerns. Undergrounding was therefore only utilised to avoid physical constraints and likely visual impacts arising from a new overhead line close to two existing 132kV overhead lines. It also avoids a planned extension to an existing employment area to the north-east of Oswestry.

3.4 THE ROUTEING PROCESS

3.4.1 The process of line route selection comprised a series of technical and environmental reviews and assessments, together with stakeholder consultation, Stage One Consultation (June to September 2016) and Stage Two Consultation (November 2017 to February 2018) as illustrated in Diagram 2.2 above. The project has been continually refined resulting in the Proposed Development.

3.4.2 Four broad route corridors were initially considered. Having considered the various environmental and technical constraints, these options were further refined resulting in narrower corridors, and then 100m wide line route options. This resulted in a 100m wide Preferred Line Route, which was presented in the Stage One Consultation (2016). Feedback from the consultation was considered, along with the findings of on-site and desk-based surveys and an updated version was presented in May 2017 when the Project Update 3 Newsletter was published.

- 3.4.3 This was further refined using project feedback into a narrower construction and operations corridor (generally 25m wide) and a Preferred Line Route, which was presented in the PEIR and the Stage Two Statutory Consultation in November 2017. A 40m consultation boundary centred on the Preferred Line Route was also presented at this stage. Following this consultation and further survey work a 25m wide corridor, for the overhead line was identified.

CHAPTER 4: EIA METHODOLOGY AND APPROACH

4.1 INTRODUCTION

4.1.1 This section describes the approach and methodologies used to assess and identify the likely significant effects on the environment presented in the Environmental Statement (ES), which has been prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009.

4.1.2 The design and assessment process for this project is set out in Diagram 4.1 below:

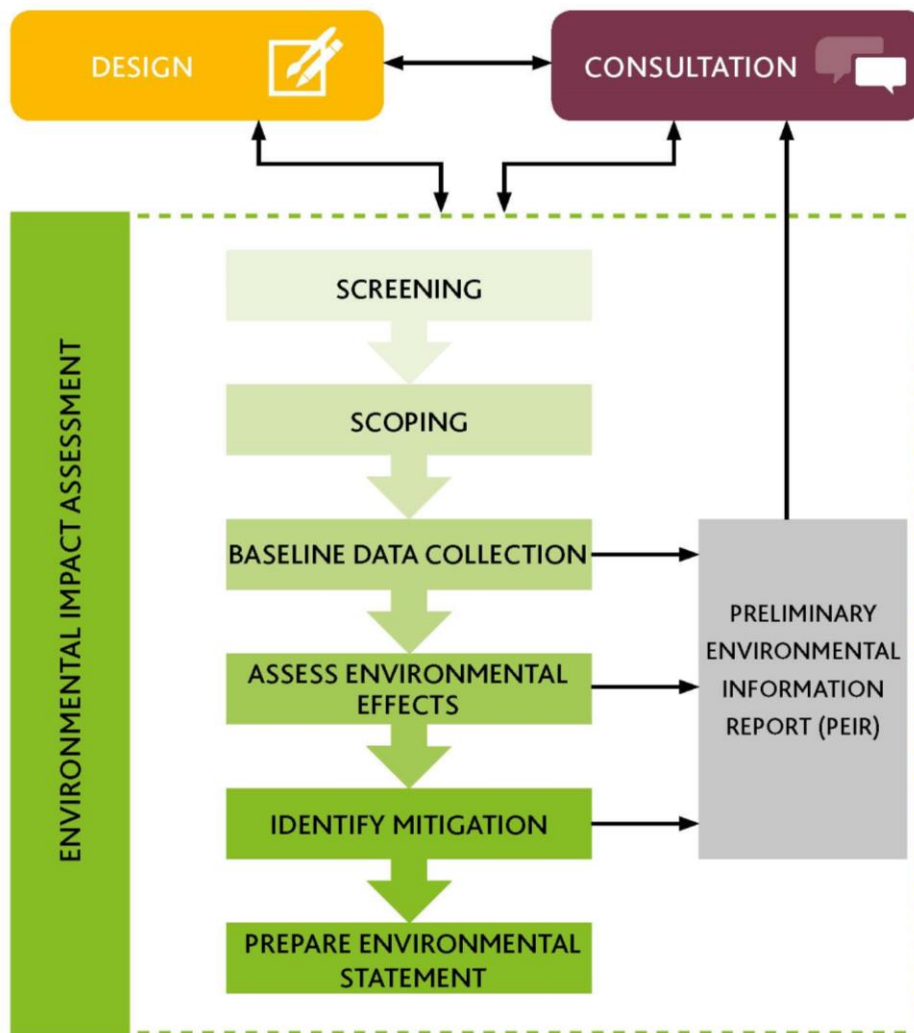


Diagram 4.1: The Design and Assessment Process

4.2 CONSULTATION

- 4.2.1 Effective consultation assists in resolving or reducing the impacts caused by the construction and operation of a proposed development in advance of submitting the application. As such, and in line with requirements set out in the Planning Act 2008, SP Manweb has conducted pre-application consultation with statutory consultees and other relevant groups, local authorities, local communities, persons with an interest in land, landowners and prescribed persons.
- 4.2.2 SP Manweb has carried out a non-statutory Stage One Consultation (although this was not a requirement of the Planning Act 2008), as well as the statutory Stage Two Consultation and a further Stage Two Consultation. In addition to EIA consultation, there was also ongoing dialogue between topic-specific professionals undertaking the assessment and relevant consultees. This additional stakeholder engagement included consideration of the methodologies proposed to undertake the individual assessments, the extent of study areas and details such as the location of potential viewpoints.

4.3 SCOPING

- 4.3.1 Scoping helps to ensure that the topics covered, baseline information and methods of assessment to be used in the EIA are appropriate and have taken into account the views of consultees and decision makers.
- 4.3.2 A Scoping Report⁸ was prepared and issued to PINS in March 2017, together with a request for an EIA Scoping Opinion⁹. The Scoping Report identified the topics and information that SP Manweb proposed to include in the ES. This was based on initial consultation, data searches and baseline surveys,

⁸ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020021/EN020021-000027-Scoping%20Report.pdf>

⁹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020021/EN020021-000012-Scoping%20Opinion.pdf>

and an outline approach (methodologies) for the identification of likely adverse and beneficial effects for each of the identified topics.

4.3.3 Following consultation with a range of statutory bodies and taking into account the information provided in the Scoping Report, The Scoping Opinion was issued by the SoS in April 2017. This set out the topics and information which the SoS required the ES to cover.

4.3.4 Responses to the points raised in the SoS Scoping Opinion are included as an appendix in each of the topic chapters.

4.4 THE PRELIMINARY ENVIRONMENTAL INFORMATION REPORT (PEIR¹⁰)

4.4.1 As part of the statutory consultation process, in November 2017, SP Manweb published the PEIR for the Proposed Development. This presented information about the potential significant environmental effects of the Proposed Development, as they were understood at that point (November 2017) in the pre-submission/design process. The information in the PEIR aided consultation with the local community, landowners and other consultees and helped to guide the EIA process

4.5 THE EIA PROCESS

4.5.1 EIA is undertaken to identify the likely significant effects of a project, which are then reported in an ES. The main stages in the assessment process are as follows:

- Describe the existing baseline environment and make a judgement as to its relative value;
- Identify different receptors and make judgements as to their sensitivity to the type of development proposed (defined in terms of the relationship between value and susceptibility to change);
- Predict the nature or magnitude of change likely to arise, taking into

¹⁰ https://www.spenergynetworks.co.uk/userfiles/file/SPM_NSRP_PEIR.pdf

account measures integrated into the design and specific construction methodologies to avoid and manage any negative effects;

- Assess whether a likely significant effect would affect a receptor, by considering the predicted magnitude of change together with the sensitivity of the receptor, taking into account any proposed mitigation measures;
- Assess the significance of any cumulative effects, including those resulting from the Proposed Development in-combination with other development proposals (inter-project), or combined effects that result from the Proposed Development, for example, on a single receptor or resource (intra project); and
- Provide a final statement on likely significant effects (i.e. the resulting changes from the impacts).

4.6 ASSESSING THE SIGNIFICANCE OF EFFECTS

- 4.6.1 The significance of an environmental effect is typically a function of the 'value' or 'sensitivity' of the receptor and the 'magnitude' or 'scale' of the predicted impact. Combining the environmental value of the resource or receptor with the magnitude of change produces a significance of effect category.
- 4.6.2 Construction effects are typically temporary, short term effects. Permanent effects are those that may start during construction, but then continue beyond the construction period, into the medium or long term. Operational effects are those which occur once the development is in operation.
- 4.6.3 Environmental effects resulting from the introduction of the Proposed Development can be considered adverse (negative) or beneficial (positive). An adverse effect does not necessarily make the proposal unacceptable, in the same way that a beneficial effect would not necessarily make the proposal acceptable.
- 4.6.4 Assigning each effect to standard significance categories (major, moderate, minor or negligible) enables different topic issues to be placed upon the same

scale. This assists the decision-making process at whatever stage the project is at within that process.

4.6.5 In arriving at the significance of effect, the assessor also considers whether the effect is direct, indirect, secondary, cumulative, short, medium or long-term, permanent or temporary, positive or negative.

4.6.6 The different terms are defined in Table 4.1 below.

Table 4.1 – EIA Predicted Effects Definitions	
Adverse	Detrimental or negative effects on an environmental resource or receptor.
Beneficial	Advantageous or positive effects on an environmental resource or receptor.
Negligible	Imperceptible effects on an environmental resource or receptor.
Minor	Slight, very short term or highly localised effect of no significant consequence.
Moderate	More than a slight, very short or localised effect (by extent, duration or magnitude) which may be considered significant.
Major	Considerable effect (by extent, duration or magnitude) of more than local significance or (if adverse) in breach of recognised acceptability, legislation, policy or standards.

4.6.7 For the purpose of the assessment, moderate and major effects are deemed to be ‘significant’. This is a precautionary approach to ensure all likely significant effects are categorised as such, as only deeming major effects as significant could result in a significant effect being categorised as non-significant.

- 4.6.8 Each topic chapter describes the extent of the Study Area(s) used for the assessment, and where possible, makes reference to figures for illustration. Where relevant, these Study Areas have been agreed with relevant stakeholders.
- 4.6.9 The EIA process and its results are reported in detail within the ES, and summarised in this NTS.

4.7 MITIGATION

- 4.7.1 The main strategy for minimising adverse environmental effects of the Proposed Development has been avoidance through careful planning, design and routing. This is the strategy that led to the identification of the Proposed Development which is the subject of this ES. The design has evolved iteratively from the original route options through a number of revisions in response to consultees' comments and the outcome of studies being undertaken. In addition to environmental considerations, technical and economic considerations have also been taken into account in developing the Proposed Development, with construction practices and control measures designed to counter avoidable impacts.
- 4.7.2 Given the level of identified effects, SP Manweb do not consider any mitigation measures to be necessary.

4.8 CUMULATIVE EFFECTS

- 4.8.1 Cumulative effects are assessed as part of the ES. This includes inter-project effects (the combined effects of the development with other developments) and intra-project effects (the combined effects arising as a result of the development, for example upon a single receptor or resource). A list of projects to be considered in the cumulative assessment was discussed with Shropshire Council.

CHAPTER 5: EIA FINDINGS

5.1 INTRODUCTION

5.1.1 This section describes the environmental baseline and predicted significant effects for both the construction and operation phase of the Proposed Development.

5.1.2 The ES is based upon the findings from the EIA process. The ES provides details of the information gathered and the assessment work undertaken in relation to likely environmental effects resulting from the Proposed Development. Within the NTS a summary is provided as to the likely significant effects of the Proposed Development, identified in the ES.

5.1.3 The following topics are included in the EIA:

- Landscape and Visual Assessment;
- Ecology and Biodiversity;
- Historic Environment;
- Flood Risk, Water Quality and Resources;
- Socio-Economic;
- Land Use and Agriculture; and
- Cumulative Effects Assessment.

5.2 LANDSCAPE AND VISUAL ASSESSMENT

5.2.1 This section presents information about the likely significant effects of the Proposed Development on the character and key features of the existing landscape, views and more general visual amenity, within a 1km study area of the Order Limits for the proposed overhead line.

Summary of Baseline

5.2.2 Almost the entire study area (and wider 5km survey area) comprises level or gently undulating pastoral and arable farmland, with fields bounded by hedgerows with mature hedgerow trees. It is a scenic rural landscape with a

mixture of villages, hamlets and scattered individual properties, connected by a network of roads and lanes. The local landform is generally level, but there are small pockets of higher ground including a north-south ridge of higher land through the centre of the study area. There are lower-lying flat areas around the Rivers Perry and Roden, which are categorised as flood zones by the Environment Agency.

Assessment of Likely Significant Effects

- 5.2.3 Construction effects are anticipated to result from the loss or change to landscape elements and features, such as areas of farmland or the removal of trees or hedgerows along the route. Effects due to the introduction and use of construction vehicles, equipment and accesses are also predicted.
- 5.2.4 Operational effects are related to the permanent presence of the overhead line within the landscape and the pruning of trees and shrubs along the route to maintain safety clearances. These changes could potentially cause longer-term effects by changing the existing views.
- 5.2.5 The main locations where people would be likely to experience significant effects from the Proposed Development include:
- Settlements and properties along the route of the overhead line, particularly within 200m;
 - Properties in elevated locations within 1km with long distance views of the overhead line;
 - People using public rights of way and cycle routes that would be crossed by the overhead line or where the overhead line would run broadly parallel; and
 - Users of the roads in close proximity to the overhead line or where the route oversails a road.
- 5.2.6 The maintenance of the Proposed Development is considered unlikely to have significant effects on visual amenity. Although some activities may have

localised effects, such as the presence of vehicles, equipment and accesses, these would be very temporary in nature.

5.2.7 Due to the substantial design work and consultation undertaken by SP Manweb, very few likely significant landscape and visual effects have been identified. No significant construction landscape or visual effects have been identified and no operational phase landscape effects were identified.

5.2.8 The receptors where likely significant visual effects during operation have been identified are:

- Viewpoint 14: from PRow 0207/14/13 near Kenwick Oak;
- Viewpoint 23: from PRow 0217/4/2 near Malt Kiln Farm (listed building);
- Viewpoint 70: near Dandyford Farm, Lower Hordley;
- Viewpoint 72: from PRow 0217/12/1 near The Shayes (listed building); and
- PRow 0217/5/1: a 205m long PRow adjacent to the B4397 to the east of Malt Kiln Farm.

5.2.9 In addition users of 10 further PRow and the footpath along the Montgomery Canal would experience highly localised significant visual effects as they directly approached and passed under the proposed overhead line. However, the overall likely visual effects on these PRow were not considered significant as only a small section of the individual PRow would be affected.

5.2.10 A residential visual amenity assessment has been carried out to assess likely visual amenity impacts on properties within 200m of the Order Limits for the overhead line. This work identified potentially significant visual effects on the following property:

- Lower Lees.

5.2.11 It is important to note that a significant effect on a resident's outlook from their property does not mean a proposal is necessarily unacceptable as significant

changes are likely to be inevitable for the closest properties. A higher test is therefore needed to determine whether a development would be overbearing or dominant. For the purpose of this EIA, this is taken to mean that, for a development to be considered as materially harming residential amenity or living conditions, receptors would have to be assessed as experiencing a high magnitude of change and major adverse effect. The property, Lower Lees, identified as experiencing significant visual effects was not assessed as experiencing a major adverse effect.

5.3 ECOLOGY AND BIODIVERSITY

5.3.1 This section presents information about the likely significant effects of the Proposed Development on plants, animals, their habitats and areas protected for their nature conservation value.

Summary of Baseline

5.3.2 The Proposed Development passes through lowland agricultural land primarily comprising improved species-poor grassland or arable fields interspersed with a network of hedgerows, ditches, watercourses, mature trees, including hedgerow trees, and scattered tracts of woodland. Many ponds and other waterbodies are also present, often associated with wet/marshy grasslands.

5.3.3 These habitats are suitable to support a range of species, including protected or notable species such as [REDACTED], bats, great crested newt, otter, water vole, reptiles and brown-hare.

5.3.4 The Proposed Development crosses an area which includes large open fields likely to be subject to seasonal flooding, the waterways of the Montgomery Canal, Rivers Perry and Roden and the many ponds, all of which have some potential to be used by geese and other wildfowl, species considered to be potentially at risk of collision with overhead power lines.

Assessment of Likely Significant Effects

5.3.5 The routeing of the Proposed Development has sought to avoid direct effects on designated sites and other key habitats, such as trees and hedgerows.

However it is anticipated that along the route of the Proposed Development 42 trees would require felling with lopping and reduction work required on a further 29 trees. Habitat loss due to ground and vegetation clearance works and temporary land take would be negligible due to the design and routing of the Proposed Development.

- 5.3.6 No significant ecological effects would occur during the construction, maintenance or decommissioning phases of the Proposed Development.
- 5.3.7 The ecological assessment of the ES indicates that during the operational phase of the Proposed Development there would be no significant ecological effects at a local, regional or national scale. A No Significant Effects Report (**DCO Document 5.4**) provides a report to inform the Habitats Regulation Assessment (HRA). The report contains a Stage 1 screening assessment which has been undertaken on a precautionary basis and concludes that the Proposed Development will result in no Likely Significant Effect (LSE) on European sites or their qualifying interest features.

HISTORIC ENVIRONMENT

- 5.3.8 This section summarises the likely significant effects of the Proposed Development on archaeology and cultural heritage that have been identified.

Summary of Baseline

- 5.3.9 The route of the Proposed Development passes a number of archaeological and cultural heritage assets. Old Oswestry Hillfort is the most well-known of these assets, but lies 770m from the Order Limits and 1.7km from the closest proposed wood pole structure.
- 5.3.10 Assessment work has identified, within the 5km study area, there are a total of 1,786 assets that comprise 763 designated assets (including non-statutory registered assets) and 1,023 non-designated assets.
- 5.3.11 The designated assets include 34 Scheduled Monuments, seven Conservation Areas, 720 Listed Buildings and two Registered Parks and Gardens. These assets are all of high significance.

- 5.3.12 Of the 34 scheduled monuments two are prehistoric, twelve are early medieval, and the remainder are buildings and other structures dating from medieval through to modern. There are no scheduled monuments within the Study Area dating to the Roman period.
- 5.3.13 Of the 720 listed buildings nine are Grade I and 33 are Grade II*. The listed buildings mostly date to the post-medieval and early modern periods and a small number are medieval.
- 5.3.14 The two registered parks and gardens within the Study Area are post-medieval to early modern.
- 5.3.15 Of the 1,023 non-designated assets eight have been assigned high significance by virtue of their relationship with designated assets. Thirty-four non-designated assets have been assigned medium significance by virtue that they have the potential to address regional research priorities.
- 5.3.16 Former river channels and peat deposits of potential palaeo-environmental importance are recorded in the Study Area and there is the potential for below-ground archaeology, as yet undiscovered, along the route of the Proposed Development.

Assessment of Likely Significant Effects

- 5.3.17 The likely effects on historic environment receptors are summarised as:
- Direct physical impacts on below ground archaeology;
 - Indirect below ground impacts, such as de-watering or desiccation of archaeological deposits; and
 - Visual impacts on the settings of heritage assets resulting from construction activities.
- 5.3.18 No likely significant effects on historical environment were identified as a result of the Proposed Development.

5.4 FLOOD RISK, WATER QUALITY AND WATER RESOURCES

5.4.1 This section provides environmental information regarding likely significant effects on water quality, water resources and flood risk receptors resulting from the Proposed Development.

Summary of Baseline

5.4.2 The study area lies entirely within the upper reaches of the Severn catchment and features many small watercourses and drainage channels, particularly at the western end of the Proposed Development. There are no large rivers, and each of the watercourses crossed by the overhead line would be spanned without requiring support within watercourse channels. The new overhead line would cross two watercourses recognised by the EA as main rivers. These are the Rivers Perry and Roden, though the latter is spilt into two separate channels resulting in three main watercourse channels which would have to be crossed.

5.4.3 Groundwater resources are significant within bedrock in the area, although substantial areas of less permeable superficial deposits exist in many areas, which offer protection to the groundwater.

Assessment of Likely Significant Effects

5.4.4 Likely effects on the surface water environment could include changes in water quality as a result of construction works, the accidental release of pollutants, changes in the volumes of water flowing along watercourses from site drainage or dewatering works, works in or near to watercourses changing the volume of water and how it flows along the watercourse and increases in runoff rates and volumes (the speed and volume of rainfall that 'runs off' as surface water. These could result from changes in land cover type, changes in the ability of the floodplain to deal with floodwater and the indirect effects that these could have on ecology, people, property and infrastructure.

5.4.5 It is anticipated that significant hydrology and flood risk effects would be avoided during any phase of the Proposed Development.

5.5 SOCIO-ECONOMICS

5.5.1 This section presents information about the likely significant socio-economic effects that could result from the Proposed Development.

5.5.2 Socio-economic effects can be caused by social impacts such as changes to ways in which people live, work and interact, as well as economic impacts such as employment, expenditure and impacts on certain economic sectors. However, this section focuses on the effects on leisure and tourism only, as other potential socio-economic areas were scoped out of the ES by agreement with the SoS in the Scoping Opinion.

Baseline Summary

5.5.3 Wem and Oswestry are market towns located in North Shropshire. The route extends between the towns through a rural area with agricultural businesses and some isolated commercial premises. There are a total of 11,631 residents within the identified super-output areas, with an average density of 5.2 persons per hectare. There are a number of PRow within the area.

5.5.4 Shropshire has a high proportion of the population past the retirement age and comparatively low levels of unemployment. Net out-commuting is significant, with more resident workers than job availability. Overall there is a level of underemployment within the County. Shropshire supports a primarily small business economy, with more than nine out of 10 enterprises employing less than 10 and with comparatively few large employers.

Assessment of Likely Significant Effects

5.5.5 The key potential socio-economic effects are limited to beneficial effects on business in terms of the monetary expenditure within Shropshire and the effect this could have on the local economy and employment; beneficial effects in terms of greater electricity capacity for local businesses and the population to expand; and potentially any negative effects in terms of reduced visitor numbers as a result of the Proposed Development affecting tourist numbers.

5.5.6 The assessment undertaken suggests that the operational phase of the Proposed Development may result in significant, beneficial effects for local businesses. No significant adverse effects are predicted during the construction, maintenance or decommissioning phases of the Proposed Development.

5.6 LAND USE AND AGRICULTURE

5.6.1 This section presents information about the likely significant environmental effects that have been identified, on the land and how it is used along the Proposed Development.

Baseline Summary

5.6.2 The predominant land use is agriculture. Arable and pastoral farmland is interspersed with small settlements including Lower Hordley, Bagley, Cockshutt, Noneley and Loppington. Farming is generally medium scale arable and dairying, with some larger scale fields set aside for arable farming close to some of the low-lying areas associated with flood risk near the River Perry, Wackley and Sleaf Brook, and the River Roden.

Assessment of Likely Significant Effects

5.6.3 Most effects on farming operations would be temporary and would arise during the construction phase. These include:

- Loss of grazing and cropping area. The temporary loss of limited areas of cropping and grazing will occur along temporary access tracks and within working areas surrounding pole locations. This will be during the construction phase and for a short period following reinstatement as the ground settles and re-establishes;
- Timings of construction works. This may impact on seasonally dependent agricultural operations such as harvesting, sowing and lambing and calving;
- Disruption to field drainage and water supplies, which may require diversion or repair;

- Compaction of soil due to tracking by heavy vehicles;
- Temporary removal of field boundaries for access, which will require reinstatement on completion (although this is currently not anticipated);
- Impact on the commitments made by the farmers/landowners, etc. with regard to agri-environmental schemes; and
- Increased risk of disease transmission and transfer of invasive weeds associated with vehicle movements along the temporary access tracks and working corridor.

5.6.4 Longer term potential operational effects on agriculture as a result of the Proposed Development include the permanent loss of small areas of operational agricultural land associated with the footprints of the wood poles and stays. The presence of wood poles within fields also causes inconvenience to agricultural operations, for example during grass cutting, spraying and irrigation operations. Following the assessment however, none of these effects was assessed as likely to be significant.

5.6.5 No likely significant effects on land use and agriculture have therefore been identified during the operation phase of the Proposed Development.

5.7 CUMULATIVE EFFECTS

5.7.1 This section provides information regarding likely significant cumulative environmental effects resulting from the Proposed Development.

5.7.2 Cumulative effects occur when individual sources of effects add together to have an overall greater effect on receptors. For the purpose of this EIA they have been defined under the two categories identified in the IEMA 2011 Special Report on 'The State of Environmental Impact Assessment in the UK'. These are inter-project effects and intra-project effects. These two types of cumulative effects are explained below:

- **Inter-Project Effects:** The combined effects of the Proposed Development with other developments (including projects for which consent has been sought or granted, as well as those already in

existence). These projects may be acceptable when considered on an individual basis but together may give rise to a significant effect; and

- Intra-Project Effects: The interrelationship between topics considered within the ES. An example would be where a local resident is affected by dust, noise and a loss of visual amenity during the installation of the overhead line, with the result being a greater nuisance than each individual effect alone.

5.7.3 Inter-project effects were assessed in individual topic chapters whilst intra-project effects were assessed in Chapter 12 'Cumulative Effects' (**DCO Document 6.12**).

Summary of Baseline

5.7.4 The projects to be included within the inter-project Cumulative Effects Assessment, as agreed with Shropshire Council are listed below:

- Residential development of 13 dwellings, Tetchill
- Erection of two blocks of residential care home comprising 50 units at Mill Street, Wem
- Erection of 16,000 Bird Free Range Poultry Shed at Myddle
- Residential development comprising of 20 dwellings at Gobowen
- Application for the extension to Water Treatment Works, Oswestry
- Erection of agricultural building for storage and livestock housing, West Felton
- Mixed residential development of 44 dwellings, Park Hall
- Mixed residential development of 32 dwellings, Wem
- Residential development of 25 houses, West Felton
- Installation of ground mounted solar system comprising circa 432 panels, Bagley
- Application for the erection of 25 dwellings, Wem

- Change of hall from offices to residential; erection of 50 dwellings, Brogyntyn Hall
- Outline application (to include access) for 46 dwellings, Morda
- Mixed residential development of 65 dwellings, Morda
- Mixed residential development comprising 35 dwellings and 4 commercial units, West Felton
- Erection of mixed residential development comprising 53 dwellings, Oswestry
- Outline application for residential development of up to 600 units with associated infrastructure including areas of public open space with all matters reserved except access, south-east Oswestry
- Application for residential development, Park Hall
- Proposed wind turbine, Lullingfields
- Proposed 100kw wind turbine, Myddle
- Erection of 34 dwellings; formation of access onto the B5009; open space area and community parking area, Whittington
- Residential development of 15 dwellings, Oswestry
- Residential development of up to 150 dwellings to include means of access, Oswestry
- Construction of a solar farm comprising the installation of (circa) 20,000 ground mounted solar panels; 4 inverter sub-stations; electricity substation; perimeter fencing, Gobowen

Assessment of Likely Significant Effects

5.7.5 No inter-project or intra-project environmental cumulative effects have been identified as a result of the Proposed Development.

CHAPTER 6: SUMMARY

6.1 INTRODUCTION

6.1.1 This Chapter presents a high-level summary of the findings of each topic considered in the ES, and goes on to describe the next steps in the application.

6.2 SUMMARY

6.2.1 The findings of the ES are summarised in Table 6.1 'Summary of Significant Effects' below. The table notes whether likely significant effects as a result of the Proposed Development would arise during the construction or the operational phase. As noted previously, since the connection is required for network reinforcement purposes, it would be permanent infrastructure and therefore decommissioning has not been considered. A 'Yes' would indicate that one or more significant effects had been identified, and a 'No' would indicate that no significant effects have been recorded.

6.2.2 Permanent significant effects are those that occur during the operational phase, and are largely concerned with the effects on views and residential visual amenity.

6.2.3 Full details of the effects are described in each topic chapter within the ES.

6.2.4 Significant effects are judged to be adverse unless stated otherwise.

Table 6.1 – Summary of Significant Effects		
Topic	Construction	Operation
Landscape	No	No
Visual	No	Yes
Ecology and Biodiversity	No	No

Table 6.1 – Summary of Significant Effects		
Historic Environment	No	No
Flood Risk, Water Quality and Resources	No	No
Socio-economic	No	Yes (beneficial)
Land Use and Agriculture	No	No
Cumulative Effects Assessment	No	No

6.2.5 As noted earlier in this NTS, any measures to avoid significant effects, including through design and through use of standard construction practices, have been taken into account. Careful routeing, design and other measures employed to reduce the likelihood of significant effects as a result of the introduction of the Proposed Development have minimised the number of significant adverse effects reported, though given the scale (length) and nature of the Proposed Development, some significant environmental effects remain.