

**PROPOSED REINFORCEMENT TO THE ELECTRICAL DISTRIBUTION
SYSTEM**

132kV OVERHEAD LINE BETWEEN LEGACY AND OSWESTRY

**ENVIRONMENTAL STATEMENT VOLUME 3:
APPENDICES 1A – 15B**

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ENVIRONMENTAL STATEMENT VOLUME 3: APPENDICES

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APPENDIX 1A: List of Organisations Consulted

Local Authorities

Denbighshire County Council
North Shropshire District Council
Oswestry Borough Council
Shropshire County Council
Wrexham County Borough Council

Nature Conservation/Forestry/Heritage/Agriculture/Landscape/Tourism & Leisure

British Waterways (Chester)
British Waterways (Shropshire)
Cadw
Campaign for Protection of Rural Wales (Montgomery)
Campaign for Protection of Rural Wales (Wrexham)
Clwyd Powys Archaeological Trust
Council for the Protection of Rural England
Countryside Agency (West Midlands Branch)
Countryside Council for Wales
Country Land and Business
DEFRA
DEFRA North Mercia
English Heritage
Environment Agency (Northern Wales Region)
Environment Agency (Upper Severn Region)
Forestry Commission – North Wales Office
Forestry Commission – West Midlands
Heart of England Tourist Board
National Farmers Union Cymru
National Farmers Union West Midlands
National Federation of Anglers
National Monuments Record Wales (Royal Commission on the Ancient and Historical Monuments of Wales)
National Trust (Regional Office West Midlands)
National Trust (Office for Wales)
Natural England (formerly English Nature)
North Wales Tourism
North Wales Wildlife Trust (Loggerheads CP)
Ramblers' Association London
Ramblers' Association Wales
RSPB Central England Office
RSPB North Wales Office
RSPB UK Headquarters
Shropshire Wildlife Trust
SUSTRANS
The Woodland Trust Wales

Utilities

British Telecom
Dee Valley Water
Hyder Operations
Mercury Communications Ltd
Midland Electricity Board
National Grid Company Ltd
National Grid Transco (Howick Cross Lane)
NTL
PGS Atlantic Power
Severn Trent Water

Other

Civil Aviation Authority

Coal Authority

Department of Trade & Industry

The Chief Fire Officer – North Wales

The Chief Fire Officer – Shropshire

Health and Safety Executive (Wales and South West Division)

Health and Safety Executive (Midlands Division)

Highways Agency

Ministry of Defence

Network Rail

APPENDIX 1B Report on Consultations

**PROPOSED REINFORCEMENT TO THE ELECTRICAL DISTRIBUTION
SYSTEM**

132kV Overhead Line between Legacy and Oswestry

Report on Consultation

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1. Executive Summary

SP Manweb (SPM) has a statutory duty and a licence obligation to develop and maintain an efficient, co-ordinated and economic system of electricity supply to its customers. To meet these requirements, SP Manweb proposes to reinforce the 132kV distribution system between Legacy substation and Oswestry substation with a new wood pole overhead electricity line. This will ensure compliance with its statutory duties and secure supplies to 80,000 customers.

Environmental consultants, The Environment Partnership (TEP), were appointed by SPM to carry out a Routeing Study prior to a full Environmental Impact Assessment for the new overhead line. The Consultation Document published in February 2007 is a result of the Routeing Study and will inform the Environmental Impact Assessment (EIA).

The aim of the consultation was to give all interested parties the opportunity to comment on the Preferred Route for the overhead line. Information was provided through the Consultation Document, via 2 public exhibitions and on the Company website. Meetings were also held with local authorities, nature conservation groups, cultural heritage bodies and parish councils.

Following the initial round of consultations in February 2007, SPM reviewed the Preferred Route in light of comments received. After considering environmental and technical issues an alternative route was chosen for the southern section of the Preferred Route. A second round of consultations was undertaken on the Alternative Route and a second public exhibition held at St Martins.

A total of 165 responses have been received since the release of the Consultation Document in February 2007. Of these 165 responses, 70% were received from the Oswestry borough and 5% from the Wrexham area. The remaining responses were received from consultee groups based across the country and from individuals outside of the Oswestry and Wrexham areas.

To bring all of these comments together, SPM has compiled this Report on Consultation as a record of the consultation process related to the Consultation Document, the comments received and SPM's responses.

Part 2 of this document explains the consultation process undertaken from the outset of the project but focuses mainly on the release of the Consultation Document and the subsequent public consultation. The distribution of the document and advertisement of the public exhibitions are also described.

Part 3 of this document details the responses received during the consultation process. It outlines the comments from interested parties and the main issues raised by the general public. The main statutory bodies (Local Authorities, conservation and heritage groups) all replied with comments on the Preferred Route and the Alternative Route. Approximately the same number of responses were received from the general public during the two route consultations.

Part 4 of this document summarises the main issues raised during the public consultation and seeks to address the comments received. Further information is provided on; routeing across Ifton Meadows and Pont-y-Blew /Glyn Morlas, why the A483/A5 road was discounted early in the routeing study and why undergrounding has not been taken forward. General issues relating to visual amenity, nature conservation, perceived health effects and EMFs raised by members of the public during the public consultation are also covered.

2. Consultation Process

The consultation process undertaken is described in full in sections 1 and 3 of the Consultation Document. Consultation is undertaken at several stages during the routeing process. Initial consultation is undertaken on the basis of the broad principles of the project requirements and based on an identified study area prior to the determination of any route option corridors. This initial consultation informs the consultees of the broad project proposals and gives them an opportunity to make comments at an early stage in the project including their views on the boundaries of the study area. It also forms an important part in gathering baseline environmental information used to inform the routeing process and raises awareness of the project before finalising the chosen route for the statutory consents procedure.

Letters were initially sent to over 50 consultees including local authorities within the study area, statutory consultees, other environmental bodies and interested parties and utility companies with potential assets within the study area. Initial meetings to discuss the proposals were also offered to the local planning authorities and the key statutory consultees. A list of consultees is included in Appendix 1A of the Consultation Document. The Consultation Document was produced after these initial consultations.

SPM published the February 2007 Consultation Document for public inspection over a 6-week period that ran between 26th February and 13th April 2007.

As part of this consultation, two public exhibitions were held in Ruabon and St Martins. Meetings took place with the relevant Local Authorities and Statutory Bodies and letters were sent out to landowners, local parish and community councils and a number of other environmental bodies, interested parties and utility companies. During the consultation period, SP Energy Networks, on behalf of SPM, met with a number of parish councils and local authorities.

The Consultation Document was advertised for 2 weeks, via a public notice placed in local newspapers including the Wrexham Leader, North Shropshire Chronicle, Wrexham Mail and Oswestry Advertiser. This press notice outlined the consultation and directed the reader to locations where the document could be viewed.

SPM produced a leaflet outlining the project and containing contact details for the public to comment on the proposals. Members of the public were also able to fill in comments sheets during the public exhibitions.

The Consultation Document was deposited at 8 local libraries throughout the region and Wrexham and Oswestry planning offices and was also published on the SP Energy Networks website.

A number of letters have been received about the Preferred Route. These include responses from local people living near to the Preferred Route, people from the surrounding area, parish councils and consultees such as Natural England and CCW.

The first stage of public consultation resulted in a review of the Preferred Route and a further public consultation on an Alternative Route. A second public exhibition was held in St Martins with the information boards on display 3 weeks prior to representatives from SP Energy Networks being present for one afternoon and evening to discuss the project further. Letters were sent to all the interested parties contacted previously and all members of the public that had written in regarding the original Preferred Route, informing them of the public exhibition. The exhibition was publicised as before in the local press.

3. Record of Comments Received

3.1 Outline

This section is a summary of all of the responses received from the consultation outlined in Section 2 above.

All responses received since the start of the consultation period were logged and organised into broad groups based on the views expressed. Written responses were logged along with emails, phone calls and comments made during the exhibitions. All members of the public who sent in letters during the consultation were issued an acknowledgement letter confirming receipt of their comments and detailing the next stages of the project.

All correspondence received was forwarded on to TEP for review against the routing criteria outlined in the Consultation Document.

A total number of 165 written responses were received, 37 of which were from consultee groups and 129 from members of the public.

Comments were received from the following consultee groups.

Wrexham County Borough Council	CPAT
Oswestry Borough Council	RSPB
Countryside Council for Wales	RSPB Cymru
Natural England	National Trust Wales
Cadw	The Ramblers' Association
English Heritage	North Wales Wildlife Trust
Environment Agency	Shropshire Wildlife Trust
Environment Agency Wales	Wales & West Utilities
Defra	National Grid Transmission
Forestry Commission Wales	National Grid Distribution Network

3.2 Responses from Local Councils

Following meetings with Wrexham County, Shropshire County, Oswestry Borough and North Shropshire District planning and landscape officers, letters have been received from Wrexham and Oswestry Borough Councils.

Wrexham Council

Wrexham Council commented on the need for an update on the study area inventory. An alternative to the Preferred Route through the Park Eyton area was suggested and potential impacts on Johnstown Newts site (a designated Special Area of Conservation (SAC)) and on Listed buildings were highlighted.

Shropshire Council

No formal response was received from Shropshire Council. It was agreed during a meeting with council representatives that the Council would reply formally at the section 37 application and EIA stage.

Oswestry Council

Oswestry Council commented on the visual and ecological impact of the Preferred Route in the vicinity of Ifton Meadows Local Nature Reserve (LNR). On the Alternative Route, Listed buildings in Wigginton were identified and recommendations were made to contact Natural England and landowners.

North Shropshire District Council

No formal response was received from North Shropshire District Council.

3.3 Responses from Statutory Consultees

Countryside Council for Wales

Countryside Council for Wales (CCW) commented on the need for method statements and consent required for working in SAC sites. The organisation was satisfied with routeing in terms of landscape and requested to view ecological survey information along the route when complete.

Natural England

Natural England suggested SPM/TEP re-assess routeing criteria and weighting applied to Ifton Meadows LNR as the recreational aspect of site was not assessed. Also advised were breeding bird surveys at Ifton Meadows LNR and Higher Stewardship Scheme farms. Natural England also requested ecological survey information along the route and method statements for river crossings. On the Alternative Route Natural England welcomed the rerouting of the line to avoid Ifton Meadows LNR but noted that SPM must ensure that no damage occurs to Fernhill Pastures Site of Special Scientific Interest (SSSI) which the Alternative Route passes close to.

Cadw

Cadw provided information on Scheduled Monuments (SMs) in the study area and stated that it felt the Consultation Document adequately addressed the concerns of statutorily protected SMs and Listed buildings. No concerns were raised regarding the Alternative Route as no SMs or historic landscapes would be affected and the nearby registered park and garden of Brynkinalt would not be affected.

English Heritage

English Heritage felt it unnecessary for them to comment at this stage of the process. It was recommended that an appropriately qualified organisation is used to carry out the archaeological section of the EIA.

Environment Agency England & Wales

The Environment Agency requested a more detailed study of potential contaminated sites during the EIA and provided information on required vertical and horizontal clearances from waterways. Guidance on pollution prevention was also detailed. On the Alternative Route, guidance was given on river and canal crossings and details of Fernhill Pastures SSSI were provided.

3.4 Responses from Other Consultees

This consultation exercise has also provided an opportunity for other consultees to comment and the following responses have been received.

Table 3. Summary of comments received from consultees

Consultee	Date	Comment	Action	No Action
RSPB	18/04/07	Concerns over route crossing Ifton Meadows LNR and farm managed under the higher stewardship scheme (HSS).		Ifton Meadows LNR and HSS already mapped. Route alternative considered.
	29/08/07	Pleased that Ifton Meadows LNR is to be avoided by Alternative Route. Description of a locally important area for breeding waders.	Pass information to TEP for walkover survey and studies in EIA.	
RSPB Cymru	08/10/07	Mitigation package that produces net gain is suggested. Details of guidance documents/policy given. Offer to read draft ecology chapter of ES.	Pass information to TEP for reference.	
Defra	15/03/07	No comment from Defra at this stage.		
Clwyd-Powys Archaeological Trust	14/03/07	Highlight impact of routes on previously unrecorded archaeology and request walkover survey of Preferred Route. Contact details for Cadw and suggestions for further detailed study in EIA.	Pass information to TEP for walkover survey and studies in EIA.	
	28/08/07	Alternative Route lies close to areas of archaeological significance but no known features will be affected by the intended work.		
Forestry Commission Wales	20/03/07	Letter passed to Area Land Agent.		
	27/03/07	Site poles to ensure mature and veteran trees are not removed.		Contact when line design complete to discuss tree removal.
	13/09/07	Site poles to ensure mature and veteran trees are not removed.	Keep informed of final decision.	
National Trust Wales	13/04/07	Reply for NT Wales and England. Happy with chosen routes as stay clear of NT land. Recommend contact with Welsh Historic Gardens Trust and Garden History Society.	Pass contact of Welsh Historic Gardens Trust and Garden History Society to TEP.	
	28/08/07	No comment to make on Alternative Route.		
The Ramblers' Association	31/03/07	Happy route wouldn't impact on any PROW. Would like to be contacted if any PROW are to be diverted.		Note to contact with EIA.
North Wales Wildlife Trust	02/04/07	Listed number of Wildlife Sites.	Pass to TEP to ensure sites are mapped.	
Shropshire Wildlife Trust	04/04/07	Concerns over routeing across Ifton Meadows LNR and Ebnal Lodge Wildlife Site.		Note to keep informed of developments.

	17/10/07	The Alternative Route appears to be acceptable as it avoids Ifton Meadows LNR and Ebnal Wildlife site. Note to contact Natural England regarding Fernhill Pastures SSSI, as route lies adjacent.		Location of SSSI and route already discussed with NE.
Wales & West Utilities	17/04/07	Low, medium and high pressure apparatus throughout study area.	Pass information to engineers for line design.	
National Grid Transmission	30/04/07	Deeside-Trawsfynydd 400kV Overhead Line identified in study area.		Already mapped in Consultation Document.
National Grid Distribution Network	03/04/07	Area not covered by NGDN, correct details given for Wales & West Utilities.	Send document to Wales & West Utilities.	
British Waterways	13/06/07	Alternative route would have a direct effect on users of the Shropshire Union canal which is a very attractive area.		Note to keep informed of project.

Following these responses, SP Manweb has continued a dialogue with Natural England and CCW in respect of agreeing approaches to baseline ecological surveys that will be required along the proposed route.

No response has been received from the following consultees:

Forestry Commission (England)	North Wales Fire Service
National Farmers Union	Highways Agency
National Farmers Union Wales	Dee Valley Water
Department of Trade & Industry	

3.5 Comments Received from Parish Councils

Written responses have been received from St Martins Parish Council and Chirk Town Council. St Martins Parish Council raised concerns over the route crossing Ifton Meadows LNR and questioned why the A483 hadn't been considered as an option. Chirk Town Council wrote to object to the overhead line on visual amenity grounds and recommended that the line be placed underground.

Informal feedback was also received during attendance of the Selattyn and Gobowen Parish Council meeting. Selattyn & Gobowen PC asked for the line route to avoid Wat's Dyke and for further consideration to be given to the A483/A5 road route. No responses have been received from the other Parish Councils consulted.

3.6 Responses from Members of the Public

Exhibition attendance Feb 2007

Ruabon exhibition: 27 people

St Martin's exhibition: 26 people

Exhibition attendance Sept 2007

St Martin's exhibition: 63 people

Of the 129 written responses received from members of the public, 108 were objections. Many responses recognised the need for reinforcement of the electricity network in the

Oswestry area and therefore, nearly all of the objections raised were related to the specific routeing of the overhead line.

The majority of the 52 objection letters received after the first two public exhibitions were concerned with the routeing across Ifton Meadows LNR. Comments received after the second public exhibition on the Alternative Route focussed mainly on the preference for the route to follow the A483/A5 road corridor. Fifty-six objection letters were received during the Alternative Route consultation.

A number of other issues were also commented on:

- The preference for the line to be placed underground.
- The visual aspects of an overhead line.
- The routeing through Pont-y-Blew/Glyn Morlas.
- Electric and magnetic fields and the perceived potential effects on health.
- Other nature conservation issues related to the line such as the impact on protected species and sensitive habitats.

Some minor route alterations were also suggested by the general public to take the route further away from properties. A number of responses also questioned why existing overhead lines in the area couldn't be rationalised to take the extra electricity cables.

4. Consultation Outcomes

4.1 Summary of Main Issues Arising From This Consultation

This section seeks to address the issues raised by members of the public and consultee groups during the consultation described above. Having carried out the consultation in respect of the Consultation Document, the main issues to consider are as follows:

- Re-evaluate routeing criteria with regard to recreational use of Ifton Meadows LNR.
- Consider route alternatives suggested by Wrexham BC.
- Explain why the A483/A5 road route option was rejected prior to the development of the Preferred Route and how this decision was reviewed following the earlier consultation process.
- Further describe why the road bridges can't be utilised to carry cables.
- Explain further the choice for routeing through Pont-y-Blew and Glyn Morlas.
- The support of the chosen Preferred Route (with the Alternative Route section) by Cadw, CPAT, CCW and in part by Natural England.

4.2 Routeing Across Ifton Meadows Local Nature Reserve

Concerns regarding the crossing of Ifton Meadows LNR were raised by Natural England, RSPB, Oswestry Council and Shropshire Wildlife Trust along with the majority of the public responses received after the first two public exhibitions. Main concerns were the potential effects upon ground nesting birds, such as skylark and meadow pipit, but also possible adverse effects upon recreational use of the site. The response to the public consultation

demonstrated that Ifton Meadows LNR is highly valued by the local community as a resource for informal recreation and enjoying wildlife.

The Electricity Safety, Quality and Continuity Regulations 2002 (ESQCR) place a number of requirements on an Electricity Distributor. Some of these are particularly relevant to overhead lines in the vicinity of recreational areas. SP Energy Networks has recently established a policy on overhead lines in the vicinity of such areas, which requires that new overhead lines at any voltage shall not be routed across recreational areas (Ifton Meadows LNR falls within this definition) unless appropriate risk mitigation measures are incorporated into the design.

These issues dictated that it would be appropriate to reappraise how Local Nature Reserves are considered in the routeing process. In the initial assessment, they were considered as local designations for nature conservation, but not as local recreational resources. It has always been acknowledged that these sites had public access and could be used for recreation, but to avoid 'double-counting' they were considered only in terms of nature conservation. In the assessment review carried out by TEP, the importance of Ifton Meadows LNR as a recreation area, as well as a site of nature conservation interest, is now taken into account.

TEP identified a link between the original Preferred Route at the Ceiriog valley, and eastern route options considered in the initial evaluation in the Consultation Document. This Alternative Route was considered to offer a diversion around both Ifton Meadows and the village of St Martin's. The link follows a northwest-southeast alignment to connect between the Ceiriog valley and Route C3 (as described in the Consultation Document) immediately east of St Martin's. In the initial evaluation of route options, Route C3 combined with C1(B) (also described in the Consultation Document) was assessed as being the best 'eastern' option between St Martin's and Oswestry substation, and was therefore used in this diversion. This route follows a generally north-south alignment, through sparsely settled areas near Wigginton, New Marton and Henlle. It crosses the Shropshire Union canal in the vicinity of New Marton Lock and joins with the Preferred Route south of Gobowen, near Great Fernhill.

TEP's assessment of the Preferred Route against an alternative to avoid Ifton Meadows LNR is finely balanced, with the original route performing better in terms of visual amenity (from private property), and ease of assimilation within the landscape, and the more eastern Alternative Route having a lesser effect on several designations and trees/woodlands. In balancing these differing impacts, the avoidance of direct effects on Ifton Meadows LNR and upon trees and woodlands, is considered sufficient to outweigh the effects upon landscape character and upon individual visual amenity likely to arise if the Alternative Route is selected.

4.3 Following A483(T)/A5 Road Corridor and Utilising Road Bridges

A number of actions have been highlighted by those consulted during the February-April 2007 round of consultations on the Preferred Route. In particular, in discussions with the Oswestry Borough Council Scrutiny meeting, SP Manweb have been asked to further explain the reasons for not choosing the strategic option of following the A483(T)/A5 road corridor for the Legacy to Oswestry route. No other consultee groups questioned the rejection of this as a route option but a large number of the general public stated a preference for the overhead line to follow the A483(T)/A5 road. The A483(T)/A5 road route was also suggested during the consultation as a suitable route for an underground cable. The reasons for not undergrounding are covered in section 4.4.

SP Manweb's approach to routeing is based on the principle that the major effect of an overhead distribution line is its visual intrusion and that the degree of visual intrusion can be

reduced by careful routeing, for example by utilising topography and trees to provide screening and backgrounding and by seeking to retain appropriate distances from settlements and viewpoints. In addition, routeing also takes account of other environmental considerations by seeking to avoid the most sensitive and valued natural and man made features.

The main technical and environmental considerations which should be studied in order to route a distribution line with least visual intrusion and least disturbance to people and the environment are determined from a study of likely effects and established routeing practice. These routeing considerations include topography, landscape character and areas of amenity value and scientific and historical interest.

The Consultation Document identified 4 strategic options for routeing and overhead line through the study area. These included: Option 1 to the east of the A483(T)/A5; Option 2 to the west of the A483(T)/A5; Option 3 following the main north south road corridor; and Option 4 paralleling the existing 132kV overhead line. These broad route options are shown on Figure 5.1 in the Consultation Document.

The area of Option 3 is described fully in the Consultation Document. For a variety of technical, economic, environmental and legislative reasons, the A483(T)/A5 was discounted at the strategic option stage. This option was subsequently revisited but following further review and discussion with North Wales Trunk Road Agency the original decision to discount the option was reconfirmed. This option was discounted due to the following constraints:

- The key issues affecting the routeing of an overhead line along the existing road in the northern half of the study area are the substantial areas of land supporting existing built development. The town of Ruabon and the Johnstown Newt Sites SAC restrict options for routes next to the road through this area. Developed areas immediately about the road in places, and in the case of Ruabon development abuts the road corridor on both sides.
- In the central part of the study area the key constraints are the areas of historic parkland associated with the Wynnstay and Brynkinalt Estates. The A483(T)/A5 runs through the Wynnstay estate for over 2km and the Brynkinalt Estate for approximately 1.5km. Historic parklands have been identified as a key strategic constraint to routeing, to be avoided where possible. Within the parklands, areas of woodland about the road corridor in places.
- The A483(T)/A5 crosses the River Dee through the Nant-y-Belan and Prynella Woods SSSI. An overhead line next to the road at this point would be required to pass through the two areas of ancient woodland, identified as key constraints to routeing. A large number of trees would have to be removed.
- The steep river valleys of the Dee and Ceiriog, in the vicinity of the two bridges, would make construction of an overhead line very difficult. A wood pole line would need to be routed down to the valley floor through these densely wooded areas resulting in significant clearance of ancient woodland and the crossing of the SSSI for the River Dee crossing as stated above. The Ceiriog Valley crossing would also require a large amount of woodland clearance, some of which is ancient woodland. The alternative would be the construction of large steel structures on either side of the valleys to support a long span of overhead line. These resulting structures would also require significant tree clearance and be visually obtrusive.
- It should be noted that it is not possible to erect wood poles along the viaducts.
- Original consultation with the local authority previously responsible for the viaducts (Conwy County Borough Council) confirmed that there was no provision for utility

services in the construction of the viaducts. Subsequent discussions have been held with North Wales Trunk Road Agency, the now responsible party for the viaducts, who have reconfirmed the previously stated position.

- There are six road junctions with the A483(T)/A5 between Wrexham and Oswestry, and numerous bridges over the main road. Should an overhead line be situated adjacent to the road corridor, it is likely that these would have to be crossed by local deviation.
- Built development either side of the roundabouts at Halton (including Chirk Airfield) and Gledrid form restrictions on routeing in these areas. There are no viable options for routeing an overhead past these areas without considerable deviations from the road corridor.
- It should be noted that should the route need to divert away from the A483/A5 corridor, to alleviate the above restrictions, this would result in resorting back to the Preferred Route in almost all instances.
- There are fewer constraints to the south adjacent the A5, however the settlements of Gobowen and Rhoswiol lie alongside the road severely restricting opportunities for routeing an overhead line in this area.

4.4 Undergrounding

No comments were received from statutory consultee groups regarding the placement of the line underground. St Martin's and Chirk Parish Councils both stated that undergrounding would be preferable to an overhead line.

The wording on undergrounding in the Consultation Document has been revised in light of comments received as to why SPM are looking at build overhead rather than underground:

- SPM is sensitive to public preference to place assets underground rather than overhead, however, there are both economic and technical reasons against this approach in this instance. SPM is obliged to comply with the requirements of the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical system of electricity supply.
- For economic reasons, as previously stated, other UK Distribution Network Operators would also propose an overhead circuit in similar circumstances. It should be recognised the relative cost for an underground circuit would be between 5 to 10 times that of similarly rated overhead option. The variation would be dependent on a number of factors such as manufacturing costs, ground conditions for excavation and associated traffic management issues.
- As a result SPM policy is to attempt to find an overhead line route for all new high voltage distribution circuits, and only where there are exceptional constraints would undergrounding be considered.

4.5 Routeing through Pont-y-Blew and Glyn Morlas

A number of residents in the Pont-y-Blew/Glyn Morlas area raised concerns regarding the routeing of the Preferred Route through this area and also about the lack of consultation.

The routeing criteria have been revised and the route options re-evaluated following comments received about recreation from Natural England. This re-evaluation has

confirmed the route through this area is the preferred option. It is acknowledged that the route will have an impact on the visual amenity of residents in the vicinity of the line but careful siting of poles and will aim to reduce this impact.

It is considered that the approach to advertising, the public exhibitions and consultation was carried out in line with recommended guidelines. To have informed all residents in the vicinity of the Preferred Route would have required a large scale mail shot which is not normally carried out in this type of consultation. Those residents who have responded to the consultation have been and are now registered on the communication database for this project. They will be contacted with details of subsequent stages of the project, and have further opportunities to register their comments.

4.6 Broad Issues Arising from Consultation

A number of general issues relating to visual amenity, nature conservation, perceived health effects and EMFs have been raised by members of the public as reasons for objecting to the route. These issues are covered briefly below and will be assessed in detail during the next stage of the project, the Environmental Impact Assessment (EIA), and described further in the Environmental Statement (ES).

Visual Amenity

Section 3 of the Consultation Document outlines SPM's approach to routeing and details how the visual intrusion of an overhead distribution line can be reduced by careful routeing, for example by utilising topography and trees to provide screening and backgrounding. Responses received from the general public suggested because of the perceived impact on the visual amenity the overhead line should be placed underground or the existing network be rationalised to take the new line.

Further detail on undergrounding is given in section 4.4 of this document.

The existing overhead 132kV pylon line cannot be modified to take further cables as the steel towers already carry the maximum number of conductors (wires). Pylon lines are designed to carry one or two circuits, each made up of 3 conductors plus an additional earth wire. The pylon line that runs between Wrexham and Oswestry already carries two circuits. Section 2 of the Consultation Document explains why a new single circuit overhead line is required.

Nature Conservation

A number of responses from the general public raised concerns over the impact the new overhead line may have on nature conservation interests in the area. Section 4 of the Consultation Document details the nature conservation sites taken into consideration during the routeing study. The next stage of the project, the EIA, will involve TEP carrying out more detailed ecological surveys along the route of the overhead line. The ES will report on the anticipated environmental effects of the proposed overhead line and will identify any appropriate mitigation to avoid, reduce or compensate for adverse effects.

Electric and Magnetic Fields

Electric and magnetic fields can be produced naturally or through human activity and are always present when electricity is used. EMFs can be harmful at very high levels but the fields produced by overhead lines and substations are relatively low.

Electric fields are produced by voltage (the pressure of the flow of electricity) whereas magnetic fields are produced by current (the flow of electricity). Higher voltages produce higher electric fields and higher currents produced higher magnetic fields.

SPM ensures all electrical infrastructure stays within Government guidance for exposure to EMFs. The Health Protection Agency (HPA) advises the Government on exposure levels for EMFs. In 2004 the HPA recommended the adoption of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) 'reference levels' for public exposure to EMFs. The ICNIRP levels are:

- 5000 volts per metre for electric fields
- 100 microteslas for magnetic fields.

Typical field levels from 132kV overhead electricity lines are detailed in the table below.

		Electric Field (volts per metre)	Magnetic Field (microteslas)
132kV overhead lines (smaller steel pylons and largest wood poles)	Maximum	4,000	40
	Typical (under line)	1,000 – 2,000	0.5 – 2
	Typical (25m to side of line)	100 – 200	0.05 – 0.2
	Typical (100m to side of line)	2 - 20	0.01 – 0.04

Typical magnetic field levels from appliances in the home are detailed in the table below.

	Magnetic Field (microteslas)	
	Close to appliances	1 metre away
Electric Razor	2000	0.3
Vacuum Cleaner	800	2
TV, Washing Machine, Microwave	50	0.2
Bedside Clock	50	0.02
Fridge	2	0.01

The ES will address further the possible effects relating to EMFs.

5. Selection of the Proposed Route

SPM and TEP have considered all the comments and responses made during the consultation process on the Preferred Route and Alternative Route and have selected a Proposed Route. This Proposed Route is based on the Preferred Route in the borough of Wrexham with the Alternative Route section through the borough of Oswestry.

The Proposed Route represents the best option for the overhead line which meets the requirements of the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economic system of electricity supply to its customers. The route selection process has identified a technically feasible and economically viable overhead line route which causes the least disturbance to people and the environment.

The Proposed Route follows a broadly north-south alignment through Wrexham Borough and the borough of Oswestry, in Shropshire. It passes through a small section of the district of North Shropshire, in the vicinity of St Martin's village. It is approximately 20.6km overhead

line, with 3km underground cable. The Proposed Route avoids settlements, areas of high amenity, cultural or nature conservation value, whilst maximising the potential of the existing landform and vegetation for screening purposes.

This Proposed Route will be taken forward to the EIA stage and an Environmental Statement produced which will report on the anticipated environmental effects of the proposed connection, addressing the issues that the Secretary of State identifies in the Scoping Opinion as important and incorporating appropriately detailed assessments.

6. Conclusions

The route consultation approach was successful in engaging consultee groups and the local community. The 3 exhibitions attracted people across the local authority areas and over 165 comments were received. Twenty of the 37 consultee groups approached replied. All statutory bodies responded and have no major concerns regarding the chosen route. Of the 165 responses received, 108 were objections to the overhead line with the remainder being comments on specific aspects of the project.

The main issues raised by consultee groups and members of the public have been addressed in this document. The issues surrounding Ifton Meadows LNR resulted in the route options being re-evaluated and an Alternative Route being identified for further investigation and consultation. The Alternative Route raised no objections from consultee groups but 56 responses were received objecting to it from local members of the public.

The Proposed Route, which incorporates the Alternative Route through Oswestry borough, is considered to be a technically and economically feasible route which causes the least disturbance to people and the environment.

Further work will be carried out in the form of the EIA and ES to ensure all potential environmental effects of the proposed connection are identified. Appropriate mitigation to avoid, reduce or compensate for adverse effects will be described.

APPENDIX 1C Scoping Report, November 2007

PROPOSED REINFORCEMENT TO THE ELECTRICAL DISTRIBUTION SYSTEM

132kV Overhead Line Between Legacy and Oswestry

Scoping Report

Report Reference TEP 700.110 Rev. C

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1.0 Introduction

- 1.1 SP Manweb has identified a need to reinforce the existing 132kV network which presently supplies electricity to 80,000 customers located in the area south of Wrexham.
- 1.2 Preliminary investigations indicate that this could be achieved through the establishment of a new overhead line connection between Legacy substation (near Wrexham) and Oswestry substation (on the northern outskirts of Oswestry). The proposed scheme would increase the capacity of the system whilst improving the quality, reliability and security of the region's electricity supply.
- 1.3 Desk-based investigation and field surveys were undertaken as part of an initial appraisal of the alternative overhead line connection routes. This initial 'Routeing Study' identified the preferred overhead line connection route. Public consultation on the route was undertaken in February 2007. In addition to exhibition material, a Consultation Document has been produced, which explains the project, the environmental characteristics of the study area and the process by which the originally preferred route was selected. This Scoping Report should be read in conjunction with the Consultation Document, and also with the Report on Consultations.
- 1.4 Following concerns raised during public consultation on the scheme, an alternative route was identified for the section between the Ceiriog valley and Gobowen, which avoided crossing Ifton Meadows Local Nature Reserve. This route was subject to public consultation during September 2007. This alternative route has been confirmed as the proposed route. An application will be submitted to the Secretary of State, the Department for Business, Enterprise and Regulatory Reform (BERR) for consent under Section 37 of the Electricity Act 1989 to construct the new overhead line. SP Manweb will voluntarily submit an Environmental Statement to accompany the application.
- 1.5 The Environmental Statement will be prepared in accordance with the Electricity Works (Environmental Impact Assessment)(England and Wales) (Amendment) Regulations 2007. This includes preparing a Scoping Report and requesting a Scoping Opinion from the Secretary of State, BERR.
- 1.6 This Scoping Report provides a brief description of the proposed route and sets out the potential effects on the environment that it is considered should be assessed, together with their proposed methods of assessment. An indicative structure for the Environmental Statement is included at Appendix A.

2.0 Consultation

- 2.1 Consultation is an integral part of the SP Manweb approach to line routeing, and many bodies, both statutory and non-statutory, have been consulted from the inception of the project and throughout design development. It is intended that all interested parties are given the opportunity to comment upon the 'scope' of the Environmental Statement at an early stage to ensure that potentially significant environmental effects are considered. Appendix B details the statutory and non-statutory consultees to whom the Consultation Document has been issued.

3.0 Project Description

Proposed Route

- 3.1 The proposed route follows a broadly north-south alignment through Wrexham Borough and the borough of Oswestry, in Shropshire. It passes through a small section of the district of North Shropshire, in the vicinity of St Martin's village. It is approximately 20.6km overhead line, with 3km underground cable. **Figure 1**, the proposed route plan, shows a route which avoids settlements, areas of high amenity, cultural or nature conservation value, whilst maximising the potential of the existing landform and vegetation for screening purposes.

Route From Legacy to Dee valley area

- 3.2 The preferred route leaves the substation as an underground cable, taking a south easterly route along the existing road system to Pentre Bychan via the B5097 Bronwylfa Road and B5426, Smithy Lane, up to its junction with the B5605, Wrexham Road. East of Wrexham Road it emerges onto a wood pole support and continues in a south-easterly direction across open farmland, to skirt around the northern boundary of Hafod Community Park(which is also Johnstown Newt Sites SAC) to Hafod Road. The route corridor here occupies a narrow strip of land between Hafod Community Park and the A483(T).
- 3.3 Crossing Hafod Road and the A483(T) in the vicinity of the bridge taking Hafod Road over the trunk road, the route continues in a south-easterly direction to a point west of the fishing lakes at Sontley. From here it would follow a more southerly route for approximately 1km before again heading in a south easterly direction through agricultural land, crossing Wat's Dyke, and then heading in a south-easterly direction between Moreton Below and Gyfelia. There are several farms and isolated properties within this area, and the route has been aligned to avoid close proximity to these properties.
- 3.4 Particular issues identified to be considered in detailed routing:
- Potential effect on several known archaeological sites in the vicinity of the substation during cable installation
 - Proximity to Johnstown Newt Sites SAC and Hafod Community Park
 - Potential tree loss where route is constrained between Hafod Tip and A483(T)

Crossing River Dee and River Ceiriog

- 3.5 From near Gyfelia, the route takes a south-easterly and then south-westerly direction in the vicinity of Park Eyton, in order to skirt around the edge of land within the Essential Setting of Wynnstay Park. It then takes a southerly direction through agricultural land following a clough woodland associated with a River Dee tributary. To the south east of Park Farm, the route changes direction to follow a south-westerly route beneath the existing 132kV and 400kV overhead lines and then turns south to a river crossing point in the vicinity of Coedleoedd Wood. This river crossing point utilises an existing break in the valley woodland and the proposed line is able to follow the natural topography.
- 3.6 From the River Dee crossing the route runs south through an attractive valley area associated with the River Ceiriog. The route through this area follows the natural contours of the valley along the valley floor to Tenement. It crosses the River Ceiriog just east of the hamlet, following a south-easterly alignment across the valley and exploiting a small break in woodland on the eastern valley side. Some tree removal may be necessary to widen this gap.
- 3.7 The route crosses beneath the existing 132kV power line south of Lower House Farm, and continues in a south-easterly direction across undulating fields to

cross the B5069 between the northern edge of St Martin's village and Street Dinas.

3.8 Particular issues identified to be considered in detailed routeing:

- Crossing of the River Ceiriog may require localised tree removal
- Proximity to northern and eastern fringes of St Martin's village

Approach to Oswestry Substation

3.9 The route crosses the B5068 (Ellesmere Road) immediately east of St Martin's, and turns to follow a south-westerly alignment through the Upper Wiggington area. It crosses the Shropshire Union Canal to the north of New Marton locks. From here the route runs south through lower lying land, passing to the west of the small settlements of Henlle and Hindford but adjacent to Fernhill Pastures SSSI and Butts Wood. It passes to the west of the listed building of Great Fernhill. From near Great Fernhill, the route runs in a westerly direction, crossing the main line railway and Whittington Road (B5009) and running through an area of agricultural land between Oswestry Orthopaedic Hospital to the north and Park Hall Farm and Oswestry showground to the south.

3.10 On crossing the A5 the route then runs parallel to this road in a southerly direction towards Oswestry substation. Due to the presence of numerous other distribution lines occupying the narrow corridor of land between Old Oswestry Fort and the A5, including an existing 132kv overhead line, the proposed route would be laid as underground cable from a point just east of the A5 crossing to its entry to Oswestry substation (approximately 1.4km).

3.11 Particular issues identified to be considered in detailed routeing:

- Close proximity to Fernhill Pastures SSSI
- Adjacent Butt's Wood (Great Fernhill) for c. 0.2km

Scheme Characteristics

3.12 The details of the proposed reinforcement scheme are relevant as these inform the extent of area affected and the likely nature of potential effects. These are detailed in the Consultation Document, and summarised below. **Figure 2** illustrates the proposed wood pole support types.

3.13 The pole support types to be used include wooden single poles and wooden H poles. Spans (distances between supports) vary between a minimum of 60m and a maximum of 135m, with an average span being 100m.

3.14 The statutory minimum ground clearance for a 132kV overhead line is 6.7m. The line must be designed to afford this clearance in all circumstances. Pole sizes will be in the range of 10.5m to 16m, with a further 2.5m in the ground. Steelwork and insulators to support the conductors will be fitted above, adding approximately 2m to the overall line height.

3.15 The largest H pole structure, for failure containment, comprises 2 poles, 6m apart. Some supports will need to be further secured with stays, extending the area of land take. The maximum land take for such a structure is approximately 160 square metres.

3.16 Erection of wooden poles requires excavation to position bracing, earth mats, and poles. Excavation is normally backfilled with the original materials, any surplus being removed from site.

- 3.17 Conductors (overhead lines) are strung under constant tension. The conductors are held aloft at all times and do not touch the ground or any other structures.
- 3.18 Wooden poles are transported on general purpose 4 wheel drive cross-country vehicles which have incorporated lifting devices. Drums of conductors are delivered as close as possible to pole sites, using similar vehicles or adapted tractors if necessary.
- 3.19 The maximum overall working area at pole installation sites is estimated to be 30m x 30m, including the largest area of permanent land take with stays and the working and passing area around this land take. Typically the working area along the whole corridor is much less, limited to the area used for vehicles passing between pole installation sites. Existing access tracks in use for farming and land management are used where possible. Storage requirements on site are typically contained within the overall working area.
- 3.20 Anticipated rate of progress of construction is three to four weeks per kilometre.
- 3.21 Noise levels generated during construction are likely to be low. The contractor will be required to maintain low noise levels in the vicinity of dwellings or other noise sensitive receptors by employing sufficiently silenced machinery and by distancing, or where practicable, screening noisy items of plant or activities.
- 3.22 Method statements will be issued to the contractor and rigorously applied for construction and/or dismantling in or near sensitive sites.
- 3.23 Generally a distribution line requires very little maintenance. It would be regularly inspected. Refurbishment is required after approximately forty years, depending upon local conditions.
- 3.24 Underground cables will be positioned within existing highways.

4.0 Environmental Issues and Scope of Assessment

Regulatory requirements

- 4.1 Regulation 4(1) of the Electricity Works (EIA) Regulations requires the applicant for a Section 37 consent to provide such of the information referred to in Part 1 of Schedule 4 to the Regulations as is reasonably required to assess the environmental effects of the development. In particular, the following information is required:
- 4.2 A description of the **environment likely to be significantly affected** by the development, including:
- population
 - fauna
 - flora
 - soil
 - water
 - air
 - climatic factors
 - material assets, including the architectural and archaeological heritage
 - landscape; and
 - the inter-relationship between the above factors.
- 4.3 A description must also be given of the **likely significant effects of the development** on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development.
- 4.4 Where significant adverse effects are identified, the Environmental Statement must include a description of **mitigation measures** envisaged.

Environmental Baseline

- 4.5 A description of the existing environment is given in the Consultation Document, Section 4 and accompanying Figures 4.1-4.12 inclusive.

Environmental issues to be considered

- 4.6 **Table 1** identifies those effects which are likely to be significant, and those not likely to be significant but which merit consideration in the ES. The proposed method of impact assessment is also outlined.

Aspects not included in scope

- 4.7 The following issues/aspects are considered unlikely to give rise to significant environmental effects, and will not be considered further within the impact assessment:

Air and climatic factors

- 4.8 The project is for a static item of distribution infrastructure. No significant effects on air or climatic factors are anticipated as a consequence of the existence of the project.

Hydrology/water quality

- 4.9 Any localised effects due to construction activity are considered unlikely to be significant. SP Manweb is committed to the production of an **Environmental Management Plan**, which will control details of working methods; to mitigate the detailed effects on the environment; to achieve appropriate restoration on

completion; and to apply any monitoring or control required by conditions attached to the Section 37 consent.

Dust

- 4.10 There is potential for localised generation of dust during the construction of the overhead line, due to vehicle movements and excavations. Earth movement will be controlled within the construction area to avoid unnecessary dispersal of dust. Any localised effects are considered unlikely to be significant.

Assessing the nature and significance of an effect

- 4.11 Assessment of whether the effect of the proposed overhead distribution line on any particular topic is likely to be adverse or beneficial is a matter of professional judgement, applied on a case-by-case basis.
- 4.12 The significance of a likely effect is a function of its character (magnitude, duration, etc.) and the value of the resource being affected. It is possible with some topics, such as noise or air quality, to use measurable, quantifiable guidelines or legislative criteria to establish the threshold at which an effect becomes significant. For many topics, however, the assessment of significance is more difficult because the effect has to be measured using a combination of quantitative and qualitative criteria, which are specific to the project and environment being considered.
- 4.13 For the purpose of this Environmental Statement, where there are no established guidelines or legislative criteria, effect will be categorised into:
- None - no detectable change to the environment
 - Minor - a detectable but non-material change to the environment
 - Moderate - a material but non-fundamental change to the environment
 - Major - a fundamental change to the environment.
- 4.14 Any effect of the proposal judged to be either major or moderate will be treated as significant in terms of the Electricity Works (EIA) Regulations. Any effect judged to be minor would not be considered as significant.

Further detail on scope of assessments

- 4.15 Consultations have taken place with Natural England and CCW regarding the scope of ecological baseline surveys, and with County Archaeologists regarding the extent and nature of baseline information gathering required to ensure an adequate assessment of impacts.
- 4.16 Appendix C outlines the proposed method of ecological impact assessment and the proposed scope of ecological baseline survey put forward to Natural England and CCW (*original TEP refs: 700.112, 700.086a and 700.087*).
- 4.17 Appendix D details the proposed scope of cultural heritage impact assessment (*original TEP ref: 700.102a*).
- 4.18 Appendix E details the proposed scope of landscape and visual impact assessment, and lists proposed viewpoints for assessment. Viewpoints will be discussed and agreed with Natural England, CCW and the relevant local planning authorities

5.0 Scoping Opinion

- 5.1 This Scoping Report constitutes a formal request for a scoping opinion from the Secretary of State, BERR, under Regulation 7(1) of the Electricity Works (Environmental Impact Assessment)(England and Wales) (Amendment) Regulations 2007.

Table 1: Potential Significant Environmental Effects and Proposed Method of Impact Assessment

Landscape and Visual	
Potential Environmental Effects	Direct physical changes to individual landscape elements Changes in landscape character Changes to existing views/visual amenity Changes to the character / quality of historic landscapes
Sources of Environmental Effects	Construction machinery / plant / scaffolding Overhead lines and wooden poles Felling of trees Temporary storage areas Access routes
Receptors	Local residents Visitors / tourists / ramblers Users of the A5, A539, other roads and the railway Designated sensitive landscapes
Prediction Method	Evaluate published landscape assessments Establish baseline landscape character and views along route of overhead line Establish the value and sensitivity of the landscape and its capacity to accommodate change Establish the importance of views and the relative sensitivity of receptors. Determine using information provided within the project design chapter the nature of the effect of the development on landscape and views, magnitude of the effect and its significance.
Significance Criteria	There are no specific significance criteria . Follow guidance in published material (see below)
Mitigation Measures	Recommend appropriate avoidance, reduction or compensation techniques e.g. planting schemes / landscaping – indicating expected time for this to become effective.
Sources of Information	Landscape Institute Guidelines for Visual Assessment (2002) The Countryside Agency Landscape Character Assessment Guidelines (2002) Shropshire County Council Landscape Assessment Wrexham LandMap 2004 Wrexham Landmap SPG (Mar 2007) The Countryside Agency Countryside Character Volume 5: West Midlands (1999)
Ecology and Nature Conservation	
Potential Environmental Effects	Loss and damage to vegetation during construction in sites of national, regional or local nature conservation importance e.g. River Dee SSSI, Wildlife Sites Localised wildlife disturbance to sensitive species and/or their habitats (including 'Priority' habitats, BAP species and protected species) resulting from the construction process and any on-going maintenance works Disruption to bird flight patterns / bird strike
Source of Environmental Effects	Overhead lines and wooden poles Removal of trees and other vegetation during construction and to maintain clearances during operation Ground excavations Movement of construction machinery / plant. Access roads
Receptors	Protected species Sites of national / regional and local nature conservation importance Species and habitats of biodiversity importance (identified during consultations)

Prediction Method	<p>Phase 1 habitat survey</p> <p>Determine presence of habitats of designated nature conservation importance</p> <p>Identify 'Priority' habitats and species</p> <p>Determine presence / absence of protected species e.g. bats, badgers, great crested newts following, where required, using Natural England/CCW guidance on survey techniques.</p> <p>Determine, using information provided within the project design chapter, the nature of the effect of the development on ecology, the magnitude of the effect and its significance.</p>
Significance Criteria	<p>The Hedgerow Regulations 1997</p> <p>The Wildlife and Countryside Act 1981</p> <p>EC Habitats Directive</p> <p>Conservation (Natural Habitats, & c.)</p> <p>The Countryside and Rights of Way Act 2000</p> <p>The Badger Act 1992</p> <p>PPS9: Biodiversity and Geological Conservation</p> <p>TAN5: Nature Conservation and Planning (1996)</p> <p>The approach for assessment follows '<i>Guidelines for Baseline Ecological Assessment</i>' (Institute of Environmental Assessment, 1995). The detailed methods for evaluation of impact significance follow IEEM '<i>Guidelines for Ecological Impact Assessment in the United Kingdom</i>' (version 7 July 2006).</p>
Mitigation Measures	<p>Where protected species would be affected, licences would be required from Natural England or the National Assembly for Wales. Appropriate measures to avoid, reduce or compensate for adverse environmental effects.</p>
Sources of information	<p>Shropshire Biodiversity Action Plan</p> <p>Wrexham Biodiversity Action Plan</p> <p>UK BAP</p> <p>WBG Vision BAP</p> <p>Gibbons et al (1993) The New Atlas of Breeding Birds in Britain and Ireland</p> <p>Breeding Bird Atlas (Shropshire Ornithological Society)</p> <p>IEEM '<i>Guidelines on Ecological Impact Assessment in the United Kingdom</i>' (version 7 July 2006)</p> <p>Information provided by Natural England (SSSI and SAC Citations, Ancient Woodland)</p> <p>Information provided by Countryside Commission for Wales (CCW) (SSSI and SAC Citations, Ancient Woodlands, Protected Species)</p> <p>Shropshire Wildlife Trust – Information on protected species and Wildlife Sites</p> <p>North Wales Wildlife Trusts – Information on protected species and Wildlife Sites</p> <p>RSPB consultation response regarding breeding waders and other birds.</p> <p>COFNOD (North Wales Environmental Information Service)</p>
Cultural Heritage	
Potential Environmental Effects	<p>Loss and damage to important archaeological / historical features / sites</p> <p>Visual effects on the setting of Scheduled Monuments, Listed Buildings and other archaeological/cultural heritage sites</p>
Source of Environmental Effects	<p>Construction of temporary access routes</p> <p>Earth movements during construction</p> <p>Ground excavations for erection of wooden poles</p> <p>Undergrounding of cables</p> <p>Presence of overhead lines and wooden pole support structures.</p> <p>Felling of trees</p>

Receptors	Scheduled Monuments Local Sites of Archaeological Importance Listed Buildings Conservation Areas Historic Landscapes, Parks and Gardens Unknown archaeological resources
Prediction Method	Desk based study and walkover survey along proposed route to determine the historical and archaeological potential along the route. Determine, using information provided within the project design chapter, the nature of the effect of the development on the archaeological potential along the route, the magnitude of the effect and its significance.
Significance Criteria	PPG15: Planning and the Historic Environment PPG16: Archaeology and Planning
Mitigation Measures	Watching brief may be required to be present during construction if there is potential for previously undiscovered sites of archaeological importance.
Sources of information	Local Plans and UDPs Historical Landscape Assessment County and Local Councils/CADW/RCAHMW/English Heritage
Soils and Land Management	
Potential Environmental Effects	Temporary disruption and disturbance from the construction process Reduction in area of productive agricultural land Soil disturbance/erosion Effects on cultivation patterns/sporting estates
Sources of Environmental Effects	Ground excavations/temporary soil moving Vegetation removal Overhead lines and wooden poles; stays Temporary storage areas and access roads Undergrounding of cables
Receptors	Land owners Soil
Prediction Method	Establish existing agricultural land quality along the route of the overhead line (DEFRA Agricultural Land Classifications), current agricultural land practices and soil properties Determine the potential for soil erosion/compaction during construction Non-confidential information on sporting estates from SP Manweb Wayleave Officers who will be discussing the possible effects with farmers as part of their wayleave negotiations. Determine, using information provided within the project design chapter, the nature of the effect of the development on land management and soils, the magnitude of the effect and its significance.
Significance Criteria	DEFRA Agricultural Land classifications PPS7: Sustainable Development in Rural Areas
Mitigation Measures	Reinstate land used for storage and temporary access roads.
Sources of Information	O/S Landranger and Explorer Maps (1:50000 and 1: 25000) DEFRA Agricultural Land Classification Maps, Soil and Geology Maps
Trees and Woodlands	
Potential Environmental Effects	Removal of trees or parts of woodland to enable construction and maintain minimum safety clearance from proposed overhead line Increase of windthrow risk
Sources of Environmental Effects	Vegetation removal Overhead lines and wooden poles; stays Temporary storage areas and access roads
Receptors	Tree/woodland stock of locality

Prediction Method	Desk based study of maps and site inspection along proposed route corridor to identify position and characteristics of woodlands and trees potentially affected. Site assessment to include an assessment of retention value of trees and woodlands. Determine, using information provided within the project design chapter, the nature of the effect of the development on woodlands, the magnitude of the effect and its significance.
Significance Criteria	No specific significance criteria.
Mitigation Measures	Location of supports to avoid trees identified as having high retention value, where possible. Replacement planting for any felling
Sources of Information	O/S Landranger and Explorer Maps (1:50000 and 1: 25000) Woodland records provided by Forestry Commission
Tourism and Recreation	
Potential Environmental Effects	Footpath diversions / re-routing Restrictions on angling Disruptions to tourist routes Effects on the setting of tourist destinations e.g. National Trust sites, historic parks and gardens
Source of Environmental Effects	Overhead line and wooden poles Access roads Storage areas
Receptors	Local residents Tourists/ramblers/visitors Anglers
Prediction Method	Establish existing tourism and recreational provisions and the value of those provisions, the recreational/tourism value of the landscape, Public Rights of Way, presence and importance of long distance footpaths/National Trails and usage of angling facilities. Determine, using information provided within the project design chapter, the nature of the effect of the development on tourism and recreational facilities within the area, the magnitude of the effect and its significance.
Significance Criteria	PPG17: Sport, Open Space and Recreation
Mitigation Measures	Avoid important recreational/tourist sites by modifying the route of the overhead line. Consider alternative footpath routes, recreational sites, and recreational/tourist facilities as compensation for any losses or disruptions to existing provisions. Reinstatement of footpaths/recreational sites up on completion of the development.
Sources of information	National Trust Local Authorities County Councils
Planning and Development Proposals	
Potential Environmental Effects	Conflict with proposed development Conflict with aims of statutory planning policy
Source of Environmental Effects	Construction of overhead line
Receptors	Plans and Policies

Prediction Method	Identify planning and development proposals within study area/route corridor where aims potentially conflict with overhead line routeing. Committed development defined as one for which full or outline planning permission has been granted. Planning proposals/designations considered where they can be found in an approved development plan or in a published consultative draft. Cut-off date for the inclusion within the ES to be the date on which SP Manweb receives the Scoping Opinion.
Significance Criteria	None applicable; judgement and consultation with LPA
Mitigation Measures	Avoidance of conflict wherever possible through route selection process.
Sources of information	Local Planning Authorities
Mineral Resources and Landfill Sites	
Potential Environmental Effects	Sterilisation of mineral resources Sterilisation of potential landfill sites
Source of Environmental Effects	Overhead lines and wooden poles Access roads
Receptors	Mineral Resource
Prediction Method	Establish the existing location of mineral resources and potential landfill sites along the proposed route. Determine, using information provided within the project design chapter, the nature of the effect of the development on mineral resources, potential landfill sites, closed landfill sites and contaminated land, the magnitude of the effect and its significance.
Significance Criteria	No specific significance criteria
Mitigation Measures	Diversion of line route to prevent sterilisation of a mineral resource or disturbance of contaminated land
Sources of information	Coal Authority Local Authorities County Councils
Infrastructure	
Potential Environmental Effects	Temporary disruption and disturbance from the construction process, affecting: <ul style="list-style-type: none"> • road useage • railway services • movements of boats along the Shropshire Union Canal • existing services e.g. telecommunications, gas pipelines, electricity distribution networks, waste water drainage systems, water mains • aircraft flight paths Permanent effects on area of land available and operational requirements associated with other infrastructure, including improvement / development schemes (e.g. possible A5 widening scheme)
Source of Environmental Effects	Overhead lines and wooden poles Scaffolding, construction equipment and plant Ground excavations Access roads
Receptors	Road, rail and canal users Statutory undertakers

Prediction Method	Establish locations of existing infrastructure. Establish proposals for A5 widening scheme Determine, using information provided within the project design chapter, the nature of the effect of the development on existing infrastructure and the A5 widening scheme, the magnitude of the effect and its significance.
Significance Criteria	County Council Guidance
Mitigation Measures	Measures to ensure that there is no effect on land and operational requirements associated with possible future A5 widening. Placing existing services e.g. telephone lines underground. Undergrounding or deviating the overhead line where it is not possible to achieve sufficient clearance to cross major roads, railways or canals using wooden pole supports.
Sources of information	Shropshire County and Wrexham County Borough highways departments' Codes of Practice, Specifications and Procedures
Physical Effects (EMF, Noise)	
Potential Environmental Effects	Effects of electric and magnetic fields (EMF) on human health Effects of EMF on livestock Effects of audible noise generated by electrical distribution line conductors Radio/television interference
Source of Environmental Effects	Operational equipment associated with high voltage overhead lines
Receptors	Local residents, workers and visitors to the area Local wildlife and livestock
Prediction Method	Use typical calculations of electric field strengths and magnetic field strengths, potential audible noise levels generated by proposed line design.
Significance Criteria	No statutory regulations in the UK limiting exposure of people to power-frequency electric or magnetic fields. Assess against National Radiological Protection Board (NRPB) field strength guidelines on level for human exposure.
Mitigation Measures	Follow current advice of Government and NRPB. Avoid any potential audible noise effects by routing away from inhabited property. Department of Trade and Industry (Radio Investigation Service)
Sources of information	NRPB and Government advice

Appendix A: Indicative Structure of Environmental Statement

Preface

Non-technical Summary

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For each topic the chapter will be structured:

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- Potential receptors
- Impact prediction

- Significance criteria
- Mitigation and monitoring

Part G: Negotiations with landowners

Part H: Conclusions

Part I: Appendices

- Consultees
- Glossary and abbreviations
- References and sources of information

Appendix B: Recipients of the Consultation Document

National Trust East Wales Area Office
Oswestry Ramblers Association
Shropshire Wildlife Trust
British Waterways, Wales & Border Counties
Shropshire County Council
North Wales Wildlife Trust
The RSPB (A Gouldstone)
The RSPB (C Wilkinson)
RSPB Wales
Forestry Commission North Wales
Forestry Commission Wales
Forestry Commission Ludlow Area Office
Royal Commission on the Ancient and Historical Monuments of Wales
DEFRA
NFU
NFU Office
Department of Trade and Industry
North Wales Fire Service
Highways Agency
BT
Dee Valley Water plc
Transco Wales and the West Network
National Grid Company Ltd
National Grid UK Gas Distribution
Wales & The West Utilities Ltd
Wrexham County Borough Council
Shropshire County Council
The Borough of Oswestry
North Shropshire District Council
Natural England
Countryside Commission For Wales
English Heritage
CADW
Clwyd-Powys Archaeological Trust
Environment Agency
Environment Agency Wales
Environment Agency (North West)

Appendix C: Ecological Impact Assessment Method and Proposed Scope of Baseline Surveys

A: Impact Assessment Methodology

The approach for assessment follows 'Guidelines for Baseline Ecological Assessment' (Institute of Environmental Assessment, 1995) and 'Guidelines for Ecological Impact Assessment in the United Kingdom' (Institute of Ecology and Environmental Management, version 7 July 2006)

Ecological impact assessment (EclA) is a means to identify, quantify and evaluate potential impacts of defined actions on ecological receptors; being ecological features or resources affected by a particular action or stress.

The traditional approach to assigning significance to an impact upon a receptor is to tabulate the value of the receptor versus the magnitude of the impact. Recently revised IEEM guidance specifically recommends against this approach for EclA.

In summary, the following procedure was undertaken during this ecological impact assessment:

- Identification and evaluation of ecological receptors;
- Identification of the predicted biophysical changes likely to affect the valued ecological receptors;
- Assessment of the significance of the biophysical changes predicted;
- Identification of the scope for refinement of the project to include avoidance, mitigation, amelioration, compensation and enhancement measures;
- Assessment of the predicted residual impacts upon the valued ecological receptors;
- Provision of advice on the consequences for decision making of the residual impacts based upon the value of the ecological receptor affected.

Ecological valuation determines the importance of ecological receptors. The value of an ecological receptor is used to determine the legal, policy and development control consequences of a significant impact. The criteria and standards used for determining whether ecological impacts are significant vary and are often subjective; IEEM EclA guidance defines a significant impact, in *ecological* terms, as

"an impact (adverse or positive) on the integrity of a defined site or ecosystem(s) and/or the conservation status of habitats or species within a given geographical area, including cumulative impacts".

Site integrity is defined in the Government Circular ODPM 2006/05 as

"...the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of species for which it was classified".

Baseline information – identification of ecological receptors

During assessment, the following nature conservation features will be considered:

- designated nature conservation sites (International, European and National);
- non-statutory nature conservation sites (Local Nature Reserves, Local wildlife sites)
- protected species (European and National); and

other habitats and species of conservation significance (UK/County Biodiversity Action Plan Species and Habitats).

The following have been identified through initial consultations and desktop survey as potential ecological receptors:

- Johnstown Newt Sites SAC (Stryt Las A'r Hafod SSSI)
- Lake Bala and River Dee SAC
- Fernhill Pastures SSSI
- Ifton Meadows Local Nature Reserve
- European Protected Species: Otter, Bats
- Nationally Protected Species: Great Crested Newts, Reptiles, Water Vole, Badgers, Birds
- UK BAP Species: Doormouse, Hedgehog

Determining value

The relative value and importance of ecological receptors are determined in accordance to a geographical frame of reference to provide consistency. The ecological receptor is considered valuable (or has the potential to become valued) on the following scale:

- International;
- UK;
- National;
- Regional;
- County (or Metropolitan);
- District (or Unitary Authority, City or Borough);
- Local or Parish; or
- Within immediate zone of influence only.

This frame of reference may be adjusted as appropriate to local frameworks, as indicated above.

The level of nature conservation value of a designated site is that assigned through its designation. The nature conservation value of feature designations, such as TPO's and important hedgerows, must be assessed independently of the statutory designation, which may also incorporate social, community and economic value.

In the case of habitats such as reedbeds, field boundaries and urban grasslands, which are prioritised in the UK and/or County BAPs, it is inappropriate to mechanistically assign them a national or county value. The appearance of these habitat types in a BAP is to guide conservation action and is not intended to imply importance of the habitat.

Baseline Ecological Surveys

Scope of baseline ecological surveys and scheme details as they relate to ecological receptors have been discussed with Natural England and CCW. Reports as issued to Natural England and CCW are copied directly into this appendix at section B (original TEP references: 700.087 and 700.086rev.A).

Impact assessment and mitigation

Impacts upon ecological receptors will be described as either positive or negative, and the scale of their importance will relate directly to the value previously determined for the ecological receptor (International, UK, national, regional, etc.) Where habitats or species are present in various parts of the route corridor, values will be applied to each section of the route (as the value may alter over the whole route corridor).

Impacts include those that are predicted to be direct, indirect, temporary, permanent, cumulative, reversible or irreversible. The assessment will be carried out based on the phase in which the impact is predicted to occur (i.e. construction, operation, etc.). The source, nature and duration of the predicted impact will be identified and the predicted effects on the receptors described.

Once impacts have been assessed and described, mitigation strategies and measures will be detailed and assessed. An indication will be given of whether a predicted impact can be mitigated or prevented (by avoidance), and residual impacts will be assessed. Mitigation recommendations will be provided where necessary to fulfil any legal requirements and follow relevant best practice guidelines.

Habitats Regulations Assessment: information to inform appropriate assessments

The indicative proposed route directly crosses the Lake Bala and River Dee SAC, and is immediately adjacent to Johnstown Newts Site SAC.

There may be a requirement to provide information to inform appropriate assessments to be completed subsequently by the competent authority under The Conservation (Natural Habitats &c) Regulations 1994 (the 'Habitats Regulations'). Should CCW/Natural England determine in their Scoping Opinion that there is a 'likely significant effect' on any of the SAC (Natura 2000) sites along the route (and therefore that appropriate assessments are required) a separate section setting out any such information requested will be included in the ES.

In order to carry out the 'Test of Likely Significance', CCW will need details of the method statement for the project for each of the European sites before an assessment can be made (CCW email 27.06.07).

B: Proposed Scope of Baseline Surveys

700.087 **Baseline Ecological Survey Requirements for Environmental Statement of 132kV Overhead Line Reinforcement between Legacy and Oswestry**

Introduction

1. TEP has been asked to provide advice to SP Manweb regarding the anticipated scope of baseline ecological surveys for the above project, including identifying where survey periods are seasonal/time critical.
2. TEP has considered the latest 'best practice' guidance on ecological impact assessment (IEEM guidelines, final draft February 2006). Together with our understanding of the nature of the project, this has enabled preparation of a draft scope for ecological baseline surveys for discussion and agreement with key nature conservation agencies (English Nature and CCW).

Ecological Information Provided Through Initial Consultations

3. The following species have been identified by consultees (Local authorities, English Nature, CCW, local wildlife groups) as having a potential presence and which may be adversely affected by the proposal within the routing study area:
 - Otters (EN, CCW)
 - Badgers (EN)
 - Great Crested Newts (EN)
 - Bats (roosts in large trees) (EN)
 - Reptiles (CCW)
 - Water voles (CCW)
 - Birds (CCW).
4. It was also noted by consultees that there are 'flyways' (routes used by birds flying, typically following features or landmarks) along the rivers Dee, Ceiriog and Perry, and the Shropshire Union Canal, all of which are crossed by the preferred route, although there is little information on species and usage of the flyways.

Scheme Details/Project Commitments

5. In order to consider the appropriate scope of surveys, the potential for effects on species of concern needs to be identified. The details of the proposed reinforcement scheme are relevant as these inform the extent of area affected and the likely nature of potential effects. These are considered below.

Scheme Detail Notes

6. Line supports will be predominantly wooden single pole or H pole structures. Spans (distance between supports) vary between a minimum of 60m and a maximum of 135m, with an average span being 100m.
7. The largest H pole structure, for failure containment, comprises 2 poles, 6m apart. Some supports will need to be further secured with stays, extending the area of land take. The maximum land take anticipated is [#m], comprising a H pole structure stayed with approximately [# number] stays.
8. Erection of wooden poles requires excavation to position bracing, earth mats, and poles. Excavation is normally backfilled with the original materials, any surplus being removed from site.

9. Conductors (overhead lines) are strung under constant tension, they are held aloft at all times and do not touch the ground or any other structures.
10. Wooden poles are transported on general purpose 4 wheel drive cross-country vehicles which have incorporated lifting devices. Drums of conductors are delivered as close as possible to pole sites, using similar vehicles or adapted tractors if necessary.
11. Anticipated rate of progress of construction is three to four weeks per kilometre. Storage requirements on site are typically contained within the overall working area. The maximum overall working area at pole installation sites is estimated to be 30m x 30m, including the largest area of permanent land take with stays and the working and passing area around this land take. Typically the working area along the whole corridor is much less, limited to the area used for vehicles passing between pole installation sites.
12. Existing access tracks in use for farming and land management are used where possible.
13. Noise levels generated during construction are likely to be low. The contractor will be required to maintain low noise levels in the vicinity of dwellings or other noise sensitive receptors by employing sufficiently silenced machinery and by distancing, or where practicable, screening noisy items of plant or activities.
14. Method statements will be issued to contractor and rigorously applied for construction and/or dismantling in or near sensitive habitats.
15. Generally a distribution line requires very little maintenance. It would be regularly inspected. Refurbishment is required after approximately forty years, depending upon local conditions.

Project Commitments

16. Commitments to work in a certain way or to confirm the final route with defined distances of working or excavation from features of potential ecological sensitivity (eg watercourses) can assist in ensuring potential effects are avoided, thereby reducing the need for ecological survey. The following project commitments are proposed:
 - Land take kept to a minimum and the movement of construction plant and personnel would be limited to designated access and working areas;
 - Scrub clearance programmed to take place out of the March-July bird breeding season;
 - Any new access tracks would be temporary and comprise inert or neutral stone on a geo-textile base.
 - Habitat reinstatement according to the advice of a professional ecologist (in valuable habitats only identified in Phase 1 Habitat Survey);
 - Risk of contamination through accidental spillages from construction vehicles controlled by observance of SP Manweb's Environmental Management Systems;
 - Construction compounds sited away from ecologically sensitive sites to reduce the potential for construction disturbance;
 - Bird flight diverters used where the line would cross significant open watercourses utilised by waterfowl and waders or where significant daily or seasonal bird movements can be predicted (advised by BTO);

Potential Effects

17. There is potential for adverse effects from the overhead line to occur on designated sites of nature conservation value and on other habitats of ecological value.

18. *Designated Sites and Habitats of Value*
Effects on designated sites and on other valued habitats may occur due to loss of habitat. Important direct loss of habitat is not likely to arise as there are only limited numbers and very small areas of footprints of pole supports. Indirect loss or change may occur due to excavation for installation and by compaction or installation of access tracks.
19. *Species of Nature Conservation Concern*
The following potential effects could arise on species of possible nature conservation concern as identified by consultees.

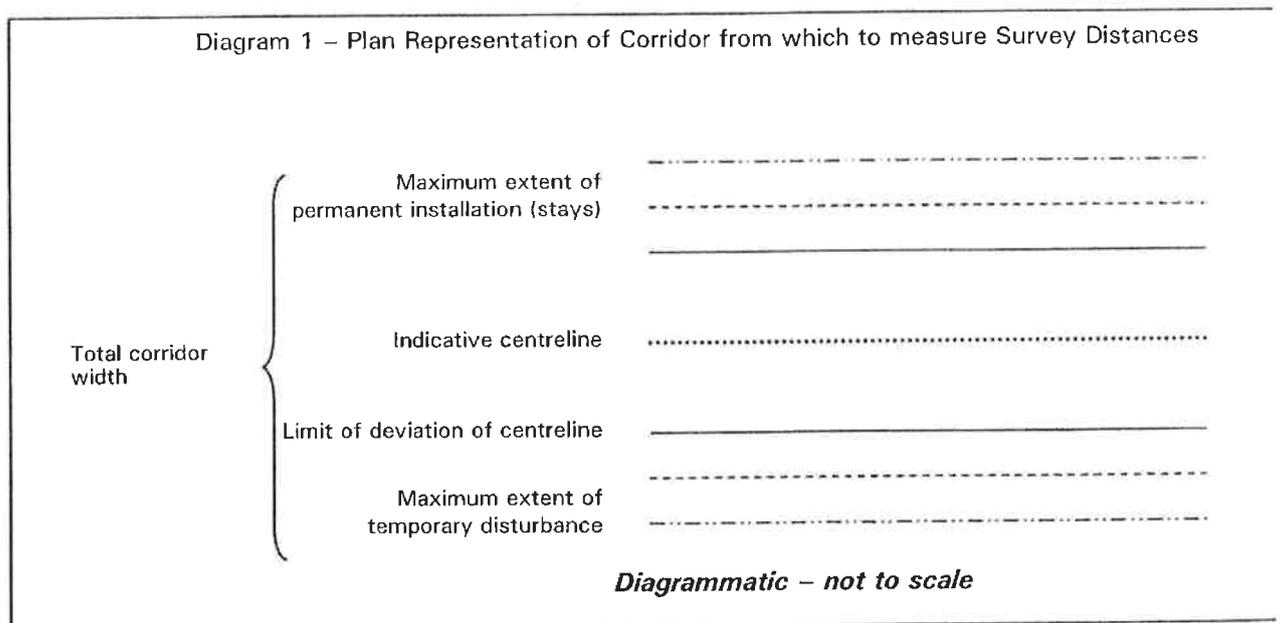
Table 1: Species of Nature Conservation Concern and Potential Effects

Species	Potential Effect
Otters	Disturbance, particularly to a breeding place (natal holt) or resting place (holt or couch). These are typically along rivers or streams and wetland habitat adjacent them. A minimum distance of 30m should be kept as an exclusion zone from a holt, with no working taking place in that zone. A DEFRA/Welsh Assembly Government licence is required for works which would cause disturbance to otters.
Badgers	Disturbance, particularly to a breeding or resting place (sett). A licence is required from English Nature (England) or CCW (Wales) for works with machinery or comprising excavations within 30m of an active sett. Licences are granted only for works to take place between July and November inclusive to avoid the badger breeding season.
Great Crested Newts	Disturbance to breeding areas (ponds) and foraging areas (typically rough grassland, scrub and woodland) within around 500m of a breeding pond. A licence is required from DEFRA/Welsh Assembly Government for works that could involve loss or destruction of newts or their habitat. This is generally considered to be within 500m of a known breeding pond, depending on the nature of the habitat to be disturbed. Licensed works could include use of newt fencing to exclude them from areas subject to line installation works.
Bats	Disturbance to roosting places. For the Legacy to Oswestry project, that would mean mature trees which show signs or potential for roosting bats (typically older deciduous trees with ivy or holes and/or areas of loose bark). If any trees have bat roosts, a DEFRA/Welsh Assembly Government licence will be needed to carry out the necessary lopping/felling.
Reptiles	Disturbance to resting or foraging places. As reptiles have wide ranges and are very mobile, and as the areas to be affected would be relatively small and only temporarily disturbed, potential for adverse effects is relatively low.
Water voles	Disturbance to habitat including watercourses and water vole burrows in their banks.
Birds	Loss or disturbance to habitat, particularly during the breeding season (typically between March and July inclusive). Obstructions over flyways could lead to increased collision risk.

Proposed Surveys

20. The proposed surveys need to consider the likely potential effects on receptors. As shown in Table 1 above, the key considerations are the proximity of potential habitat and the distances of areas of known sensitivity from areas where work will occur.

21. At this stage of the project, the precise route of the overhead line cannot be identified. An indicative centreline has been identified. From that centreline, degrees of tolerance can be identified which represent the maximum distance that the 'as built' centreline will be from the indicative centreline. Outside of the centreline will be an area in which permanent installations will occur. These include the excavations for the supports and their bracing and the extent of stays.
22. Further beyond this distance will be the working area within the corridor, where temporary effects may occur. It is important to identify these zones, shown indicatively at Diagram 1, prior to survey. This represents the total potential area affected by the works, from which the distances identified for species in Table 1 may apply. Additionally, access tracks to be used from adjacent roads and to avoid tracking over the middle of fields need to be considered. The extent of effects that may arise from use of tracks varies depending on whether the tracks are existing and to be trafficked using vehicles similar to those already in use (eg tractors and agricultural equipment) or whether new trackways will be installed.
23. The proposals for survey are presented in table ref. 700.086 Rev A. The table uses the basis for assessment as presented in the guidance on Ecological Impact Assessment set out in the latest Draft Guidance from the Institute of Ecology and Environmental Management.



700.086rev A: Legacy – Oswestry Reinforcement: Suggested Scope of Baseline Ecological Surveys

Ecological resource	Area to be Surveyed	Survey Timing Implications	Survey Method	Likely biophysical changes affecting resource
Designated sites of nature conservation importance	500m either side of route centre line	None	Desk based survey Consultation with EN & CCW	SACs – none anticipated as route avoids Johnstown Newt Sites SAC in Wrexham and crosses the Lake Bala and River Dee SAC (watercourse only is designated) in two locations (crossing River Dee and River Ceiriog) via overhead line. Work will be from either bank, with no temporary bridging required. <i>Should support poles and/or stays need to be positioned on the riverbank, 'project commitments' would need to include that construction methods would prevent any material entering the water/affecting water quality.</i>
Ifron Meadows Local Nature Reserve	a) Extent of LNR affected b) Total extent of corridor plus 20m each side	a) May-June; two visits; b) March-Sept	a) BTO Method for Breeding Bird Survey (1999) – transects and point counts b) Phase 1 Habitat Survey, (JNCC 2003 guidance)	CCW/EN will need to carry out a 'test of significance' of proposals upon Johnstown Newt Sites SAC and Lake Bala and River Dee SAC, based upon project information provided by SP Manweb, to determine whether or not an Appropriate Assessment is required. A method statement will be required for crossing River Dee SAC. SSSI – none, avoidance of Stryt Las A'r Hafod (Wrexham) and Fernhill Pastures (Shropshire); as above for River Dee. County Wildlife Sites – none, avoidance. Ancient Semi-Natural Woodland – none, avoidance LNR is being actively managed for skylark and meadow pipit – ground nesting birds. Potential disturbance of nesting sites/habitat during construction.
a) Breeding Birds				Needs to be discussed with LNR management. It may be sufficient desk records exist to avoid survey, or project commitment regarding timing of works may mean survey is unnecessary.
b) Heathland habitat				

Ecological resource	Area to be Surveyed	Survey Timing Implications	Survey Method	Likely biophysical changes affecting resource
Valuable habitats/flora	Total extent of corridor	Mar- Sept for field survey	Desk study of species records for flora listed on Annex 1 of EC Habitats Directive or international Red Data Books; on Schedule 1 of W & C Act, Red Data Book Species, Nationally Scarce Species, Species of County Importance. Phase 1 Habitat mapping and Target Notes	Construction phase: Damage due to temporary access tracks and excavations for support structures. (temporary loss?)
Badgers	Route corridor plus 30m either side	Preferably March-April when activity is high and plant growth low.	Walkover survey to identify presence of badger setts, signs of badger activity, as part of Phase 1 Habitat survey.	Construction phase: Disturbance, temporary loss of foraging habitat. Will seek to avoid working within 30m of any sett and obtain an appropriate licence where this is unavoidable.
Bats	Mature trees within route corridor (as these could be felled)	Preferably when trees are bare (Nov-Apr)	Visual inspection from the ground for bat roost signs or potential, by EN licensed bat surveyor.	Construction phase: Tree felling or lopping could affect bat roosts. Once the exact alignment of the route has been determined, trees which need to be lopped or removed and assessed as having bat roost potential would be dismantled or felled (as appropriate) under the direction of an ecologist. This would be undertaken at a time of year when bats are most able to relocate (in April and in October, but weather dependent). Where necessary, mitigation measures such as bat boxes would be provided in advance of this operation. Removal of these trees at the appropriate time removes the need for emergence surveys.
Birds	Whole corridor	As for habitat survey	Consultations with BTO, RSPB, Local Wildlife Trusts Habitat survey as for Phase 1	Construction phase: Temporary disturbance during the breeding season for, at most, one breeding season. Loss of mature trees used as nesting sites. Diverter can be fitted over water course flyways or monitoring to assess collisions at advice of conservation agencies.

Ecological resource	Area to be Surveyed	Survey Timing Implications	Survey Method	Likely biophysical changes affecting resource
Great Crested Newts and other amphibians	Route corridor plus 150m either side	Between mid-March and mid-June	Visual survey of ponds/waterbodies including habitat survey form and photographic record, combined with egg searching of all ponds within survey zone.	Ponds avoided during routing, minimal impact upon aquatic phase. Construction could have impact upon newt movement and disturbance during their terrestrial phase (in areas of suitable newt habitat only). Whilst EN recommends survey of all ponds within 500m of development, level of anticipated impact of OHL construction is relatively low, allowing for reduced spatial scope of survey (to be agreed with EN/CCW).
Otters	Water course sections (including banks and adjacent habitat) within route corridor and 30m either side.	Ideally May-September (water levels less variable); need 5 dry days pre-survey for field signs	Walkover survey to identify otter holts and field signs (spraints & footprints, couches), and habitat with potential for otters.	Disturbance of otters with young or at rest during construction phase. Will seek to avoid working within 30m of an otter holt or couch, and obtain an appropriate licence where this is unavoidable. Disturbance of otter movements during construction phase: Prohibition of night working to minimise disturbance.
Reptiles				Temporary disturbance during construction phase not considered significant, therefore no survey required.
Water Voles	Watercourse s, ponds and ditches within route corridor plus 30m either side	April-Sept	Survey for field signs around ponds, ditches, watercourses in accordance with Water Vole Conservation Handbook method (revised 2003).	Damage to habitat due to creation of temporary crossings of minor watercourses/ditches where existing crossings cannot be used.

Appendix D: Proposed Scope of Cultural Heritage Impact Assessment

Consultations

In May/June 2004 Borough Councils and other agencies in the area were contacted, given details of the project and requested to provide baseline data which would assist in the identification of route options. This request for information was based on a broad study area.

The following organisations have provided information relating to cultural heritage for the wider study area as summarised below:-

Wrexham CBC:	Archaeological sites
Shropshire CC:	Listed buildings; Historic Landscape Character types (draft)
Oswestry BC:	Extracts from Local Plan and SCC Environmental Constraints Map
North Shropshire DC:	Sites of Archaeological Importance (map)
English Heritage:	Scheduled Monuments
Cadw:	Scheduled Monuments
RCAHMW:	Printout from NMR of Wales
CPAT:	Archaeological sites.
National Trust:	Plans showing extent of Erddig & Chirk estates and inalienable land.

Existing heritage resources

Cultural heritage information provided by the above and used in the route selection process is included within the Consultation Document, Section 4: Environmental Inventory.

Archaeological Contractors

Following consultations with Wrexham CBC Archaeological Officer (Karina Kucharski) and Shropshire CC SMR Officer (Penny Ward), Oxford Archaeology, an IFA registered practice, has been appointed to undertake the cultural heritage assessment. (OANorth is included on Wrexham CBC list of archaeological contractors operating in the Wrexham area; Shropshire CC do not operate a select list, but stipulate that contractors should be IFA registered).

PROPOSED SCOPE OF WORKS

Archaeological and cultural heritage assessment will involve desk-based assessment and field assessment of the baseline conditions. The results of both methods of study will be integrated into a report that details the known archaeological and cultural heritage sites within the study corridor. The potential for unknown sites is also to be assessed. The report will indicate the relative significance of any archaeology present, degrees of site sensitivity to the development and recommendations for mitigation and monitoring measures during the course of the project.

The archaeological assessment methodology will involve consultation with Wrexham and Shropshire County Archaeologists. The details of the method will be finalised through consultation with all relevant interested parties and will result in a written scheme of investigation.

The possible effects on the archaeology and cultural heritage considered to be relevant are:

- construction effects resulting in direct loss, including unobserved loss from ground disturbance;
- post-construction visual effects on the setting of the monument or site.

In considering these potential impacts, the following features will be considered:

- statutorily designated sites;
- non-statutorily designated sites;
- unrecorded sites identified through field assessment

- archaeologically important hedgerows (identified in accordance with the Hedgerows Regulations 1997).

Baseline information

The following will be considered:

- All statutorily designated sites (Scheduled Monuments, listed buildings and conservation areas, registered historic parks and gardens)
- Non-statutorily designated sites
- archaeologically important hedgerows (identified in accordance with the Hedgerows Regulations 1997).

Assessment Criteria and Method

Desk based assessment will be undertaken for a 1km wide corridor along the preferred route in order to establish the baseline environment.

Field assessment will seek to clarify the character, location and extent of known archaeological sites and identify unknown sites through field assessment. A 100m wide corridor will be systematically walked by a team of professional archaeologists to identify archaeological sites. This comprises an 80m corridor within which poles may be positioned, plus 10m either side to allow for stays and access tracks. In areas where significant sites are known to be present within the corridor, a wider corridor may be walked to collect sufficient information for developing mitigation measures. Where sites are identified they will be recorded by a combination of written record, using pro-forma site recording sheets, and where appropriate photographically.

Assessing archaeological importance

Some SMRs contain an assessment of importance/significance of sites. Where these are available they will form the basis for impact assessment. Where prior assessment is absent, importance would be assessed through the exercise of professional judgement in relation to the criteria applicable to Scheduled Monuments, namely:

- survival/condition
- period
- group value
- rarity
- situation
- multiperiod/single period status
- fragility/vulnerability
- documentation.

Importance	Examples of receptor
International and National	World Heritage Site, Sites of International importance Scheduled Monuments (SMs), Grade I and II* Listed Buildings, Sites of National importance
Regional/County	Conservation Areas, Registered Parks and Gardens (Statutory Designated Sites), Grade II Listed Buildings, Sites of Regional/County importance Sites and Monuments Record/Historic Environment Record
Local/Borough	Sites with a local or borough interest Sites with a borough value or interest for education or cultural appreciation Sites that are so badly damaged that too little remains to justify inclusion into a higher grade

Importance	Examples of receptor
Low local	Sites with a local or parish interest Sites with a low local value or interest for education or cultural appreciation Sites that are so badly damaged that too little remains to justify inclusion into a higher grade
Negligible	Sites or features with no significant value or interest. Sites which are so badly damaged that too little remains to justify inclusion into a higher grade.

Table 1: Criteria used to determine Importance of Receptors

The sensitivity of the archaeological resource will depend upon factors such as the condition of the site and the perceived heritage value/importance of the site.

Assessment of effects and identification of potential impacts

The nature of effects will be assessed for the proposed development, with the main types of potential significant impact on sites of archaeological interest being:

- direct impact: physical damage, generally irreversible, to recorded sites and the unknown resource;
- indirect: visual intrusion on archaeological and cultural heritage sites or features, or landscape change affecting their setting. The assessment of effects on setting requires an understanding of the function of the site and its current cultural importance.

The predicted magnitude of effects will be assessed as follows:

Scale of Impact	Description
Substantial	Significant change in environmental factors; Complete destruction of the site or feature. Change to the site or feature resulting in a fundamental change in ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting, or causing statutory objectives to be exceeded
Moderate	Significant change in environmental factors; Change to the site or feature resulting in an appreciable change in ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting
Slight	Change to the site or feature resulting in a small change in our ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting
Negligible	Negligible change or no material changes to the site or feature. No real change in our ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting

Table 2: Criteria used to determine Scale/Magnitude of Impact

Significance of potential impacts

The significance of potential impacts will be assessed by taking into account the sensitivity of the archaeology or built heritage and the magnitude and nature of the potential impact upon this resource.

The interaction of the scale of impact (Table 2) and the importance of the receptor (Table 1) produces the impact significance (Table 3). This is calculated by using the matrix table as shown below:

Resource Value (Importance)	Scale of Impact Upon Receptor		
	Substantial	Moderate	Negligible
International	Major	Major	Minor
National	Major	Major	Minor
Regional/County	Major	Major/Intermediate	Minor/Neutral
Local/Borough	Intermediate	Intermediate	Minor/Neutral
Local (low)	Intermediate-Minor	Minor	Neutral
Negligible	Neutral	Neutral	Neutral

Table 3: Impact Significance Matrix

The effects are categorised according to the established seven-point scale and terminology of Major, Intermediate and Minor Beneficial and Adverse and Neutral effects set out below (Table 4):

Nature of Impact
Major beneficial (positive) effect
Intermediate beneficial (positive) effect
Minor beneficial (positive) effect
Neutral effect
Minor adverse (negative) effect
Intermediate adverse (negative) effect
Major adverse (negative) effect

Table 4: Impact Significance Category

The impact significance category for each identified receptor or feature will also be qualified, and recommended mitigation measures will be provided, where possible at this stage, to impacts that are of moderate significance or above. Any measures to reduce any impact will be promoted in the report. It is also normal practice to state that impacts above moderate significance are regarded as significant impacts. It is very important that the residual impact assessment takes into consideration the ability of the mitigation to reduce the impact, its likely success and the developer's commitment to this.

It is considered important to attribute a level of confidence by which the predicted impact has been assessed. For the purpose of this assessment, the criteria for these definitions are set out in the table below.

Confidence Level	Description
High	The predicted impact is either certain, ie a direct impact, or believed to be very likely to occur, based on reliable information or previous experience.
Low	The predicted impact and it levels are best estimates, generally derived from the experience of the assessor. More information

	may be needed to improve the level of confidence.
--	---

Table 5: Impact Prediction Confidence

Mitigation

Where avoidance of effects is not possible, recommendations will be made for measures to reduce or remedy significant adverse impacts. In archaeological terms, the mitigation aims to avoid, lessen or repair an impact or adverse effect on the archaeological resource. Options for mitigating effects include preservation *in situ*, investigation to preserve by record, enhancement.

The mitigation strategy will include a series of principal archaeological objectives to mitigate all identified significant effects of the proposed development. The best option is to preserve any significant resource *in situ* where possible. Where this is not possible or desirable and alternative options exist they will be discussed and recommendations made as to the most appropriate approach.

Archive

The results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the HER (the index to the archive and a copy of the report).

Appendix E: Proposed scope of landscape and visual impact assessment and suggested viewpoints

Landscape Assessment Method

Landscape effects are the outcome of physical changes to the fabric of the landscape arising from the development, such as the addition, removal or alteration of structures, trees or woodlands and forests, which may alter the character and the perceived quality of the area affected.

Landscape impact assessment considers these effects on the integrity and character of the landscape as a whole. It considers both the individual components of the landscape and the overall structure and coherence of the landscapes affected.

The landscape impact assessment methodology will be in accordance with the Guidelines for Landscape and Visual Assessment published by the Landscape Institute with the Institute of Environmental Management and Assessment (2nd Edition, 2002).

Possible effects on the landscape considered to be relevant are:

- physical changes to landscape elements (such as removal of a group of trees);
- changes to the composition of elements that may disrupt a distinctive local pattern
- introduction of man-made elements into a landscape perceived as wild or untouched
- effects on designated landscapes.

Baseline information

An inventory of designated and valued landscapes and an identification of areas of differing landscape character within the study area will be compiled from published assessments, and the landscape character assessment validated and refined where appropriate by site visits.

The preferred route corridor does not affect any nationally designated areas of landscape value.

Areas of regional or local importance, such as Areas of Great Landscape Value are designated by the relevant local authority to safeguard locally important areas of scenic quality from inappropriate development. The route corridor affects an Area of Special Landscape Character (Oswestry BC) and two Special Landscape Areas (Wrexham CBC).

In the planning system, the effect of proposed development upon a site on the current registers of historic parks and gardens, compiled by English Heritage and Cadw/CCW/ICOMOS, is a material consideration. The preferred route corridor is within the vicinity of four Registered Historic Parks and Gardens: Erddig, Wynnstay, Brynkinalt and Pen-y-lan.

Where the landscape is not designated, impact assessment will relate to areas of landscape character defined in published assessments (Wrexham CBC and Shropshire CC).

An evaluation will be made of the importance or value of elements and character, the condition or quality of the landscape and also its capacity to accommodate change without significant effects upon its character.

Landscape value assessment is concerned with the relative value that is attached to different landscapes. In a policy context the usual basis for recognising certain highly valued landscapes is through the application of local or national designations. In non-designated landscapes the aim is to reflect the value of the landscape at a specific scale, identify the receptors to which it is important, and why the landscape is important to them.

Landscape condition (or quality) is a factual description of the physical state of the landscape, and about its intactness, from visual and functional perspectives, also with reference to ecology.

Landscape sensitivity refers to the degree to which it can accommodate change without detrimental effects on its character. This sensitivity varies with:

- Existing land use;
- The pattern and scale of the landscape;
- Visual enclosure/openness of views, and distribution of visual receptors;
- The scope for mitigation, which would be in character with the existing landscape;
- The value placed on the landscape.

Assessment of impact: a) magnitude of effects

Impact assessment describes the likely nature and scale of changes to landscape elements and characteristics and consequential effects on landscape character resulting from the proposed development. A distinction is made between the scale of effect (e.g. large/medium/small); its nature (adverse or beneficial; negative or positive); and its duration (short, medium, long-term/permanent or temporary). More weight is usually given to effects that are greater in scale and permanent or long-term. In assessing the duration of the effect, consideration is given to the effectiveness of mitigation, particularly where planting is proposed for screening purposes.

Table 1: Criteria for Assessment of Magnitude of Effects

Magnitude of Effect	Typical criteria
High	Total loss of or major alteration to key elements/features/ characteristics of the baseline i.e. pre-development landscape or view and/or introduction of elements considered to be totally uncharacteristic when set within the attributes of the receiving landscape.
Medium	Partial loss of or alteration to one or more key elements/features/ characteristics of the baseline landscape or view and /or introduction of elements that may be prominent but may not necessarily be considered to be substantially uncharacteristic when set within the attributes of the receiving landscape.
Low	Minor loss of or alteration to one or more key elements/features/ characteristics of the baseline landscape or view and/or introduction of elements that may not be uncharacteristic when set within the attributes of the receiving landscape.
Negligible	Very minor loss or alteration to one or more key elements/features/ characteristics of the baseline landscape or view and/or introduction of elements that are not uncharacteristic with the surrounding landscape – approximating to the 'no change' situation.

(Source: LI/IEMA 2002, p145)

b) Significance of landscape effects

Having identified the effects, the significance of these effects is evaluated. Significance is not related to an absolute scale but is a judgement according to criteria defined in terms of each development and its location. The two principal considerations in determining significance are the scale or magnitude of effect and the sensitivity of the location or receptor.

The significance of landscape effects has been judged according to the criteria outlined below in Table2:

Table2: Guidance on Significance of Landscape Effects

Significance	Definition
Severe adverse	The proposed scheme would result in effects that: Are at a complete variance with the landform, scale and pattern of the landscape; Would permanently degrade, diminish or destroy the integrity of valued characteristic features, elements and/or their setting; Would cause a very high quality landscape to be permanently changed and its quality diminished.
Major adverse	The proposed scheme would result in effects that: Cannot be fully mitigated and may cumulatively amount to a severe adverse effect; Are at a considerable variance to the landscape degrading the integrity of the landscape; Will be substantially damaging to a high quality landscape.
Moderate adverse	The proposed scheme would: Be out of scale with the landscape or at odds with the local pattern and landform; Leave an adverse impact on a landscape of recognised quality.
Minor adverse	The proposed scheme would: Not quite fit into the landform and scale of the landscape; Affect an area of recognised landscape character.
Neutral	The proposed scheme would: Complement the scale, landform and pattern of the landscape; Maintain existing landscape quality.
Minor beneficial	The proposed scheme has the potential to: Improve the landscape quality and character; Fit in with the scale, landform and pattern of the landscape; Enable the restoration of valued characteristic features partially lost through other land uses.
Moderate beneficial	The proposed scheme would have the potential to: Fit very well with the landscape character; Improve the quality of the landscape through removal of damage caused by existing land uses.

(Source: LI/IEMA 2002, p140)

Visual Impact Assessment Method

The visual impact assessment methodology will be in accordance with the Guidelines for Landscape and Visual Assessment published by the Landscape Institute with the Institute of Environmental Management and Assessment (2nd Edition, 2002).

Baseline information

The first stage in visual impact assessment is to establish the extent and nature of existing views of the proposed route corridor from principal representative viewpoints, and the nature and character of the visual amenity of the potentially sensitive visual receptors (or viewers). This involves defining the zone of visual influence, which is the area approximately from which it is estimated that the overhead line will be visible. This is undertaken initially through analysis of topography, followed by field survey to verify the extent of potential visibility, identify features which might screen views, and to identify potential visual receptors.

Field survey work for the visual assessment is carried out at the same time as the landscape assessment. No access to properties is sought and the assessment is

therefore based on a best assumption from publicly accessible locations outside or close to properties.

Visual receptors

An analysis of the importance and sensitivity of visual receptors forms part of the baseline information for visual assessment.

Visual receptors include:

- Users of recreational landscapes/public footpaths and bridleways including tourists and visitors;
- Residents;
- Users of public sports grounds and amenity open space;
- Users of public roads, railways, canals;
- Workers (in their workplace).

Views of and from within valued landscapes are also considered to be visual receptors (LI/IEMA, 2002).

Valued landscapes: designations

There are two levels of designation designed to protect areas of recognised high quality landscape or scenic value in England and Wales: national and regional/local. There are no National Parks or Areas of Outstanding Natural Beauty within the study area. Areas of regional or local importance, such as Areas of Great Landscape Value are designated by the relevant local authority. The route corridor affects an Area of Special Landscape Character (Oswestry BC) and two Special Landscape Areas (Wrexham CBC).

In the planning system, the effect of proposed development upon a site on the current registers of historic parks and gardens, compiled by English Heritage and Cadw/CCW/ICOMOS, is a material consideration. The preferred route corridor is within the vicinity of four Registered Historic Parks and Gardens: Erddig, Wynnstay, Brynkinalt and Pen-y-lan.

Sensitivity

Sensitivity of visual receptors depends upon location of viewpoint, expectations and activity of the receptor and the importance of the view (its appearance in guidebooks, on tourist maps, in facilities provided for its enjoyment and references to it in literature or art).

Guidance indicates that the most sensitive receptors may include:

- Users of all outdoor recreational facilities including public rights of way, whose attention or interest may be focused on the landscape;
- Communities where the development results in changes in the landscape setting or valued views enjoyed by the community;
- Occupiers of residential properties with views affected by the development.

In this process, lower storey views from residential properties are generally more sensitive than upper storey views, as these are the rooms in which residents spend more time experiencing the view. (This is not universally the case as some residences have living rooms on upper storeys.)

Most land use planning regimes consider that public views are of greater value than views from private property.

Selection of viewpoints

Viewpoints for detailed visual assessment will be selected deliberately to give a representative sample of the following:

- a balance of viewpoints from either side of the line;
- a proportion close to the proposed line (where poles are in the foreground and middle-ground of the view)
- a similar proportion further from the proposed line (where poles are in the middle-ground or background of the view)
- views from residential areas must be considered
- views from identified recreational resources within the zone of visual influence
- important historical or cultural sites must be identified and the effects on their setting considered.

Areas where a greater number of viewers may be present (e.g. main roads, edges to built-up areas) will also inform the selection of viewpoint locations.

A preliminary list of viewpoints is proposed at the end of this document. The locations will be discussed and confirmed with the relevant authorities (local planning authorities, Natural England and CCW) prior to assessment.

Photomontage illustrations

For a selection of the above viewpoints, photomontages will be created to illustrate the proposals, and to aid understanding of anticipated visibility effects by readers of the environmental statement.

Assessment of impact

Assessment of impact involves identification of the nature of the change in view, in terms of:

- Extent of view
- Proportion of development visible
- Distance
- Whether views are transient or one of a sequence of views.

The analysis should also define the scale or magnitude of visual effects by considering:

- Scale of change of view (proportion occupied by development)
- Degree of contrast or integration
- Duration/nature
- Angle of view
- Distance
- Extent of area over which changes are visible.

Magnitude of effect has been evaluated using the same criteria for assessment presented in Table 1 of this appendix.

Distance or proximity is a very important factor when viewing a distribution line in the landscape and has a bearing on the assessment of magnitude of change. The apparent height of a wood pole line in the landscape varies inversely with the distance from the viewer.

At a distance of 2km, a 13m high structure has an apparent height of 6.5mm and it generally appears to merge into the background. Experience indicates that the most significant views of a wood pole line are likely to be experienced within a distance of 1km. However, longer distance views may also be of significance, particularly where a distribution line is viewed above the horizon – i.e. on the skyline. In many instances, topographic features will limit the overall visibility of a distribution line. The principle of intervisibility can be used to assess overall visibility, whereby points visible from the proposed pole location will also have views back to the proposed pole.

Significance of visual effects

The significance of visual impacts is a function of the nature, scale/magnitude of effect and the sensitivity of the receptor. In establishing a judgement, general guidance given in LI/IEMA 2002 has been adopted as follows:

- Large-scale changes which introduce new, discordant or intrusive elements into the view are more likely to be significant than small changes or changes involving features already present in the view.
- Changes in views from recognised and important viewpoints or amenity routes are likely to be more significant than changes affecting other less important paths and roads.
- Changes affecting large numbers of people are generally more significant than those affecting a relatively small group of users. However, in wilderness landscapes the sensitivity of the people who use these areas may be very high and this will be reflected in the significance of the change.

Significance of impacts has been considered in the context of the following comparative scale:

- An impact of high significance is generally recorded where a large magnitude of change occurs to a sensitive receptor. In this instance, this would be where the new development would appear clearly in a view which at present has the open land as a large part of its view.
- An impact of moderate significance is generally recorded where a medium magnitude of change is experienced by a receptor of high or moderate sensitivity. In this instance, this would be where parts of the development would be visible in a view but the new development would not comprise a large part of the view.
- An impact of low significance generally relates to a low magnitude of effect and often relates to a change in a distant view or one which is already screened to a large extent.

Mitigation

Mitigation is embodied in the detailed design of the proposed route. In selected locations the management of existing vegetation or the planting of new trees, shrubs and hedgerows may be proposed to mitigate adverse visual effects.

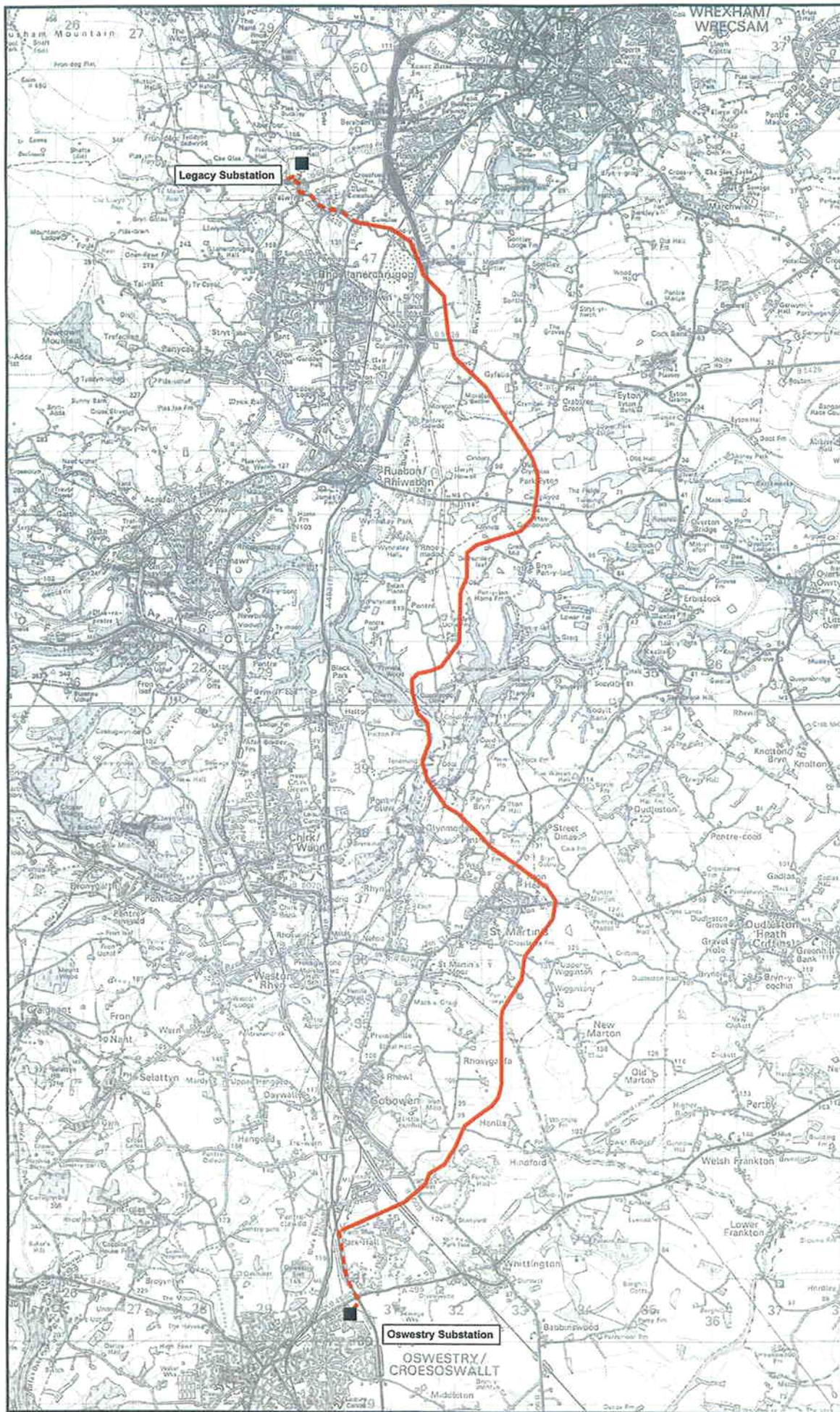
Preliminary list of viewpoints *(to be discussed with Natural England, CCW and Local Planning Authorities)*

Proposed Route: Preliminary list of viewpoints for visual impact assessment

Ref.	Description/location	Reason for selection	Distance from centre line	West or east of line?
1	View from Wrexham Road (B5605), Pentre Bychan, looking east towards Hafod community woodland	Start of OHL	On	W
2	Hafod-y-bwch, Corkscrew Lane, looking N (towards Bersham tip)	Adjacent Hafod community woodland, publicly accessible SAC site	100m	W
3	Road bridge over A483(T) near Ty Coch Farm, looking S	Elevated viewpoint	100m	E
4	View from Open Farm, Hafod-y-bwch (near Middle Sontley) looking W	Visitor facility/recreational resource	400m	E
5	View from B5426 near Eddisbury Grange, looking E		200m	W
6	View from adjacent The Crimbles, between Crabtree Green and Park Eyton, looking SW	Property close to route	100m	E
7	A539, near Park Eyton Lodge, looking E (possibly also from Bryn House, listed building?)	Listed building, edge of Wynnstay Park registered parkland	400m	W
8	View from edge of Pen-y-lan hamlet, looking NW towards Crab Mill	Edge of settlement	600m	E
9	Crab Row Cottages, Pen-y-lan, looking NW towards Dinille Cottages	Properties	200m	E
10	Park Farm entrance, Pentre (N of River Dee) looking E (possibly no view of proposed line?)	View incorporates 2 other power lines	475m	W
11	Forge Farm, Pont-y-Blew, looking E over River Ceiriog valley	Locally designated landscape	400m	W
12	Pont Llygoden (road bridge) over River Ceiriog, looking N	Locally designated landscape	100m	E
13	View from Tenement hamlet, Ceiriog valley, looking NE	Properties and Locally designated landscape	100m	W
14	View from Maelor Way, E of Bramble Wood, looking E	Recreational route	300m	W
15	Pen-y-bryn (near Kennels) looking W	Listed building	325m	E
16	Footpath adjacent The Malt House, looking SE	Property close to route	70m	E
17	Ifton Heath to Street Dinas road, N of Gilrhos, looking N	Property close to route	70m	W
18	Footpath N of Mount Bradford Lane, St Martin's, looking NE	Edge of St Martin's settlement	200m	W
19	Ellesmere Road fishing pond, near Oakfield Farm, looking E	Edge of St Martin's settlement	150m	W
20	Pentre Morgan, looking W along Ellesmere Road	Listed building	450m	E
21	Footpath/lane intersection, E of Wigginton Farm, looking W	Public rights of way	120m	E
22	Shropshire Union Canal towpath S of Pen-y-bryn, looking E	Recreational route	260m	W

Ref.	Description/location	Reason for selection	Distance from centre line	West or east of line?
23	New Marton Bridge/Lock, Shropshire Union Canal, looking NW	Recreational route; listed building (lock)	180m	E
24	Intersection of footpaths south of Top House Farm, Rhosygadfa, looking SE	Public rights of way	130m	W
25	View from road bridge over River Perry, near Fernhill Pastures SSSI, looking SW	Signed cycle route	200m	W
26	PROW adjacent Henlle, looking W	Elevated right of way	500m	E
27	View from lane north of Fernhill Pastures SSSI, looking S	Designated nature conservation site, adjacent route	On	On line
28	From Whittington Road (B5009), Gobowen, near Oak Mill, looking NE	Signed cycle route; elevated viewpoint	400m	W
29	On B5009 at entrance drive to Great Fernhill, looking SW	Listed building	100m	W
30	Footpath from North Drive, Park Hall, looking S	Public footpath	40m	W
31	View from B5069 south of Five Crosses roundabout (with A5), looking SE	Transfer point of OHL to cable	250m	W
32	View from Old Oswestry Fort, looking NE	Scheduled Monument; elevated viewpoint	800m	W
33	View from Hafod Community Park (Johnstown Newt Sites SAC)	Recreational site		W
34	View from PROW along Wat's Dyke Scheduled Monument, near Clwt, SE of the A483(T)/B5426 junction.	Linear Scheduled Monument, Public footpath, crossed by proposed route		To be determined

Viewpoints 33 and 34 suggested by Wrexham CBC 20.11.07.



Key

Proposed Routes

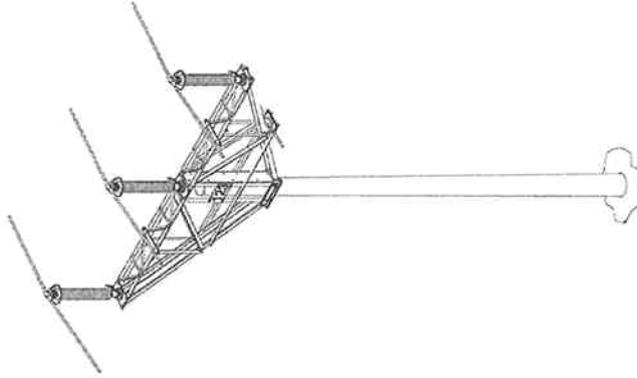
- 132 kV Wood Pole Line
- - - 132 kV Underground cable

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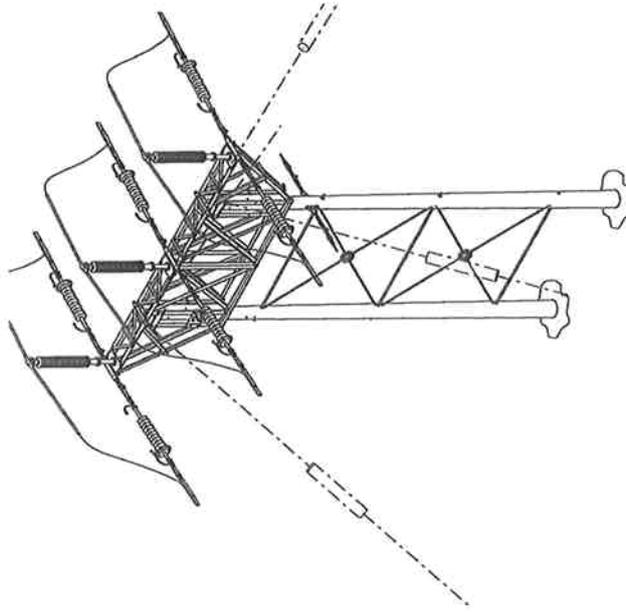
Based on Ordnance Survey Data with permission of the controller of Her Majesty's Stationery Office, Crown Copyright TEP-The Environment Partnership, Geosia Centre, Berwood Science Park, Warrington, WA3 7BH Licence Number 52685A

Project:	Legacy to Oswestry 132kV Overhead Line
Figure No.:	1
Drawing Title:	Proposed Route
Scale:	0 0.5 1 1.5 km

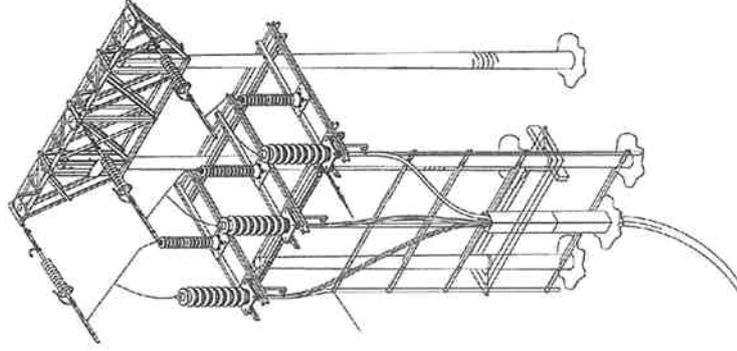
Single Pole



H Pole



Terminal Structure



 SP Manweb
Project: Legacy to Oswestry 132kV Overhead Line
Figure No: 2
Drawing Title: Scoping Report: Proposed Support Types
Scale: Not to Scale

APPENDIX 1D

Dept. BERR Scoping Opinion 10.04.08

BERR Ref:
Your Ref: LOCW/0726

Claire Watson
Environmental Planning
SP Energy Networks
3 Prenton Way
Prenton
Merseyside CH43 3ET

10 April 2008

Dear Claire,

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2000: SCOPING OPINION ON PROPOSED 132KV OVERHEAD LINE BETWEEN LEGACY SUBSTATION, WREXHAM AND OSWESTRY SUBSTATION, SHROPSHIRE

Thank you for your letter of 5 December 2007 which requested a scoping opinion by the Secretary of State on the contents of the environmental impact assessment (EIA) which you propose to submit with the above named application for section 37 development consent. Your company's scoping document dated November 2007 was circulated to the relevant local planning authority and other consultees for comments. The Department subsequently wrote out to consultees requesting comments in January but regrettably it has taken until March to gather all the comments. At the same time we have also just seen the letter from Oswestry Borough Council on the Scrutiny Committee's meeting. A set of the comments received is attached, together with the representations received by Oswestry Borough Council.

The Secretary of State concludes that your scoping document provides an acceptable basis on which the EIA may be prepared. Your coverage was generally recognised as acceptable and comprehensive but there were areas where it was suggested additional material should be provided.

The additional material was in the following responses:

- WAG commented on a number of areas indicating essentially where they believe information needs amplification e.g. impact on mineral resources, landscape assessment and mitigation and the Wrexham-Shrewsbury rail line.

Onshore Electricity Development Consents, 1 Victoria Street, London SW1H 0ET
www.berr.gov.uk

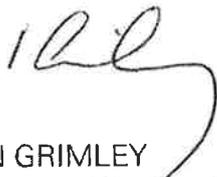
Direct Line +44 (0)20 7215 3049 | Fax +44 (0)20 7215 2601 | Minicom +44 (0)20 7215 6740
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Continuation 2

- Shropshire CC identified a number of points on ecology and nature conservation where matters could be addressed further or amplified, including the level of survey work for European Protected Species. They also suggested landscape could include historic landscape characterisation data.
- Oswestry Borough Council's papers raise a number of issues about the routing of the proposed connection and these will need to be adequately addressed in the Environmental Statement.
- Environment Agency pointed out that you might not be aware of two landfill sites east of St. Martins and in particular highlighted deficiencies in the report on the risk posed by the mitigation measures required in connection with sections requiring underground cable.

Copies of this letter go to Ms Illes at the Welsh Assembly, Mr Sumner at Wrexham County Borough Council, Mr Bennett at Oswestry Borough Council, Mr Venables at North Shropshire District Council, Mr Bell at Shropshire County Council, Ms Beech at CCW, Mr Hogarth at Natural England, Mr Weston at the Environment Agency, Mr Jones at the Environment Agency Wales, Miss Whitbread at CADW and Mr Klemperer at English Heritage.

Yours faithfully



IAN GRIMLEY
Manager, Overhead Lines

Lawrence Cadman
Head, Consents Department
Department for Business, Enterprise &
Regulatory Reform
Bay 222,
1 Victoria Street
London
SW1H 0ET



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Eich cyf. Your ref:
Ein cyf. Our ref

15 January 2008

Dear Mr Cadman

**CONSULTATION ON SCOPING REPORT FOR PROPOSED 132KV OVERHEAD
TRIDENT WOOD POLE LINE BETWEEN LEGACY SUBSTATION, WREXHAM
AND OSWESTRY SUBSTATION, SHROPSHIRE**

I refer to the request for comments on the Scoping Report in respect of the above.

The Scoping Report has been circulated within the Welsh Assembly Government and the following comments have been received.

The Assembly Government's Economic Development Division provided the following comments:-

Concerns that care must be taken to ensure that the route proposed does not compromise employment or residential development sites, whether in public or private land ownership, because land is so extremely scarce in this locality. The local economy cannot afford for sites to be sterilised or compromised in their development.

They ask whether the Local Planning Authority has commented on whether the route runs across any existing allocated sites and if not suggest that this needs to be undertaken as soon as possible.

The Assembly Government's Environment Division provided the following



BUDDSODDWR MEWN POBL
INVESTOR IN PEOPLE

Parc Cathays
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Cathays Park
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Ffôn • Tel: 02920 823555
GTN: 1208

Ffacs • Fax: 02920 825137

Ebost • Email: lynn.griffiths@wales.gsi.gov.uk

comments:-

Further information regarding aspects of the development, including the proposed route and baseline ecological reports are reportedly detailed in the Consultation Document. A copy of this document was not provided and therefore they are unable to comment on its adequacy and comprehensiveness. Comments are therefore only in relation to the scoping report.

The proposed overhead line indicates that it will cover the main areas required under Part I and Part II of Schedule 4.

The report details several areas, which it suggests scoping out of the full assessment (for example, air and climatic factors). The basis of these initial decisions is only briefly detailed in the scoping report, so while it may be considered that further investigation is not warranted the basis of that decision needs to be fully detailed and justified in the ES.

Further comments from our Environment Division are:-

Comments from the CCW have been requested. Reinforcement of the comments put forward in CCW's letter of 27th April 2007 to the Scottish Power Energy Networks regarding the potential impacts to wildlife and habitats caused by the proposal. More details can be provided if required.

Also within this scoping report with regards to European Protected Species (EPS) on p19 Otter and Bats are listed but this should include both Great Crested Newts and Dormice too as EPS's. Developments likely to impact any of these species will require a Licence application to the Welsh Assembly Government.

The Assembly Government's Planning Division provided the following comments:-

Minerals

- Note that this is covered in the scoping.
- No comments in relation to coal are provided, but the scoping should address potential sand and gravel resources. Where the line crosses such resources they should be evaluated for possible alternative routes or extraction in advance of the development. The outline implies the resource will be identified only by review of documents. Presumably there will be some ground investigation and it would be appropriate for data from this to be used.

Landscape

- The line affects two Special Landscape Areas. These designations apply to areas of substantive conservation value where there is good reason to believe that normal planning policies cannot provide the necessary protection. Such designations should not unduly restrict acceptable development.
- The scoping should consider Landmap where this has progressed sufficiently to assist.
- Parties to the Landscape Convention agree to integrate landscape into

agricultural, cultural, economic, environmental, social and spatial planning policies. This is rather broader than the sensitivities identified in the scoping (p34), which should recognise the social and cultural aspects as well as the historic environment. (The setting of historic buildings etc is identified in the scope).

- Mitigation of landscape impacts should be examined more carefully than the route of possible shrub planting.

The Assembly Government's Transport Division provided the following comments:-

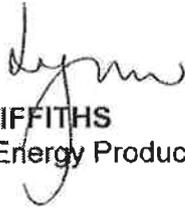
The proposed route crosses the Wrexham-Shrewsbury rail line and whilst there are no current plans to electrify the rail line we would suggest that Table 1, Infrastructure section, considers the potential impact on the rail line and any future electrification.

CADW, ancient monuments Division advised that:-

The Scoping Report's section on Cultural Heritage contains appropriate coverage and methodologies.

We trust you will carefully consider these comments made by the Welsh Assembly Government in the determination of the Environmental Impact Assessment. I would be grateful to be kept informed of progress.

Yours sincerely



MRS LYNN GRIFFITHS
Head of Clean Energy Production and Steel

Date: 11 January 2008
Our ref: SJ33/C
Your ref:

ENGLAND

Mr Ian Grimley
Manager, Overhead Lines
BERR
Onshore Electricity Development Consents
1 Victoria Street
London
SW1H 0ET

Attingham Park
Shrewsbury
Shropshire
SY4 4TW

T 01743 282000
F 01743 709303

Dear Mr Grimley

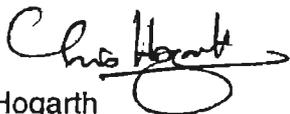
Re: The Electricity Works (EIA) Regulations 2000-Proposed Legacy to Oswestry Transmission Line

Thank you for your consultation of 14 December 2007 received at this office on 24 December 2007.

Natural England and English Nature, one of our founding bodies, have undergone extensive consultations over many months with SP Powersystems. These consultations have been very constructive and have led to various changes to the proposal being incorporated in the final proposal.

The scoping report identifies all of the features likely to be significantly affected by the proposal. The surveys identified to inform the assessment of these impacts and the assessment methods to be used are comprehensive. So long as the surveys and assessments are carried out thoroughly, the EIA should provide a suitable basis for a decision on the proposal to be made.

Yours sincerely



Chris Hogarth
Communities Team
West Midlands North Area
Direct Dial: 01743 282018
Email: chris.hogarth@naturalengland.org.uk

Grimley Ian (Mr ID) EDU

From: Dunstone, James (CADW) [James.Dunstone@Wales.GSI.Gov.UK]
Sent: 08 February 2008 10:44
To: Grimley Ian (Mr ID) EDU
Subject: PROPOSED LEGACY OSWESTRY TRANSMISSION LINE: SP MANWEB

I refer to your letters of 14 December and 24 January requesting Cadw's views on the scoping opinion requested by SP Manweb. I apologise for the delay in our response.

I can confirm that Cadw is the Historic Environment Service for the Welsh Assembly Government and, as such, our divisional comments were provided on 11 January to be included within an Assembly-wide response. Cadw noted that the Scoping Report's section on Cultural Heritage appeared appropriate.

Should you have any queries, please do not hesitate to contact me.

Regards

James Dunstone

Gweinyddu Henebion / Ancient Monuments Administration
Cymru Hanesyddol: Cadw / Historic Wales: Cadw
Llywodraeth Cynulliad Cymru / Welsh Assembly Government

 01443 33 6004

) james.dunstone@wales.gsi.gov.uk

Helpwch yr amgylchedd - peidiwch ag argraffu hon os nad oes gwir raid
Help our environment - only print this if really necessary

Grimley lan (Mr ID) EDU

From: Arfon Hughes [ar.hughes@ccw.gov.uk]
Sent: 19 February 2008 09:26
To: Grimley lan (Mr ID) EDU
Subject: Fwd: Re: FW: CONSULTATION ON SCOPING REPORT FOR PROPOSED 132KVOVERHEAD TRIDENT WOOD POLE LINE BETWEEN LEGACY

Attachments: Fwd: Re: FW: CONSULTATION ON SCOPING REPORT FOR PROPOSED 132KVOVERHEAD TRIDENT WOOD POLE LINE BETWEEN LEGACY



Fwd: Re: FW:
CONSULTATION ON

Dear Mr Grilmey,

We have responded to Mr Phil Ray at WAG. See attached. I hope you have already received our comments through WAG.

I apologise for not responding earlier but i do not have access to Bethan Beech's email.

regards

Arfon Hughes

Arfon Hughes.

Cyngor Cefn Gwlad Cymru/The Countryside Council for Wales.

Tim Berwyn & Wreccsam team.

Adeiladau'r Llywodraeth , Pont yr Aran Road, DOLGELLAU, LL40 1LW

Mobile: 07812 541256

Tel: 01341 424800

Fax: 01341 423739

ar.hughes@ccw.gov.uk.

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Grimley Ian (Mr ID) EDU

From: Nia Seaton [N.Seaton@ccw.gov.uk]
Sent: 19 February 2008 09:15
To: Arfon Hughes
Subject: Fwd: Re: FW: CONSULTATION ON SCOPING REPORT FOR PROPOSED 132KVOVERHEAD TRIDENT WOOD POLE LINE BETWEEN LEGACY

Attachments: CWatson-ScotPower-LegacyOswestry Power Line-170407.doc



CWatson-ScotPo
er-LegacyOswest

Gweler isod- y llythyr ar e-bost,

Cofion,
Nia

>>> Nia Seaton 07/01/2008 09:00 >>>
Phil,

Please find attached a response to the he potential impacts to wildlife and habitats caused by the:
PROPOSED 132KV OVERHEAD TRIDENT WOOD POLE LINE BETWEEN LEGACY SUBSTATION, WREXHAM AND OSWESTRY SUBSTATION, SHROPSHIRE which consists of the letter sent by CCW to Scottish Power Energy Networks.

If you require any further information on this response then please let me know.

I have also picked up your other emails requesting information this morning and will do my best to get them to you by close of play on the 9th.

Many thanks,
Nia

Nia Seaton
Swyddog Polisi/Policy Officer
Cyngor Cefn Gwlad Cymru/ Countryside Council for Wales
13 Drake Walk,
Brigatine Place
Cardiff
CF10 4AN
nia.seaton@ccw.gov.uk
02920 444 605

CADEIRYDD/CHAIRMAN: JOHN LLOYD JONES OBE
Anfonwch eich ateb at/Please reply to:

Name: Bethan Beech
Ffôn/Tel: 01352 706600
Ebostr/E-mail: b.beech@ccw.gov.uk

PRIF WEITHREDWR/CHIEF EXECUTIVE: ROGER THOMAS

Rhanbarth y Gogledd - Stryddfa'r Wyddgrug
North Region - Mold Office
Glan y Nant, Uned 19 / Glan y Nant, Unit 19
Parc Busnes Yr Wyddgrug / Mold Business Park
Ffordd Wrecsam / Wroxham Road
Yr Wyddgrug / MOLD
Sir Y Fflint / Flintshire CH7 1XP

Claire Watson
Environmental Planner
Scottish Power Energy Networks
3 Prenton way
Prenton
Merseyside
CH43 3ET

Ein cyf/Our ref: BB/RMG/SJ34.14

17 April 2007

Dear Claire

RE: New 132 KV Overhead Powerline between Legacy and Oswestry.

Thanks you for your letter and enclosed maps of the 27 March and for your time during our meeting of the 20 March.

I enclose a map at 1:5000 scale showing the boundary of the Stryt Las a'r Hafod SSSI. This boundary is the same as that for the Johnstown newt site SAC in this area.

As discussed during our meeting of the 20 of March with Andy Brown, some lopping of branches of trees may be required in within or adjacent to the boundary of the SSSI/SAC in this area. This work would require consent from CCW, with details of the methodology and timing of the works provided in a method statement.

A detailed method statement will also be provided for the crossing of the rivers Dee and Ceiriog as both are designated as part of the Afon Dyfrdwy and Llyn Tegid River Dee and Llyn Tegid SAC.

I have also discussed the landscape aspects of the crossing point of the River Dee with my colleague Mr Paul Mitchell who leads on landscape issues for CCW in NE Wales. The route as shown in the Consultation document for February 2007 avoids the historic parks and gardens and the core of the Special Landscape Area, whilst minimising the entry of the powerline into areas as identified as 'outstanding' in visual quality in the Wrexham County Borough Council LANDMAP study.

I understand that the public consultation period came to an end on the 13 April. The Scoping report for the EIA will be submitted to Wrexham CBC this summer. CCW will be consulted by Wrexham on this document.

Comment [A1]: Do not re-call consultation from wrexham council.

Grimley Ian (Mr ID) EDU

From: HAYES, Natalie [Natalie.Hayes@english-heritage.org.uk]
Sent: 18 February 2008 15:03
To: Grimley Ian (Mr ID) EDU
Subject: FW: Legacy to Oswestry - Proposed Power Line

Dear Ian

Further to our conversation today, I confirm that Claire Watson at ScottishPower wrote to us on 27th February 2007 initially outlining the project, and again on 23rd April 2007. Our Inspector of Ancient Monuments, Bill Klemperer, replied on 1 May 2007 stating that he felt it was not necessary to comment at that stage, but noted that an Environmental Statement was to be submitted and recommended an appropriately qualified organisation be engaged to undertake the historic environment component of the Statement to assist the minimising of adverse effects during construction and operation.

Bill was subsequently contacted on 5th December 2007 requesting a scoping opinion. I confirm that he did not have any further comments he wished to make at that stage, and apologise for the fact that you did not receive confirmation to this effect. I have, however, outlined below what English Heritage would expect any Environmental Impact Assessment to examine, if this is of use:

- a) The potential effects upon all designated historic assets and their settings (i.e. World Heritage Sites, Listed Buildings (all grades), Scheduled Monuments plus other nationally important archaeological sites, Registered Historic Parks and Gardens, Registered Battlefields, Conservation Areas)
- b) Potential impacts on non-designated features of local historic or architectural interest and value, since these make an important contribution to the local distinctiveness of an area and its sense of place. This covers buildings, historic open spaces, historic features and the wider historic landscape.

English Heritage strongly advises that the conservation section of the relevant local authorities and appropriate archaeological staff are closely involved throughout the preparation of the Environmental Impact Assessment. They are best placed to advise on local historic environment issues and priorities, (including access to data held in the Historic Environment Record/Sites and Monuments Record), how the proposal can be tailored to minimise potential adverse impacts on the historic environment, the nature and design of any required mitigation measures, together with opportunities for securing wider benefits for the future conservation and management of historic assets.

These comments are without prejudice and do not imply support or objection.

Kind regards

Natalie Hayes
Casework Assistant
English Heritage

PLEASE NOTE WE WILL SOON BE CHANGING OUR ADDRESS
English Heritage West Midlands Regional Office is moving.
From 3rd March 2008 our new address will be:

18/02/2008

English Heritage
The Axis
10 Holliday Street
Birmingham
B1 1TG

Tel: 0121 625 6820
Fax: 0121 625 6821

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creu lle gwell
creating a better place



Asiantaeth yr
Amgylchedd Cymru
Environment
Agency Wales

Mr. Ian Grimley
Manager, Overhead Lines
**Onshore Electricity Development
Consents**
1 Victoria Street
London
SW1H 0ET

Ein cyf/Our ref: CS/BAN/EI26832

Eich cyf/Your ref:

Dyddiad/Date: 19th March 2007

Dear Mr. Grimley

**RE: THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESMENT)
(ENGLAND AND WALES) REGULATIONS 2000**

PROPOSED LEGACY OSWESTRY TRANSMISSION LINE: SP MANWEB.

I refer to your letter dated 14th December 2007 regarding the above, and make the following comments for your consideration.

It is to be ensured that there is no adverse impact upon the quality of the watercourses in the locality. This to be particularly borne in mind during the possible construction works. Any potential work occurring in/near to watercourses should be discussed with the Environment Agency prior to works occurring to ensure that potential pollution is mitigated against. Also to bear in mind any possible excavation material that may be created by the scheme will have to be dealt with in compliance with the relevant waste legislation.

It is understood that the main stretch of the works will not involve oil filled cables or have any other oil associated with it. However, there will be a short section of oil filled cable in the road from the substations (Legacy and Oswestry).

As per the operating code on the management of fuel filled cable systems, particular attention should therefore be paid to the Environment Agency's Groundwater Strategy and all associated groundwater vulnerability information. In particular the risks to groundwater must be considered during route selection.

All appropriate pollution prevention measures will need to be instigated to prevent any potential incident from the cables. Please contact Angela Roberts of the Environment Agency to discuss in more detail on 01244 894585.

Asiantaeth yr Amgylchedd Cymru
Llwyn Brain, Parc Menal, Ffordd Penlan, Bangor, Gwynedd,
LL57 4DE
Llinell gwasanaethau cwsmeriaid: 08708 506 506
Eboost: enquiries@environment-agency.gov.uk
www.asiantaeth-amgylchedd.cymru.gov.uk

Environment Agency Wales
Llwyn Brain, Parc Menal, Ffordd Penlan, Bangor, Gwynedd,
LL57 4DE
Customer services line: 08708 506 506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.wales.gov.uk



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Environment
Agency Wales

Care should be taken to ensure that local watercourses are not adversely affected by the proposals.

Under Section 23 of the Land Drainage Act 1991, any proposals to construct or alter any mill, dam or weir or similar obstruction to flow require consent from the Agency. The erection of, or alteration to a culvert likely to affect the flow also require consent from the Agency. Under Section 17 of the Land Drainage Act 1991, any drainage works against flooding carried out by a Local Authority require a Land Drainage Consent from the Agency.

If the proposed works involve works in, under, over or within 7 metres of any watercourse (including a culverted watercourse) please contact Charles Townsend on 01244 89 4625.

Please insure that you have all the relevant discharge consents when needed.

The Agency has a statutory duty to determine land drainage consent applications within a two-month period. The developer must obtain a formal consent prior to commencement of works within the watercourse.

Please find enclosed a copy of our Special Requirements.

The information provided is based on that currently available to us. The Agency and its officers accept no liability whatsoever for any loss or damage arising from the interpretation or use of the information.

Yours sincerely,

Maggie Logan
Customer Contact and Authorisations Officer

Llinell uniongyrchol/Direct dial: 01248 484162
Ffacs uniongyrchol/Direct fax: 01248 671904
E-bost uniongyrchol/Direct e-mail: margaret.logan@environment-agency.gov.uk



ENVIRONMENT AGENCY WALES

Special requirements for Developers & Construction Contractors

1. In these Special Requirements, the following expressions shall have the meanings assigned to them:
 - i. The "Agency" means the Environment Agency Wales.
 - ii. "Proper Officer (s)" means the Officer (s) of the Agency having responsibility for specific functions of the Agency in relation to the works or its Authorised Representatives and Agents.
 - iii. "Watercourse" means all rivers, streams, ditches, drains, cuts, culverts, dykes, sluices, lakes, ponds, reservoirs, docks, channels, creeks, bays, estuaries or arms of the sea (Water Resources Act 1991).

General Matters

2. Attention is drawn to the following legislation:
 - Water Resources Act 1991
 - Land Drainage Act 1991 (as amended 1994)
 - Land Drainage Byelaws
 - Salmon and Freshwater Fisheries Act 1975
 - Wildlife and Countryside Act 1975 (as amended 1985)
 - Ancient Monuments and Archaeological Areas Act 1979
 - Badgers Act 1991
 - The Environmental Protection Act 1990
 - Navigation Acts
 - Environment Act 1995
 - The Control of Pollution (Amendment) Act 1989

and any subsequent amendments to the above legislation.

3. All workmen, agents, or persons, employed by the Contractor whilst in areas in which the powers of the Agency apply, shall be subject to the byelaws, rules and regulations of the Agency to the reasonable orders and requirements of the Proper Officers of the Agency.
4. All necessary consents and licences from the Agency must be obtained before any works commence. Early consultation is advised.
5. Where these requirements are included in Contract Documents they must be read in conjunction with those documents and will not detract from them.

6. The use of explosives for removing obstacles in or near watercourses shall not be permitted, except under exceptional circumstances with the express permission of the Agency and other regulatory bodies as necessary.
7. Fourteen days notification in writing shall be given to the Agency of the Contractor's intention to enter into or commence work within any watercourse within their jurisdiction. Not less than two working days notice shall be given of any change of programme which affects the watercourse.
8. The Agency or an appointed representative shall at all times have access to the Site where work is being carried out in the vicinity of watercourses or on floodplains, or where the Proper Officers consider that water in the underground strata could be adversely affected.

Flood Defence Requirements

9. The Contractor's attention is drawn to the Land Drainage Act 1991 amended by Land Drainage Act 1994, the Water Resources Act 1991 and Byelaws.
 - i. The proposals for any works, and/or temporary works, to be carried out in, over, under or adjacent to a watercourse may require the formal and prior consent of the Agency. A consent application should be submitted to the Agency with full and detailed information of the proposed works.
 - ii. Any consent issued by the Agency will not relieve the Contractor of his responsibilities regarding Temporary Works and the Agency will not be held liable for any damage resulting from the construction thereof.
10. At all times during the Contract period the Contractor shall, whilst working within a channel of a river or drainage course or floodplain, take all necessary measures for the adequate discharge of flood waters and for the continued operation of all land drainage systems in the area.
11. Any proposal for temporary diversion, obstruction or piping of a watercourse during construction shall be subject to the consent of the Agency as shall be the temporary obstruction of the floodplain by spoil heaps or by any other means.
12. The construction of any access or haul roads in floodplain areas shall be to a finished level no higher than existing ground level. On completion of the works the access road shall be removed and the route reinstated to the original ground levels or other agreed level to the satisfaction of the Agency.

13. No material shall be placed within the channel or floodplain during the construction of the Temporary Works without consent of the Agency and any such material and surplus, however arising shall be removed by the Contractor as soon as its function has been fulfilled. Where the site working area includes floodplain it shall be kept clear at all times of all materials and equipment that will float.
14. The Contractor should ensure that any works do not damage the structural integrity of fluvial, tidal or sea defences.

Control of Pollution Requirements

15. The Contractor's attention is drawn to control of pollution provisions in the Water Resources Act 1991. He shall take all necessary precautions to ensure that no polluting discharge either of solid or liquids is made to any watercourse or to the underground strata and that no work carried out in any watercourse is done in such a manner as to cause pollution. Any materials, which may accidentally fall into any watercourse, shall be removed immediately.

In particular, but not by way of derogation from the generality of this Clause, the Contractor shall:

- i. obtain the prior written consent and/or approval of the Agency before making any discharge to any watercourse or to the underground strata;

The Agency's Pollution Prevention Guidelines sheets are attached for the Contractor's attention.

- ii. ensure that all fuel, lubricating oils or chemicals stored in bulk on the site are located as far as reasonably possible, and in no case closer than 10 metres from any watercourse and that such stores are sited on impervious bases and surrounded with an effective and impervious bund capable of holding the full contents of the store plus 10%. All stores shall be kept locked when not in use. All containers must be clearly labelled with their contents. A stock of oil absorbent material should be maintained on site. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or groundwater;
- iii. locate all equipment using fuel oil as far away as reasonably possible from any watercourse and shall surround them with oil-absorbent material to contain spills or leaks. Refuelling of equipment should also be remote from any watercourse or drain.
- iv. ensure leaking or empty oil drums or chemical containers are removed from the site immediately;

- v. provide for silted or discoloured water pumped from excavations either to be irrigated over grassland or settled in a lagoon prior to any discharge to a watercourse;
 - vi. not use plant in a watercourse or ford the watercourse with vehicles without the prior consent in writing of the Agency and shall ensure plant/vehicles do not leak. Regular river crossings should be by way of temporary bridges or culverts by prior agreement of the Agency;
 - vii. regularly scrape and maintain free from deposits of slurry haul roads on the site and approaches to watercourse. Any slurry so removed must be disposed of in an agreed location avoiding pollution of the watercourse. Precautions should be taken to ensure surface water drains are not contaminated by solids from workings and associated transport;
 - viii. prevent the discharge or seepage of cement slurry from any concreting work, mixing plant or ready-mix vehicle into any watercourse;
 - ix. agree with the Agency his plant, vehicle parking and servicing areas and wheel washing facilities;
 - x. ensure that any imported fill or construction material is free from polluting or toxic substances where drainage from the material can directly enter surface or underground waters;
 - xi. provide suitable sheeting under any structure over a watercourse which is to be cleaned by mechanical or chemical means/and or painted in order to prevent material entering the watercourse.
16. In executing the Works the Contractor shall take all necessary precautions to secure the efficient protection of all rivers, streams and waterways and the like, together with water in underground strata, against silting, erosion and pollution.
 17. The Contractor shall not without the written consent of the Agency, remove from any part of the bottom channel or bed of a watercourse, a deposit accumulated by reason of any dam, weir or sluice. And shall not undertake such removal by causing the deposit to be carried away in suspension in the waters. Sediments so removed should be disposed of through an approved route.
 18. The Contractor shall provide details to the Agency of any site investigations undertaken on suspected contaminated sites, such as gas works, chemical works.

Waste Management

19. The contractor and Agency employees shall comply with the requirements of the Environmental Protection Act 1990, the Control of Pollution (Amendment) Act 1989, the Environment Act 1995 and regulations made thereunder and relevant codes of practice.
20. In particular, contractors and employees shall ensure that
 - i. all necessary precautions are taken to ensure that no wastes of any type are deposited on land, or caused or allowed to be treated, kept or disposed of except under or in accordance with a Waste Management Licence or exemption registered with the Agency;
 - ii. the production, transport, recovery and disposal of wastes does not cause pollution of the environment, harm to human health or become seriously detrimental to the amenities of the locality;
 - iii. the waste does not escape from his or any other persons control;
 - iv. where waste is transferred to another person an accurate description is provided of the waste as required under the Duty of Care legislation, to ensure that the other person complies with the legislation;
 - v. where waste is transferred to another person that person is authorised to receive the waste or authorised to transport the waste (i.e. They hold a Waste Management Licence, registered exemption or waste carrier registration);
 - vi. where waste is transferred to a waste management facility such as a landfill site or a treatment plant, the contractor shall carry out an audit of the facility to ensure that the site is suitable to accept the waste;
 - vii. the contractor shall ensure that all operators claiming to be exempt from the requirement to register as a carrier of waste meet to legislative requirements of the exemptions;
 - viii. the contractor shall ensure that operators of waste management facilities claiming to be exempt from the requirement to hold a Waste Management Licence meet the requirements of the exemption;
 - ix. developers should be aware of the potential hazards from landfill gas when carrying out developments on land within 250 metres of any current or former landfill sites.

21. The contractor should comply with the requirements of the Control of Pollution (Special Waste) Regulations 1980 or the Special Waste Regulations 1996 in relation to the production of consignment notes for the carriage and disposal of special wastes. The removal of any material which is special waste as defined by the Special Waste Regulations 1996 shall be notified to the Agency Area offices where the disposal site is located, at least 3 days and no more than 1 month, in advance of the intended removal date. If there is any doubt as to whether the wastes would be special wastes, consultation with the Agency in the area where the wastes are to be produced, will be necessary.
22. Information leaflets on the Duty of Care and Registration of Carriers are available.

Water Resources Requirements

23. The Contractor's attention is drawn to the Water Resources Act 1991. The Contractor shall take all necessary precautions to secure the efficient protection of water abstractions whether licensed or not. A list of licensed abstractions is available on a public register but the Contractor's attention is also drawn to the possible existence of domestic abstractions exempt from licensing.
24. No works shall be carried out by the Contractor that reduces or materially alters the rate of flow passing down a watercourse, whether of a temporary nature or not.
25. Works in a watercourse of a permanent nature which result in impounding of the water may require a licence from the Agency; and the Contractor is urged to contact the Agency as soon as possible to initiate the procedures.
26. The abstraction of water from surface sources or underground sources for use in the works may require an abstraction licence from the Agency and the Contractor is urged to contact the Agency as soon as possible to initiate the procedures.

Conservation and Fisheries Requirements

27. The Contractor's attention is drawn to the Salmon and Freshwater Fisheries Act 1975; Water Resources Act 1991; Wildlife and Countryside Act 1981 (as amended); Ancient Monuments and Archaeological Areas Act 1979; Badgers Act 1999 and he shall take all precautions to ensure that no work in any watercourse corridor is done in such a manner as to cause damage to flora and fauna.

In particular, but not by way of derogation from the generality of this Clause, the Contractor shall

- i. not remove any bed or bank-side material for use in construction or temporary bunds;
- ii. stockpile, remote from the watercourse and keep clean any bed material necessarily removed in the course of construction and replace on completion or works, or as otherwise agreed with the Agency;
- iii. not remove vegetation other than fallen trees from or adjacent to any watercourse unless previously agreed with the Agency;
- iv. submit to the Agency for prior approval, his proposals for maintaining at all times the free passage of fish;
- v. take all necessary measures in the preparation of his programme of works to ensure that the disturbance of the channel is avoided where significant populations of salmonid fish are present in the period from the beginning of October to the end of March, unless otherwise agreed with the Agency. Similarly where significant coarse fish populations are present in river works should be avoided in the period 31 March to 30 June inclusive.
- vi. not without prior consent of the Agency,
 - (a) remove aquatic weeds in the period from the beginning of May to the end of August;
 - (b) spray aquatic weeds at any time.
- vii. not allow cut vegetation from approved clearance works to enter any watercourse;
- viii. take all necessary precautions to prevent the spread of Japanese Knotweed and Giant Hogweed. In particular, any spoil contaminated with the rhizomes or roots of these species should not be spread to areas where the plants are not currently growing.

Navigation Requirements

28. The Contractor's attention is drawn to several Navigation Acts (generally specific to individual watercourses) which regulate the use of navigable waters.

In particular, but not by way of derogation from the generality of this Clause, the Contractor shall

- i) provide and maintain a permanent marker in both banks of the watercourse to indicate the presence of concealed works;

- ii) not reduce the width of any watercourse by any means without prior written approval of the Agency;
- iii) obtain written approval of the Agency as to the timing and method of working to include clearance above the navigation.

All enquiries are to be addressed to:

R.C.Carter
Team Leader Planning Liaison
Environment Agency Wales
Llwyn Brain
Ffordd Penlan
Parc Menai
Bangor
LL57 4DE

Tel: 01248 670770

In the event of an Emergency e.g. Fish Kill, Pollution or Flood, please telephone

0800 80 70 60 IMMEDIATELY

ENVIRONMENT AGENCY WALES

Special Requirements Supplement

Special requirements for Fisheries and Conservation

Many Welsh rivers support important and valuable fisheries for salmon, sea trout and brown trout. This information sheet provides additional guidance for individuals and organisations intending to work in or near rivers in respect of Section 23 of the "Special Requirements in Relation to the Environment Agency", which deals with Conservation and Fisheries Requirements.

- (1) The Environment Agency (the Agency) has duties and powers in respect of the protection and management of fisheries within Wales and England. All inland fisheries are privately owned and most coastal fisheries are public fisheries vested in the Crown. It is important therefore that both the Agency and the fishery owner are consulted prior to carrying out work in or near to a watercourse. In addition to the fishery protection requirements enforced by the Agency it should be noted that private fishery owners also have legal rights under Civil and Common Law.
- (2) If migratory fish are present in the river, then their passage upstream must not be impeded by work in the river. The Environment Manager (Conwy, Anglesey & Gwynedd) will be pleased to provide specific advice on this legal requirement, particularly with regard to the design of culverts and diversions, both permanent and temporary. Such specific advice is also available in respect of the requirements for protection of spawning areas and seasons (Section 23v).
- (3) Section 11 of "Special Requirements in Relation to the Agency" specifies the consenting requirement in relation to temporary diversion, obstruction or piping of a watercourse. All work in the watercourse should be carried out so as to minimise the risk of trapping fish. The Agency will organise fish rescues, where required, on a planned basis. This work is recharged at a fixed rate per man-hour (£25 per man-hour in February 1994). A fish rescue implemented by any other organisation requires the formal consent of the Agency.
- (4) The Agency has a duty to promote conservation, which applies to the approval of any formal consent. Consents may therefore be withheld unless conservation requirements are adequately satisfied. The Environment Manager (Conwy, Anglesey & Gwynedd) will be pleased to advise on conservation matters.

All enquiries are to be addressed to:

Mr Alan Winstone
Environment Manager (Conwy, Anglesey & Gwynedd)
Environment Agency Wales
Llwyn Brain
Ffordd Penlan
Parc Menai
Bangor, LL57 4DE

Tel: 01248 670770

ASiantaeth YR AMGYLCHEDD CYMRU

Atodiad Gofynion Arbennig

Gofynion Arbennig Pysgodfeydd a Chadwraeth

Y mae llawer o afonydd Cymru yn cynnwys pysgodfeydd eog, brithyll mudol a brithyll afon pwysig a gwerthfawr. Y mae'r daflen hon yn cynnig cyfarwyddyd ychwanegol ar gyfer unigolion a chyrrff sy'n bwriadu gweithio mewn afonydd neu yn agos atynt mewn perthynas ag Adran 23 y "Gofynion Arbennig mewn Perthynas ag Asiantaeth yr Amgylchedd", sydd yn delio â Gofynion Cadwraeth a Pysgodfeydd.

- (1) Y mae gan Asiantaeth yr Amgylchedd (yr Asiantaeth) ddyletswyddau a grymoedd mewn perthynas â gwarchod a rheoli pysgodfeydd yng Nghymru a Lloegr. Eiddo preifat yw pob pysgodfa mewndirol, ac eiddo cyhoeddus, wedi ei freinio yn y Goron, yw mwyafriaf y pysgodfeydd arfordirol. Y mae'n bwysig, felly, ymgynghori â'r Asiantaeth ac â pherchennog y bysgodfa cyn gwneud unrhyw waith mewn cwrs dŵr, neu'n agos ato. Yn ogystal â'r gofynion amddiffyn pysgodfeydd a orfodir gan yr Asiantaeth, dylid sylwi bod gan berchnogion pysgodfeydd hawliau o dan y Gyfraith Suful a Chyffredin hefyd.
- (2) Os oes pysgod mudol yn yr afon, rhaid i'r gwaith yn yr afon beidio ag amharu ar eu tramwyad at i fyny. Pleser gan y Rheolwr Amgylchedd (Conwy, Môn a Gwynedd) fydd darparu cyngor penodol ar y gofyn cyfreithiol hwn, yn arbennig mewn perthynas â chynllunio cwlferau a dargyfeiriadau, parhaol a dros dro. Y mae'r fath gyngor penodol hefyd ar gael mewn perthynas â gofynion amddiffyn manau a thymhorau silio (Adran 23v).
- (3) Y mae Adran 11 "Gofynion Arbennig mewn Perthynas â'r Asiantaeth" yn nodi yn fanwl y gofyn caniatáu mewn perthynas â dargyfeirio, cau, neu bibellu dros dro cwrs dŵr. Rhaid cyflawni pob gwaith yn y cwrs dŵr mewn modd sydd yn lleihau i'r eithaf perygl dal pysgod. Bydd yr Asiantaeth yn trefnu achub pysgod, lle bo angen, trwy gynllun. Ailgodir am y gwaith hwn ar raddfa benodol yr awr waith (£25 yr awr waith yn Chwefror 1994). Y mae angen caniatâd yr Asiantaeth ar unrhyw un arall sydd am achub pysgod.
- (4) Dyletswydd ar yr Asiantaeth yw hybu cadwraeth, sydd yn berthnasol i gysyniad ag unrhyw ganiatâd ffurfiol. Gellir gwrthod caniatâd, felly, hyd oni ddigonir anghenion cadwraeth. Bydd yn dda gan y Rheolwr Amgylchedd (Conwy, Môn a Gwynedd) roi cyngor ar faterion cadwraeth.

Rhaid cyfeirio pob ymholiad at:

Mr Alan Winstone
Rheolwr Amgylchedd (Conwy, Môn a Gwynedd)
Asiantaeth yr Amgylchedd Cymru
Llwyn Brain
Ffordd Penlan
Parc Menai, Bangor
LL57 4DE

Ffôn: 01248 670770

- viii. bydd yn gofalu rhwystro ymlediad y Canclwm\Llyisiau'r Dial a'r Efwr Mawr. Yn benodol, ni ddylid lledaenu unrhyw bridd sydd yn cynnwys gwreiddiau'r planhigion hyn i ardaloedd lle nad ydynt yn tyfu eisoes.

Gofynion Mordwyaeth

27. Tynnir sylw'r Contractwr at sawl Deddf Mordwyaeth (y mae a wnelo nhw fel arfer â chysiau dŵr penodol) sydd yn rheoli'r defnydd ar ddyfroedd mordwyol.

Yn benodol, ond heb leihau dim ar gyffredinolrwydd y Cymal hwn:

- i. bydd y Contractwr yn gosod arwydd parhaol ar ddwy lan y cwrs dŵr er mwyn arwyddo presenoldeb gwaith cudd;
- ii. ni fydd yn culhau dim ar led y cwrs dŵr drwy unrhyw fodd heb gydsyniad ysgrifenedig yr Asiantaeth o flaen llaw;
- iii. bydd yn sicrhau cydsyniad ysgrifenedig yr Asiantaeth ynghylch amseriad a dull y gweithio, gan gynnwys cliriad uwchlaw'r fordwyaeth.

Rhaid cyfeirio pob ymholiad at:

R.C.Carter
Arweinydd Tîm Cyswllt Cynllunio
Asiantaeth yr Amgylchedd Cymru
Llwyn Brain
Ffordd Penlan
Parc Menai
Bangor
LL57 4DE

Ffôn: 01248 670770

Ar adeg argyfwng, fel Cyflafan Bysgod, Llygredd neu Lifogydd e.e., ffoniwch

0800 80 70 60 AR UNWAITH OS GWELWCH YN DDA

25. Gall y bydd angen trwydded lle bo dŵr yn cronni o ganlyniad i waith parhaol mewn cwrs dŵr. Anogir y Contractwr i gysylltu â'r Asiantaeth cyn gynted ag y bo modd er mwyn dechrau'r broses.
26. Gall y bydd angen trwydded echdynnu gan yr Asiantaeth er mwyn echdynnu dŵr o ffynonellau wyneb neu ffynonellau tanddaearol ar gyfer gwaith. Anogir y Contractwr i gysylltu â'r Asiantaeth cyn gynted ag y bo modd er mwyn dechrau'r broses.

Gofynion Cadwraeth a Physgodfeydd

Tynnir sylw'r Contractwr at Ddeddf Eog a Physgodfeydd Dŵr Croyw 1975; Deddf Adnoddau Dŵr 1991; Deddf Bywyd Gwyllt a Chefn Gwlad 1981 (fel y'i diwygiwyd); Deddf Henebion ac Ardaloedd Archeolegol 1979; a Deddf Moch Daear 1999 a bydd iddo gymeryd pob gofal er sicrhau na wneir unrhyw waith gerllaw cwrs dŵr mewn modd sydd yn niweidio planhigion ac anifeiliaid.

Yn benodol, ond heb leihau dim ar gyffredinolrwydd y Cymal hwn:

- i. ni fydd y Contractwr yn cymeryd unrhyw ddeunydd o'r gwaelod neu'r lan i'w ddefnyddio ar gyfer adeiladu neu fwndiau dros dro;
- ii. bydd yn crynhoi ymhell o'r cwrs dŵr ac yn cadw'n lân unrhyw ddeunydd o'r gwaelod y bu'n rhaid ei symud yn ystod y gwaith, a'i roi yn ôl ar ddiwedd y gwaith, neu fel y cytunwyd fel arall gyda'r Asiantaeth;
- iii. ni fydd yn symud ymaith o'r cwrs dŵr neu o'i gyffiniau unrhyw lystyfiant heblaw coed sydd wedi cwmpo, onis cytunwyd o flaen llaw gyda'r Asiantaeth;
- iv. bydd yn cyflwyno o flaen llaw, am gymeradwyaeth yr Asiantaeth, ei gynigion ar gyfer cadw'r dramwyfa pysgod yn agored ac yn ddirwystr ar bob adeg;
- v. bydd yn ymorol wrth baratoi ei raglen waith er sicrhau nad aflonyddir ar y sianel lle bo poblogaethau pysgod eogaidd sylweddol yn y cyfnod rhwng dechrau mis Hydref a diwedd mis Mawrth, oni bai iddo gytuno fel arall gyda'r Asiantaeth. Yn gyffelyb, lle bo poblogaethau bysgod bras sylweddol mewn afon, dylid osgoi gweithio yn y cyfnod sydd yn dechrau ar ddiwrnod olaf Mawrth ac yn darford ar ddiwrnod olaf Mehefin;
- vi. heb ganiatâd o flaen llaw gan yr Asiantaeth, ni fydd,
 - (a) yn tynnu ymaith blanhigion dŵr yn y cyfnod o ddechrau Mai hyd ddiwedd Awst;
 - (b) yn chwistrellu planhigion dŵr ar unrhyw adeg;
- vii. ni fydd yn caniatáu i unrhyw lystyfiant a dorrwyd adeg gwaith clirio awdurdodedig fynd i unrhyw gwrs dŵr;

- iv. darparu disgrifiad cywir o'r gwastraff, yn ôl gofynion deddfwriaeth Dyletswydd Gofal, pan drosglwyddir gwastraff i rywun arall, er mwyn sicrhau fod y sawl arall yn cydymffurfio â'r ddeddfwriaeth;
 - v. bod y sawl sydd yn derbyn gwastraff wedi ei awdurdodi i dderbyn neu gludo'r gwastraff (h.y. fod ganddo Drwydded Rheolaeth Gwastraff, eithriad cofrestredig neu gofrestrriad cludwr gwastraff);
 - vi. bod y Contractwr, pan drosglwyddir gwastraff i gyfleuster rheolaeth gwastraff megis safle tirlenwi neu waith trin, yn archwilio'r cyfleuster er mwyn sicrhau bod y safle yn un addas ar gyfer derbyn y gwastraff;
 - vii. bod y Contractwr yn sicrhau fod pob gweithredwr sydd yn honni ei fod wedi ei eithrio o'r angen cofrestru fel cludwr gwastraff yn cwrdd â gofynion deddfwriaethol yr eithriadau;
 - viii. bod y Contractwr yn sicrhau bod gweithredwyr cyfleusterau rheolaeth gwastraff sydd yn honni eu bod wedi eu heithrio o'r angen dal Trwydded Rheolaeth Gwastraff yn cwrdd â gofynion deddfwriaethol yr eithriadau;
 - ix. dylai datblygwyr fod yn ymwybodol o beryglon posib nwy tirlenwi pan yn datblygu ar dir o fewn 250 metr i unrhyw safleoedd tirlenwi presennol neu hen rai;
21. Dylai'r Contractwr gydymffurfio â gofynion Rheoliadau Rheolaeth Llygredd (Gwastraff Arbennig) 1980 neu Reoliadau Gwastraff Arbennig 1996 mewn perthynas â chyflwyniad anfonebau ar gyfer cludo a gwaredu gwastraff arbennig.

Mewn perthynas â symud unrhyw ddeunydd sydd yn wastraff arbennig yn ôl diffiniad Rheoliadau Gwastraff Arbennig 1996, rhaid rhoi gwybod i swyddfeydd yr Asiantaeth yn yr Ardal sydd yn cynnwys y safle gwaredu. Hynny o leiaf tri diwrnod, ac nid mwy nag un mis, cyn y dyddiad y bwriedir symud y gwastraff. Os oes unrhyw amheuaeth os byddai'r gwastraff yn wastraff arbennig, rhaid cael gair â'r Asiantaeth yn yr Ardal lle y cynhyrchir y gwastraff.

22. Y mae taflenni gwybodaeth ynghylch Dyletswydd Gofal a Chofrestru Cludwyr ar gael.

Gofynion Adnoddau Dŵr

23. Tynnir sylw'r Contractwr at Ddeddf Adnoddau Dŵr 1991. Rhaid i'r Contractwr ymorol ymlaen llaw am sicrhau amddiffyn echdyniadau dŵr yn effeithlon, boed hwy'n drwyddedig ai peidio. Y mae rhestr echdyniadau trwyddedig ar gael ar gofrestr gyhoeddus, ond hefyd tynnir sylw'r Contractwr at fodolaeth bosib echdyniadau domestig nad oes angen eu trwyddedu.
24. Ni wna'r Contractwr unrhyw waith sydd yn lleihau neu yn newid yn sylweddol y gyfradd llif i lawr cwrs dŵr, boed hynny dros dro ai peidio.

ASiantaeth Yr Amgylchedd Cymru

Gofynion arbennig ar gyfer Datblygwyr a Chontractwyr Adeiladu

1. Yn y Gofynion Arbennig hyn, dyma ystyr yr ymadroddion canlynol:
 - i. Y mae'r "Asiantaeth" yn golygu Asiantaeth yr Amgylchedd Cymru.
 - ii. Y mae'r "Swyddog(ion) Priodol" yn golygu Swyddog(ion) yr Asiantaeth sydd â chyfrifoldeb am rannau arbennig o waith yr Asiantaeth mewn perthynas â'i gwaith neu â'i Chynrychiolwyr a'i Hasiantau Awdurdodedig.
 - iii. Y mae "cwrs dŵr" yn golygu pob afon, nant, ffos, draen, camlas, cwlfer, cob, llifddor, llyn, pwll, cronfa, doc, sianel, cilfach, bae, aber, moryd neu gainc o'r môr (Deddf Adnoddau Dŵr 1991).

Materion Cyffredinol

2. Tynnir sylw at y ddeddfwriaeth ganlynol:

- Deddf Adnoddau Dŵr 1991
- Deddf Draenio Tir 1991 (fel y'i diwygiwyd 1994)
- Is-ddeddfau Draenio Tir
- Deddf Eog a Physgodfeydd Dŵr Croyw 1975
- Deddf Bywyd Gwyllt a Chefn Gwlad 1975 (fel y'i diwygiwyd 1985)
- Deddf Henebion ac Ardaloedd Archeolegol 1979
- Deddf Moch Daear 1991
- Deddf Amddiffyn yr Amgylchedd 1990
- Deddfau Mordwyo
- Deddf yr Amgylchedd 1995
- Deddf Rheoli Llygredd (Diwygiad) 1989

ac unrhyw ddiwygio pellach ar y ddeddfwriaeth uchod.

3. Mewn ardaloedd lle bo grymoedd yr Asiantaeth yn weithredol, bydd pob gweithiwr, asiant, neu unigolyn a gyflogir gan y Contractwr yn rhwym wrth is-ddeddfau, rheolau a rheoliadau yr Asiantaeth. Bydd yn rhwym hefyd wrth orchmynion rhesymol a gofynion Swyddogion Priodol yr Asiantaeth.
4. Cyn dechrau unrhyw waith, rhaid cael pob caniatâd a thrwydded angenrheidiol o eiddo'r Asiantaeth. Gorau po gyntaf yr ymholir am hyn.
5. Lle bo'r gofynion hyn wedi eu cynnwys yn Nogfen y Cytundeb, rhaid eu darllen ar y cyd â'r dogfennau hynny, ac ni fyddant yn tynnu oddi wrthynt.

6. Ni chaniateir defnyddio ffrwydron er mwyn symud rhwystrau mewn cyrsiau dŵr neu gerllaw iddynt, heblaw mewn amgylchiadau eithriadol a chyda chaniatâd eglur yr Asiantaeth a chyrrff rheolaethol eraill yn ôl yr angen.
7. Rhaid rhoi pedwar diwrnod ar ddeg o rybudd ysgrifenedig i'r Asiantaeth o fwriad y Contractwr i ddechrau neu gychwyn ar waith o fewn unrhyw gwrs dŵr o dan eu hawdurdod. Rhaid rhoi o leiaf dau ddiwrnod o rybudd o unrhyw newid rhaglen sydd yn effeithio ar y cwrs dŵr.
8. Bydd gan yr Asiantaeth neu gynrychiolydd penodedig fynediad pob amser at y Safle lle bo gwaith yn mynd rhagddo yng nghyffiniau cyrsiau dŵr neu ar orlifdir, neu lle bo'r Swyddogion Priodol o'r farn y gellid amharu ar ddŵr mewn haenau tanddaearol.

Anghenion Amddiffyn Rhag Llifogydd

9. Tynnir sylw y Contractwr at Ddeddf Draenio Tir 1991 wedi'i ddiwygio gan Ddeddf Draenio Tir 1994, Deddf Adnoddau Dŵr 1991 ac Is-ddeddfau.
 - i. Gall fod angen cydsyniad ffurfiol ac o flaen llaw yr Asiantaeth ar gyfer cynigion am unrhyw waith, parhaol neu dros-dro, mewn, dros, o dan neu wrth ymyl cwrs dŵr. Dylid cyflwyno cais am ganiatâd i'r Asiantaeth gyda gwybodaeth lawn a manwl am y gwaith arfaethedig.
 - ii. Ni fydd unrhyw ganiatâd a roddir gan yr Asiantaeth yn diddymu cyfrifoldebau'r Contractwr mewn perthynas â Gwaith Dros Dro, ac ni ddelir yr Asiantaeth yn gyfrifol am unrhyw ddifrod sydd yn deillio o adeiladu'r cyfryw.
10. Bydd y Contractwr, tra'n gweithio o fewn sianel afon neu gwrs draenio neu orlifdir, yn cymeryd pob cam angenrheidiol ar gyfer arllwysiad digonol dŵr llifogydd a gweithrediad parhaol pob cyfundrefn draenio tir yn yr ardal. Hynny gydol cyfnod y Cytundeb.
11. Mewn perthynas â chwrs dŵr, bydd pob cynnig ar gyfer ei ddargyfeirio dros dro, ei gau neu ei bibellu yn ddibynnol ar ganiatâd yr Asiantaeth. Felly hefyd gau y gorlifdir dros dro gan domennydd sbwriel neu mewn unrhyw fodd arall.
12. Ni ellir adeiladu unrhyw ffordd fynediad neu lôn gludo hyd at lefel orffenedig uwch na'r lefel tir sydd yn bod eisoes. Wedi cwblhau'r gwaith, symudir ymaith y ffordd fynediad ac adferir y llwybr at y lefelau tir gwreiddiol neu lefel arall y cytunir arno wrth fodd yr Asiantaeth.
13. Heb ganiatâd yr Asiantaeth, ni roddir unrhyw ddeunydd i fewn i'r sianel neu ar y gorlifdir adeg adeiladu Gwaith Dros Dro. Rhaid i'r Contractwr gymeryd ymaith unrhyw ddeunydd neu weddill o'r fath, waeth pa sut y daeth i fod, cyn gynted ag y cyflawno ei ddiben. Lle bo safle'r gwaith yn cynnwys gorlifdir, rhaid ei gadw yn rhydd pob amser o bob defnydd neu offer a all nofio.
14. Dylai'r Contractwr sicrhau nad yw unrhyw waith yn amharu ar gadernid adeiladwaith amddiffynfeydd afon, llanw neu fôr.

arno, gan osgoi llygru unrhyw gwrs dŵr. Dylid gofalu na lygrir draeniau dŵr wyneb gan soledau o'r gwaith ac o'r cludiant cysylltiedig;

- viii. atal gollwng neu ddiferu slyri siment o unrhyw waith concritio, peiriant cymysgu neu gerbyd cymysgu parod i unrhyw gwrs dŵr;
 - ix. cytuno gyda'r Asiantaeth ar fannau peiriannau, parcio a gwasanaethu cerbydau a chyfleusterau golchi olwynion;
 - x. sicrhau, lle bo modd i'r draeniad o ddeunydd fynd yn uniongyrchol i ddyfroedd wyneb neu danddaearol, bod unrhyw ddeunydd llanw neu adeiladu a ddaw i mewn i'r safle yn rhydd o unrhyw sylweddau llygryddol neu wenwynig;
 - xi. darparu gorchuddion addas o dan unrhyw adeiladwaith dros gwrs dŵr sydd i'w lanhau trwy ddulliau peiriannol neu gemegol a'i baentio, neu i'w baentio yn unig, er mwyn rhwystro deunyddiau rhag mynd i'r cwrs dŵr.
16. Wrth gyflawni'r gwaith bydd i'r Contractwr gymeryd pob gofal angenrheidiol er sicrhau amddiffyn yn effeithlon pob afon, nant, dyfrffordd a'r cyffelyb, ynghyd â dŵr mewn haenau tanddaearol, rhag siltio, erydiad a llygredd.
17. Heb ganiatâd ysgrifenedig yr Asiantaeth, ni fydd i'r Contractwr symud ymaith caenen a grynhowyd oherwydd unrhyw gronfa, cored neu lifddor o unrhyw ran o waelod sianel neu wely cwrs dŵr. Ni fydd iddo ymgymryd ag unrhyw symud ymaith o'r fath trwy achosi cludo'r gaenen ymaith mewn daliant yn y dyfroedd, ychwaith. Dylid cael gwared o waddodion a symudir ymaith felly drwy ddull cymeradwy.
18. Bydd i'r Contractwr ddarparu manylion i'r Asiantaeth am unrhyw archwiliadau safle a wneir ar safleoedd yr amheuir eu bod yn llygredig, megis gweithfeydd nwy, gweithfeydd cemegau.
19. Bydd i weithwyr y Contractwr a'r Asiantaeth gydymffurfio â gofynion Deddf Amddiffyn yr Amgylchedd 1990, Deddf Rheoli Llygredd (Diwygiad) 1989, Deddf yr Amgylchedd 1995 a rheolau sy'n deillio ohonynt a chodau ymarfer perthnasol.
20. Yn benodol, bydd Contractwyr a gweithwyr yn sicrhau:
- i. cymeryd pob gofal er sicrhau na adewir gwastraff o unrhyw fath ar dir; ac na achosir ac na chaniateir trin, cadw, neu waredu gwastraff, heplaw tan Drwydded Rheolaeth Gwastraff neu eithriad wedi ei gofrestru gyda'r Asiantaeth, neu yn unol â Thrydded neu eithriad o'r fath;
 - ii. nad yw cynhyrchu, cludo, adennill a gwaredu gwastraff yn achosi llygru'r amgylchedd neu niwed i iechyd dynol, nac yn achosi niwed sylweddol i fwynderau'r cylch;
 - iii. nad yw'r gwastraff yn mynd y tu hwnt i'w reolaeth ef neu unrhyw un arall;

Gofynion Rheolaeth Llygredd

15. Tynnir sylw'r Contractwr at ddarpariaethau rheolaeth llygredd yn Neddff Adnoddau Dŵr 1991. Dylai gymeryd pob gofal er sicrhau na ollyngir unrhyw lygrwr, solet neu hylif, i unrhyw gwrs dŵr neu i'r haenau tanddaearol; ac na wneir unrhyw waith mewn cwrs dŵr mewn modd sydd yn debyg o achosi llygredd. Os digwydd i unrhyw ddeunyddiau syrthio i'r cwrs dŵr yn ddamweiniol, rhaid eu tynnu allan ar unwaith.

Yn benodol, ond heb leihau dim ar gyffredinolrwydd y Cymal hwn, bydd i'r Contractwr:

- i. gael caniatâd a chydsyniad ysgrifenedig yr Asiantaeth, neu ei chydsyniad ysgrifenedig yn unig, cyn gwneud unrhyw ollyngiad i unrhyw gwrs dŵr neu i'r haenau tanddaearol;

atodir taflenni Atal Llygredd yr Asiantaeth i sylw'r Contractwr;

- ii. sicrhau bod pob tanwydd, olew treuliau, neu gemegyn a gedwir mewn crynswth ar y safle wedi eu lleoli cyn belled ag y bo modd rhesymol o unrhyw gwrs dŵr; ac nid, mewn unrhyw achos, yn agosach na 10 metr iddo. Rhaid gosod cyflenwadau o'r fath ar seiliau anhreiddiadwy, a'u hamgylchu gan fwnd effeithiol ac anhreiddiadwy a all ddal holl gynnwys y storfa a 10% yn ychwaneg. Rhaid cadw pob storfa ar glo pan na ddefnyddir mohono. Rhaid i bob cynhwysydd ddwyn label sy'n dangos ei gynnwys yn eglur. Dylid cadw cyflenwad o ddefnydd amsugno olew ar y safle. Bydd cyfundrefn draenio'r bwnd wedi ei selio, heb ollyngiad i unrhyw gwrs dŵr, dir neu ddŵr daear;

- iii. leoli pob offer sydd yn defnyddio olew tanwydd cyn belled i fwrdd ag y bo modd rhesymol o unrhyw gwrs dŵr. Bydd iddo eu hamgylchu â deunydd amsugno olew er mwyn atal unrhyw ollyngiadau. Dylid ail-lenwi offer â thanwydd ymhell o unrhyw gwrs dŵr neu ddraen;

- iv. sicrhau y symudir unrhyw ddrymiau olew neu gynhwysyddion cemegau sydd yn gollwng neu'n wag o'r safle ar unwaith;

- v. ddarparu ar gyfer gwasgaru dros dir glas unrhyw ddŵr lleidiog neu ddrwg ei liw a bwmpwyd o'r gwaith tyllu. Neu, gadael i ddŵr o'r fath waddodi mewn pwll cyn unrhyw ollwng i gwrs dŵr;

- vi. beidio â defnyddio peiriannau yn y cwrs dŵr neu yrru cerbydau ar ei draws heb ganiatâd ysgrifenedig yr Asiantaeth o flaen llaw. Rhaid sicrhau nad yw peiriannau neu gerbydau yn gollwng. Os oes angen croesi yn rheolaidd, dylid defnyddio pontydd neu gwlferau dros dro trwy gydsyniad o flaen llaw yr Asiantaeth;

- vii. grafu lonydd cludo a ffyrdd at y cwrs dŵr yn rheolaidd a'u cadw'n rhydd rhag gaenennau slyri. Rhaid cael gwared o unrhyw slyri o'r fath i rywle y cytunwyd

creating a better place



Mr Ian Grimley
BERR
Onshore Electricity Development Consents
1 Victoria Street
LONDON
SW1H 0ET

Our ref: US/CS/MF/11643
Your ref:
Date: 04 January 2008

Dear Mr Grimley

Request for Information: Proposed Overhead Line – Legacy and Oswestry Sub-stations (SP Manweb)

Thank you for your letter dated 14 December 2007.

Flood Risk Assessment

Flood Risk Management will not be affected provided that poles are not erected on the embankments of rivers and watercourses.

Site Specific Biodiversity Assessment

The alignment is in close proximity to Fernhill Pastures SSSI (SJ321328), this is an important wet meadow site. Additionally there is a record of a Long-eared bat roost in close proximity at SJ322326. Natural England will need to be consulted with regard to these features. On principle it would be preferable to have an alignment less close to the SSSI as this may impact birds, bats and other fauna using the site.. www.naturalengland.org.uk

Additional Assessment

The alignment crosses the River Perry and the Shropshire Union Canal, both these features may be used by birds as flight routes therefore bird deflectors should be installed on the wires to reduce the potential for bird strikes.

With regard to the above crossings, and those of any minor watercourse or pond, pylon footings should be a minimum distance of 5 metres from the bank top of any watercourse/feature. This is to avoid impact on any water vole burrows should this species be present and to ensure the pylons are not at risk from erosion.

Development Control Assessment

The only area of concern in our operational boundary is in the vicinity of SJ 31 33 where the proposed route crosses the River Perry (main river) and several ordinary watercourses/ditches. The enquiry indicates that the works will consist of overhead lines, the enclosed guidance sheet is therefore applicable.

The remainder of the route is not in our operational boundary, so comments from other regions will be required.

Hafren House, Welshpool Road, Shelton, Shrewsbury, SY3 8BB.
Customer services line: 08708 506 506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk



ENVIRONMENT BY PEOPLE

Groundwater and Contaminated Land Assessment

Please note that this comment is based on information provided in the SP Manweb Scoping Report dated November 2007 and relates to possible impact to groundwater and contaminated land only.

Section of overhead line.

Page 5 section 3.8 outlines two particular issues to be considered in detailed routing of the line between the crossing of the River Dee and River Ceiriog. It would appear that the developers are possibly unaware of two small historic landfill sites east of St. Martins (At approximately SJ 333 3694) as these have not been considered in the text but fall within the area of the Ecological Survey Corridor indicated on map number D700.098 REV A sheet 5 of 8. Although the line is shown to pass just to the east of the landfills any small deviation from the route shown on the plans may result in the line crossing these landfills. The Agency would like to be reassured that the developer is aware of these landfills and that this is reported appropriately.

The scoping report appears to adequately address remaining issues for this section of line.

Sections requiring Underground Cable.

The scoping report has not identified the risk posed by or mitigation measures required for the following:

Transformer installation and possible impact to groundwater from transformer oil leaks.

Possible cooling oil leakage to soils and groundwater from cable sections.

The Agency considers these to be serious deficiencies in the report and will require detailed consideration of the above including information regarding any testing protocols that may be suggested as mitigation measures.

I hope that the above comment will be of assistance to you.

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I hope this information meets your needs. If you need to discuss anything further please contact us.

Yours sincerely

MATTHEW WESTON
External Relations Officer
Direct Dial 01743 283412

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1.0 INTRODUCTION

The Environment Agency wishes to ensure that overhead lines do not inhibit or prevent the future machine maintenance of a watercourse. The Agency will liaise closely with the electricity companies regarding the establishment of the preferred route of a line.

2.0 CLEARANCES

There is no national agreement which applies to clearance above waterways and it is dealt with by individual agreement. However, for flood banks, the minimum statutory clearances above ground level (ie. top of flood bank) apply. The Agency recommendations and statutory clearances are given below:

2.1 High voltage overhead lines and towers must give:

- (a) vertical clearance of the overhead line above river banks and flood banks, and
- (b) horizontal clearance of any tower or support from the top of the bank of the watercourse.

VOLTAGE	Vertical Clearance		Horizontal Clearance
	Statutory	Agency (a)	Agency (b)
* 275 KV	7.0m	15m	15m
400 KV	7.6m	15m	15m

*275 KV lines can be uprated and, therefore, sometimes the electricity undertaker will quote clearances appropriate to 400 KV lines.

2.2 The table below gives the current clearances for 132 KV and below:

Vertical Clearance above ground			Horizontal Clearance from bank top.
Voltage	Statutory	Agency (a)	Agency (b)
415V	5.2m	6.0m	9.0m
6.6KV	5.2m	9.0m	10.0m
11KV	5.2m	9.0m	10.0m
33KV	5.2m	9.0m	10.0m
66KV	6.0m	9.0/12.0m	10.0/15.0m
132KV	6.7m	12.0m	15.0m

2.3 Agreements for lines up to and including 33KV should include the proviso that 'the line can be made "dead" for short mutually agreed periods'. The electricity company may switch out a line for a few hours or several days depending on the importance of the line in the system, and other outages. Outages are unlikely to be obtained for lines 132KV and above except with very long notice. For 66KV lines the higher Environment Agency clearances should be adopted when outages will not be given and vice-versa.

2.4 The Agency's Fisheries, Ecology and Recreation Function requires to be consulted regarding overhead lines.

3.0 FLOOD DEFENCE CONSENTS

3.1 A formal Consent for an overhead line can only be issued where the watercourse is a Main River (Section 109 Water Resources Act 1991).

3.2 In relation to other watercourse, the Agency wishes to ensure the application of a similar policy and therefore will seek to 'approve' such crossings.

(NOTE: If any supporting structure lies within the channel of an Ordinary watercourse, a refusal of Consent under Section 23 Land Drainage Act 1991 would be appropriate).

3.3 Temporary Works

Any temporary works affecting the channel of either a Main River or Ordinary watercourse require Consent, as do works in the floodplain of Main Rivers.

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Awdmor (SW)

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www.wrexham.gov.uk www.wrecsam.gov.uk



Ian Grimley
BERR

Onshore Electricity Development Consents
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London SW1H 0ET

Your Ref/Eich Cyf
Our Ref/Ein Cyf
Date/Dyddiad
Ask for/Gorynner am
Direct Dial/Rhit Union
E-mail/E-bost

11 January 2008
Richard Sumner
01978 292478
richard.sumner@wrexham.gov.uk

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2000
PROPOSED LEGACY OSWESTRY TRANSMISSION LINE: SP MANWEB

Dear Mr Grimley

I confirm that Wrexham County Borough Council has been in discussion with Claire Watson of SP Energy Works and colleagues with regard to the scoping of potential impacts of the scheme upon landscape, ecology and listed building interests, within the authority

I confirm that the Scoping Report November 2007 and Report of Consultation November 2007 refers to sensitive sites within the authority which could experience potential impacts and therefore are to be assessed within the Environmental Impact Statement

Yours sincerely

Richard Sumner
Landscape Officer
for Chief Planning Officer

CC David Williams
Zara Lornax

WCBC Principal Planning Officer
WCBC Ecologist



Economy & Environment
 Corporate Director: Penny Spencer
 Shirehall, Abbey Foregate
 Shrewsbury, SY2 6ND



Mr Ian Grimley
 Manager, Overhead Lines
 Department for Business, Enterprise
 and Regulatory Reform (Onshore
 Electricity Development Consents)
 1 Victoria Street
 London SW1H 0ET

website: www.shropshire.gov.uk

Date: 5 February 2008

e-mail: malcolm.bell@shropshire-cc.gov.uk

My ref
 MGB/DHW

Your ref

Tel (01743)
 252553

Fax (01743)
 252505

Please ask for
 Malcolm Bell

Dear Mr Grimley

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
 (ENGLAND AND WALES) REGULATIONS 2000. PROPOSED LEGACY
 OSWESTRY TRANSMISSION LINE: SP MANWEB**

I refer to your letter dated 14 December 2007 seeking this authority's views on the Scoping Opinion requested by SP Manweb in connection with the above application.

I would apologise for the delay in replying but I have taken into account the views of other colleagues on various elements of the proposed development.

It is recognised that the Scoping Report is a comprehensive document, but it is also recognised that there are a number of points listed below which should be addressed further or amplified. These would include for example the level of survey work for European Protected Species. You will also note that there are, for example, two instances where the seeking of clearer guidance from Natural England is also recommended.

In relation to Ecology and Nature Conservation the following matters are brought to your attention:-

- Page 8, Para 4.10 Dust - The spread of nutrient rich dust from arable land could adversely affect priority habitats or water bodies. Under the sources of environmental effects in the following table include "working areas" and "crossing water courses".
- Page 9, Table 1 including Potential environment effects - Add bats to "disruption to bird flight patterns/bird strike"

Cont./...

- Page 10, Prediction method - Need to consult historic records. Dormice have been found in woodlands south and west of Oswestry. Good dormouse habitat should be surveyed as a precaution.
Sources of Information - Add Shropshire Botanical Society and Shropshire Badger Group as the Shropshire Wildlife Trust do not hold all species records.
- Page 11, Soils and Land Management - Add water bodies to "Receptors" section.
- Page 19, - In relation to the second paragraph dealing with potential ecological receptors, Great Crested Newts and Dormice are European Protected Species as well as otters and bats. In the last paragraph of the section entitled "Determining Value" it should not be implied that BAP habitats are not important; they are clearly a material consideration in planning terms.
- Page 21, Points 3 and 4 - It should be noted that bat foraging and flight lines are also important e.g. along hedge lines and woodland edges. In suitable habitat dormice should also be checked.
- Page 23, Point 18 dealing with Designated Sites and Habitats of Value - The possible effects resulting from loss of trees/woodland to give power lines the required clearance and width and any fragmentation of hedges need to be incorporated.

The County Ecologist notes as a general point that Licences are now obtained from Natural England not Defra (as is mentioned in several places).
In table 1 on page 23:- Bats foraging/flight lines are not mentioned. Need also to consider possibility of dormice in good habitat. BAP species are also of "nature conservation concern".

- Page 26, "likely biophysical changes" - Is there a need to assess whether there may be some permanent losses as a result of access tracks for longer term maintenance. Would question whether taking down trees, with a good potential for bat roosts, in April and October would remove the need for emergence surveys. It would be advisable to contact Natural England specifically on this point. As a general point there are references only to trees when assessing relationships to bats and birds; other matters such as hedges and scrub, ground nesting birds etc. could also be addressed.

Cont./...

- Page 27 - When long herbaceous vegetation, scrub, hedges and woodland are involved, it is considered that the proposed level of survey for GCNs is too low, particularly for those ponds within 100 metres. Seeking early advice from Natural England (English Nature's replacement) would be beneficial.

In relation to Landscape and Visual Impact Assessment there is, in general, broad acceptance of the information that it is proposed to cover in the "Scope" of the Environmental Statement. Nevertheless there may be some benefit in discussing some aspects of the Environmental Statement before it is submitted.

- Page 9, Table 1 - Under "Sources of Information" it would be beneficial to include Historic Landscape Characterisation data. This would assist in the understanding of the "changes to the character/quality of historic landscapes" (Relevant information is likely to be published in the Spring/Summer 2008). Information could be provided to consultants under a Data Sharing Agreement.

In relation to Cultural Heritage, the Scoping Report as it relates to the cultural heritage (archaeology) element of the project is generally acceptable. The County's Historic Environment Officer has reiterated his previous offer to provide comments on the developing Environmental Statement.

I trust that the above responses are of assistance in the next stages of the project. Please contact me if further clarification is required.

Yours sincerely



M G Bell
Head of Planning Development Control



NORTH SHROPSHIRE
DISTRICT COUNCIL

North Shropshire District Council

Edinburgh House, New Street, Wem,
Shrewsbury, Shropshire, SY4 5DB
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enquiries@northshropshiredc.gov.uk
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Mr I Grimley
BERR
Onshore Electricity Development Consents
1 Victoria Street
London
SW1H 0ET

Our ref: 07/02373/ENQ
Your ref:
Please ask for: Karen Townend
Telephone: 01939 238484
Date: 19 December 2007

Dear Mr Grimley

Town and Country Planning Act 1990

Town and Country Planning (Environmental Impact Assessment) Regulations 1999.

Ref: Proposed legacy Oswestry transmission line: SP Manweb.

I refer to your letter regarding the above proposed development. Scottish Power Manweb recently wrote the North Shropshire District Council requesting a scoping opinion.

Please find enclosed a copy of the reply sent to them.

Yours sincerely,

Principal Planning Officer.



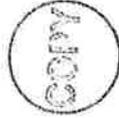
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DISTRICT COUNCIL

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The most
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Ms C Watson
SP Energy Network
Environmental Planning
3 Prenton Way
Prenton
Merseyside
CH43 3ET



Our ref: 07/02373/ENQ
Your ref: LOCW/0726
Please ask for: Karen Townend
Telephone: 01939 238484

Date: 13 December 2007

Dear

Town and Country Planning Act 1990
Town and Country Planning (Environmental Impact Assessment) Regulations
1999.

In accordance with Section 10 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, this letter comprises the scoping opinion of North Shropshire District Council. This scoping opinion is based on the information provided by SP Manweb on 6th December 2007.

Schedule 4 of the Regulations details what information is required in an Environmental Statement, in addition to these standard requirements the Council recognises the issues raised in the scoping document are relevant. A number of these issues identified the need for further work to be carried out and the Council would wish to see this information submitted as part of the Environmental Statement.

Given the small section of line within North Shropshire District the Local Planning Authority does not wish to comment any further on the content of the Environmental Statement to be submitted.

A copy of this scoping opinion will be placed on the public register and will be available for public inspection for a period of two years.

Should you have any further queries please do not hesitate to contact me.

Yours sincerely,

Principal Planning Officer.

Grimley Ian (Mr ID) EDU

From: Rob Bennett [Rob.Bennett@oswestry-bc.gov.uk]
Sent: 10 January 2008 15:40
To: Grimley Ian (Mr ID) EDU
Subject: Proposed overhead line between Legacy and Oswestry, Shropshire

Mr Grimley,

I refer to my recent e mail regarding the Scoping Opinion for the above project.

The Council's Conservation Officer has asked for the following additional comments to be passed on to you:-

"The line will have a specific impact on the character and setting of a number of locally important parkland settings around Fernhill and Great Fernhill Hall, including the setting of the historic buildings.

There is also potential adverse impact on the setting of Llangollen Canal, a potential conservation area and the setting of the New Marton Locks and bridge. The locks are Listed. By taking a route across such open landscape the impact would be heightened.

There are a number of Listed properties around Whiggington and their setting might be compromised by the line.eg. Pen y Bryn, Plas Whiggington, Whiggington Hall.

The impact on the Listed Buildings, any potential Conservation Areas, Scheduled Monuments and underground archaeology needs to be taken into consideration when the line of the Power Line is considered."

Would you be good enough to have regard to these observations when considering the Scoping Opinion.

Regards

Rob Bennett

Planning Officer

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Grimley lan (Mr ID) EDU

From: Rob Bennett [Rob.Bennett@oswestry-bc.gov.uk]
Sent: 08 January 2008 16:35
To: Grimley lan (Mr ID) EDU
Subject: Proposed Overhead line from Legacy to Oswestry, Shropshire

Mr Grimley,

I refer to your letter of 14th December 2007 regarding the above.

It is my view that Environmental Impact Assessments should be required in respect of each of the possible routes so that a comparative assessment of each can be made.

Specifically I would take this opportunity to point out that the proposed route shown on map no D700.068 Rev B, Sheet 4 of 8, is not acceptable as the overhead line would go across part of Ifton Meadow Local Nature Reserve.

The proposed route shown on map no D700.098 Rev A is more acceptable and would be our preferred route in the St Martins area.

I am aware that one landowner impacted by the proposals is opposed to the idea of a new overhead line and feels that the 483 corridor should be closely examined. No doubt he will make representations to you direct.

Regards

Rob Bennett
Planning Officer

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Your Ref:
Our Ref: DD/ELP
Date: 1st April 2008
Contact: Mr. P. Shevlin
Tel No: 01691 677201

→ 10m - 15 sec
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7/4



The Council of the Borough of
OSWESTRY

Elin Jones,
Minister for Rural Affairs,
Welsh Assembly Government,
Cardiff Bay,
CARDIFF
CF99 1NA

Castle View
Oswestry
Shropshire SY11 1JR

Phone 01691 671111
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www.oswestrybc.gov.uk
DX 26610

Dear Minister,

PROPOSED 132KV OVERHEAD LINE ROUTE BETWEEN LEGACY SUBSTATION, WREXHAM AND OSWESTRY SUB STATION – ROUTE CONSULTATION

At a meeting of my Council's Scrutiny Committee on 18th March, SP Manweb's proposals to provide a power line from Wrexham to the Welshpool/Newtown area, via Oswestry Sub-Station was considered. The Committee was extremely disappointed with SP Manweb's failure to take notice of the local community and my Council's previous response to the proposed route.

Reflecting considerable strength of feeling in the locality, my Committee is concerned that SP Manweb's plans could cause immense damage to the environment in an area of outstanding natural beauty, indeed a proposed world heritage site. One of the main reasons for SP Manweb not following the A5/A483 corridor, as my Committee had suggested, was the Welsh Assembly's refusal to permit this and the passing of electricity cables in the voids of the two viaducts on route.

It was therefore the urgent request of the Committee that I write to the Welsh Assembly to seek your assistance in this matter. A copy of my letter to SP Manweb is enclosed which sets out in detail the Committee's response which may be helpful to you.

I have also copied this letter to Karen Sinclair, Assembly Member, Clwyd South and to Lawrence Cadman, Business Energy & Regulatory Reform Consent Team, as I understand from the Welsh Assembly's Marilyn Edwards, from my initial contact via the WA website, that consents of this nature would normally be referred to the BERR.

I hope you will be able to give support to the concern of my Councillors and I look forward to hearing from you.

Yours sincerely,

Paul Shevlin
Chief Executive

Copies To:

Karen Sinclair, Assembly Member, Clwyd South, Welsh Assembly Government, Cardiff Bay, CF99 1NA
Lawrence Cadman, Business Energy & Regulatory Reform Consents Team for the Welsh Assembly Government, 1 Victoria Street, London

Paul Shevlin, M.B.A., B.Sc.(Hons), M.C.I.E.H., F.C.I.H.
Chief Executive
email: paul.shevlin@oswestry-bc.gov.uk



Your Ref:
Our Ref: DD/ELP
Date: 1st April 2008
Contact: Mr. P. Shevlin
Tel No: 01691 677201



The Council of the Borough of
OSWESTRY

Environmental Planning,
Scottish Power Energy Networks,
Prenton Way,
Merseyside
CH1 3ET

Castle View
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For the attention of Ms Claire Watson

Dear Ms. Watson,

PROPOSED 132KV OVERHEAD LINE ROUTE BETWEEN LEGACY SUBSTATION, WREXHAM AND OSWESTRY SUB STATION – ROUTE CONSULTATION

Thank you for your letter of 5th March 2008 and for providing a copy of SPN's presentation with additional slides.

My Scrutiny Committee met on 18th March and considered your response, with which they were extremely disappointed and dismayed that you had not provided a map of the proposed corridor through Glyn Morlas. They have asked me to write to you with the following comments:-

- You stated that Legacy was the closest grid supply point to Welshpool and Newtown area and this was not accepted, as Ironbridge could supply this power and is considerably closer than running a line from Ruabon to Oswestry to achieve this. Have you explored this in any detail and undertaken a costed scheme? They accept that you have to avoid Shrewsbury, but if a route was taken from the North East of the town, there is then very little settlement between Shrewsbury and Welshpool.
- It was felt you were proposing a route through Glyn Morlas because of the request for a power supply from Kronospan. Surely Kronospan could be encouraged to seek an alternative supply because of the environmental impact this proposal would cause in Glyn Morlas. My Committee will write regarding this issue to Kronospan.
- The Committee still maintains its current position in that the most direct route from Legacy to Oswestry is along the A5/A483 corridor
- They are dismayed that you are still maintaining your proposal to bulldoze your way through countryside of outstanding natural beauty, doing immense harm to our natural flora, fauna and ecology and leaving an immense scar on the landscape for generations to come.
- They are further dismayed that you discounted the A5/A483 corridor because of the refusal of the Welsh Assembly to permit electricity cables in the voids of the two viaducts or along the A5/A483 road, and they intend to contact the Welsh Assembly about this issue.

Paul Shevlin, M.B.A., B.Sc.(Hons), M.C.I.E.H., F.C.I.H.
Chief Executive
email: paul.shevlin@oswestry-bc.gov.uk

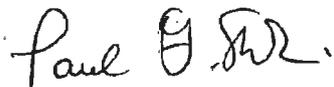


- The Committee is astounded that you blame the issue of cost for the proposed routing of the overhead line when it is clear from your presentation that for both overhead and underground routing along the A5/A483, the savings are clear, both financially and environmentally.

The Borough Council has a duty to protect the countryside and the local environment, taking account of the health and wishes of the local community. If you are not prepared to consider an alternative power supply from the south of the County, then my Committee urge you to reconsider the A5/A483 corridor with as much as the cable buried as is possible.

I hope you will reconsider this very serious issue most carefully and I look forward to a favourable response from you.

Yours sincerely,



Chief Executive

Paul Shevlin, M.B.A., B.Sc.(Hons), M.C.I.E.H., F.C.I.H.
Chief Executive
email: paul.shevlin@oswestry-bc.gov.uk

Your Ref:
Our Ref: RPB/ELP
Date: 14th March 2008
Contact: Mr. R. P. Bennett
Tel No: 01691 677258



The Council of the Borough of
OSWESTRY

Mr. Ian Grimley,
Manager, Overhead Lines,
Department of Business Enterprise and
Regulatory Reform,
1 Victoria Street,
LONDON SW1H 0ET

Castle View
Oswestry
Shropshire SY11 1JR

Phone 01691 671111
Fax 01691 677348
www.oswestrybc.gov.uk
DX 26610

Dear Mr. Grimley,

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2000
PROPOSED LEGACY TO OSWESTRY TRANSMISSION LINE: SP MANWEB**

I refer to your letter of the 14th December 2007 and enclose for your consideration copies of letters that have been sent to the Borough Council regarding the above proposed line.

Yours sincerely,

Planning Officer

Dave Jones, M.R.I.C.S.
Director of Community Services and Deputy Chief Executive
email: rob.bennett@oswestry-bc.gov.uk



APPENDIX 5A Guidance for overhead line routeing

APPENDIX 5A: Guidance for overhead line routeing

The following guidance is supplementary to the Holford Rules outlined in Chapter 5: Route Selection Process.

National Grid Company Supplementary Notes (1992)

- 'Residential areas: Avoid routeing close to residential areas as far as possible on grounds of general amenity
- Designations of County, District and Local Value: Where possible choose route which minimise the effect on Special Landscape Areas, Areas of Great Landscape Value and other designations of County, District of Local value
- Alternative Tower Designs: In addition to adopting appropriate routeing, evaluate where appropriate the use of alternative tower designs now available where these would be advantageous visually and where the extra cost can be justified'.

SHETL Notes 2004 (adapted to identify English and Welsh designations)

Notes on Rule 1:

- Investigate the possibility of alternative routes, avoiding if possible major areas of highest amenity value. If there is an existing transmission line through an area of highest amenity value and the surrounding land use has to some extent adjusted to its presence, particularly in the case of commercial forestry, then the effect of remaining on this route must be considered in terms of the effect of a new route avoiding the area.
- Areas of highest amenity value require to be established on a project by project basis considering planning guidance and the spatial extent of areas identified.
- Examples of areas of highest amenity value which should be considered are:
 - Special Area of Conservation
 - Special Protection Area
 - Ramsar Site
 - National Parks
 - Areas of Outstanding Natural Beauty
 - National Nature Reserves
 - Protected Coastal Zone Designations
 - Sites of Special Scientific Interest (SSSI)
 - Scheduled Monuments
 - Listed Buildings
 - Conservation Areas
 - World Heritage Sites (a non-statutory designation)
 - Historic Gardens and Designed Landscapes (a non-statutory designation)

Notes on Rule 2:

- Small areas of highest amenity value not included in Rule 1 as a result of their spatial extent should be identified along with other areas of regional or local high amenity value identified from development plans.
- Effects on the setting of historic buildings and other cultural heritage features should be minimised.
- If there is an existing transmission line through an area of high amenity value and the surrounding land uses have to some extent adjusted to its presence, particularly in the case of commercial forestry, then the effect of remaining on this line must be considered in terms of the effect of a new route deviating around the area.

Note on Rule 3:

- Where possible choose inconspicuous locations for angle towers, terminal towers and sealing end compounds.
- Too few angles on flat landscape can also lead to visual intrusion through very long straight lines of towers, particularly when seen nearly along the line.

Notes on Rules 4 and 5:

- Utilise background and foreground features to reduce the apparent height and domination of towers from main viewpoints.
- Minimise the exposure of numbers of towers on prominent ridges and skylines.
- Where possible follow open space and run alongside, not through woodland or commercial forestry and consider opportunities for skirting edges of copses and woods. Where there is no reasonable alternative to cutting through woodland or commercial forestry the Forestry Commission Guidelines should be followed (Forest Landscape Design Guidelines, second edition, The Forestry Commission 1994 and Forest Design Planning – A Guide to Good Practice, Simon Bell/The Forest Authority 1998)

Notes on Rule 6:

- In all locations minimise confusing appearance.
- Arrange wherever practicable that parallel or closely related routes are planned with tower types, spans and conductors forming a coherent appearance; where routes need to diverge, allow where practicable sufficient separation to limit the effects on properties and features between lines.

Notes on Rule 7:

- When a line needs to pass through a development area, route it so as to minimise as far as possible the effect on development.
- Alignments should be chosen after consideration of effects on the amenity of existing development and on proposals for new development.
- When siting substations take account of the effects of the terminal towers and line connections that will need to be made and take advantage of screening features such as ground form and vegetation.

Explanatory note on Rule 7:

- The assumption made in Rule 7 is that the highest voltage line is overhead.

Forestry Commission Guidelines

The guidelines specify design parameters for routeing transmission line corridors through woodland areas:

- Route transmission lines to follow open space and to run along side not through woodland
- Where there is no alternative route, a power line through a forest should avoid areas of landscape sensitivity; avoid the line of sight of important views; be kept in valleys and depressions; not divide a hill into two similar parts where it crosses over a summit; cross skyline or ridges where they drop to a low point; follow alignments diagonal to the contour as far as possible; and be inflected upwards in hollows and downwards on ridges.

Planning and Amenity Aspects of High Voltage Transmission Lines and Substations, National Grid, first published 1997, reprinted 1999

This document refers to the selection of an overhead line route as being a balance between various factors or constraints. In selecting a route the visual effect should be minimised in terms of the number of people affected and the degree to which they are affected. The

nature and topography of the area should be considered along with any statutory protection. Routes should seek to avoid crossing the highest contours where the line would be most prominent, and the quality of the landscape and its ability to accommodate an overhead line should also be taken into account. Existing vegetation, buildings and topography should be utilised for their screening ability where possible and when viewed from principle viewpoints an overhead line should ideally be viewed against a background of existing landscape or development rather than sky.

It is however noted in this publication that a number of potential conflicts of interest may exist in establishing a new overhead line route. For example the best route through a landscape may be to follow a river valley rather than the adjacent higher ground where the effect outside the valley will be minimised. The valley is however likely to be more intensively populated and likely to contain transport corridors and the most versatile agricultural land, which may lead to the route having a greater effect on a larger number of people. The upland areas on the other hand may have relatively little development and fewer dwellings but are likely to be covered by protective designations. In practise a combination of many factors needs to be considered and the route selection will vary on a case by case basis and in response to individual circumstances.

APPENDIX 7A
SUMMARY OF RELEVANT PLANNING POLICY

APPENDIX 7A Summary of Relevant Planning Policy

Planning Policies and Guidance contained within the study area	Description
National Planning Guidance (England)	
<i>Changes were made to National Planning Policy in England in 2012 with the introduction of the National Planning Policy Framework (NPPF). The sections of the NPPF that are relevant to the proposed development are detailed below. The majority of PPGs and PPSs that were relevant to the proposed development have been replaced by the NPPF (NPPF, 2012: Annex 3), which include: PPS1: Delivering Sustainable Development (2005); PPG2: Green Belts (January 1995); PPS5 Planning for the Historic Environment (March 2012); PPS7: Sustainable Development in Rural Areas (August 2004); PPS9: Biodiversity and Geological Conservation (August 2005); and PPS25: Planning and Flood Risk (March 2010)</i>	
<u>NPPF: Section 3: Supporting a Prosperous Rural Economy (March 2012)</u>	<u>The NPPF encourages the support of economic growth in rural areas in order to create jobs and prosperity by taking a positive approach to sustainable new development.</u>
<u>NPPF: Section 4: Promoting Sustainable Transport (March 2012)</u>	<u>The Government attaches great importance to the role transport can play in facilitating sustainable development. All developments that generate significant amount of movements should be supported by a Transport Statement or a Transport Assessment. Plans should take account of whether:</u> <ul style="list-style-type: none"> • <u>The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;</u> • <u>Safe and suitable access to the site can be achieved for all people; and</u> • <u>Cost –effective improvements can be undertaken within the transport network that cosy effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.</u>
<u>NPPF: Section 7: Requiring Good Design (March 2012)</u>	<u>The Government emphasises the importance of the design of the built environment. The NPPF outlines that good design is key aspect of sustainable development and should contribute to making places better for people. The NPPF lists qualities that developments should achieve, including:</u> <ul style="list-style-type: none"> • <u>Will function well and add to the overall quality of the area;</u> • <u>Establish a strong sense of place;</u> • <u>Optimise the potential of the site to accommodate development;</u> • <u>Respond to local character and history, and reflect the identity of local surroundings and materials, whilst not preventing or discouraging appropriate innovation;</u> • <u>Create safe and accessible environments;</u> • <u>Are visually attractive as a result of good architecture and appropriate landscaping.</u> <p><u>The NPPF emphasises the importance of applicants to work closely with those directly affected by proposals to evolve designs and take account of the views of the community.</u></p>

<p><u>NPPF: Section 9: Protecting Green Belt Land (March 2012)</u></p>	<p><u>The Government attaches great importance to Green Belts. The aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The Framework encourages local planning authorities to regard the construction of new buildings as inappropriate in the Green Belt. Exceptions to this include:</u></p> <ul style="list-style-type: none"> • <u>Buildings for agriculture and forestry;</u> • <u>Provision of appropriate facilities for sport, outdoor recreation and for cemeteries, as long as it preserves the openness of the Green Belt and does not conflict with the purposes of including land within it;</u> • <u>The extension or alteration of a building provided that it does not result in disproportionate additions over and above the size of the original building;</u> • <u>The replacement of a building, provided the new building is in the same use and not materially larger than the one it replaces;</u> • <u>Limited infilling in villages, and limited affordable housing for local community needs; and</u> • <u>Limited infilling or the partial or complete redevelopment of previously developed sites.</u>
<p><u>NPPF: Section 10: Meeting the Challenge of Climate Change, Flooding and Coastal Change (March 2012)</u></p>	<p><u>The NPPF places emphasis on the role planning plays to reduce greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. Local planning authorities are encouraged to mitigate for and adapt to climate change including flood risk, coastal change and water supply.</u></p>
<p><u>NPPF: Section 11: Conserving and Enhancing the Natural Environment (March 2012)</u></p>	<p><u>The NPPF identifies the importance for developments to enhance the natural and local environment by protecting and enhancing valued landscapes, geological conservation interests and soils, recognising the wider benefits of ecosystems, minimising the impacts on biodiversity and increasing the net gains in biodiversity, and prevent risk from unacceptable levels of effects on soil, air, water, noise pollution and land instability.</u></p>
<p><u>NPPF: Section 12: Conserving and Enhancing the Historic Environment (March 2012)</u></p>	<p><u>The NPPF encourages applicants to describe the significance of any heritage assets affected by the proposed development. The level of detail should be proportionate to the assets' importance to understand the potential impact of the proposal on the asset.</u></p>
<p>Planning Policies and Guidance contained within the study area</p>	<p>Description</p>
<p>National Planning Guidance TANs (Wales)</p>	
<p>TAN 5: Nature Conservation and Planning (2009)</p>	<p>TAN 5 gives advice on development control issues for Special Protection Areas (SPAs), Special Areas of Conservation (SACs), and Sites of Special Scientific Interest (SSSIs). It also covers the selection and designation of non-statutory nature conservation sites, such as local nature reserves, and the protection of species, commons and greens.</p>
<p><u>TAN 6: Planning for Sustainable Rural Communities (2010)</u></p>	<p><u>TAN 6 advises on in supporting the delivery of sustainable rural communities. Planning authorities are expected to support the diversification of the rural economy as a way to provide local employment opportunities, increase local economic prosperity and minimise the need to travel for employment.</u></p>
<p>TAN 15: Development and Flood Risk (2004)</p>	<p>TAN 15 describes the Environment Agency's (EA) role in exercising a general supervision of flood defence matters. Local authorities are expected to use their powers to guide development away from areas that may be affected by flooding, and to restrict development that would itself increase the risk of flooding or would interfere in the ability of the EA or other bodies to carry out flood control works or maintenance.</p>
<p>TAN 18: Transport (2007)</p>	<p>TAN 18 observes that by guiding the location of new development, reducing the need to travel, and promoting transport choices which are less polluting, land-use planning can contribute to long-term environmental improvement.</p>
<p>Regional Spatial Strategy for the West Midlands adopted June 2004, January 2008 revision</p>	

It is the Government's policy intention to revoke existing regional strategies outside London, but this is subject to the outcome of environmental assessments and will not be undertaken until the Secretary of State and Parliament have had the opportunity to consider the findings of the assessments. The environmental report on the revocation of the West Midlands Spatial Strategy was published in 2011 and was subject to consultation until January 2012. Until such time as the RSS is revoked, it is considered to be current policy and has been retained in the updated Environmental Statement for completeness.

QE1: Conserving and Enhancing the Environment	Environmental capital of all parts of the region will be maintained and improved as a key component of the spatial strategy in order to underpin the overall quality of life in all areas and support wider economic and social objectives. This will be achieved by protecting and enhancing special areas of the Region; protecting and enhancing irreplaceable assets; and protecting and enhancing the distinctive character of different parts of the Region.
QE5: Protection and enhancement of the Historic Environment	Development plans and other strategies should identify, conserve and enhance the regions diverse historic environment and manage change in such a way that it respects local character and distinctiveness. Of particular historic significance are: historic rural landscapes and their settlement patterns and listed buildings, scheduled and unscheduled ancient monuments, conservation areas, historic parks and gardens and battlefields.
QE6: The conservation, enhancement and restoration of the Region's landscape	Local authorities and other agencies should, through the planning process, conserve, enhance and where necessary restore the quality, diversity and distinctiveness of landscape character throughout the Regions urban and rural areas by protecting and where possible enhancing natural, man-made and historic features that contribute to the character of the landscape and local distinctiveness. Development plans and other strategies will provide the strongest level of protection for the Regions nationally designated landscapes the Areas of Outstanding Natural Beauty as follows: Shropshire Hills; Cannock Chase; Wye Valley; Malvern Hills; Cotswolds.
QE7: Protecting, managing and enhancing the Region's Biodiversity and Nature Conservation Resources.	All plans and programmes of the local authorities and other relevant agencies in the West Midlands should encourage the maintenance and enhancement of the Region's wider biodiversity resources giving priority to species and habitats of international, national and sub-regional importance as identified in Biodiversity Action Plans. Plans and programmes should also incorporate policies on how the Region can achieve its minimum UK Biodiversity Action Plan targets, those of local partnerships and take a common approach to biodiversity and nature conservation issues which cross local planning authority and Regional boundaries.
QE8: Forestry and Woodlands	Local authorities and other agencies should identify and support opportunities for the planting and management of woodland. Development plans, other strategies and programmes should encourage tree cover in the region to be increased where it is appropriate to the character of the area in ways that reinforce and support the RPG spatial strategy. Development plans and other strategies should seek to conserve and protect woodlands, especially ancient and semi natural woodlands by prohibiting the conversion of semi natural woodlands to other land uses unless there are overriding conservation benefits; increase protection of ancient woodland and semi – natural woodland sites; exercise general presumption against the conversion of any woodland to other land uses unless there are overriding public benefits.
QE9: The Water Environment	Development plan policies and Environment Agency plans should coordinate to protect and enhance wetlands species and habitats, particularly those subject to Local BAP and maintain and enhance river and inland waterway corridors as a key strategic resource in particular helping to secure regional aims for the conservation of the natural built and historic environment.
RR2: The Rural Regeneration Zone	A focussed investment zone identified on the Spatial Strategy Diagram. Emphasis will be given to several measures , including supporting existing businesses and attracting appropriate new economic activity, and maintaining and enhancing the environmental assets of the area, and minimising negative effects of development.

Wales Spatial Plan: North East Wales – Border and Coast Area (Interim Statement 2008)

Building Sustainable Communities	The main strands of the strategy for the cross border area (England/Wales) include: <ul style="list-style-type: none"> - supporting the strategic hub of Chester/Wrexham/Deeside; - protection and enhancement of sensitive areas of natural, built and historic importance
Promoting a Sustainable Economy	An important aspect in developing the economic base of the North East Wales area will be to recognise its spatial 'distinctiveness' – high environmental quality, prominence of the tourism sector and public sector employment. Tourism is identified as a key driver for the social, economic and environmental development of the region. Areas highlighted for targeted marketing include North Wales Borderlands.

Sustainable Accessibility	Priorities in the transport strategy for the cross border region include: - the A483/M54 corridor which provides key linkages via Wrexham to the West Midlands and South East of England.
Valuing our Environment	The River Dee and particularly its estuary are considered to be defining features of the area.
Respecting Distinctiveness	Suggestions to maximise the potential from the heritage sector within NE Wales include: - the waterways heritage of the Llangollen Canal, specifically for NE Wales, the Pontcysyllte Aqueduct which may receive World Heritage status by 2009; - scope to develop the tourism potential of the Marcher Castles of the Welsh Borders, including Chirk, where the National Trust have a major development at the preliminary planning stage.

Planning Policies and Guidance contained within the study area	Description
<u>The creation of Shropshire Council in 2009 merged North Shropshire Council and Oswestry Borough Council and transferred the responsibility for planning policy and decision making. The Shropshire Council Core Strategy was adopted in 2011 replacing many of the previously saved policies from the Local Authorities Local Plan's. The saved policies from the Local Authorities Local Plan's that remain adopted, and the policies from the Shropshire Core Strategy that are relevant to the proposed development are identified below.</u>	
<u>Shropshire Local Development Framework: Core Strategy to 2026 Adopted March 2011</u>	
<u>Policy CS5: Countryside and Green Belt</u>	<u>New development will be strictly controlled in accordance with national planning policies protecting the countryside and Green Belt.</u> <u>(Replaces North Shropshire Local Plan Policy L1: Development in the Countryside)</u> <u>(Replaces Oswestry Local Plan Policy NE2: New development in the Countryside)</u>
<u>Policy CS6: Sustainable Design and Development Principles</u>	<u>To create sustainable places, development will be designed to a high quality using sustainable design principles, to achieve an inclusive and accessible environment which respects and enhances local distinctiveness and which mitigates and adapts to climate change. Proposals resulting in the loss of existing facilities, services or amenities will be resisted unless provision is made for equivalent or improved provision, or it can be clearly demonstrated that the existing facility, service or amenity is not viable over the long term.</u> <u>(Replaces North Shropshire Local Plan Policies D1: General Development Control; C1: Conservation Areas; L1: Development in the Countryside; L3: Sites of Special Conservation Value; L5: Areas of Special Environmental Interest; L6: Tree Preservation; and L7: Protected Species).</u> <u>(Replaces Oswestry Local Plan Policies NE1: Areas of Special Landscape Character; NE2: New development in the Countryside; NE3: Agricultural Land; HE1: Development of the Historic Environment; HE12: Areas of Environmental Character; HE13: Archaeological Remains of National Importance; HE14: Archaeological Sites of Regional or Local Importance; and HE16: Assessment of Sites of Archaeological Importance).</u>
<u>CS7: Communications and Transport</u>	<u>A sustainable pattern of development requires the maintenance and improvement of integrated, accessible, attractive, safe and reliable communication and transport infrastructure and services. These need to provide a range of opportunities for communication and transport which meet social, economic and environmental objectives by improving accessibility, managing the need to travel, offering options for different travel needs and reducing the impacts of transport.</u>

<p><u>CS8: Facilities, services and infrastructure provision</u></p>	<p><u>The development of sustainable places in Shropshire with safe and healthy communities where residents enjoy a high quality of life will be assisted by:</u></p> <ul style="list-style-type: none"> • <u>Protecting and enhancing existing facilities, services and amenities that contribute to the quality of life of residents and visitors;</u> • <u>Preserving and improving access to facilities and services wherever possible, including access to information and communication technologies (ICT), throughout Shropshire;</u> • <u>Facilitating the timely provision of additional facilities, services and infrastructure to meet identified needs, as outlined in the LDF Implementation Plan whether arising from new developments or existing community need, in locations that are appropriate and accessible;</u> • <u>Positively encouraging infrastructure, where this has no significant adverse impact on recognised environmental assets, that mitigates and adapts to climate change, including decentralised, low carbon and renewable energy generation, and working closely with network providers to ensure provision of necessary energy distribution networks.</u>
<p><u>CS9: Infrastructure contributions</u></p>	<p><u>Development that provides additional dwellings or employment premises will help deliver more sustainable communities by making contributions to local infrastructure in proportion to its scale and the sustainability of its location, in the following order of priority:</u></p> <ol style="list-style-type: none"> <u>1 Critical infrastructure that is necessary to ensure adequate provision of essential utilities, facilities, water management and safe access for the development including that identified in the LDF Implementation Plan;</u> <u>2 Priority infrastructure, as identified in the LDF Implementation Plan, including contributions from residential developments towards affordable housing as required to meet Policy CS11 Type and Affordability of Housing;</u> <u>3 Key infrastructure as identified in the LDF Implementation Plan.</u>
<p><u>Policy CS17: Environmental Networks</u></p>	<p><u>Development will identify, protect, enhance, expand and connect Shropshire's environmental assets, to create a multifunctional network of natural and historic resources.</u></p> <ul style="list-style-type: none"> • <u>Protects and enhances the diversity, high quality and local character of Shropshire's natural, built and historic environment, and does not adversely affect the visual, ecological, geological, heritage or recreational values and functions of these assets, their immediate surroundings or their connecting corridors;</u> • <u>Contributes to local distinctiveness, having regard to the quality of Shropshire's environment, including landscape, biodiversity and heritage assets, such as the Shropshire Hills AONB, the Meres and Mosses and the World Heritage Sites at Pontcysyllte Aqueduct and Canal and Ironbridge Gorge;</u> • <u>Does not have a significant adverse impact on Shropshire's environmental assets and does not create barriers or sever links between dependant sites;</u> • <u>Secures financial contributions, in accordance with Policies CS8 and CS9, towards the creation of new, and improvement to existing, environmental sites and corridors, the removal of barriers between sites, and provision for long term management and maintenance. Sites and corridors are identified in the LDF evidence base and will be regularly monitored and updated.</u> <p><u>(Replaces North Shropshire Local Plan Policies L1: Development in the Countryside; L3: Sites of Special Conservation Value; L5: Areas of Special Environmental Interest; L6: Tree Preservation; and L7: Protected Species)</u></p> <p><u>(Replaces Oswestry Local Plan Policies NE8: Ramsar Sites, Special Protection Areas and Special Areas of Conservation; NE9: Sites of Special Scientific Interest (SSSI); NE10: Wildlife Sites; and HE12: Areas of Environmental Character)</u></p>
<p><u>Policy CS18: Sustainable Water Management</u></p>	<p><u>Developments will integrate measures for sustainable water management to reduce flood risk, avoid an adverse impact on water quality and quantity within Shropshire, including groundwater resources, and provide opportunities to enhance biodiversity, health and recreation.</u></p> <p><u>(Replaces North Shropshire Local Plan Policy D1: General Development Control)</u></p>

<p>Planning Policies and Guidance contained within the study area</p>	<p>Description</p>
<p>North Shropshire Local Plan 200 - 2011 Adopted December 2005</p>	
<p><u>C7: Archaeological Sites</u></p>	<p><u>This policy has not been saved beyond September 2007.</u></p>

Planning Policies and Guidance contained within the study area	Description
Oswestry Borough Local Plan 1996 –2006 Adopted July 1999	
<i>NE7: Protected Species and Habitats</i>	<u><i>This policy has not been saved beyond September 2007.</i></u>
<i>LE6: Land at Ifton Industrial Estate, St Martins</i>	<u><i>The Council will participate in the regeneration of the existing Industrial Estate at Ifton. The former Brickyard site at Ifton Industrial Estate is allocated for employment development.</i></u>
<i>LE8: Land at Bank Top, St Martins</i>	<u><i>An area of land which will allow the extension and possible redevelopment of the existing Bank Top Industrial Estate is allocated for employment development.</i></u>
<i>H8: Sites with Outstanding Planning Permission (Rural)</i>	<u><i>Allocates sites in the rural area for 5 or more dwellings.</i></u>
<i>H10: Sites allocated for housing developments</i>	<u><i>Allocates sites in the rural area for 5 or more dwellings.</i></u>

Planning Policies and Guidance contained within the study area	Description
Wrexham Unitary Development Plan 1996-2011 Adopted 14 th February 2005	
PS2 General Development	Development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment.
PS3 General Development	Development should use previously developed brownfield land comprising vacant, derelict or underused land in preference to the use of greenfield land, wherever possible, particularly so where greenfield land is of ecological, landscape or amenity value, or comprises agricultural land of grades 1, 2 or 3a quality.
PS11 Biodiversity	Encouragement will be given to proposals that improve the biodiversity value of sites and to the establishment of local nature reserves where the nature conservation and landscape interest of the land will be protected and enhanced.
EC1: Green Barriers	Within Green Barriers, development will only be granted planning permission if it for agriculture, forestry, essential facilities for outdoor sport and recreation, cemeteries and other uses of land which maintain the openness of the Green Barrier and do not conflict with the purpose of including land within it.
EC2: Agricultural Land	Development on agricultural land of grades 1, 2 or 3a will only be permitted if it does not lead to the irreversible loss of that land.
EC4: Hedgerows, Trees and Woodland	Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.
EC5: Special Landscape Areas	Within Special Landscape Areas, priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled. Development will be required to conform to a high standard of design and landscaping, and special attention will be paid to minimising its visual impact both from nearby and distant viewpoints.
EC6: Biodiversity Conservation	Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.
EC7: Conservation Areas	Within, and in close proximity to, conservation areas, the priority will be to preserve and/or enhance those buildings, structures, streets, trees, open spaces, archaeological remains, views, and other elements that contribute to the unique character of the area.

EC11: Archaeology	Development which would adversely affect the site or setting of a Scheduled Ancient Monument or archaeological site of national significance will not be permitted. Development that directly affects non-scheduled sites of archaeological importance will only be permitted if an archaeological investigation has been carried out to determine the nature, extent and significance of the remains, and this investigation indicates that in-situ preservation is not justified, and a programme of excavation and recording has been agreed. Development will also be carefully controlled to ensure that the setting of non-scheduled sites of archaeological importance is not harmed where appropriate.
EC12: Development and Flood Risk	Development (including the raising of land) within defined flood plains will only be permitted if it:- a) would not be subject to an unacceptable risk of flooding on-site; and/or b) does not result in an unacceptable risk of flooding on or off-site; and/or c) does not adversely affect flood management or maintenance schemes.
MW9: Protection of Mineral Resources	Resources of sand and gravel, and clay will be safeguarded from non-mineral development in order to prevent the sterilisation of unworked mineral deposits. Within such areas non-mineral development will be strongly resisted unless a resource assessment (or other information) is provided to demonstrate that no exploitable reserves exist within the development site.
MW11: Minerals Buffer Zones	Open buffer zones, where new mineral extraction and new sensitive non-mineral development will be resisted, will provide protection around specified inactive and active minerals sites.

APPENDIX 8A Evaluation of Broad Route Options

8A.0 BROAD ROUTE OPTIONS

- 8A.1 Following the process outlined in Chapter 5.0 Route Selection Process, broad route options have been identified which connect Legacy and Oswestry substations. These are: Option 1 to the east of the A483(T)/A5; Option 2 to the west of the A483(T)/A5; Option 3 following the main north south road corridor; and Option 4 paralleling the existing 132kV overhead line. These broad route options are shown on Figure 8.1.
- 8A.2 Information gained during initial consultation, collation of the baseline information and through initial site visits was used to carry out a preliminary assessment of these options. This information was used to identify potential routes or key constraints to routeing within these broad corridors.
- 8A.3 Only strategic level environmental constraints and effects on people were considered at this stage.

Strategic Environmental Considerations

- 8A.4 Holford Rule 1 is of relevance here, which recommends avoidance altogether, if possible, of the major areas of highest amenity value. This is interpreted as extensive areas that have been designated for their landscape, cultural, nature conservation or recreational value at the international or national level. Of these, the study area includes examples of the following:
- Special Area of Conservation (European designation)
 - Sites of Special Scientific Interest (SSSI)(national designation)
 - Scheduled Monuments (national designation)
 - Listed Buildings
 - Conservation Areas
 - Historic Gardens and Designed Landscapes (national, non-statutory registers)
 - National Trails (recreational routes)
 - National Trust Estates open to the public
 - Ancient Semi-Natural Woodland
- 8A.5 There are none of the following potential strategic constraints within the study area:
- Ramsar sites (international designation)
 - Special Protection Areas (European designation)
 - National Parks (national designation)
 - Areas of Outstanding Natural Beauty (national designation)
 - National Nature Reserves (national designation)
 - World Heritage Sites
- 8A.6 The nomination of Pontcysyllte Aqueduct & Canal to become a World Heritage Site was officially approved in June 2007 and submitted to UNESCO by the UK in January 2008. The Site and its Buffer Zone were not initially considered in the routeing study (undertaken in 2006), but as this is considered to be a strategic constraint to routeing, the assessment has been revisited and updated accordingly.
- 8A.7 There are no landscape designations of national importance or above within the area. The areas of highest amenity value in terms of landscape, in the context of this study, are those designated at local planning authority level. Such designation was not considered a strategic constraint to routeing but was given a high priority below the strategic constraints identified. Approximately one third of the study area has a local landscape designation.

8A.8 In order to minimise the effects upon landscape character routeing through blocks of woodland should be avoided if at all possible. Thus woodlands were identified as a strategic constraint to routeing.

8A.9 The following paragraphs summarise the main designation sites constraining strategic routeing.

Special Areas of Conservation

8A.10 There are three SACs within the study area:

- River Dee and Bala Lake
- Johnstown Newt Sites
- Berwyn and South Clwyd Mountains.

8A.11 The River Dee SAC applies to the watercourses only of the Dee and Ceiriog rivers. It is not possible to avoid crossing this SAC at least once in achieving a route between Legacy and Oswestry. Route options west of the confluence of the Dee and Ceiriog (east of Chirk) will cross both the Dee and Ceiriog.

8A.12 Johnstown Newt Sites is a group of relatively small sites adjoining the eastern edge of the settlement of Rhosllanerchrugog and Johnstown. Although existing high voltage distribution lines cross the designated site, this SAC is likely to constrain route selection eastwards from Legacy

8A.13 Berwyn and South Clwyd Mountains SAC covers an extensive area in the north west of the study area, approximately 2-3 km west of Legacy substation.

Sites of Special Scientific Interest

8A.14 The study area contains eight SSSIs, only one of which, Ruabon & Llantysilio Mountain & Minera, is considered of sufficient extent to form a constraint to corridor routeing. This site is located within the Berwyn and South Clywd Mountains SAC, at the extreme northwest of the study area. The geographical location of all SSSIs was mapped in order to see if clusters or concentrations occurred which would form a constraint to routeing.

Ancient Semi-Natural Woodland

8A.15 The extent of Ancient Semi-Natural Woodland within the study area is limited, and comprises several very small woodlands or parts of woodland. All woodland has been regarded as a strategic constraint to routeing, although it was recognised that some woodlands are likely to be affected due to their widespread occurrence throughout the study area. Areas of Semi-Natural Woodland were mapped as these would be avoided where possible if it was inevitable that woodlands would be affected by a route.

World Heritage Site Nomination

8A.16 The Pontcysyllte Aqueduct and Canal Site, together with its Buffer Zone, is located to the west of the study area. It extends from west of the study area, at Horseshoe Falls on the River Dee, along the Llangollen Canal to the A483 road corridor in the vicinity of Chirk in the east. Option 2, west of the A483/A5(T) corridor, would therefore require a crossing of the Nominated Site and its Buffer Zone.

Scheduled Monuments

- 8A.17 The majority of Scheduled Monuments within the study area are of insufficient geographical extent to be considered at the strategic routeing stage. However Offa's Dyke, which runs broadly north south in the western part of the study area, is marked by a series of scheduled monument designations, as is Wat's Dyke, which follows a similar alignment east of Offa's Dyke. Frequent crossing or paralleling of these routes could have an impact upon their overall setting, and these were thus considered strategic constraints to routeing.

Listed Buildings

- 8A.18 Like most Scheduled Monuments, listed buildings can be worked around in finding the precise route, and are not addressed until the detailed routeing stage.

Historic Gardens and Designed Landscapes

- 8A.19 There are eleven Registered Historic Parks and Gardens within the study area, situated predominantly within a central band across the study area, in the vicinity of the Dee and Ceiriog valleys. Although some of the smaller estates could be avoided through deviation, overall such a designation was considered a strategic constraint to routeing.

National Trust Estates

- 8A.20 Estates owned by the National Trust and open to the public, Erddig and Chirk Castle, were considered strategic constraints. Such estates are valued for both their cultural and recreational aspects, and are important tourist attractions.

Offa's Dyke Path National Trail

- 8A.21 This national recreational route is located in the extreme west of the study area, only in part following the alignment of the ancient defensive earthwork.

Local Landscape Designations

- 8A.22 The entire western part of the study area, from the edge of the main settlements westwards, is designated, either as an Area of Outstanding Beauty (Denbighshire CC), Area of Special Landscape Character (Oswestry BC) or Special Landscape Area (Wrexham CBC). This designation encompasses the area around Legacy substation.
- 8A.23 The Dee and Ceiriog valleys, together with adjacent slopes, side valleys and historic parkland areas are largely protected by local landscape designations - Special Landscape Area (Wrexham CBC) and Area of Special Environmental Interest (North Shropshire BC). It is not possible to route between Legacy and Oswestry (within the study area) without crossing through this designation (or routeing through a main area of settlement), and so for this aspect, consideration was focussed upon minimising the distance through the designated area.
- 8A.24 In the northern part of the study area further smaller Special Landscape Areas (Wrexham CBC) are found around Erddig and other parkland estates.

Effects on People

- 8A.25 Supplementary Note A to the Holford rules states 'Avoid routeing close to residential areas as far as possible on grounds of general amenity'. This is applied at the strategic level as it influences broad-scale routeing decisions.
- 8A.26 The study area is bounded by the large settlements of Wrexham and Oswestry to the north and south respectively. The primary constraint to routeing however is the almost continuous band of built development extending south from Wrexham to the Dee valley. This comprises the settlements of Rhostyllen, Rhosllanerchrugog, Johnstown, Ruabon and Cefn-Mawr. To the east of the study area there are few settlements larger than villages, with the exception of St Martin's.

Route comparisons

- 8A.27 The following sections describe the characteristics of areas identified as broad route options, to identify potential constraints and opportunities, and summarise the conclusions about each one.

Option 1 - East of the A483(T)/A5

- 8A.28 This option covers the eastern half of the study area to the east of the A483(T)/A5. The area primarily comprises gently undulating pastoral agricultural land supporting scattered farms and dwellings with the larger village settlements of St Martin's, Rhewl, Gobowen and Whittington to the south of the rivers Dee and Ceiriog. The Dee and Ceiriog valleys run in an east-west direction through the centre of this area and form distinctive landscape features, which are designated as a Special Landscape Area (SLA). The area immediately surrounding Legacy substation also falls within a SLA.
- 8A.29 Being predominantly rural in land use, there are fewer settlement areas and main communication corridors which otherwise present challenges for choosing a route option. This is evident by the presence of existing high voltage overhead lines to the west of the route option area.
- 8A.30 The areas to the north and south of the Dee valley are characterised by hedgerows and hedgerow trees, which, combined with gently rolling topography and small incised valleys containing linear woodlands, create a largely enclosed landscape character with few distant views. The area's landscape character is also strongly influenced by the occurrence of several large parkland estates, including Erddig, Wynnstay, Brynkinalt, Pen-y-lan, Rosehill, Erbistock, Henlle, Great Fernhill and Halston Hall.
- 8A.31 Woodland is largely confined to the Dee and Ceiriog valleys, although the presence of mature trees and hedgerows throughout gives the whole area a fairly wooded appearance. The Dee and Ceiriog valleys are designated as a Special Area of Conservation (SAC), and there are several smaller pockets of land designated for their ecological value to the north in the vicinity of Legacy substation.
- 8A.32 Wat's Dyke runs through the eastern part of the study area and is an important archaeological feature. Tourist attractions within the area include Erddig Park, a National Trust owned property to the north, and the Shropshire Union Canal which runs through the southern half of the study area.

Key Environmental Factors

- 8A.33 The main constraints within this predominantly rural area are considered to be the several registered historic parklands and extensive areas of woodland, mostly associated with the Dee and Ceiriog valleys. These constraints form an almost continuous band from east to west across the study area.
- 8A.34 Generally the undulating nature of the topography combined with mature hedgerows and trees affords the landscape a relatively high capacity to accommodate a wood pole overhead line. There are several potential route options which avoid the main areas of constraint.

Option 2 - West of the A483(T)/A5

- 8A.35 This option covers the western half of the study area to the west of the A483(T)/A5. The northern half of this area is densely populated with the settlements of Rhosllanerchrugog, Penycae, Ruabon, Plas Madoc, Acrefair, Cefn Mawr and Trevor forming an almost continuous band of built development between the River Dee and Legacy substation. The settlement of Chirk occupies the area of land between the Rivers Dee and Ceiriog and Western Rhyn lies to the south of the Ceiriog. To the east of these settlements there are also areas of Registered Parkland associated with the Wynnstay and Brynkinalt estates.
- 8A.36 The remaining area to the west comprises smaller village settlements and isolated farms and dwellings. West of Legacy, the topography rises steadily to Ruabon and Esclusham Mountains (circa 500m AOD). The landscape becomes notably more rural in nature with the higher ground comprising open heather moorland. The intervening border hill slopes are characterised by small irregular fields, hedgerows with mature hedgerow trees, and scattered farms and small settlements (Wrexham Landmap Character Area 5B Eastern Slopes of Ruabon Mountain). The higher ground to the west is designated as SLA, which extends over a significant area of upland landscape occupying much of the area within Option 2.
- 8A.37 The Dee and Ceiriog rivers form distinct steep sided landscape features within the area, with the valley sides supporting dense woodland vegetation. The aqueducts, viaducts and road bridges associated with these valleys form important cultural heritage features within the landscape. The World Heritage Nomination Site, Pontcysyllte Aqueduct and Canal, and its associated Buffer Zone, forms a continuous band across the centre of this area, of at least 1 kilometre width.
- 8A.38 Chirk Castle occupies an area of higher ground to the west of Chirk overlooking the Ceiriog valley and is owned by the National Trust.
- 8A.39 The land to the south of the study area in the vicinity of Oswestry is rural in character and comprises gently undulating pastoral land bounded by mature hedgerows with mature hedgerow trees. The landscape becomes more parkland in character to the west of Oswestry in the vicinity of Brogyntyn, which is a Registered Historic Park and Garden.
- 8A.40 Oswestry Hill Fort Scheduled Monument lies to the south of the study area approximately 0.5km to the north west of Oswestry substation and it forms a prominent embanked feature in the landscape. Wat's Dyke runs in a north easterly direction from the Fort.

- 8A.41 Offa's Dyke runs through the northern half of the study area passing through Chirk Castle grounds before running in a north easterly direction crossing the River Dee to the east of Cefn Mawr. It then runs through Wynnstay Park and through Ruabon and Rhosllanerchrugog before heading north to the east of Legacy substation.
- 8A.42 The Dee and Ceiriog valleys are designated as a SAC, as are the Berwyn Mountains to the west, and there are several smaller pockets of land designated for ecological importance to the north in the vicinity of Legacy substation, including the mosaic of sites which make up Johnstown Newt Sites SAC.

Key Environmental Factors

- 8A.43 The key environmental issues affecting the routeing of an overhead line are primarily located in the northern half of the study area, with fewer constraints to the south within the borough of Oswestry. To the north, the combination of large areas of settlement adjacent to areas designated for their landscape value limit potential route options, as both factors are likely to result in a route option having a greater overall visual impact (in comparison to a sparsely settled landscape with no landscape designation).
- 8A.44 Dense built development stretches to the south of the substation at Legacy from Rhosllanerchrugog to Cefn Mawr and there are very few gaps which could be utilised as potential overhead line routes. The few gaps that are present between parts of the built development are largely associated with sites of mineral activity, areas of ecological importance or are associated with historic parkland. Breaks in the development are also utilised as routes for existing overhead lines. The continuous development in this area is considered to pose a constraint on route options available.
- 8A.45 The continuous built development would necessitate potential route options taking a more westerly alignment, along the eastern slopes of Ruabon Mountain, an area of pastoral farmland between 180m and 350m AOD rising from edges of urban villages to the edge of Ruabon Moors. The higher ground is designated as an area of Special Landscape Value. Potential routes within this area are considered likely to give rise to increased visual impact.
- 8A.46 The Dee and Ceiriog Rivers occupy steep valleys within this area and are heavily wooded with no natural crossing points. This is considered to be a constraint to routeing.
- 8A.47 Pontcysyllte Aqueduct and Canal World Heritage Nomination Site is located along the Dee valley, extending south to the Ceiriog valley at Chirk. Any route to the west of the A483 road corridor would need to cross this site, considered to be a major constraint to routeing.
- 8A.48 To the south of the River Ceiriog there are fewer constraints to overhead line routeing and the area offers several potential routes. Oswestry Hill Fort and Brogyntyn historic parkland are located in the vicinity of the substation and would have to be carefully considered in detailed routeing options.
- 8A.49 The presence of a number of high-level constraints, notably to the north, limits potential routes within this western option. That is not to say that there is no potential, however other broad route options offered more potential. This broad route option was not studied in any further detail at this stage.

Option 3 - Following the Main Road Corridor

- 8A.50 This option follows the main road which runs between Wrexham and Oswestry and forms the most accessible direct route between the substations. The main road comprises the A5 from Oswestry to Halton, where it then runs in a westerly direction towards Llangollen, and the A483(T) which continues from Halton towards Wrexham and beyond.
- 8A.51 The road comprises stretches of single carriageway, dual carriageway and some sections of three lane carriageway with varying priority for the overtaking lane. It is a fast national speed limit road and there are six junctions onto it located between Wrexham and Oswestry. The road is predominantly level with surrounding land or on embankment allowing views out over the surrounding area.
- 8A.52 This stretch of road includes two high road bridges (viaducts) over the River Dee and the River Ceiriog which run in deep valleys. From these crossing points there are impressive views out along the wooded valleys.
- 8A.53 To the north of the study area there is a significant amount of development, notably to the west of the road. This includes the urban areas of Rhosllanerchrugog and Ruabon. Developed areas immediately abut the road in places, and in the case of Ruabon development abuts the road corridor on both sides.
- 8A.54 The land surrounding Erddig Hall is under the ownership of the National Trust and lies to the immediate east of the A483(T) for approximately 1km to the north of the study area. Further south the A483(T) runs through two other Registered Historic Parklands, the Wynnstay Estate (for over 2km) and the Brynkinalt Estate (for approximately 1.5km).
- 8A.55 There are several areas of new development or development allocations in the vicinity of the junction leading into Chirk. To the west of the settlements of Gobowen and Rhoswiell development lies in close proximity to the road. The remaining land along the road is predominantly in agricultural use, especially to the south of the study area where there is less built development.
- 8A.56 Oswestry Hill Fort is located 0.5km to the west of the A5 in the vicinity of Oswestry substation and is a prominent landmark when viewed from the road.

Key Environmental Factors

- 8A.57 The key issues affecting the routeing of an overhead line along the existing road are primarily located to the northern half of the study area where there are substantial areas of land supporting existing built development.
- 8A.58 In the central part of the study area the key constraints are the areas of historic parkland associated with the Wynnstay and Brynkinalt Estates and the steep river valleys.
- 8A.59 There are fewer constraints to the south adjacent the A5, however the settlements of Gobowen and Rhoswiell form a restriction on routeing.
- 8A.60 The A483(T)/A5 is a main road through the border area between England and Wales and as such is a well-used tourist route, notably for travelling to destinations such as Llangollen and other border market towns. The road is also well used by local people and there are several

settlements and dwellings located in close proximity to the road. A route which follows the alignment of the existing road is likely to affect the visual amenity of a greater number of people than options routed through land of a more rural nature.

- 8A.61 A technical issue related to routeing along the road corridor relates to the road crossings of the river valleys. It is not possible to mount poles along the viaduct safely, both in terms of structural integrity of the viaduct and the overhead line support and in relation to maintaining electrical clearances. It would be necessary to use cables within the road carriageway or mounted in some way on the viaduct. Consultation during the routeing process with the local authority responsible for the viaducts (at that time, Conwy County Borough Council) demonstrated that this was not feasible and a diversion away from the road corridor would be necessary for crossing the river valleys. Any diversion around the viaducts would require crossing of steep sided, wooded valleys with no natural crossing points.
- 8A.62 The constraints identified in relation to routeing a line along the existing road corridor were considered to be such that other options offer increased potential. This option was not therefore considered further at this stage.

Option 4 Paralleling the Existing 132kv Overhead Line

- 8A.63 This option follows the line of the existing 132kV double circuit lattice tower line which runs between Legacy and Oswestry substations.
- 8A.64 Although the Holford Rules and other guidance express caution regarding running lines closely together, the geographical area affected by the overhead lines is minimised in comparison to separate routes, where a larger geographical area would be affected. When routes run in parallel, sufficient distance should be maintained between the lines to ensure that, should one of the lines suffer disruption or failure, it would not also affect the adjacent line. The 'falling distance' of the taller of the support structure is generally the height of the tower/pole plus 3.4 metres (safety clearance requirement for 132kV line). In this situation, the taller structures will be the existing 132kV support towers (with a typical height of 26.5m). This translates to a need to maintain at least 30 metres between lines.
- 8A.65 The Holford Rules observe that converging overhead line routes can lead to a concatenation 'wirescape', although this observation is made in relation to country which is '*flat and sparsely planted*' whereas this landscape is typically gently rolling with good hedgerow cover with trees. However, the existing 132kV lattice line already runs in close parallel with the NGC owned Ironbridge No.2 400kV line between Legacy and the River Dee crossing point. A further addition to these parallel overhead lines may lead to an increased cumulative impact. This may be compounded by introduction of a third type of support, and different interval between supports (the typical spans between 132kV lattice steel towers are greater than between wood pole supports; and the intervals between the larger 400kV lattice steel towers are greater still).
- 8A.66 Initial assessment of existing pole mounted lines in the local area indicated that they are able to be well assimilated into the undulating landscape which is characteristic of this area. The local undulations combined with mature hedgerows and hedgerow trees do not generally enable views of the wood pole supports beyond a field or two in distance. Routeing a new wood pole line in parallel with an existing lattice tower line is considered likely to increase the attention focused towards both existing and proposed overhead lines, whereas routed in isolation the new line would be less intrusive in the landscape.

Key Environmental Factors

- 8A.67 Between Legacy and the A483(T) the existing 132kV lattice steel tower overhead line occupies a corridor in close proximity to the large settlements of Rhosllanerchrugog and Johnstown, in places entering within the urban fabric. Avoidance of proximity to residential areas (Supplementary Note A to the Holford Rules) is considered a strategic constraint to routeing.
- 8A.68 The existing route crosses Johnstown Newt Sites SAC. It also crosses the drive of the registered parkland of Wynnstay, and extends for over one kilometre within the Essential Setting of this estate. In addition to crossing the locally designated landscape of the Dee valley, the existing line follows an alignment on the eastern bank of the Ceiriog valley, resulting in over 5km length within a SLA designation.
- 8A.69 In addition, the cumulative effect which would result from paralleling is considered to be a constraint to routeing. On this basis, a paralleling option was not considered to be a favoured option and was not considered in any further detail at this stage.

Summary of Broad Route Options

- 8A.70 A summary of the options considered is shown on Table 8.1. The key environmental issues relating to each option are identified. Each environmental factor is of varying weight and the determination of a preferred option is a judgement based on a combination of the factors and levels of constraint. However Table 8.1 provides a concise summary of the key issues which were considered.
- 8A.71 In summary, Option 1 would utilize a gently rolling landscape with opportunities to use the numerous woodlands to integrate and assimilate the wood pole line. Additionally, few settlements are likely to be affected. Option 2 comprises a large proportion of dense urban development, which borders rising land with an open aspect, making any potential route likely to be visible to numerous receptors. A significant proportion of the more open, higher land is designated as a Special Landscape Area. Option 3, utilising the road corridor, has not proved technically possible in certain key locations. Option 4, installing an additional route parallel to existing high voltage overhead lines, is constrained by the cumulative visual effects of paralleling, together with proximity of existing lines to settlement and sites designated for their nature conservation value or historic landscape value.

Identification of Preferred Broad Route Option

- 8A.72 The preliminary assessment of broad route options, as described above and as summarised in Table 8.1, indicated a strong preference for the identification of potential routes within Option 1 – East of the A483(T)/A5. This is followed in terms of preference by Option 4, which, although it contains a number of overhead lines already, similarly occupies a rolling landscape where there are plenty of wooded areas to screen the new line.
- 8A.73 A more detailed route selection and evaluation process has been undertaken in the area to the east of the A483(T)/A5. This is described in the following Chapter.

APPENDIX 9A Environmental and Technical Constraints at Detailed Routeing

Environmental and Technical Constraints at Detailed Routeing Stage

- Settlements and occupied properties in proximity to the route, where visual amenity may be affected
- Sites of nature conservation interest and areas designated for their scientific or conservation value which may be affected, including:
 - Special Areas for Conservation
 - Sites of Special Scientific Interest
 - Locally designated sites of nature conservation value
 - Local nature reserves
 - Ancient woodlands (including ancient semi-natural woodlands)
- Woodlands
- Landscape designations: designated or other sites and areas which may be affected by the route:
 - Registered Historic Parks and Gardens
 - Locally designated areas of high landscape value
- Landscape character (Landscape character types traversed are identified; a judgement is made as to the ability of that landscape character type to assimilate a wood pole mounted overhead line)
- Cultural heritage designations:
 - Scheduled Monuments in proximity to the route
 - Listed Buildings in proximity to the route
 - Conservation Areas in proximity to the route
 - Landscapes identified in the Register of Landscape of Special Historic Interest (Wales only)
- Recreation and Tourism:
 - National Trails
 - Long Distance Footpaths
 - National Trust properties
 - Country Parks
 - Gardens open to the Public
 - Other visitor attractions
- Infrastructure
 - Main roads and railways and canals crossed or closely paralleled, which may have effects on construction and may be affected in terms of the view from the road, railway or canal;
 - The existing high voltage (132kV and above) electrical system
 - Other major infrastructure elements known about : high pressure gas pipelines
- Development allocations and safeguarded areas
- Airfields in active use
- Proposed housing, economic development or infrastructure sites identified in the adopted local plan
- Mineral and landfill sites and mineral consultation zones

- Technical considerations:
 - Route length

APPENDIX 9B Evaluation of Detailed Route Options

9B.0 EVALUATION OF DETAILED ROUTE OPTIONS

9B.1 Following the selection of a broad route option, Option 1, this chapter outlines the development and evaluation of detailed route options to the east of the A483(T)/A5. Potential routes within this area were identified following the main principles of the Holford Rules and other published guidance and had regard to all the environmental baseline information gathered. As outlined in ES Chapter 5.0: Route selection process, routes were identified which avoided residential areas, including villages and other small settlements and occupied properties, areas of known nature conservation value, woodland, sites of heritage and amenity value. Routes were selected which maximised the potential for existing topography and vegetation to aid assimilation of the line into the landscape.

9B.2 The potential routes identified within Option 1 are illustrated in Figure 9.1.

Zoning of the Study Area

9B.3 The study area has been split into three geographical zones for the sole purpose of describing the route options. Each zone is described followed by a description of identified routes and reasons for their identification.

9B.4 The zoning of the study area has been used as a tool to enable a variety of routes and combinations of part routes to be considered. The key areas in identifying routes were considered to be the substation entries and the river crossing points. The zoning has enabled different river crossing points to be considered with different substation entry options. The following zones have been identified:

- Zone A Legacy – this zone extends from the substation at Legacy to a point approximately 4km to the south in the vicinity of Moreton/Gyfelia.
- Zone B River Crossings – this zone extends from a point in the vicinity of Moreton/Gyfelia to the B5070/B5068 which runs in an east west direction from the A5 through St Martin's. This zone covers an area of approximately 8km which includes the Dee and Ceiriog river valleys.
- Zone C Oswestry – this zone extends from the B5070/B5068 to Oswestry substation located approximately 5.5km to the south.

9B.5 The boundary between Zones A and B is not clearly apparent on the ground, however it is where the routes from A and B converge to a central point. The boundary between Zones B and C is clearly defined on the ground as the B5070/B5068. The route options to the north of this road are clearly focused on the river crossing points, whereas to the south the routes are focused on the entry into the substation at Oswestry making this an appropriate boundary for descriptive purposes.

Environmental and Technical Considerations

9B.6 The guidance presented in the Holford Rules is considered in comparing route options. The analysis of the detailed route options is carried out at a smaller scale and finer grain than the analysis of the broad route options. In addition to the designations discussed under broad corridor routeing, all published local, regional and non-statutory designations are taken into account. In addition to effects upon main settlements, questions of visual amenity in terms of villages and other small settlements, principal

transport routes and tourist attractions that may be affected are all considered, as is the effect upon landscape character.

- 9B.7 Appendix 9A identifies the environmental and technical constraints considered at the detailed stage.
- 9B.8 Note is taken of the comparative length of the different route options at this stage because this is not only a technical and economic issue but also because the longer route that is built, the greater the length over which environmental disbenefits are caused.

Identification of the Preferred Route

- 9B.9 It is not possible to identify the overall preferred route by selecting the preferred options on a zone-by-zone basis, as not all route options join at zone boundaries. The preferred option for one zone may not connect to the preferred route of an adjoining zone to form an overall coherent route. The route options illustrated in Figure 9.1 result in numerous possible overall routes from Legacy to Oswestry.
- 9B.10 The method employed for reducing the number of route options to ultimately arrive at a preferred route was a process of direct comparison of sections of those routes which have common starting and end points. Through selecting the 'best' option for each section, the number of possible overall routes is reduced step-by-step, ultimately identifying the route which is, overall, likely to cause the least impact upon environment and people.

Route Descriptions and Comparison

- 9B.11 Figure 9.2 shows the detailed route options and zone boundaries overlaid on the identified environmental and technical constraints. The following sections describe and evaluate the potential routes identified within each zone. The resulting one or two 'best' routes within a zone are then combined to form overall coherent routes from Legacy to Oswestry, and these overall routes then evaluated/compared.
- 9B.12 In the comparisons below, reference should be made to the relevant route descriptions and key constraints and the summary table of alternative route options presented in Appendix 9B.

Zone A (Legacy) Route Options

- 9B.13 Zone A is shown in Figure 9.3 and covers the area from Legacy substation to Moreton/Gyfelia approximately 4km to the south west. The substation itself is relatively unapparent in the wider landscape as it is surrounded by high mounding and tree planting, however the numerous line entries are more evident. The substation is located in a Special Landscape Area which extends out from the substation in all directions, but notably to the higher ground to the west. This designation extends in a south-westerly direction for just over 1km to the B5605, Wrexham Road. Further protective landscape designations within Zone A relate to the land around the registered historic parkland of the Erddig estate.
- 9B.14 Former mining and extractive industries are evident in the landscape, most notably Hafod Tip, which has recently been reclaimed and landscaped as a country park, and Bersham Tip which retains a distinctive angular appearance. The A483(T) runs in a north-south direction approximately 1.5km to the east of the substation. To the west the

land is primarily in agricultural use in the area immediately surrounding the substation, however there is residential development along the majority of roads, a crematorium to the south of the substation, and the dense urban development of Rhosllanerchrugog/Johnstown and Ruabon further to the south. The built development within this area combined with existing overhead line routes entering the substation limits potential route options available in this area.

9B.15 To the east of the A483(T) the land becomes more open and agricultural with less built development. It comprises gently undulating pastoral land bounded by mature hedgerows supporting mature hedgerow trees with scattered farms along a network of minor roads. The National Trust owned Erddig Hall lies to the north of this area, which includes Hafod-y-bwch Farm Park at its southern most extent. There are fewer constraints to routeing within this part of Zone A and routeing opportunities are more flexible.

9B.16 The key constraints within Zone A are:

- There are already several existing overhead lines of a variety of design and voltages entering the substation at Legacy.
- The continuous built development of Rhosllanerchrugog, Johnstown and Ruabon prevent a route option being progressed to the south
- Built development along the B5605, Hafod and Bersham Tips, the A483(T) and the National Trust owned Erddig property restrict route options to a narrow band of land which already supports several existing overhead lines.
- A partially completed development (Rural Welcome Centre) including a residential property occupies a very narrow pinchpoint of land between A483(T) and Hafod Tip.
- Wat's Dyke runs in a broadly north-south direction to the east of the A483(T)
- Hafod Tip, a steep sided, elevated area of woodland which is part of the Special Area of Conservation (SAC) site known as Johnstown Newt Sites, currently managed by WCBC as a community park.
- Offa's Dyke runs in a broadly north-south direction between the substation and Pentre Bychan.
- Several other Scheduled Monuments in the area – moated sites and barrows.
- Large areas safeguarded for protection of mineral resources between Legacy and the A483(T)

Route A1

9B.17 This option leaves the substation as an underground cable taking a south easterly route along the existing road system to Pentre Bychan via the B5097 Bronwylfa Road and B5426, Smithy Lane, to its junction with the B5605, Wrexham Road. East of Wrexham Road it emerges onto a wood pole support and continues in a south-easterly direction across open farmland, to skirt around the northern boundary of Hafod Tip to Hafod Road. The route corridor here occupies a narrow strip of land between Hafod Tip and the A483(T). Crossing Hafod Road and the A483(T) in the vicinity of the bridge taking Hafod Road over the trunk road, the route continues in a south-easterly direction to a point west of the fishing lakes at Sontley.

9B.18 From here it would follow a more southerly route for approximately 1km before again heading in a south easterly direction through agricultural land, crossing Wat's Dyke, and then heading in a south-easterly direction between Moreton Below and Gyfelia. There are several farms and isolated properties within this area, and the route has been aligned to avoid close proximity to these properties.

Key Environmental Factors

- 9B.19 The following key environmental factors have been identified related to route A1:
- Potential effect on archaeology during cable laying. There are several known archaeological sites in the vicinity of the substation
 - Proximity to SAC and community park at Hafod Tip, potential tree loss
 - Offa's Dyke crossing (cable)
 - Wat's Dyke crossing (wood pole)
 - Crosses area safeguarded for protection of mineral resources

Route A2

- 9B.20 This route would utilise the route taken by the existing 'portal' frame overhead line. The portal line carries a single 132kV circuit. This existing circuit could be combined with the proposed 132kV circuit together on a double circuit lattice tower (pylon) line. The existing portal line would be dismantled and replaced by a double circuit line to the point where the two circuits would diverge. This option allows for a reduction in the number of overhead lines routed through this area, however it would result in larger and taller supports being required to carry the two circuits. Figure 4.1 shows a comparison of the different support types to which reference is made.
- 9B.21 This route would be cabled for approximately 0.5km from Legacy substation to a point to the south of the B5097 Bronwyllfa Road where the existing portal line commences. From here the portal line would be replaced by a lattice tower line to a point to the east of the A483(T) at the point of an existing deviation tower. From this point the portal line would continue in an easterly direction on the alignment it currently occupies and a new wood pole route would head in a southerly direction to a point west of the fishing lakes at Sontley. At this point the line could either join with route A1, or take a more south-easterly direction along A2 for approximately 1km to beyond Moreton View, then turning onto a southerly alignment to cross the B5426 west of Gyfelia.

Key Environmental Factors

- 9B.22 The following key environmental factors have been identified related to route A2:
- Visual effect of double circuit lattice tower line replacing portal line from Legacy to east of A483(T) – more substantial and taller structures, but with greater spans between towers, so fewer supports required.
 - Lattice towers would replace portal supports in landscape protected by local designation (Special Landscape Area)
 - Proximity to 3 Scheduled Monuments (double circuit lattice tower section)
 - Close proximity to several properties, including 2 Grade II* listed buildings at Hafod y Bwch Hall
 - Wat's Dyke Crossing (wood pole overhead line)
 - Offa's Dyke crossing (cable)
 - Route crosses a small section of National Trust land (not publicly accessible)

Route A3

- 9B.23 Route A3 would similarly combine the existing circuit carried by portal frame supports and the new circuit onto a double circuit lattice tower line. This route however considers the potential for realigning the line away from the existing portal route to increase the distance it is sited from its closest visual receptors. The existing portal line would be dismantled to a point where the two circuits would diverge in separate directions to the

east of the A483(T). This route follows a line approximately 0.25km to the north of the existing portal crossing of the A483(T).

9B.24 The new double circuit lattice line would run east to the north of Hafod-y-bwch Farm Park through the National Trust owned land associated with Erddig Hall to a point west of Sontley, crossing Hafod Wood and Wat's Dyke in the process. From here the route would run south to the present alignment of the existing portal line from where the portal line would continue east and a new wood pole line would run south through undulating agricultural land primarily in pastoral use. This route would follow the same alignment as route A2 from north of Moreton View to the Zone boundary. The proposed route is aligned to avoid close proximity to farms and isolated dwellings.

Key Environmental Factors

9B.25 The following key environmental factors have been identified related to route A3:

- Route crosses National Trust owned land using lattice towers – close proximity to Erddig Registered Parkland and Hafod-y-Bwch Farm Park
- Tree removal likely to be required at Hafod Wood Wildlife Site of County Importance (WCBC)
- Portal line removed from views from Middle Sontley Farm and nearby properties
- Wat's Dyke crossing
- Offa's Dyke crossing (cable)
- Proximity to 3 Scheduled Monuments (lattice section)
- Proximity to 2 Grade II* listed buildings

Comparison of Zone A (Legacy) Options: A1, A2 and A3

9B.26 In this zone, Option A1 uses 1.5km of underground cable and 4.2km of wood pole overhead line. Options A2 and A3 use a smaller amount of underground cabling, and both utilize steel lattice towers for a good proportion of their overall length. Although the use of lattice towers would enable removal of sections of an existing overhead portal line, thus bringing some benefits in terms of visual amenity, in general the use of lattice towers is considered likely to have wider effects on visual amenity than use of wood pole construction.

9B.27 It is considered that the numbers of residential properties where views would be affected would be approximately the same for all options but that the effect would be greater where lattice towers were employed. Additionally, Option A3 would bring a new lattice tower overhead line within 0.5km of the Registered Historic Parkland of Erddig, within land owned by the National Trust, and would be likely to require tree removal where it crosses Hafod Wood, a Wildlife Site of County Importance. Although it is acknowledged that benefits would arise from removal of the portal line from views from properties in the vicinity of Middle Sontley, this option was rejected because of the adverse effects described above.

9B.28 The balance between option A1 and A2, favours A1 in terms of effects on views and effects upon designated landscapes. The visual effects of a wood pole line are generally likely to be less than those of a line supported on steel lattice towers. Also option A2 would pass through a Special Landscape Area on lattice tower overhead line, whereas option A1 is undergrounded through the designated area. There is no clear favourite between these options in terms of other environmental considerations (ecology, cultural heritage, tourism).

9B.29 Option A1 was selected as the preferred option through Zone A.

Zone B (Dee River Crossing) Route Options

- 9B.30 Zone B is illustrated at Figure 9.4. It extends from Moreton/Gyfelia southwards for approximately 8km to the B5070/B5069 which runs in an east-west direction from the A5 through St Martin's. The zone is primarily rural in nature and the Dee and Ceiriog river valleys form the key features.
- 9B.31 The land to the north of the River Ceiriog falls within Landscape Character Area 13a Welsh Maelor and comprises gently undulating pastoral lowland with an abundance of mature hedgerows and hedgerow trees. Within this agricultural landscape there are several large estates where the landscape is of a more parkland character. The estates include Wynnstay Hall, which occupies several square kilometres to the north west of the zone; Brynkinalt to the south west of the zone in between the Rivers Dee and Ceiriog; and Pen-y-lan, Rosehill and Erbistock to the centre of the zone to the immediate north of the River Dee.
- 9B.32 The Dee and Ceiriog river valleys form prominent features in the landscape. The valleys are steeply sloping to the west becoming gentler towards the east where the River Dee widens and meanders. Valley sides are predominantly wooded with relatively few breaks in the woodland vegetation. The river valleys are locally designated areas of high landscape value. Both the Dee and Ceiriog are important fishing areas, with access being confined primarily to private tracks and access points for permit holders.
- 9B.33 A SAC designation applies to the entire length of the rivers within the study area. This European nature conservation designation primarily covers the area of water and does not include the valley sides.
- 9B.34 To the south of the Dee, the landscape is similarly rolling and in agricultural use, with an increase in arable production. Fields are bounded by mature hedgerows and development primarily comprises small settlements and isolated farms and dwellings, with St Martin's forming the main settlement focused along the B5070/B5069.
- 9B.35 Sites of nature conservation value, archaeologically important sites and listed buildings are scattered throughout the area.
- 9B.36 Two high voltage overhead lines run through this zone: the existing SP Manweb 132kV Legacy to Oswestry line and the NGC 400kV Ironbridge No. 2 line from Legacy to Ironbridge. To the north of the River Dee these lines run in close parallel, whereas to the south of the river crossing they diverge. The 400kV line continues in a south westerly direction whilst the 132kV line takes a south easterly direction towards Oswestry, where it terminates at the substation.
- 9B.37 The key constraints in Zone B are:
- Several historic parkland landscapes covering a sizable area
 - River Dee SAC designation (includes Ceiriog)
 - Dee and Ceiriog river valleys and associated woodlands
 - Several ecological and archaeological sites
 - Scattered farms and small settlements
 - Larger settlement of St Martin's to south of zone
 - Wat's dyke runs to the west of the zone

- Maelor Way Long Distance Footpath
- Local landscape designations cover much of the central area

Route B1

- 9B.38 Route B1 takes the western most route through this zone. From the boundary with Zone A there are three sub-options available which then merge together 2km to the south of Wynnstay Hall Registered Park and Garden. Option B1(C) takes the most easterly and southerly route which skirts around the edge of the land considered to be within the essential setting of Wynnstay Park. Option B1(B) takes the central line of the three options and runs partially through land associated with Wynnstay Park parallel to the northern edge of The Drive Wood before running south past Argoed Farm. Option B1(A) takes the western most route following a similar line to an existing 33kV overhead line crossing the A539 to the west of Cinders Farm and passing through land associated with Wynnstay Park.
- 9B.39 From the convergence point of these three sub-options, route B1 travels in a southerly direction through agricultural land following a clough woodland associated with a River Dee tributary. To the south east of Park Farm, the route changes direction to follow a south-westerly route beneath the existing 132kV and 400kV overhead lines and then turns south to a river crossing point in the vicinity of Coedleoedd Wood. This river crossing point utilises an existing break in the valley woodland.
- 9B.40 From the River Dee crossing point the route runs south through an attractive valley area associated with the River Ceiriog. There are several options available for a route through this area, with the preferred one being to follow the natural contours along the valley floor to Tenement before running west along side an area of woodland (Bola's Dingle) to the higher ground at Lower Halton. From here the route would run south again following the natural contours and back into the valley to cross the River Ceiriog at Pont-y-blew. This crossing point is currently utilized by an existing 33kV line. A more direct route along the valley floor between Tenement and Pont y Blew was discounted due to the presence of several dwellings along the valley floor and woodland vegetation along the river. As the route leaves the valley and re-enters, it exploits localised variations in topography and woodland cover, following side valleys linked to the Ceiriog valley.
- 9B.41 On leaving the Ceiriog valley near Glynmorlas, the route runs in a southerly direction alongside Coed Glanrafon woodland through land in agricultural use. It passes through Rhyn Park (scheduled monument area) and crosses the B5070 to the west of Rhos y Llan Wood and the small hamlet of Nefod, to the west of St Martin's.

Key Environmental Factors

- 9B.42 The following key environmental factors have been identified related to route B1:
- Options B1(B) and B1(A) pass through a small corner of Wynnstay Registered Parkland, plus approximately 1km of the Essential Setting.
 - Option B1(B) benefits from backgrounding by The Drive Wood.
 - Option B1(C) avoids the Registered Parkland and its Essential Setting; however is in closer proximity to more properties and is in an area of more open landscape character.
 - 7.5km through SLA associated with River Dee and Ceiriog
 - Dee and Ceiriog River SAC crossings
 - 1km through Essential Setting of Brynkinalt Registered Park and Garden
 - Crosses Scheduled Monument of Rhyn Park Roman military site

- Maelor Way Long Distance Footpath
- Crosses Wildlife Site of County Importance (Bola's Dingle) near Lower Halton with potential tree losses
- Proximity to landfill site at Lower Halton
- Maintains distance from properties
- Crosses area safeguarded for protection of mineral resources in vicinity of Ceiriog valley

Route B2

- 9B.43 Route B2 takes the most easterly route through Zone B. It follows that of Option B1(C) to Park Eyton and runs in a south-easterly direction through undulating farmland past Crymbal and Park Eyton. It continues from here in a south-easterly direction, crossing the A539 at Twining Hill and then following a route across agricultural land between two minor roads which lead towards Erbistock. The route avoids close proximity to dwellings and follows the general lie of the land. It avoids areas of woodland vegetation, utilising it as backgrounding or for screening purposes where possible.
- 9B.44 Route B2 crosses the River Dee approximately 0.5km to the west of the Boat Inn and just under 0.5km to the south of Manley Hall. From here it follows the lower lying ground along the woodland lining Shell Brook to maintain distance from Sodylt Hall and crosses the B5069 to the east of Bank Farm. The route then heads in a south westerly direction through agricultural land utilising topography and the vegetation associated with Llanyfelin Brook tributary and Castle Dingle to accommodate the line where possible. Close proximity to dwellings is avoided. This route crosses the existing 400kV overhead line to the south east of Vron Farm and then joins route B3 east of Street Dinas to head in a more southerly direction to cross the B5068 to the east of St Martin's.

Key Environmental Factors

- 9B.45 The following key environmental factors have been identified related to route B2:
- There are tourism assets in the form of The Boat public house and Gardens open to the public
 - 3km of route pass through SLA
 - 0.3km pass through essential setting of Erbistock Registered Parkland
 - Proximity to Erbistock Conservation Area
 - Dee River SAC crossing
 - PROW along northern river bank is well used walk from popular public house The Boat
 - Maelor Way Long Distance Footpath near southern river bank
 - Fishing rights and permanent fishing platform in vicinity of proposed river crossing point
 - Crossing point utilises natural break in woodland vegetation along Dee and minimises tree removal required.
 - Routed through relatively unpopulated areas and maintains distance from isolated farms and dwellings
 - Crosses extensive area safeguarded for protection of mineral resources in vicinity of Erbistock (Dee valley)

Route B3

- 9B.46 Route B3 follows the same course as Option B1(C) to a point 0.5km north of the small village of Pen-y-lan. From here it follows a route south through farmland towards Pen-y-

lan. The route runs to the east of Bryn Farm and Bryn Pen-y-lan and runs through the northern extent of the Pen-y-lan Registered Historic parkland.

9B.47 From this point there are 2 options which run to the north and south of Lower Farm, B3(A) and B3(B). Both options avoid existing woodlands and cross the River Dee approximately 1km distance from each other. After crossing the Dee, they converge to the south of Sodylt Wood. From this point the route runs south alongside a clough woodland and then in a south westerly direction approximately parallel and offset approximately 300m from the B5069. This route crosses beneath the existing 400kV overhead line to the west of Warren Hall and heads southeast to cross the B5069 to the north-east of Little Common/Street Dinas. The route runs south through farmland before crossing the BB5068 to the east of St Martin's.

Key Environmental Factors

9B.48 The following key environmental factors have been identified related to route B3:

- 3km through SLA
- Relatively close proximity to rear of properties in Bryn Farm and Bryn Pen-y-lan
- Passes through northern extent of Pen-y-lan Registered Historic Parkland
- Dee River SAC crossing
- Option B3(B) runs in close proximity to four dwellings, in comparison to B3(A), which is not close to any dwellings
- Option B3(B) requires crossing woodland on banks of River Dee (Sodylt Wood), possibly requiring tree removal

Route B4

9B.49 Route B4 follows the alignment as described in Route B1 for approximately 3.5km south of the boundary with Zone A, to a point north of the River Dee where route B1 crosses beneath the existing overhead lines. From here, this route option would parallel the existing 132kV lattice line to utilise the existing corridor through areas of woodland and use the same crossing point over the River Dee. It is considered likely that additional tree removal will be required at several points to allow an appropriately wide easement to accommodate two overhead lines.

9B.50 This route follows the existing 132kV line for 3.5km to a point to the south of Glynmorlas where the existing line then heads in a south westerly direction, and the proposed route heads in a south easterly direction. It crosses the B5069 utilising a break in the built development between St Martin's and Moors Bank, to the east of Rbyn School.

Key Environmental Factors

9B.51 The following key environmental factors have been identified related to route B4:

- Tree removal would be required in woodlands on the eastern slope of the Ceiriog valley
- 3.5km parallel section with existing lattice line (effect on visual amenity of properties in Glynmorlas)
- 4.5km through SLA
- Dee River SAC crossing
- Runs through attractive valley area of Dee-Ceiriog confluence which already contains overhead lines

- Runs in relatively close proximity to properties in River Ceiriog valley area (Ddol)
- Runs through 0.3km Ifton Meadows Local Nature Reserve
- Utilises narrow area of undeveloped land in between St Martin's and Moors Bank potentially bringing the line in close proximity to a relatively high number of visual receptors
- Crosses Maelor Way Long Distance Footpath
- The effects relating to route B1 where it is subdivided into options B1(A), B1(B) and B1(C) in the vicinity of Wynnstay Registered Parkland.

Route B5

9B.52 Route B5 follows the alignment as described in Route B1 for approximately 6km south of the boundary with Zone A, to a point north of the hamlet of Tenement, in the Ceiriog valley. It crosses the River Ceiriog just west of the hamlet, following a south-easterly alignment across the valley and exploiting a small break in woodland on the eastern valley side. Some tree removal may be necessary to widen this gap. The route crosses beneath the existing 132kV power line south of Lower House Farm, and continues in a southerly direction for approximately a kilometre, crossing farmland and Ifton Meadows Local Nature Reserve. South of Ifton Meadows the route follows a southwesterly alignment through gently undulating farmland. It then follows a southerly route (along the line of a former railway) between Rhos-y-llan Wood and an industrial estate situated immediately north of the B5070. After crossing the B5070 the route continues in a southerly direction to cross the Shropshire Union Canal near Preeshenlle Bridge, north of Henlle Hall, where it joins with Route C1.

Key Environmental Factors

9B.53 The following key environmental factors have been identified related to route B5:

- Some tree removal may be required in three locations
- 6.9km through SLA
- Dee and Ceiriog River SAC crossings
- Runs through 0.3km Ifton Meadows Local Nature Reserve
- Crosses Maelor Way long distance footpath
- The effects relating to route B1 where it is subdivided into options B1(A), B1(B) and B1(C) in the vicinity of Wynnstay Registered Parkland.

Comparison of Zone B (Dee River Crossing) Options

9B.54 Five possible route options have been identified through Zone B. Routes B1, B4 and B5 cross the River Dee in the vicinity of the existing 132kV overhead line crossing, near the confluence of the Dee with the Ceiriog. Routes B2 and B3 follow a more easterly alignment, crossing the River Dee in the vicinity of Erbistock. River crossing position influences the route alignments further south, with eastern river crossings taking a route to the east of the large village of St Martin's (Routes C3 and C4), and western river crossings passing to the west of St Martin's (Routes C1 and C2).

9B.55 For Zone B, a comparison of the eastern river crossing route options was undertaken, followed by a comparison of the western river crossing route options. The best option from each of these was then added to the best linking/corresponding western or eastern option in Zone C, from St Martin's to Oswestry substation. Finally, the 'best overall' western option was compared with the 'best overall' eastern option.

Sub-options

9B.56 As illustrated in Figure 9.1, there were initially several short variations to routes, such as three sub-options for Route B1 to pass through or around Wynnstay, a registered parkland. Only the favoured sub-option is described and evaluated here. The comparisons of sub-options are detailed at the end of this document.

Comparison of Eastern River Crossings: B2 and B3(A)

9B.57 The preferred sub-option for Route B3 crossing of the River Dee is B3(A): see Appendix 9D. This is directly comparable with Route B2 between Park Eyton and Street Dinas. North and south of these points, the options follow a common route to the boundaries with Zones A and C.

9B.58 Both of these options traverse a large portion of locally designated landscape. Option B2 affects a slightly greater extent as it takes a more easterly route. Option B3(A) would pass through the corner of the Registered Parkland of Pen-y-lan; Option B2 crosses the essential setting of Erbistock, but maintains distance from the Registered part of this parkland.

9B.59 Both options are aligned well with local topography in general, and cross the river Dee directly at points which would minimise tree loss. However, immediately north of the Dee crossing Option B3(A) rises to cross an exposed local ridge line along an alignment less in keeping with landform and landscape pattern. South of the Dee, Option B2 has an overall better 'fit' with the landscape, in terms of utilizing topography and backgrounding by woodlands.

9B.60 In terms of effects upon people, Option B2 is considered to have less effect upon visual amenity of residential properties, primarily because B3(A) passes the small settlements of Pen-y-lan and Bryn Pen-y-lan (north of the river crossing) and Little Common/Street Dinas (south of the river crossing) whereas Option B2 is routed past individual dwellings.

9B.61 Option B2 may be visible from three listed buildings at Sodylt Hall and from the listed Manley Hall and is approximately 0.5km distant from Erbistock Conservation Area. Option B3(A) would not affect these, but may potentially affect two listed buildings in Bryn Pen-y-lan and the listed Bryn House, north of Pen-y-lan.

9B.62 Both options cross the Maelor Way on the southern side of the Dee valley. Option B2 would additionally cross a well-used public footpath on the northern bank of the Dee, originating from near The Boat Inn at Erbistock. The garden open to the public, at Garden House, Erbistock, would be 0.5km from Option B2.

9B.63 The choice between B3(A) and B2 is finely balanced. B2 has potential to affect public viewpoints in the vicinity of the tourism assets at Erbistock, although it is unlikely that there would be direct effects on views from the Garden House and public house gardens. Route B3(A) has no effect upon Erbistock although it too crosses the Maelor Way. Route B2 avoids effects on views close to all but occasional isolated properties and this absence of potential effects on settlements has led to a preference for Option B2.

9B.64 **Option B2 is carried forward as the preferred eastern river crossing.**

Comparison of Western River Crossings: B1, B4 and B5

9B.65 The comparison of the three route options for the crossing of the rivers to the west is presented in summary form in Table 9B.1 overleaf, for ease of identifying which option is preferred in relation to the different environmental aspects. The table highlights only the main differences between the options. Where effects of the three routes are anticipated to be similar, such as effects upon tourism/recreation related to the line crossing over the river, these have not been included in the comparison table.

9B.66 Route B4 performs least well of the three options in nearly all comparisons and is discounted. The selection of a preferred option from Route B1 and B5 requires a balancing of the effects upon landscape character with the effects upon cultural heritage and effects upon people, in terms of visual amenity. Whilst Route B5 has a less sympathetic alignment within the landscape than B1, this aspect is considered to be of lesser importance than avoidance of areas designated for their landscape, cultural heritage or scientific interest at a national level, namely the Essential Setting of Brynkinalt and the Rhyn Park Scheduled Monument Area.

9B.67 **Option B5 is carried forward as the preferred western river crossing.**

Table 9B.1 Comparison of Western River Crossings

Aspect	Route B1	Route B4	Route B5	Preferred
Effect on settlements	Generally routed away from settlements	Proximity to St Martin's , Moors Bank and St Martin's Moor	Generally routed away from settlements	B1/B5
Effect on scattered dwellings in Ceiriog valley near Dee/Ceiriog confluence	Passes within 150m of Pont y Blew properties, properties along Rhyn Lane and Erw'r Esgob Farm	Proximity to several properties in Ceiriog valley, Glynmorlas, Rhos y llan Farm, St Martin's School. Cumulative effect of paralleling.	Proximity to properties at Tenement in Ceiriog valley.	B5
Effect on designated landscapes	7.5km through SLA Affects Essential Setting of Brynkinalt Registered Parkland	6.5km through SLA	6.3km through SLA	B5
Effects on cultural heritage	Crosses Rhyn Park Scheduled Monument Proximity to 3 listed buildings.	Proximity to 2 listed buildings	Proximity to 1 listed building	B5
Effects on landscape character/ landform	Follows alignment relatively sympathetic to landscape	Parallels existing 132kV alignment along eastern bank of Ceiriog valley, relatively unsympathetic to topography and cutting through woodlands	Direct crossing of Ceiriog valley (less sympathetic than B1), and occupies a generally more elevated and exposed position along ridgeline east of Ceiriog valley.	B1

Aspect	Route B1	Route B4	Route B5	Preferred
Effects on trees and woodlands	Small amount of tree removal at Lower Halton	Tree removal likely in 4 woodlands to accommodate line adjacent existing 132kV	Tree removal likely to widen gaps at two woodland crossing points, and along disused rail line.	B1
Effects on nature conservation designations	Dee SAC crossing x 2 Crosses Wildlife Site of County Importance near Lower Halton	Dee SAC crossing x 1 Crosses Ifton Meadows LNR	Dee SAC crossing x 2 Crosses Ifton Meadows LNR	B4

Zone C (Oswestry) Route Options

9B.68 Zone C is shown at Figure 9.5. It extends from the B5070/B5068, which runs in an east-west direction from the A5 through St Martin's, to the existing substation at Oswestry. It comprises gently undulating agricultural land to the north with fields defined by mature hedgerows and trees. To the centre of this zone the land becomes flatter, low lying and more open in the area around New Marton in the vicinity of the Shropshire Union Canal. To the south the landscape remains low lying and flat around Halston and Fernhill Halls, however the occurrence of plantation woodland increases which reduces its openness. The west of this zone comprises higher intensity mixed agriculture with the larger settlements of Weston Rhyn, Gobowen and Oswestry located along the A5. The Oswestry Orthopaedic Hospital and Oswestry Showground are located to the south of Gobowen with Henlle Hall Golf Course and a new marina development located to the north. To the east of this area, between Dudleston Heath Criftins and Welsh Frankton, the landscape pattern is similar to that around St Martin's, comprising a small scale, undulating landscape with mature hedgerows and trees. There are large mineral consultation zones to the east.

9B.69 The embanked Oswestry Hill Fort forms a landmark feature in the landscape. Wat's Dyke runs in a northerly direction from the hill fort through Gobowen and to the east of Henlle Hall. There are several sites of ecological importance scattered through this area, with Fernhill Pastures, in the vicinity of Fernhill Hall, designated as a SSSI for its traditionally managed fen meadows.

9B.70 The key constraints within Zone C are considered to be:

- Several areas of historic parkland although none of these are Registered Parklands
- Areas of plantation woodland to south of the zone
- Fernhill Meadows SSSI
- Oswestry Hill Fort Scheduled Monument and its setting
- Wat's Dyke (discontinuous line of Scheduled Monuments)
- Shropshire Union Canal and associated lower lying open landscape
- Scattered farms and small settlements
- Larger settlements of Weston Rhyn, Gobowen and Oswestry
- Whittington village, Conservation Area and castle
- The Robert Jones and Agnes Hunt Orthopaedic Hospital and Oswestry Showground occupy significant area of land to the north east of the substation

Route C1

- 9B.71 Route C1 runs in a southerly direction from the B5070 with two potential options to avoid a listed building at Erw'r Esgob. These options cross the dismantled railway at separate points before converging prior to crossing the Shropshire Union Canal to the north of Henlle Hall. This route then runs alongside Wat's Dyke for approximately 0.5km. Wat's Dyke forms the eastern boundary to the grounds Henlle Hall, which are now a golf course.
- 9B.72 Route C1 runs in a south-east direction to the east of the settlements of Rhewl and Gobowen through agricultural land. Two sub-options, C1(A) and C1(B), take alternative routes either to the east or to the west of Hillyards Plantation before converging to the north of Fernhill Hall. Option C1(A) is the most direct route, and would follow an alignment currently taken by a low voltage (33kV) line, adjacent Hillyards Plantation. Route C1(B) runs approximately 1km to the east beyond the plantation. From the convergence point of the sub-options, route C1 runs in a westerly direction, crossing the railway and running through an area of agricultural land between the Orthopaedic Hospital to the north and Park Hall Farm and Oswestry Showground to the south. On crossing the A5 this route runs parallel to the A5 in a southerly direction towards the substation. Due to the presence of numerous other distribution lines occupying the narrow corridor of land between Old Oswestry Fort and the A5, including the existing 132kV overhead line, the proposed route would be laid as underground cable from a point just east of the A5 crossing to its entry to Oswestry substation (approximately 1.4km).

Key Environmental Factors

- 9B.73 The following key environmental factors have been identified related to route C1:
- Tree removal along dismantled railway – less tree removal anticipated on western most crossing point
 - Close proximity to Henlle Hall
 - Crosses and parallels Wat's Dyke Scheduled Monument
 - Option C1(A) runs in close proximity to Hillyards Plantation – possible tree removal required
 - Option C1(B) runs in close proximity to Great Fernhill listed building
 - Option C1(B) immediately adjacent Fernhill Pastures SSSI
 - Visual effect on setting of Oswestry Hill Fort minimised by undergrounding route in this vicinity
 - Potential effects on archaeology during cable installation

Route C2

- 9B.74 Route C2 utilises the break in development between Moors Bank and St Martin's and runs in a south-easterly direction from the B5069 to cross the Shropshire Union Canal to the east of St Martin's Moor. From here the route runs in a southerly direction through agricultural land avoiding running in close proximity to several farms which are located in the area. This route merges with route C1(B) to the north east of Hillyards plantation from where it follows a south easterly line to the north of Fernhill Hall and follows route C1 described above.

Key Environmental Factors

- 9B.75 The following key environmental factors have been identified related to route C2:

- Effect on visual amenity of residential properties on fringes of St Martin's and Moors Bank
- Runs in close proximity to Great Fernhill listed building
- Visual effect on setting of Oswestry Hill Fort minimised by undergrounding route in this vicinity
- Immediately adjacent Fernhill Pastures SSSI
- Potential effects on archaeology during cable laying

Route C3

9B.76 Route C3 runs from the B5068 to the east of St Martin's in a south-westerly direction through the Upper Wiggington area and crosses the Shropshire Union Canal to the north of New Marton locks. From here the route runs south through lower lying land passing to the west of the settlement of Henlle and to the east of Fernhill Hall. This route then runs in a south westerly direction through undulating farmland to the north and west of Whittington. The route crosses the A495 west of Whittington and skirts to the south of Drenwydd Farm, before taking a route 200m south of and approximately parallel with the A495, crossing the A5 and entering the substation at Oswestry from the east.

Key Environmental Factors

- 9B.77 The following key environmental factors have been identified related to route C3:
- Proximity to properties on eastern fringe of St Martin's
 - Immediately adjacent Fernhill Pastures SSSI
 - Close proximity to properties on northern and western fringes of Whittington village
 - Proximity to Whittington Conservation Area
 - Close proximity to Drenwydd (Listed Building)

Route C4

9B.78 Route C4 commences at the same point on the B5068 as Route C3, described above, to a point approximately 1km to the south-west of Upper Wiggington. From here the two routes diverge, with Route C4 taking a more easterly route through the lower lying land associated with the Shropshire Union Canal. Route C4 crosses the canal approximately 0.75km to the south of New Marton Locks and runs between the settlements of Henlle and Hindford. From here the route runs in a southerly direction through undulating agricultural land to the east of Whittington and to the west of Halston Hall. This route runs around the south of Whittington and heads in a westerly direction towards the substation at Oswestry, passing to the south of the sewage works located to the south of the A495. It then turns northwards to join Route C3, approaching Oswestry from the east.

Key Environmental Factors

- 9B.79 The following key environmental factors have been identified related to route C4:
- Proximity to properties on eastern fringe of St Martin's
 - Approximately 2km through flat open lower lying land with little vegetation
 - Close proximity to Halston Hall parkland estate
 - Close proximity to southern edge of Whittington – including edge of the Conservation Area

Comparison of Zone C (Oswestry) Options

- 9B.80 Four possible route options have been identified through Zone C, the approach to Oswestry substation. Routes C1 and C2 are located to the west of St Martin's, and would link to Routes B1, B4 or B5 (*not all cross-links are shown*). Routes C3 and C4 follow a common alignment just east of St Martin's, and link to either Route B2 or B3.
- 9B.81 For Zone C, a comparison between Routes C1 and C2 was undertaken to determine the favoured option to join with the preferred western river crossing. A comparison between Routes C3 and C4 was similarly undertaken, with the favoured option linking with the preferred eastern river crossing option.

Sub-options

- 9B.82 As with sub-options for routes in Zone B, sub-options for routes in Zone C have been compared, with only the favoured sub-option reported here. Details of the comparison of sub-options for Zone C are included in Appendix 9.E.

Comparison of Western Options through Zone C: C1(A) and C2

- 9B.83 There are relatively few environmental constraints affecting routeing in the predominantly rural area between the western edge of St Martin's and Oswestry substation. In order to avoid the settlement of Gobowen and large hospital and college grounds to the south of this, both routes C1(A) and C2 take a generally southerly alignment across the shallow valley of the River Perry. The routes join at Great Fernhill, following a common alignment westwards and then southwards to the substation.
- 9B.84 Route C1(A), the most westerly route, generally avoids proximity to settlement, whereas Route C2 exploits a gap in buildings between St Martin's and Moors Bank/St Martin's Moor, and is likely to have an effect upon visual amenity of a greater number of properties.
- 9B.85 Route C1(A) crosses and parallels the Scheduled Monument of Wat's Dyke in the vicinity of the Shropshire Union Canal, whereas Route C2 has no effects upon cultural heritage (other than those common to both routes where they combine to approach Oswestry substation).
- 9B.86 Other differences between the routes include a greater potential impact upon nature conservation designations with Route C2, which is adjacent to the SSSI of Fernhill Pastures, and a greater likelihood of tree removal with Route C1(A) in the vicinity of Hillyards Plantation and in crossing a dismantled railway line.
- 9B.87 On balance, Route C1(A) is preferred as the avoidance of proximity to settlements, and avoidance of a nature conservation designation of national importance (SSSI) is considered a greater benefit than avoidance of crossing Wat's Dyke Scheduled Monument. Direct effects on this linear feature can be avoided by careful siting of line supports.
- 9B.88 Option C1(A) is carried forward as the preferred western approach to Oswestry substation.

Comparison of Eastern Options through Zone C: C3 and C4

Comparison of Northern Parts of Routes C3 and C4 between St Martin's and Fernhill: C3 (north) and C4 (north)

- 9B.89 Between St Martin's and Fernhill, where the northern parts of routes C3 and C4 converge, there are relatively few environmental constraints affecting routeing. Both routes cross the Shropshire Union Canal, the main feature in this low-lying and relatively open landscape. Option C4 has a marginally greater effect on the canal, as it crosses at a more oblique angle than C3, and so is closer for a greater distance.
- 9B.90 Option C3 maintains a greater distance from the small settlements of Hindford and Henlle, although it is closer to several isolated farmsteads to the west of the canal. The village of Hindford has numerous mature trees, providing enclosure and screening views out, whereas Henlle and the several farmsteads to the west of the canal generally have elevated positions and open aspects. Option C3 north is likely to have a greater overall impact upon visual amenity from residential properties.
- 9B.91 South of Henlle, option C3 follows an alignment in close proximity to Fernhill Pastures SSSI, and runs alongside woodland adjacent to the designated site. Option C4 does not affect the SSSI.
- 9B.92 On balance, between St Martin's and Fernhill, **Option C4 (north) is preferred** over Option C3 (north), primarily for reasons of lower effects on visual amenity of residential properties.

Comparison of Southern Parts of Route C3 and C4 Between Fernhill and Oswestry: C3 (south) and C4 (south)

- 9B.93 Between Fernhill and Oswestry substation the key consideration is the effect upon Whittington village. Option C3 follows a route to the north and west of the settlement, whereas Option C4 skirts to the east and then south of the village.
- 9B.94 Option C3 is separated from the northern edge of Whittington by a narrow strip of woodland associated with a disused railway line, but is in close proximity to several properties on the western fringe of the village, including Drenwydd listed building. Option C4 generally maintains a greater distance from the edge of settlement.
- 9B.95 To the south and east of Whittington the landscape is less rolling and comprises larger fields with less tree cover in comparison with the landscape to the north of the village, making assimilation of an overhead line more difficult than in the more enclosed landscape typically characterising the study area.
- 9B.96 Option C3 utilises the route of a 33kV overhead line from north of Whittington to Oswestry substation, for a distance of approximately 2.5km. Much of this length is within the larger scale, more open landscape south of the A495 Whittington Road. In accordance with the routeing criteria, the lower voltage line is not taken into consideration at this stage. This is of relevance with regard to the visual amenity of several south-facing properties at Park Green, on the A495 and also of the listed building at Drenwydd.
- 9B.97 **Options C3 and C4 between Fernhill and Oswestry are finely balanced, with a slight preference for C4.**
- 9B.98 In the comparison of routes C3 with C4, a hybrid route option between St Martin's and Oswestry substation is directly comparable with C4. This comprises Option C3 from the zone boundary south to Henlle, with a short cross link to Option C1(B) north of Fernhill Pastures SSSI, and Option C1(B) from this point to Oswestry substation. This hybrid route would avoid the village of Whittington, a key consideration in this zone, and generally avoid proximity to property. In addition, this route would be shorter than option

C4, and the approach to Oswestry substation would be via underground cable, minimising visual intrusion. The benefits of avoiding proximity to Whittington are considered greater than the disbenefits of route option C3, which relate to effects upon visual amenity from scattered residential properties in the vicinity of New Marton and Henlle.

9B.99 In the overall comparison of Options C3 and C4, **the hybrid of C3 with C1(B) is preferred**. This forms the preferred eastern approach to Oswestry substation.

Comparison of Western and Eastern Routeing Strategies

9B.100 Comparison on a zone by zone basis has resulted in two coherent routeing strategies (or overall routes from Legacy to Oswestry), a western route, A1-B5-C1(A), and an eastern route, A1-B2-C3+C1(B). A summary of the comparison of these strategies is presented in Table 9B.2 below.

Table 9B.2: Comparison of Western and Eastern Routeing Strategies

Aspect	Route A1/ B5/C1(A) Western Option	Route A1/ B2/C3+C1(B) Eastern Option	Preferred Strategy
Effects on settlement	Generally routed away from settlements	Effects on eastern edge of St Martin's	Western
Effects on designated landscapes	6.5km through SLA;	4.5km through SLA; 0.3km through essential setting of Erbistock Registered Parkland	Western
Effects on cultural heritage	Crosses Wat's Dyke x1 and parallels Scheduled Monument Area for 0.5km Cable route crosses Offa's Dyke Proximity to Bryn House and Great Fernhill listed buildings	Within 0.5km of Erbistock Conservation Area Crosses Wat's Dyke x1 Cable route crosses Offa's Dyke Proximity to 3 listed buildings at Sodylt Hall and Great Fernhill listed building	Western
Effects on landscape character/landform	Generally routed through undulating terrain with plentiful mature tree cover. Impact upon Ceiriog valley.	Relatively open, low-lying landscape west of New Marton - route less easily assimilated within these landscapes. Central section (river crossing) routed within estate-influenced Maelor landscape – unspoilt parkland of high scenic quality.	Western
Effects on trees and woodlands	May require tree removal crossing River Ceiriog, Bramble Wood (x 2), adjacent disused railway line and Hillyards Plantation	No tree removal identified	Eastern
Effects on nature conservation designations	Crosses River Dee SAC x 2 (Dee and Ceiriog) Crosses LNR at Ifton Meadows	Crosses River Dee SAC x 1 (Dee) Immediately adjacent Fernhill Pastures SSSI	Eastern

Aspect	Route A1/ B5/C1(A) Western Option	Route A1/ B2/C3+C1(B) Eastern Option	Preferred Strategy
Effects on recreation/tourism	No direct effects on interests	Affects well –used footpath adjacent river Dee from Boat Inn PH; angling interests	Western
Route length	19.6km wood pole 3.0km cable	20.0km wood pole 3.0km cable	Western

9B.101 The western strategy is the preferred option. It follows a route generally sympathetic to local topography and woodlands, through an undulating landscape in which a wood pole line will be easily assimilated. The eastern route would pass through more open, flatter landscapes such as the area between New Marton and Henlle, and the estate-influenced parkland landscape in the vicinity of Erbistock, Manley Hall and Sodylt Hall. Both of these landscape types are considered less able to effectively assimilate a power line of the type proposed.

9B.102 Avoiding potential effects upon settlements is one of the most important aspects of comparing the options. The western route avoids all settlements, whilst the eastern route may have effects upon the eastern edges of St Martin's village (although there may be potential to confirm a route at a greater distance from this settlement than the indicative alignment). Although the comparison is finely balanced, the western option will have marginally less impact upon visual amenity.

9B.103 Other disadvantages of the eastern option relate to cultural heritage and tourism/recreational interests in the vicinity of Erbistock in particular. The essential setting of a registered parkland is considered a national designation (although non-statutory) and therefore is accorded greater weight than the local landscape designation (which is affected to a greater extent by the western option). However, it may be possible to deviate the route to avoid the essential setting of Erbistock Registered Parkland, and also to minimise any effects on angling interests in the vicinity of Erbistock.

Future connections

9B.104 The western option is considered the preferred alternative for reinforcement of the Legacy to Oswestry 132kV power distribution line, when there is no requirement to provide a connection to Chirk. The case for proposing a western route is strengthened if a future connection to Chirk is required, as this is likely to involve a substantially shorter length of power line (and hence environmental disbenefits) than a connection to a more easterly route.

The Preferred Route at consultation

9B.105 The assessment of alternative options indicated a preference for a route comprising a combination of A1 with the western river crossing B1(C) – B5 - C1(A) . This combination is based on a balanced decision considering all environmental aspects required to create an entire connection from Legacy to Oswestry. It was considered that this combination offered the 'preferred route' to be taken forward within the consultation process.

9B.106 Overall, the preferred route avoided settlements, areas of high amenity, cultural or nature conservation value, whilst maximising the potential of the existing landform and vegetation for screening purposes.

9B.107 The line of the preferred route at public consultation, A1-B1(C)-B5-C1(A), is shown on Figure 9.6.

Comparison of sub-options

Comparison of Route B1 Options in Vicinity of Wynnstay Park: B1(A), B1(B), and B1(C)

9B.108 Route B1 has three sub-options in the vicinity of Wynnstay Park and Park Eyton. The key issue is the effect upon Wynnstay Park Registered Parkland and its associated setting, which needs to be balanced against the increased effect on visual amenity of residential properties likely if the line is routed around the parkland. The situation is further complicated by the presence of two existing high voltage overhead lines in the vicinity, which take a direct north-south route across the drive connecting Park Eyton Lodge with Wynnstay Park (which is part of the registered parkland) and through the Essential Setting of the parkland. They are located approximately 0.25km west of Argoed Farm. There is a Scheduled Monument at Argoed Farm. Park Eyton Lodge, The Kennels (both associated with Wynnstay Hall) and Bryn House are listed buildings.

9B.109 Route B1(A) is the most direct, taking a broadly north to south route approximately 0.3km east of the existing 132kV and 400kV overhead lines, and crossing both a short section of the Registered Parkland and a greater extent of its Essential Setting. This option may have some effect on the setting of the Scheduled Monument at Argoed Farm, (and upon the visual amenity of the farmhouse, which has views south and eastwards) although the route would be partially backgrounded by The Drive Wood in views eastwards from Argoed.

9B.110 Route B1(C) is the longest and least direct, avoiding the Essential Setting of the park. It is likely to have the greatest effect of these sub-options upon the visual amenity and setting of The Kennels and Bryn House, but would have little effect upon Park Eyton Lodge or Argoed Farm. In taking a route south-eastwards to Park Eyton and then south-westwards, this route is the least sympathetic of the three options to the local topography, which is a series of gentle ridges and intervening hollows, orientated in a north-south direction. It also takes a route through more open land than the other options.

9B.111 Option B1(B) takes the middle route, geographically, crossing the short section of Registered Parkland at the same point as Option B1(A). It would have a similar effect upon the Scheduled Monument and listed buildings as Option B1(A). The route alignment alongside The Drive Wood is considered to offer a greater extent of backgrounding (in views from the road network including the A539) than the more direct option, and so Option B1(B) is preferred to B1(A).

9B.112 Although it is less sympathetic to local topography, and introduces potential effects on the setting of two listed buildings, Option B1(C) is preferred as it does not affect the Registered Parkland or its Essential Setting, and it avoids Argoed Farm and Scheduled Monument.

9B.113 Option B1(C) is the preferred option in the vicinity of Wynnstay Park.

Comparison of Route B3 Options Crossing the River Dee: B3(A) and B3(B)

9B.114 Route B3 has two options in the vicinity of the river Dee crossing. Option B3(B) takes a route to cross from north to south of the river, following an alignment sympathetic to local landform, and utilising existing woodlands for backgrounding, particularly north of the river. Option B3(A) takes a more direct and open route over a local ridgeline north of its river crossing point.

9B.115 Although both river crossing points have been selected to minimise riverside tree loss, option B3(B) would cross Sodylt Wood, an area of Ancient Semi-Natural Woodland, managed by the Woodland Trust.

9B.116 Option B3(B) would be routed close to four listed buildings, Wyffydd and three buildings in the vicinity of Sodylt Hall, which B3(A) would not affect.

9B.117 The recreational route Llwybr Maelor Way follows minor lanes on the southern bank of the Dee. Option B3(B) would cross it twice in the vicinity of Sodylt and closely parallel the path for approximately 1km. The route of this option on the upper bank of the Dee would provide little opportunity for backgrounding (Sodylt Wood is at a lower level) and so is likely to affect views westwards over the Dee valley from the footpath. Option B3(A) would have a lesser effect, crossing the path once at 90 degrees.

9B.118 A variation of B3(B), running alongside the northern bank of the Dee and crossing at the same point as option B3(A), rather than crossing east of Lower Farm, is considered preferable to B3(B) in terms of overall visibility from the surrounding area and effect upon Sodylt Hall buildings. It would, however, be closely aligned with a public right of way alongside the Dee on its northern bank. Option B3(A) provides a more direct crossing of the Dee valley, and is considered to have the lesser impact upon visual amenity of footpath users, listed buildings and residential properties.

9B.119 Option B3(A) is the preferred option for Route B3 crossing the River Dee.

Comparison of Route C1 Options in the River Perry Valley: C1(A) and C1(B)

9B.120 To the east of Gobowen, Option C1 has two options to negotiate a way through the Hillyards Plantation and Fernhill Pastures and other woodlands and meadows associated with the shallow valley of the river Perry.

9B.121 Option C1(A) takes the most direct route across the valley, following the western edge of Hillyards Plantation and maintaining distance from the few properties in the vicinity. Option C1(B) is routed further east, avoiding Hillyards Plantation and crossing the valley immediately adjacent to Fernhill Pastures, a SSSI. Option C1(B) crosses three minor lanes and would be within closer proximity to isolated properties (less than 5) than Option C1(A).

9B.122 On this basis, Option C(1)A is preferred as it has lower effects on views and avoids Fernhill Pastures SSSI. An additional consideration is that Option C1(A) occupies the route of an existing low voltage (33kV) overhead line for approximately 1km, and accommodating the higher voltage overhead line may require tree removal from the small plantation to the west of Hillyards Plantation. However this was not considered to be sufficient to change the preferred option from C1(A) to C1(B).

9B.123 The preferred option for Route C1 in the River Perry Valley is C1(A).

**APPENDIX 9C Summary Table of Key Environmental Factors
Relating to Detailed Route Alternatives**

KEY ISSUES ROUTE OPTIONS	LANDSCAPE CHARACTER	LANDSCAPE DESIGNATIONS	PROXIMITY TO DWELLINGS/VISUAL IMPLICATIONS	ECOLOGY	TREES AND WOODLAND	ARCHAEOLOGY	LEISURE AND TOURISM
ROUTE A1 WOOD POLE ALTERNATIVE (Cable to B5605) ROUTE LENGTH Total: 5.6km Cable: 1.6km Wood pole: 4.0km	7C Rhos 13a Maelor	-	Cumulative impact with existing OHLs Within 150m of properties adjacent B5605, Hafod y Bwch Farm, Corkscrew Lane, Rural Welcome Centre house and Ty Coch	Passes in close proximity to Hafod Tip (part of Johnstown Newt Sites SAC)	Tree removal may be necessary to eastern edge of Hafod tip.	Offa's Dyke (Cable) Wat's Dyke (Wood pole) 2 Scheduled Monuments in close proximity to cable route	Located to west of Sontley fishing lakes Adjacent Hafod Community Park (Hafod Tip) Avoids Hafod-y- bwch Farm Park
ROUTE A2 REPLACE PORTAL WITH 132KV LATTICE ROUTE LENGTH Total: 5.6km Cable: 0.4km Lattice: 2.2km Wood pole: 3.0km	7C Rhos 13a Maelor	0.7km OHL through Special Landscape Area	Within 150m of properties adjacent B5605, Hafod y Bwch Farms(x2), Rural Welcome Centre house and Ty Coch.	Avoids designated ecological sites	Avoids main woodland blocks	Offa's Dyke (Cable) Wat's Dyke (Wood pole) 3 Scheduled Monuments near lattice tower line. 2 grade II* listed buildings at Hafod Y Bwch Hall, Ponciau	To immediate south of Hafod-y- bwch Farm Park To south of Sontley fishing lakes
ROUTE A3 REPLACE PORTAL WITH 132KV LATTICE ON NEW ALIGNMENT ROUTE LENGTH Total: 5.3km Cable: 0.4km Lattice: 3.4km Wood pole: 2.5km	7C Rhos 13a Maelor	0.7km OHL through Special Landscape Area Lattice tower OHL within 0.5km of Erddig Registered Historic Parkland (National Trust owned)	Will improve views from Middle Sontley Farm, barn conversions and bungalow with removal of Portal. Within 150m of properties adjacent B5605 and Hafod y Bwch Farm	Crosses Hafod Wood Wildlife Site of County Importance	Tree removal required at Hafod Wood (National Trust) within Erddig Country Park	Offa's Dyke (Cable) Wat's Dyke (Lattice) 3 Scheduled Monuments near lattice tower line. 2 grade II* listed buildings at Hafod Y Bwch Hall, Ponciau	Passes through Hafod-y-bwch Farm Park

KEY ISSUES ROUTE OPTIONS	LANDSCAPE CHARACTER	LANDSCAPE DESIGNATIONS	PROXIMITY TO DWELLINGS/VISUAL IMPLICATIONS	ECOLOGY	TREES AND WOODLAND	ARCHAEOLOGY	LEISURE AND TOURISM
<p>ROUTE B1 WESTERN RIVER CROSSING B1(A) Cinders Farm Option B1(B) Drive Wood Option B1(C) Park Eyton Option</p> <p>B1(A): 9.9km (W.Pole) B1(B): 10.1km (W.Pole) B1(C): 10.7km (W.Pole)</p>	<p>13a Maelor 12a Dee/Ceiriog Valley OH/10b Gobowen/ Oswestry</p>	<p>Approx 7.5km through SLA</p> <p>Option A avoids Wynnstay Options B and C: Approx 1km through Essential Setting of Wynnstay Park Registered Park and Garden</p> <p>Approx 1km through Essential Setting of Brynkinalt Registered Park and Garden (scope to utilise existing 33kV route)</p>	<p>Passes within 150m of Pont y Blew properties, properties along Rhyn Lane and Erw'r Esgob Farm.</p> <p>Visual effect in Pont y Blew minimised by utilising existing 33kV line route</p>	<p>Dee and Ceiriog SAC crossing x 2</p> <p>Crosses Wildlife Site of County Importance near Lower Halton</p>	<p>Avoids main woodland blocks</p> <p>Small amount tree removal required near Lower Halton</p>	<p>Crosses Rhyn Park Scheduled Monument Area (Roman Military Site)</p> <p>Proximity to Esgob Listed Building, Pont y Blew Listed Building. Option A: Proximity to Bryn House Listed Building. Options B/C: Proximity to Argoed SM</p>	<p>Limited public access to Dee and Ceiriog Rivers</p> <p>Crosses Maelor Way in vicinity of Rhyn, runs parallel for 1km</p>
<p>ROUTE B2 EASTERN RIVER CROSSING</p> <p>Total: 9.4km Cable: 0km Wood pole: 9.4km</p>	<p>13a Maelor 12a Dee/Ceiriog Valley SP/32 Welshampton</p>	<p>3.5km through SLA</p> <p>0.3km through Essential Setting of Erbistock Registered Parkland</p>	<p>Approx 150m from Manley Hall and within 150m of Sodylt Hall and lodge and Bryn Goleu.</p>	<p>Dee SAC crossing x 1</p>	<p>-</p>	<p>250m from Erbistock Conservation Area</p> <p>Proximity to 3 listed buildings at Sodylt Hall</p>	<p>PROW along River Dee Fishing Rights (easy access and permanent platforms) Proximity to the Boat Inn PH and The Garden House Maelor Way to south of Dee</p>

KEY ISSUES ROUTE OPTIONS	LANDSCAPE CHARACTER	LANDSCAPE DESIGNATIONS	PROXIMITY TO DWELLINGS/VISUAL IMPLICATIONS	ECOLOGY	TREES AND WOODLAND	ARCHAEOLOGY	LEISURE AND TOURISM
ROUTE B3 CENTRAL RIVER CROSSING B3(A) Graig Option B3(B) Lower Farm Options B3(A) 8.8km (W.Pole) B3(B) 9.5km (W.Pole)	13a Maelor 12a Dee/Ceiriog Valley SP/72 Castle Mill SP/32 Welshampton	3km through SLA 0.3km Pen y Lan Registered Parkland	Within 150m of Bryn Farm dwellings, Bryn Pen y Lan village, 2 properties Little Common and Bryn Goleu Farm	Dee SAC crossing x 1	B3(A) Avoids main woodland blocks B3(B) crosses Sodylt Wood, Ancient Semi-Natural Woodland. Possible tree loss.	Both options in proximity to Bryn House and Front Lodge, Pen-y-lan listed buildings. B3(B) in proximity to 4 other listed buildings: Wyffydd and 3 at Sodylt Hall	PROW along River Dee Fishing Rights (easy access) Maelor Way to south of Dee
ROUTE B4 PARALLELING EXISTING 132KV RIVER CROSSING (Route follows B1 to northern bank of River Dee) B4 inc B1(C): 9.7km B4 inc B1(B): 9.1km B4 inc B1(A): 8.9km	13a Maelor 12a Dee/Ceiriog Valley SP/72 Castle Mill SP/32 Welshampton	6.5km through SLA Options B and C: Approx 1km through Essential Setting of Wynnstay Park Registered Park and Garden Option A avoids Wynnstay	Proximity to Coedleodd Uchaf, Coed y Allt, Ddol, Lower House Farm, Glynmorlas/Pen y Banc settlement, Rhos y Llan Farm, St Martin's School Cumulative effect of paralleling	Dee SAC crossing x 1 Crosses Ifton Meadows LNR	Existing line adjacent areas of Ancient Woodland. Tree removal required at several locations	Option A: Proximity to Bryn House Listed Building. Options B/C: Proximity to Argoed SM Proximity to Rhos y Llan Farm Listed Building	Limited public access to Dee and Ceiriog Rivers Crosses Maelor Way to east of Ceiriog valley
ROUTE B5 MODIFIED WESTERN RIVER CROSSING (Route follows B1 to Ceiriog Valley. Options A, B and C as B1) B5 inc B1(C): 10.6km B5 inc B1(B): 10.0km B5 inc B1(A): 9.8km	13a Maelor 12a Dee/Ceiriog Valley SP/72 Castle Mill SP/43 St Martin's SP/57 New Marton	6.3km through SLA Options B and C: Approx 1km through Essential Setting of Wynnstay Park Registered Park and Garden Option A avoids Wynnstay	Passes within 150m of properties (2) at Tenement in Ceiriog Valley	Dee and Ceiriog SAC crossing x 2 Crosses Ifton Meadows LNR	Tree removal likely to widen gaps at Ceiriog Valley, Bramble Wood and along disused railway line	Option A: Proximity to Bryn House Listed Building. Options B/C: Proximity to Argoed SM	Limited public access to Dee and Ceiriog Rivers. Crosses Maelor Way to east of Ceiriog valley

KEY ISSUES ROUTE OPTIONS	LANDSCAPE CHARACTER	LANDSCAPE DESIGNATIONS	PROXIMITY TO DWELLINGS/VISUAL IMPLICATIONS	ECOLOGY	TREES AND WOODLAND	ARCHAEOLOGY	LEISURE AND TOURISM
<p>ROUTE C1 WESTERN MOST ROUTE C1(A) Hillyards Plantation Option C1(B) Avoiding Hillyards Plantation</p> <p>Total: 6.4km C1(A) 7.3km C1(B) Cable: 1.4km Wood pole: 5.0km C1(A) 5.9km C1(B)</p>	<p>OH/10B Gobowen/ Oswestry OH/06 Upper Hengoed</p>	<p>Proximity to Henlle Hall and Fernhill Hall parklands (non- registered)</p>	<p>Proximity to properties to north east of Henlle Hall/Sarn</p>	<p>Adjacent Fernhill Pastures SSSI (Option C1(B) only)</p> <p>Option C1(A) avoids designated ecological sites</p>	<p>Tree removal required along dismantled railway</p> <p>Possible tree removal required within Hillyards Plantation (Option C1(A) only)</p>	<p>Crosses and parallels Wat's Dyke SM (Wood pole)</p> <p>Potential effects on setting of Old Oswestry Fort SM minimised by cabling in vicinity Proximity to Great Fernhill Listed Building</p>	<p>Crosses Shropshire Union Canal</p> <p>Proximity to Henlle Hall Golf Course, Park Hall Farm Museum, Oswestry Showground, routes into Oswestry historic market town. Effects minimised by proposed cabling of section into Oswestry</p>
<p>ROUTE C2 WEST OF FERNHILL HALL</p> <p>Total: 6.8km Cable: 1.4km Wood pole: 5.4km</p>	<p>OH/10B Gobowen/ Oswestry OH/06 Upper Hengoed SP/32 Welshampton SP/57 New Marton SP/38 Halston Hall</p>	<p>Proximity to Fernhill Hall parkland (non- registered)</p>	<p>Proximity to several properties within St Martin's/Moors Bank and St Martin's Moor, Maes y Graig and farm near Hillyards Plantation</p>	<p>Adjacent Fernhill Pastures SSSI</p>	<p>-</p>	<p>Potential effects on setting of Old Oswestry Fort SM minimised by cabling in vicinity</p> <p>Proximity to Great Fernhill Listed Building</p>	<p>Crosses Shropshire Union Canal</p> <p>Proximity to Park Hall Farm Museum, Oswestry Showground, routes into Oswestry historic market town. Effects minimised by proposed cabling of section into Oswestry</p>

KEY ISSUES ROUTE OPTIONS	LANDSCAPE CHARACTER	LANDSCAPE DESIGNATIONS	PROXIMITY TO DWELLINGS/VISUAL IMPLICATIONS	ECOLOGY	TREES AND WOODLAND	ARCHAEOLOGY	LEISURE AND TOURISM
<p>ROUTE C3 EAST OF FERNHILL HALL</p> <p>Total: 8.3km Cable: 0km Wood pole: 8.3km</p>	<p>SP/32 Welshampton SP/57 New Marton SP/38 Halston Hall SP/41 Whittington OH/10B Gobowen/ Oswestry</p>	<p>Proximity to Fernhill Hall parkland (non- registered)</p>	<p>Proximity to properties on edge St Martin's Moor/Pentre Morgan, Wiggington Farms, Glan y Wern, Top House Farm, properties to the north and western fringes of Whittington</p>	<p>Adjacent Fernhill Pastures SSSI</p>	<p>-</p>	<p>Proximity to Whittington Conservation Area and Drenwydd Farm listed building</p>	<p>Crosses Shropshire Union Canal near New Marton Locks</p> <p>Proximity to Oswestry Show Ground, routes into Oswestry historic market town</p>
<p>ROUTE C4 EASTERN MOST ROUTE</p> <p>Total: 9.4km Cable: 0km Wood pole: 9.4km</p>	<p>SP/32 Welshampton SP/57 New Marton Gobowen/ Oswestry SP/32 SP/38 Halston Hall OH/10B Gobowen/ Oswestry SP/41 Whittington</p>	<p>Proximity to Halston Hall parkland (non- registered)</p>	<p>Proximity to properties on edge St Martin's Moor/Pentre Morgan, Wiggington Farms, Glan y Wern, properties in Henlle/Hindford and properties on the southern edge of Whittington</p>	<p>-</p>	<p>-</p>	<p>Proximity to Whittington Conservation Area</p>	<p>Crosses Shropshire Union Canal south of New Marton Locks</p> <p>Proximity to Oswestry Show Ground, routes into Oswestry historic market town</p>

APPENDIX 10A: Draft Response to CADW

700.263A TEP response to Cadw's comments of 28.05.09 (ref: A-CAM011-09-0007)

Introductory comments

In their introductory comments Cadw state: "*The proposed development will have a direct effect upon the scheduled ancient monument known as Offa's Dyke.*"

The only point where the proposed reinforcement crosses Offa's Dyke is where it is proposed as underground cable along Smithy Lane, Pentre Bychan. As is later noted in Cadw's letter, point 4b, this section of Offa's Dyke is unscheduled along the road, between two scheduled stretches. It is difficult to see, therefore, how there will be a direct effect upon the scheduled section of this monument.

It may be that Offa's Dyke and Wat's Dyke have been accidentally transposed by Cadw – as the proposed development does cross over a scheduled section of Wat's Dyke. This interpretation is further supported by examination of the plans supplied by Cadw, which incorrectly label Wat's Dyke as Offa's Dyke (Maps 2 and 3).

Comments 1.- 3. relating to Pontcysyllte Aqueduct and Canal World Heritage Site (status confirmed 27 June 2009)

1) In relation to Cadw's comments that in view of the World Heritage Status of this site, and consequently its importance in cultural heritage terms, "*any potential impact, however distant, should form part of the assessment*", it is accepted that potential effects upon this site and its setting are not specifically detailed in the Cultural Heritage chapter of the ES. The nomination site and its Buffer Zone were considered at the route selection stage (ES paragraph 8.6 and Table 8.1, figures within the detailed route options/route selection sections, chapters 9-11).

Key viewpoints to be considered within the visual impact assessment for the proposed development were discussed and agreed with officers from the local planning authorities (WCBC and OBC; see ES paragraph 13.27) and did not include any from the World Heritage Site. Viewpoints within the (then) proposed World Heritage Site were not identified as being necessary to consider.

The scope of the archaeological assessment was discussed with Shropshire County Council Archaeology Service (Mike Watson) and the archaeological advisor to Wrexham CBC (Steve Greuter) as outlined in ES paragraph 16.32. The scope included a corridor width of 500m either side of the proposed route. As the proposed overhead line would be 1.4km distant from the WHS Buffer Zone at its nearest point (and over 2.5km from the WHS itself), the WHS falls outside the scope of the study.

Cadw was consulted regarding a Scoping Opinion for the ES, and received a Scoping Report (TEP ref 700.110rev.C – incorporated into the ES at Appendix 1C) in December 2007 which detailed the extent of the cultural heritage assessment. Their response, contained within the Welsh Assembly

Government's response to BERR of 15 January 2008 (included at Appendix 1D of the ES), states:

"CADW, ancient monuments Division advised that:- The Scoping Report's section on Cultural Heritage contains appropriate coverage and methodologies."

There is no mention in this, or in the responses from Wrexham CBC or English Heritage, of the (then) World Heritage Nomination Site or necessity of consideration of *"any potential impact, however distant"*.

2) Cadw *"wish to be reassured that the proposed development would have no significant impact from prominent areas and view points within the Site or Buffer Zone."*

Whilst consideration of effects upon views to and from the WHS itself is accepted, we do not consider that consideration of effects upon views from prominent areas within the Buffer Zone is justified. The purpose of the Buffer Zone is to protect views to and from the WHS; there is no reason (relating to WHS designation) to protect the views from prominent (or any other) areas within the Buffer Zone.

Selected text from the WHS Nomination document and Management Plan is reproduced below. In particular, effects of major developments upon setting should be considered in the context of those *which could impact on designated structures within the Nominated Site*. (WHS Management Plan, section 1.b) This is not the same as consideration of effects upon prominent areas within the Buffer Zone.

From WHS Nomination document:

"A Buffer Zone has been designed for Pontcysyllte Aqueduct and Canal to encompass its visual setting and related industrial archaeological features and safeguard it against inappropriate development...Landscape planners from the respective local authorities have identified a boundary which follows the topographical ridgeline on both sides of the valley. In places where the ridgelines are less distinct, the Buffer Zone is drawn to incorporate all areas which contribute to the visual setting of the Site and features of related interest identified in an Industrial Archaeology study."

From WHS Management Plan, section 1.b:

"a wider Buffer Zone has been defined by the Landscape Assessment and archaeological audit to include: ...

b) a wider landscape including the views into and out of the Nominated Site.

This is an area where development or change of use could have an unacceptable impact on the Nominated Site, damaging or obscuring associated features and altering important views...

Beyond the defined Buffer Zone, United Kingdom legislation recognises a variable 'setting' that does not have a fixed boundary where major developments which could impact on designated structures within the Nominated Site will have to be assessed on a case-by-case basis.

The Landscape Assessment document referred to in the WHS Management Plan was prepared as a background study to the nomination by WCBC, DCC, BW, OBC in 2007. Of the 27 viewpoints identified within this assessment, all but 18

and 19 are views towards the World Heritage Site from within the Buffer Zone, rather than views from the WHS. As the proposed overhead line lies outside the Buffer Zone, there will be no impact upon these key views towards the WHS.

The only identified viewpoints which could potentially encompass views of the proposed overhead line are Viewpoint 19 (view eastwards from Pontcysyllte Aqueduct, identified on Figure 4c) and a view eastwards from Chirk aqueduct (identified on Figure 4e but not numbered, located between viewpoints 23 and 24).

The effect on these viewpoints is considered in the following paragraphs. The viewpoints have been visited and assessed by an experienced landscape architect familiar with the proposed scheme.

The proposed overhead line would be 1.4km distant from the World Heritage Site Buffer Zone at its nearest point (within the Ceiriog valley, near Tenement). This part of the proposed line is also the nearest point to the WH Site itself, at a distance of 2.6km. This relates to a section of the Shropshire Union Canal, and not the elevated sections of Pontcysyllte Aqueduct or Chirk Aqueduct. The nearest point(s) of the proposed overhead line to these structures would be 4.0km and 2.7km distant respectively.

In addition to distance, topography, intervening structures/vegetation, and the proposed height of the development also influence whether or not it will be visible.

The key designated features of the WHS are the two aqueducts and canal. The Pontcysyllte Aqueduct is situated at a height of c. 90m AOD (38.4m above the river at c. 50m AOD). The Chirk Aqueduct is situated at a height of c. 90m AOD (20.7m above the River Ceiriog at c. 70m AOD). The Shropshire Union Canal adjacent Chirk occupies a valley of c. 100m AOD.

Between the Dee valley and St Martin's village, the highest ground level of the proposed overhead line is 136m AOD (Support 135, south of the Malt House), with levels along the line between the upper slope of the Ceiriog valley (Support 122 on Maelor Way/Wat's Dyke) and Malt House rising from 105m AOD to 136m AOD. The heights of supports in this vicinity are 12-14m above ground. The maximum top height (Support 135) would be 149m AOD.

A ridge (north-south) separates the valley occupied by the WHS and the Ceiriog valley and land further east. This ridge has a maximum height of 141m, but is generally 135m. The ridge is wooded north of the A5(T)/A483 junction at Halton. South of the junction the ridge is occupied by a minor lane, lined with tall hedgerows and occasional trees. This ridge forms the eastern extent of the WHS Buffer Zone.

The view south-eastwards from Pontcysyllte Aqueduct towards the highest part of the proposed overhead line (149m AOD in the vicinity of the Malt House) is over 5.5km distant. It is uphill, with an intervening wooded ridgeline (135m AOD) at 3km distant. It is considered unlikely that there would be any view of the proposed overhead line beyond this ridge. Any possible view, which would be

of only the top parts of c. 10 supports, would not comprise a significant change in the view.

The view north-eastwards from Chirk Aqueduct towards the highest part of the proposed overhead line is 3km distant, broadly across the Ceiriog valley and the Brynkinalt Estate (Registered Historic Park and Garden). The viaduct carrying the A5(T) across the Ceiriog valley, some 1.5km distant, is only noticeable through woodland because of traffic movement and noise. The entire horizon looking to the east is wooded. The existing power line on the eastern side of the Ceiriog valley, supported on steel lattice towers, is not visible. The proposed overhead line will pass beneath the existing conductors of this line near Lower House Farm, Pen-y-Bryn and would therefore not be visible.

In addition to the two key viewpoints identified, views from the section of canal between the two aqueducts were also considered. Views eastwards from the Shropshire Union Canal between Chirk and Pontcysyllte are contained by the north-south ridge immediately east of Chirk. Additionally, much of this stretch of the canal is enclosed by woodland, preventing distant views. Where uphill views to the ridge are possible, the land further east, beyond the Ceiriog valley, which is of a slightly lower height than the ridge, is not visible. Support towers of the existing 132kV line near Pen-y-Bryn are not visible.

There will therefore be no significant effect upon key designated features of the World Heritage Site.

Comment 6. Re mitigation proposed for crossing unscheduled section of Offa's Dyke

Cadw advises that proposed mitigation for the underground crossing of the unscheduled section of Offa's Dyke at Pentre Bychan, an archaeological watching brief, is unsatisfactory and suggest a preliminary archaeological excavation.

To clarify further the proposed mitigation, Oxford Archaeology, sub-consultants to TEP on this project for cultural heritage aspects, have consulted with Dr Sian Rees of Cadw. As discussed, SP Manweb would accept a condition requiring excavation of the trench to contain the underground cable to be undertaken under archaeological supervision, with sufficient time and resources for an archaeologist to properly record any deposits encountered. This may require opening a larger trench in the vicinity of the section of Offa's Dyke than would be required purely for installing the cable.

Comments regarding Historic Parks and Gardens (after Comment 6.)

We do not concur that the proposed development lies within any of the historic parks and gardens noted (Wynnstay, Pen-y-Lan and Brynkinalt). The route was selected not only to avoid such features, but also to avoid the Essential Settings of all these historic features. The plans provided by Cadw show that the proposed route is not situated within any of these features or their essential settings. Possibly the comment was intended to read that the proposal lies within 500m of the historic parks and gardens?

The potential effects on settings were considered within Chapter 16 of the ES. Table 16.6 considers effects upon Wynnstay Park, (and Park Eyton Lodge, Bryn



House, Wynnstay Park Kennels – all within Wynnstay Park or its Essential Setting), and Pen-y-Lan Park. The Essential Setting of Brynkinalt Registered Park also lies within 500m of the proposed overhead line, although the park itself does not.

ends

APPENDIX 10B: Response to WAG

700.265 TEP response to WAG letter of 05 June 09

In response to Cadw's comments, please refer to our detailed reply to their letter of 28th May 2009 (ref A-CAM011-09-0007). (*TEP response ref 700.263A*)

In response to comments raised by the Rural Affairs and Heritage Technical Services Division, we are pleased to note that in conclusion the ES is considered adequate.

We have responded to specific points raised using the same paragraph reference.

3a) Bat survey: *Details regarding the general climatic conditions and time of survey would have informed the submission.*

The bat survey was more correctly a survey of trees for bat roosting potential, and therefore not weather or time dependent. It was carried out as an integral part of the arboricultural survey of the route corridor over a period of several weeks.

3c) Pre-construction surveys: *It is unclear whether wintering bird aspects will be addressed*

SP Manweb are not proposing breeding bird surveys or winter bird surveys pre-construction. Pre-construction bird surveys are proposed to identify and avoid nesting birds during the breeding season. The construction phase of the OHL will not have a significant impact on wintering bird populations given that only isolated patches of valuable foraging habitat for these species, ie marshy grassland, are affected by the route and there is ample suitable habitat for wintering birds in the surrounding landscape. No specific winter bird survey will be undertaken as part of the pre-construction surveys as no specific mitigation for these species is deemed appropriate.

4.Methods to assess the effects: *A few photomontages used to illustrate the viewpoints appear to have vegetation still in leaf. Normal practice is to assess visual impacts in winter when minimal vegetation cover is present in order to assess worst case scenario.*

The point with regard to photomontages is accepted. However, the assessment of visual effects was undertaken at the appropriate time, by landscape architects experienced in visual assessment.

Clarification as to why no access to properties was sought. It is not standard practice to enter private properties. Negotiations to obtain access for such assessment would be time consuming and costly, and also disruptive to owners. It is considered that the effects can generally be adequately assessed from publicly accessible viewpoints.

7. Non-technical summary: *Minimal reference to the construction phase has been included.* As explained in ES section 12.6, the location of access routes, temporary storage areas and additional working areas are not yet known, and as such the effects cannot be assessed. Locations would comply with the



requirements of the Environmental Management Plan. To assist the reader in making a judgement about the scale and nature of likely construction effects, a detailed description of typical construction requirements has been provided within Chapter 4.0 of the ES, which details project characteristics.

ends

APPENDIX 10C: Response to British Waterways

700.266 TEP response to British Waterways letter of 14 May 2009

British Waterways has commented regarding the proposed overhead line crossing of the Llangollen Canal as follows:

“the lines would appear as an especially stark alien feature in a very attractive and wide open valley harming the tranquil character of this stretch of the canal to a completely unacceptable degree”

The proposal is for one single circuit wood pole mounted overhead line. The conductors would oversail the canal with the wooden poles some distance beyond the water body and towpath on each side. It is commonplace to see wood pole mounted overhead lines for electricity and telephones and the extent to which this line would appear *‘especially stark’* or *‘alien’* is not explained.

There will be no discernible audible noise from the line and it is not explained how it would harm *‘the tranquil character...to a completely unacceptable degree’*.

SP Manweb has considered the Shropshire Union canal (Llangollen branch) throughout the route options and selection process for this overhead line. It is not possible to route an overhead line between Legacy and Oswestry without crossing this canal at some point.

The value of the canal as a recreational and tourism feature is acknowledged, particularly in view of the recently confirmed World Heritage Site status of the canal between Chirk and Llangollen. The proposed overhead line avoids this designation and its buffer zone.

Routeing of overhead lines requires consideration of a number of environmental interests, and a balancing of these to achieve the ‘overall’ best option. There may be a better location for crossing the canal, but this has not emerged as the best overall option environmentally. *For example, SP Manweb’s Preferred Route at public consultation (November 2007) required a crossing of the canal near St Martin’s Moor, which would be a direct crossing benefitting from extensive tree screening – thus minimising the effect upon visual amenity of canal users.*

The effect upon landscape character in the vicinity of the canal crossing is considered within the Environmental Statement, section 14.137 – 139. The valley is not designated as an area of landscape value, even at a local scale (the former Oswestry Borough Council designated Areas of Special Landscape Character, which comprise designations of importance at a local scale). However it is relatively open, and therefore sensitive to a linear development of this nature. In summary, the scale of effect is considered medium, upon a landscape character of high sensitivity, with an effect of moderate significance.

Visual effects of the proposed overhead line in the vicinity of the canal have been considered using two viewpoints, 22 and 23, north and south of the crossing. These are described in Table 13.4 and illustrated in Figures 13.12,

13.13 and photomontage Figure 13.25. From both viewpoints, the effect upon the view is of moderate significance.

The analysis of effects during this environmental assessment has been undertaken in a consistent manner for the entire length of the route. The assessment identifies effects of moderate significance upon the landscape character and visual amenity in the vicinity of the canal crossing. These are not considered to be of such significance that the proposed overhead line is unacceptable environmentally.

ends

APPENDIX 10D: Response to RSPB Cymru

700.267b Response to RSPB Cymru letter of 7th Sept 2009 to DECC

RSPB Cymru letter of 07th September 2009 to DECC states in Para. 4:

However, breeding bird surveys were only conducted at two locations associated with a previous alignment, now discounted (section 15.25). Thus, in affect, for this route, no breeding bird surveys were undertaken. The assessment relied on desktop records to make a judgement as whether there is likely to be an impact on breeding birds. Therefore, the impact on farmland birds is very likely to be underestimated.

The scoping report (700.110revC) included in the ES at Appendix 1C did not identify breeding bird surveys as being necessary for this development. The proposed method for assessing the baseline for birds was given as Consultations with BTO, RSPB, Local Wildlife Trusts, and Habitat survey as for Phase 1 (see table within scoping report titled 700.086rev A: Suggested Scope of Baseline Ecological Surveys). The scope of ecological surveys was discussed extensively with English Nature and CCW. Additionally, in their responses to DBERR on the Scoping Report, neither of these organisations raised the issue of necessity of breeding bird surveys.

A breeding bird survey was included within the scope for a Local Nature Reserve crossed by the original route alignment as this was/is being actively managed for skylark and meadow pipit. Additional survey work was undertaken where a Higher Level Stewardship Scheme, managing the farmland for birds, was in place. These areas were identified during discussions with Natural England and CCW. When the route alignment changed away from the LNR, it was considered unnecessary to conduct further bird surveys over land which had not been identified as being in active management for farmland birds.

It remains our opinion that, given the nature of the project and the proposed mitigation measures, there will be no effect upon farmland birds. As there will be no effect, there is no benefit or purpose to conducting breeding bird surveys as part of the environmental assessment process. Such a survey might, however, assist in targeting habitat enhancement activities to specific areas/species, and is proposed within the mitigation schedule as a pre-construction activity (Table 25.1, point 19).

Following RSPB Cymru's advice that the route traverses several farmland bird Key Areas, we recommend that pre-construction breeding bird surveys are undertaken along sections of the overhead line route corridor which traverse, or pass within 200m of, these farmland bird Key Areas. The survey will entail two visits, the first between 1st April and 15th May and the second between 15th May and 30th June. The results will inform method statements prepared to protect wildlife during the construction phase of development and identify opportunities to provide conservation benefit for Birds of Conservation Concern known to be present in the locality.

Para. 6 of the letter states:

The ES also offers some 'like for like' habitat compensation, such as replacement trees. However, this is insufficient to fully overcome any adverse impact. Guidance on providing compensatory habitat, as well as existing practice and precedent has

established that provision should be at a ratio that exceeds parity (based on the principles within McClean 2003, JNCC)1 with the area of habitat lost.

The assessment of effects upon farmland birds is presented in paras. 15.201 – 15.207 inclusive. Para. 15.206 states that losses of land and mature trees will be negligible in terms of the overall resource in the area and that tree losses will be replaced, and reference is made to the lowland broad-leaved woodland receptor. It should be noted that, for this receptor, replacement planting is proposed on a 2 for 1 basis, as is explained in para. 15.158. This is provision of compensation at a ratio that exceeds parity, and is in accordance with guidance on providing compensatory habitat.

ends

APPENDIX 14A Landscape Character: Wrexham LANDMAP

ES Appendix 14A: Landscape Character: Wrexham LANDMAP

Introduction

- 14A.01 Guidance has recently been issued by CCW regarding use of LANDMAP in EIA (*LANDMAP Information Guidance Note 3: November 2008*). LANDMAP is the formally adopted methodology for landscape assessment in Wales; therefore all EIAs in Wales should include LANDMAP as part of their ES on landscape and it should be used to inform the baseline conditions in particular. The planning framework in Wales advocates the LANDMAP methodology. The guidance is concerned primarily with landscape effects.
- 14A.02 In the guidance note, CCW has advised that it would base part of its informed decision (as to whether the ES provides *sufficient information* on the environmental effects to enable an informed decision) upon the landscape information contained within LANDMAP. It is also important that all five layers of LANDMAP are included (*see below*), including the evaluation scores for all layers.
- 14A.03 In preparation of the ES, use has been made of Wrexham's LANDMAP SPG (March 2007) but evaluation scores have not been mapped. Reference has been included to information contained within Technical Appendices to LANDMAP regarding cultural and historical landscape aspects, relevant parts of which are summarised within Chapter 14.0: Effects on the Landscape. Information regarding the sensitivity of the landscape character areas in Wrexham, derived from LANDMAP, has been reported in the ES.
- 14A.04 The purpose of this appendix to the ES is to provide sufficient information regarding LANDMAP. Reference should be made to Figures 14.1 – 14.4, which illustrate the Wrexham LANDMAP classification and evaluation for the area in the vicinity of the proposed overhead line. The Historic Landscape aspect of Wrexham is not currently available via the LANDMAP website, and has not been mapped, although information from the Technical Appendix to LANDMAP has been considered.

Use of LANDMAP in EIA

- 14A.05 LANDMAP (CCW, 2003) is an all-Wales GIS based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent data set. LANDMAP comprises five spatially related datasets (layers) known as the Geological Landscape, Landscape Habitats, Visual & Sensory, the Historic Landscape and the Cultural Landscape Evaluated Aspects.
- 14A.06 The five layers of LANDMAP represent the core landscape information that should be used for planning applications and detailed decision making. LANDMAP Character Areas have been completed in some authorities across Wales and are the product of drawing the five layers together. This is the case for Wrexham.
- 14A.07 For the purposes of an EIA, the five core LANDMAP layers provide an important level of landscape detail underpinning the landscape assessment. The geographic area potentially affected should be depicted on a series of maps. Reference should be made to the use of all five LANDMAP layers. The **classification** map will identify the range of landscape types. The **evaluation** map will determine if there are any highly valued landscapes within the zone of interest

- 14A.08 LANDMAP defines areas of recognisable landscape character for each of the five LANDMAP layers. Each of the five spatial layers (Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape and Cultural Landscape) are divided up into discrete geographical units (polygons in GIS) referred to as aspect areas.
- 14A.09 Landscape types for all five evaluated aspects should be included by creating thematic maps using the LANDMAP hierarchical classification unique to each evaluated aspect. In producing such maps an assessment can be made of the rarity or representativeness of a particular landscape, which can later inform the assessment process by assisting in the judgement of significance of landscape effects. Developments which are in distinctive or rare landscapes may be of greater significance.
- 14A.10 Classification of the landscape into types can be reported at level 2 or level 3. Evaluation scores must be reported at level 3.
- 14A.11 Every aspect area has a unique survey record (known as a Collector Survey), which details the aspect area's classification, descriptions and summaries of important or dominant characteristics and qualities, management recommendations and evaluation (of condition, trend and value).
- 14A.12 As there are five LANDMAP layers covering any given location, the Collector Surveys record this information from the unique perspective of the LANDMAP layer concerned, i.e. the Geological Landscape (land form) and Landscape Habitats (land cover and semi natural habitats). The value of studying all aspects is that the key characteristics may be mentioned in several aspects reinforcing their importance. The concentration of higher values in a given area can also be significant.
- 14A.13 The Collector Survey therefore highlights the **important landscape "receptors"**. Examples of landscape receptors are elements, features, characteristics, sense of place, landscape qualities and the character of the landscape as defined by the inter-relationship of the visual landscape with culture, history, geology and ecology. When describing the landscape receptors of an aspect area, reference to the unique identifiers (survey code) of each aspect area Collector Record will ensure clarity and cross-reference.
- 14A.14 In order to complete the landscape and visual impact assessment, the potentially affected landscape needs to be evaluated. The cultural, geological, ecological and historical landscapes value should be assessed alongside the visual and sensory value.
- 14A.15 "The loss of landscape elements, features or characteristics will be given greater weight if they are identified as being of high value or importance. Thus, effects on landscape areas or characteristics recognised for their national importance are likely to be of more significance than effects on areas or characteristics of local importance" (GLVIA, Pg 94, 7.43)
- 14A.16 All LANDMAP aspect areas have a single final overall evaluation score ranging from a local to an international scale of importance. Analysis of these scores enables comparative landscape evaluations to be made with the confidence derived from the LANDMAP methodology and quality assurance process. It also enables all five LANDMAP layers to be equally considered and assessed as what

may be important in one evaluated aspect may be of lower importance in another. All evaluation scores are justified in LANDMAP.

14A.17 The importance of the qualities within the Aspect Area are scored on the following scale:

Outstanding	Of international or national importance to the Aspect
High	Of regional or county importance to the Aspect
Moderate	Of local importance to the Aspect
Low	Of little or no importance to the Aspect.

Method

14A.18 For each aspect available on the LANDMAP website for Wrexham (that is, all aspects except Historical Landscape), information regarding the classification and evaluation of aspect areas within the vicinity of the proposed overhead line has been obtained, at Level 3 detailed level.

14A.19 Figures 14.1 – 14.4 within the ES present the classification and overall evaluation information.

14A.20 Tables 14A.1 – 14A.4 Summarise the key parts of the information regarding descriptions of areas, an evaluation of the various criteria for each layer, and overall evaluation and justification for this.

14A.21 LANDMAP data has been analysed to aid understanding of the landscape character of the area through which the overhead line is proposed, in particular noting which elements are considered of highest importance, and also if any particular aspect areas were considered rare (and at what scale this applied), or highly vulnerable to change. This analysis is reported in Chapter 14.0, and considered in assessment of effects upon landscape character.

Results of LANDMAP analysis (*This information also incorporated in ES.*)

Geological Landscapes (Figure 14.3 & Table 14A.3)

14A.22 From Legacy to Wynnstay Park area – geological landscape is classified at level 3 as lowland glacial outwash plain/field (WRXHMGL086). The geology /geomorphology is considered to be typical and widespread, with an overall moderate evaluation.

14A.23 The area around Wynnstay Park and south to the River Dee is glacio-depositional topography with a thin veneer of glacial clays. (level 4 classification of WRXHMGL096). This area has a high overall evaluation, relating primarily to rarity of a site of regional importance for Carboniferous stratigraphy (RIGS).

14A.24 The River Dee valley is classified as incised river/stream valley/ravine and has an overall high evaluation relating to river cliff features of possible regional significance and inclusion of a RIGS of regional importance for Carboniferous stratigraphy. (WRXHMGL018 & 019).

Cultural Landscapes (Figure 14.4 & Table 14A.4)

14A.25 The vast majority of the cultural landscape through which the proposed overhead line would be routed is classified as Rural, subdivided in Mynydd Rhiwabon Esclusham (lower slopes) west of the A483(T) and Maelor Gymraeg South east of this main transport link. Maelor Gymraeg South (WRXHMCL034) is a very extensive area; 90% of the proposed route through Wales is within this aspect

area. It is summarised as an area historically dominated by estates such as Wynnstay, valued as High as an historic landscape 'and for the way it articulates the role of the great estates...' Vulnerability to change is evaluated as high.

Landscape Habitats (Figure 14.2 & Table 14A.2)

- 14A.26 West of the A483(T) the habitats re classified as Mosaic, Talwm Grassland (WRXHMLH0231) with main Phase 1 habitat types being semi-natural broadleaved woodland, improved grassland, arable, buildings and semi-improved neutral grassland. The area is very large, mainly grassland with small to medium sized fields with hedges, and includes Johnstown Newt Sites SAC. It is evaluated as High overall, with **Outstanding** importance for key species, which relates to internationally significant ponds which support a wide range of species including great crested newt.
- 14A.27 East of the A483(T), to the River Dee valley, the habitat is classified as Improved Grassland, Eyton Grassland (WRXHMLH029). Summarised as a patchwork of small both permanent pasture and fields cut for hay and silage, bounded by hedges with scattered trees, together with a number of small woods, many ponds and two areas of parkland. This area has an overall High evaluation, with **Outstanding** importance for key species, relating to the presence/extent of small, hedge-bound fields and high density of ponds, which support a wide range of species.
- 14A.28 The Dee valley and its tributaries are classified as Mosaic, with aspect areas Halton Wood (WRXHMLH025) and Moor Woodland (WRXHMLH058) being crossed by the proposed overhead line.
- 14A.29 Halton Wood is a large area of woodland in the steeply sloping and narrow valley of the River Dee. Woodland has remnants of original oak woodland, much of which is designated SSSI. It is evaluated as High as an important woodland network with some significant oak and ash woodlands.
- 14A.30 Moor Woodland is an area of planted and semi-natural woodland which forms a biodiversity corridor along the small river valley. It is evaluated as Moderate, as a locally significant woodland network.

Visual and Sensory (Figure 14.1 & Table 14A.1)

- 14A.31 The proposed overhead line would pass through three aspect areas; open rolling lowland between Legacy and Park Eyton, mosaic rolling lowland between Park Eyton and the River Dee valley, and wooded lowland valley in the vicinity of the rivers Dee and Ceiriog.
- 14A.32 Open rolling lowland is further defined as Maelor South of Wrexham (WRXHMVS052), an attractive archetypal rolling farming landscape with elements of estate farming and a pleasant mix of small to medium field patterns and woodland blocks and copses. It is visually similar to the Cheshire and Shropshire Plain, but an uncommon landscape for Wales. It is evaluated as Moderate overall, but scenic quality and integrity are High.
- 14A.33 The mosaic rolling lowland between Park Eyton and the River Dee valley (WRXHMVS049: Pentre, Erbistock, Eyton and Bryn-y-pys) is summarised as an attractive rolling traditional farming landscape, with a higher proportion of mature and established tree stock than the adjacent aspects. The area feels settled, tranquil, and has a strong historic landscape element in terms of its high number of former historic and landed estates. The aspect area is evaluated as High, due to

the importance of the aspect on a regional scale. In terms of North Wales, this “English” character is unusual.

- 14A.34 Wooded lowland valley (WRXHMVS034: Dee & Ceiriog River Valleys) is described as attractive and steep sided well wooded river valley complex. Sensory perceptions and qualities include peace, tranquillity, the sound of running water and leaf movement in wind. Although some obvious elements of human intervention are evident (i.e. viaducts) this aspect feels removed from day to day life... The scenic quality of this aspect area is evaluated as **Outstanding**. However, the overall evaluation is High, the justification for this being that public access to the area is limited, reducing the overall evaluation.

Table 14A.1 Extracted Information from Wrexham LANDMAP: Visual and Sensory Layer for Proposed Overhead Line Route

UID	AREA NAME	SUMMARY DESCRIPTION	VALUE	EVALUATION CRITERIA: SCENIC QUALITY	EVALUATION CRITERIA: INTEGRITY	EVALUATION CRITERIA: CHARACTER	EVALUATION CRITERIA: RARITY	OVERALL EVALUATION	JUSTIFICATION OF OVERALL EVALUATION
WRXHMS020	North, West and South of Rhos	A broad aspect area forming the middle upper to mid slopes of the area rising up to Ruabon Mountain... The area predominantly comprises of small to medium scale agricultural field pattern with a bias to pasture and livestock farming largely dictated by the undulating and sloping nature of the topography... Field boundaries are defined by mature but sparse hedgerows with limited hedgerow trees and supplemented with fences... small stream valleys and dips punctuate the overall slope and these usually contain wooded areas and small copses of mixed deciduous woodland... Sense of place is not well defined as the areas itself has no specific focus - views are largely directed to the east over the lower lying land and lowlands towards Ruabon/A483 corridor or are short distance and relatively limited by the underlying topography... The area is more weakly defined towards the south of the area as field sizes increase... general settlement pattern is scattered farmstead and small clustered villages with the area bisected in places by larger settlements at Rhoslanerchrugog, and Penrycae...	Moderate	Moderate	Low	Moderate	Moderate	Moderate	A pleasant area of varied landform and attractive mix of vegetation and agricultural field pattern but with little distinctive character or overall sense of place... Overall the aspect is very variable, with pockets of unspoilt relatively quiet countryside next to busy areas... A complex area where nothing should be taken for granted, as there have been many changes to the landscape... The aspect displays a fairly common character over the aspect area - primarily reinforced by the similarity in agricultural management, field patterns and underlying landform, however the lack of a distinctive sense of place variety in quality with a number of visually intrusive elements as well as some aesthetically pleasing elements such as woodland blocks and gently undulating landform reduces the overall evaluation to Moderate
WRXHMS022	Rhos Johnstown & Penrycae	Settlements grew up as mining villages within the Ruabon Coalfield they are typified by high density housing in local materials... The area includes the settlements of Rhoslanerchrugog, Johnstown and Penrycae, which grew as industrial villages based on mining, quarrying, brickmaking and metalworking... Streets are narrow, and densities high... There is a strong sense of enclosure and confinement within the narrow streets, with occasional long distance views out to hills and plain... Penrycae has more rural feel with a closer relationship with the surrounding countryside... Materials are largely traditional and local red brick and walls, originally made by Dennis Ruabon older buildings are made from Cefn sandstone too... Infill and recent development is weakening local distinctiveness and settlement edge has little relationship with surrounding countryside...	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	The narrow winding streets of the centre of the settlements together with the high density of original housing rich in vernacular detailing give the town centre a distinct character and strong sense of place and clear visual unity... However this is gradually diluted as the viewer moves away from the centre and suffers from the preponderance of modern and out of keeping infill development on the settlements' edge... Furthermore the general commonality of settlements such as these throughout the central and heavily populated belt of the study area reduces the overall evaluation... Relatively pleasant if not conventionally attractive settlements with a strong industrial heritage and displaying some interesting vernacular details in terms of settlement pattern and materials used... There tends to be a good network of green space within the settlements and relatively high proportion of tree vegetation along streets making this valuable in terms of the local population...
WRXHMS034	Dee & Ceiriog River Valleys	Attractive and steep sided well wooded river valley complex carrying the two major rivers of the county, with the River Dee forming the border with England for much of its length... The woodland is predominantly a species rich mix of deciduous woodland clinging to the steep upper slopes of the valley... There is some influence from the adjacent remnant historic landed estates in terms of the woodland management and composition and some relict estate features such as boundary features and vernacular estate detail in older buildings and settlements which were part of those estates... Visually the area has a greater relationship with England and flows on into North Shropshire... Sensory perceptions and qualities include peace, tranquility, the sound of running water (river) and leaf movement in wind - nature feels close at hand and although some obvious elements of human intervention are evident (i.e... viaducts carrying the A5483/A5) this aspect feels removed from day to day life... Views into the valley form the viaducts are impressive and appear unspoilt...	High	Outstanding	High	High	Moderate	High	The landscape features displayed within the aspect area are in good condition and combine to make a number of attractive and aesthetically pleasing views throughout the area... However these features - steep sided river valley with attractive mixed deciduous woodland are not unique within the study area... Glimpsed and full views can be seen of the meandering river systems - often framed by mature trees... However public access to the area is limited and reduces the overall evaluation of the aspect to High...
WRXHMS038	A483 and environs - Rhostyllen to Ruabon	A narrow relatively urbanised aspect area which comprises the open farmland on either side of the dualled length of the A483 Trunk road... The aspect area is predominantly in agricultural landuse with areas of settlement and industry to the south of Wrexham but the road corridor tends to dominate and as such this area is strongly visually linked with it... The area acts as an interface/barrier between urbanised and rural areas... Sensory perceptions include noise, constant activity and nighttime light pollution from the adjacent settlements and road corridor... No distinctive sense of place, the aspect shares common characteristics with agricultural areas throughout the study area and beyond but has no unique characteristics making it especially distinctive other than the occasional views towards the upland mass of Ruabon Mountain... The presence of the road corridor has led to the lowland areas between settlements becoming and appearing fragmented... The aspect area is very important in maintaining a green interface between the adjacent settlements and road corridor... The aspect should be protected from unnecessary and large scale development...	Moderate	Low	Low	Moderate	Moderate	Moderate	The area comprises the lands immediately adjacent to the A483 road corridor which are predominantly agricultural landuse and "sandwiched" between the road corridor and areas of settlement and industry to the south of Wrexham... The dominant focus is upon the road corridor and these lands are strongly, visually linked with it... In addition the functional nature of the transport link means the settlement and industry/commercial retail associated within and adjacent to it - although not of large scale is continuous and as such further undermines the integrity of the aspect area and is often inharmonious in its scale, colouring and materials used... However the agricultural land within the aspect area although not of high quality are an important green space and provide an important amenity of the settlement areas around and "green" barrier to further development and are therefore considered to be valuable at a local and regional scale = Moderate value
WRXHMS039	Former Hafod Tip	The area comprises the former spoil tip of the Hafod Colliery closed in 1968 and has been restored and remodelled (1996/98) to form the present day country park... Public access is available throughout and is encouraged by the use of trails and cycleways that snake around the elevated mound of the former tip... There is a strong sense of space and height, with distant sounds of road and railway present as the A5/A483 passes within sight to the immediate west... Large former spoil tip which is prominent from the A483 and Johnstown... Paths constructed and remainder planted with mainly broadleaf woodland in the mid 1990s... Woodland now becoming more visible from afar and maturing well... The area is owned and managed by WCBC as informal open urban woodland/ open space and is a valuable local green space and amenity area...	Moderate	Moderate	Moderate	Moderate	High	Moderate	Very strong character aided by the starkly different landscape pattern and landform from the surrounding areas... However this artificial landscape stills feels relatively new in terms of maturity and this heightens the sense of a non natural landscape... The area still feels relatively new in terms of vegetation maturity and this heightens the sense of a non natural landscape... Generally the area still has the overwhelming feeling that it is still evolving and is an area still requiring the maturity and established landscape pattern of the wider study area to become greater than a Moderate evaluation...
WRXHMS049	Pentre, Erbistock, Eyton and Bryn-y-pys	An attractive rolling traditional farming landscape with an attractive mix of small to medium size field pattern with well defined hedgerow with mature trees and woodland blocks and copses... There is a higher proportion of mature and established tree stock in this area to the adjacent aspects reinforcing the typical English characteristics of the farming landscape... Area feels settled, tranquil, attractive and has a strong historic landscape element in terms of its high number of former historic and landed estates... Many villages and older building are former estate buildings/ dwellings and as such contribute to a common and traditional vernacular building style - emphasis on brick with local stone in older and in buildings of higher status... Topography is one of gently rolling and undulating landscape bounded to the south by the Dee river valley with a high proportion of tree cover...	High	High	High	Moderate	High	High	The aspect area is in a good and apparently stable condition... Typified by small clustered, and scattered settlements with an attractive range of older and traditional style buildings in the vernacular style of North Shropshire and Cheshire... The area is largely unspoilt and devoid of areas on large scale or visually intrusive development... High due to the importance of the aspect on a regional scale... In terms of the North Wales context the traditional rolling farmland - of a distinctly "English" character is unusual, as is the relative lack of large scale settlements and industrial/commercial developments... Attractive and traditional farming landscape that is of high quality, well managed and in relatively good condition

Table 14A.1 Extracted Information from Wrexham LANDMAP: Visual and Sensory Layer for Proposed Overhead Line Route

UID	AREA NAME	SUMMARY DESCRIPTION	VALUE	EVALUATION CRITERIA: SCENIC QUALITY	EVALUATION CRITERIA: INTEGRITY	EVALUATION CRITERIA: CHARACTER	EVALUATION CRITERIA: RARITY	OVERALL EVALUATION	JUSTIFICATION OF OVERALL EVALUATION
WRXHMVS052	Maelor South of Wrexham	An attractive archetypal rolling farming landscape with elements of estate farming and a pleasant mix of small to medium field patterns and woodland blocks and copses... The area feels relatively settled and safe with a low proportion of out of scale or modern development... The area borders the southern and eastern areas of Wrexham yet Wrexham's influence is rapidly lost and the area feels quite separate from it... The area occupies a gently rolling and undulating landscape bordered by the Dee Valley to the south and east and Wrexham to the north... Visually and physically the area feels far more closely associated with the English landscape of North Shropshire and Cheshire than the "typical" or "archetypal" Welsh landscape... The aspect is the transition zone and border between England and Wales... Again a visually similar to Cheshire and Shropshire plain, but uncommon landscape for Wales... Evidence of earlier cultures can be seen on pasture - ridge and furrow, moated sites etc... not often artefacts associated with Wales...	Moderate	High	High	Moderate	Moderate	Moderate	In terms of the North Wales context the traditional rolling farmland - of a distinctly "English" character is unusual, as is the relative lack of large scale settlements and industrial/commercial developments... However the size of the area and proportion of similar landscape types within this eastern portion of the study area makes the evaluation Moderate on a countywide scale
WRXHMVS079	River Dee	The aspect comprises the meandering course of the River Dee as it flows through the study area from the west and more steeply sided valleys to east and north as the floodplain opens up and the river becomes the focus of a more intensively farmed agricultural landscape within the Dee terraces and floodplain... Other than at Bangor on Dee settlements tend to be relatively divorced from the riverside the principal and most heavily populated stretch being that overlooking the river course towards its western end at Trevor, Cefn Mawr and Newbridge and to the north at Holt... Of settlements adjacent to the aspect only Holt and Bangor on Dee have a direct river frontage with the longer frontage being that at Holt where both the town and a number of dispersed individual residential properties have direct access to the river... There are no industrial areas associated with the river course - the principal adjacent land use being agricultural... The adjacent riparian vegetation varies along the river course and is closely related to the topography of the surrounding landscapes... To the eastern extent the river flows through a more tightly constrained series of valley complexes often the river banks are clothed in deciduous and mixed woodland that runs directly to the river's edge (WRXHMVS009 and 034)... As the river continues eastwards the river course becomes more meandering and open with the river banks comprising open grassed areas with more isolated stands of trees and scrub vegetation - the general land use becomes more intensively farmed and is largely livestock and dairy farming with some arable use (WRXHMVS050), this area also frequently floods in Winter and early Spring creating a dramatic seasonally changing landscape...	High	High	Moderate	High	High	High	The River Dee is the principal and dominant water feature within the study area... Although obviously not an unusual feature in terms of national importance it has a number of rare and attractive features that enhance the landscape character and are valuable for other Visual and Sensory criteria such as the seasonal flooding within WRXHMVS050 and the attractive and meandering river course of the upper reaches through steeply sloping valleys that emphasises the overall high value... The river has a distinctive character and is an important resource within the study area and on a regional level...
WRXHMVS081	A483 Trunk Road	This aspect area comprises a dualled stretch of the A483(T) and its associated soft landscape environs beginning at Ruabon to the south of the study area and continuing north through the heart of the study area towards Chester in the north... It is a busy dual carriageway linking the North Wales coast and Cheshire Plain to England and mid Wales... The road provides the principal infrastructure link in the area and as a result the majority of larger settlements and industrial areas within the study area are concentrated within this central north/south belt... The alignment is relatively straight with some variation in horizontal and vertical alignment especially in the vicinity of Wrexham, Llay and Gresford where the alignment is more sinuous... This is a busy road with substantial commercial traffic and constant traffic movement both day and night, the entire length is lit creating a significant source of nighttime light pollution... The constant traffic movement and light influence affects the tranquillity of the adjacent areas and provides a significant visual focus effectively bisecting the study area... The embankments and cuttings consist of either rough grass or deciduous and mixed plantation which is now semimature... This helps to mitigate the visual impact of the road in places although traffic is still visible from the higher land especially to the west... There are no purpose built service area - this role being undertaken by the adjacent settlement areas... Views are generally confined by cutting and embankments with some long distance views available from elevated sections south of Wrexham at Rhostyllen where views are dominated by the former colliery tip at Bersham to the east and open out to the west to give views of Ruabon Mountain and north of Wrexham between Llay and Gresford where views open out to the west and east over the flatter lands of the Cheshire Plain...	Low	Low	Low	Moderate	Low	Low	A road development of little scenic quality... There are some limited and long distance views to the west of Ruabon Mountain and over the Cheshire Plain, but these are to the most part fleeting and insignificant in the scale of the aspect area as a whole.....The road has no distinctive character or strong sense of place however there is a clear visual unity in terms of the aspects common function - generally this could be a road corridor anywhere within Wales or England... However the tip at Bersham colliery is however a strong and enduring landmark for the southern section of the area and elevates the character in this area... Large scale development is visible in several areas of the adjacent settlement and industrial/commercial areas adjacent to Wrexham which although not necessarily visually intrusive do not improve the overall character or sense of place for the area

Table 14A.2 Extracted Information from Wrexham LANDMAP: Landscape Habitats Layer for Proposed Overhead Line Route

UID	AREA NAME	PHASE I HABITAT TYPES	KEY FEATURES	VALUE	EVALUATION CRITERIA: PRIORITY HABITATS	EVALUATION CRITERIA: SIGNIFICANCE	EVALUATION CRITERIA: OPPORTUNITY	EVALUATION CRITERIA: EXPANSION RATES	EVALUATION CRITERIA: SENSITIVITY	EVALUATION CRITERIA: CONNECTIVITY/ COHESION	EVALUATION CRITERIA: HABITAT EVALUATION	EVALUATION CRITERIA: IMPORTANCE FOR KEY SPECIES	OVERALL EVALUATION	ADDITIONAL ASSESSMENTS
WRXHMLH024	Halton Mosaic	Semi-natural Mixed Woodland; Scattered Scrub; Improved Grassland; Arable; Buildings	An area of mainly grassland on the eastern edge of Chirk, with some arable cropping, on the more gently sloping land in a wide bend of the River Ceiriog... Much of the grassland is intensively used for silage... Fields are medium sized, with well maintained hedges... There are small areas of woodland, in the south, the remains of an old area of parkland, dissected by the recently completed Chirk bypass... The River Ceiriog forms the eastern boundary of the area, and forms an interesting habitat...	Moderate	Moderate	Moderate	Moderate	Moderate	Unassessed	Moderate	Moderate	High	Moderate	A patchwork of fields with hedgerows and small woods alongside the River Ceiriog supporting some locally significant species...
WRXHMLH025	Halton Wood	Semi-natural Broadleaved Woodland; Improved Grassland; Planted Broadleaved Woodland; Planted Mixed Woodland; Running Water	A large area of woodland in the steeply sloping and narrow valley of the River Dee near its confluence with the River Ceiriog... The woodland has been replanted and extended in places but has remnants of original oak woodland, much of which is designated SSSI as the Nant Belan woods... It also includes Ty Mawr Country Park, a local wildlife area...	High	High	High	Moderate	Unassessed	Unassessed	High	High	High	High	An important woodland network with some significant oak and ash woodlands supporting a range of common and interesting species...
WRXHMLH029	Eyton Grassland	Semi-natural Broadleaved Woodland; Planted Mixed Woodland; Improved Grassland; Arable; Buildings	A very large area, mainly of grassland, west of the River Dee and south of Wrexham itself... The area comprises a patchwork of small both permanent pasture and fields cut for hay and silage, bounded by hedges with scattered trees, together with a number of small woods, many ponds, and two areas of parkland at Pen Y Lan and Erbistock... There are a number of areas of local wildlife significance, together with many bat records and records of great crested newts...	High	High	Moderate	High	Unassessed	Moderate	High	High	Outstanding	High	A large area of small hedge bound fields with a high density of small ponds which support a wide range of species and is highly valuable...
WRXHMLH030	Ruabon Urban Area	Improved Grassland; Amenity Grassland; Buildings; Dense Scrub; Bare Ground	This urban area is mainly residential housing with gardens... There is some green space most of which is domestic garden, sports fields and a few small woodlands... The gardens form the largest component of green space in the area, which has few native or semi-natural communities...	Low	Low	Low	High	Moderate	Unassessed	Moderate	Low	Moderate	Low	An urban area with some gardens and green space on the borderline of low to moderate evaluation...
WRXHMLH031	Talwrn Grassland	Semi-natural Broadleaved Woodland; Improved Grassland; Arable; Buildings; Semi-improved Neutral Grassland	A very large area of mixed agriculture, mainly grassland but with some arable cropping... Fields are small to medium sized with hedges, and scattered trees, with some small woodlands... The area borders on Ruabon mountain SSSI to the west, and contains a number of SSSI's itself, and a PSAC (Stryt Las A'r Hafod), as well as a number of local wildlife sites, including woodland, wetlands, rivers and water bodies...	High	High	High	High	Unassessed	Moderate	High	High	Outstanding	High	A large area of small and medium sized fields, bounded by hedges with an internationally significant ponds which support a wide range of species including great crested newt, Triturus cristatus and is of high to outstanding value...
WRXHMLH058	Moor Woodland	Semi-natural Broadleaved Woodland; Improved Grassland; Planted Mixed Woodland; Running Water; Planted Coniferous Woodland	This is an area of planted and semi-natural woodland which forms part of a larger block across the English Border... It forms a biodiversity corridor along the small river valley and is probably a good refuge for common wildlife species...	Moderate	Moderate	High	Moderate	Unassessed	Unassessed	High	Moderate	Unassessed	Moderate	An locally significant woodland network which probably supports a range of common species...

Table 14A.3 Extracted Information from Wrexham LANDMAP: Geological Landscapes Layer for Proposed Overhead Line Route

UID	AREA NAME	CLASSIFICATION 'OTHER'	GEOGRAPHICAL AND TOPOGRAPHICAL CHARACTER	EVALUATION CRITERIA: RESEARCH/ EDUCATION VALUE	EVALUATION CRITERIA: HISTORICAL VALUE	EVALUATION CRITERIA: RARITY/ UNIQUENESS	EVALUATION CRITERIA: CLASSIC EXAMPLE	OVERALL EVALUATION	JUSTIFICATION OF OVERALL EVALUATION
WRXHMGL018	Pont Cysyllte - Coedloedd - Afon Eitha	Incised river/ stream valley/ ravine	Steep valley sides and associated incised tributary valleys on the N side of the River Dee between Cysyllte and Graig (S of Bryn Pen-y-lan)... Includes the Afon Eitha valley... Lower to the W below Trevor, but higher to the E and including the northern part of the incised meanders of the Newbridge and Coedloedd areas... Represents post-glacial incision by the River Dee through a glacial terrace to expose Upper Carboniferous bedrock (dominated by mudrocks)...	Moderate	Moderate	High	Moderate	High	Forms part of incised section of River Dee with important river cliff features of possible regional significance...
WRXHMGL019	River Dee (Cysyllte-Overton)	N/A	Flood plain, active channel and low terrace of the incised section of the River Dee between Cysyllte and Overton bridges... Includes a narrow gorge-like section near Black Park and well-developed incised meanders near Newbridge, Coedloedd and Erbistock... Dominated by alluvium (Quaternary: Holocene), but locally Upper Carboniferous bedrock is exposed in the river bed and bank...	High	High	High	High	High	Forms part of incised section of River Dee with important river cliff features of possible regional significance and includes RIGS of regional importance for Carboniferous stratigraphy...
WRXHMGL025	Afon Ceiriog	N/A	Active floodplain and low terrace (Quaternary: Holocene) of the Ceiriog river from its confluence with the Dee near Tenement to Swch-cae-rhiw (where the valley narrows and becomes V-shaped)... Dissects the Ceiriog valley's glacial fill... Includes a narrow section near Pandy where the valley is narrow and gorge-like and the floodplain very narrow or virtually absent... Probably includes some exposure of Ordovician bedrock in the river bed in such areas...	Moderate	Moderate	Moderate	Moderate	Moderate	No regionally significant sites/ landforms noted during present survey and geology/ geomorphology considered to be typical of feature/ process and is either widespread, better exposed elsewhere or not currently known to be exceptional...
WRXHMGL086	Pen-y-lan - Bryn-newydd	N/A	Extensive, gently sloping platform of glacial deposits, dominated by clays in the S but with significant sand and gravel in N (Quaternary, Pleistocene)... Forms the southwards extension of the "Wrexham Delta Terrace" system, rising from around 70-75m above sea level in the e to around 100-110m in the W... To the W the area is marked by the base of glacial clay-covered slopes at the base of the Ruabon-Esclusham Mountain massif and to the E by a low feature which rises above low-lying glacial clay and river deposit dominated areas... Surface gently undulates and with streams which cut down into the eastern escarpment-like feature... Platform is cut by the Clywedog valley and tributaries to the N and the Dee system to the S, including the steep sided Gyfelia Brook valley... Includes a large clay working in the Hafod House area with a prominent knoll-like tip of waste material...	Moderate	Low	Low	Low	Moderate	Working quarry present although no regionally significant sites/ landforms noted during present survey and geology/ geomorphology considered to be typical of feature/ process and is either widespread, or not currently known to be exceptional...
WRXHMGL096	Wynnstay Park	Glaciodepositional topography/ veneer	Low domed massif, broadly N-S orientated and rising to around 135m above sea level... Bedrock dominated by Upper Carboniferous sandstones and mudrocks which emerges locally through a relatively thin veneer of glacial clays (Quaternary, Pleistocene)... Area is cut by the incised river Dee system to the SD and SW...	Moderate	Moderate	High	Low	High	Low feature with site of regional importance for Carboniferous stratigraphy (RIGS)...
WRXHMGL117	Black Brook	N/A	Level floodplain area of the Black Brook E of the Ruabon - Johnstown area, now separated from the streams deeply incised section downstream (as it enters the Dee valley) by urban development...	Low	Low	Low	Low	Moderate	No regionally significant sites/ landforms noted during present survey and geology/ geomorphology considered to be typical of feature/ process and is either widespread, better exposed elsewhere or not currently known to be exceptional...
WRXHMGL120	Afon Goch	N/A	Section of floodplain and alluvium (Quaternary, Holocene) of stream system separating the Ruabon -and Johnstown areas... Includes prominent N-S section, although generally modified by development, probably including infill of areas...	Low	Low	Low	Low	Low	Area modified by development, although natural features may remain locally...
WRXHMGL127	Llwyneinion	Glaciodepositional topography/ veneer	Lowest slopes of the Ruabon-Esclusham massif between the incised Clywedog valley and the Nant y Crogfryn - Rhosllanerchrugog area... Glacial clay cover dominates (Quaternary, Pleistocene)...	Low	Low	Low	Low	Moderate	No regionally significant sites/ landforms noted during present survey and geology/ geomorphology considered to be typical of feature/ process and is either widespread, better exposed elsewhere or not currently known to be exceptional...

Table 14A.3 Extracted Information from Wrexham LANDMAP: Geological Landscapes Layer for Proposed Overhead Line Route

UID	AREA NAME	SUMMARY DESCRIPTION	VALUE	EVALUATION CRITERIA: RECOGNITION/ TRANSPARENCY	EVALUATION CRITERIA: PERIOD	EVALUATION CRITERIA: RARITY	EVALUATION CRITERIA: DOCUMENTATION	EVALUATION CRITERIA: GROUP VALUE	EVALUATION CRITERIA: SURVIVAL	EVALUATION CRITERIA: VULNERABILITY	EVALUATION CRITERIA: DIVERSITY	EVALUATION CRITERIA: POTENTIAL	OVERALL EVALUATION	JUSTIFICATION OF OVERALL EVALUATION
WRXHMCL016	Transport Links	The transport links within and through WCBC impact powerfully on the everyday lives of region The new A483 provides a high-speed north-south route, though this has to some extent by-passed Wrexham... The WCBC area has throughout its history formed an important transport nexus; the A5 and the railways also form culturally significant features...	High	High	High	Moderate	Moderate	Outstanding	High	Moderate	High	Outstanding	High	High in that although their technology is unremarkable and their effect on the economy and culture of WCBC is no more than that of the transport systems of any comparable area, they have the potential for integration into the World Heritage bid...
WRXHMCL017	Mynydd Rhiwabon Esclusham (lower slopes)	An area now devoted largely to sheep-rearing but which has historically been exploited for lead and coal... The lead-mining history of the area is interpreted at Minera... Less is known about coal-mining, ironworking or the agricultural past...	High	High	High	High	High	High	High	Unassessed	High	Moderate	High	As an example of a landscape that is still seeing active farming use and which articulates the cultural meaning of former ways of wresting a living from the environment...
WRXHMCL020	Johnstown	A settlement along the B5605, contiguous with Rhosllanerchrugog, but distinct from it, in the eyes of the inhabitants of both places (it is, for instance, largely English-language in speech)... The earlier buildings (few predate the nineteenth century) are located along the road, with newer estates between the road and the Chester to Shrewsbury railway... The character area includes the long-standing local firm of Dennis and Co..., which traditionally produced the distinctive bricks of the area, and now produces tiles, maintaining the tradition of clay-working within WCBC... Johnstown remains a working community, with the majority of its inhabitants finding work in the local trading estates, including the Vauxhall Industrial Estate in the south of the character area...	Moderate	High	High	High	Moderate	High	High	Moderate	Moderate	Moderate	Moderate	Moderate as an example, one of several, of surviving working communities engaged in a staple industry...
WRXHMCL034	Maelor Gymraeg South	An area historically dominated by estates such as Wynnstay but which evidently experienced profound changes as a result of the estates" relinquishing control and appears to be doing the same again as farms are amalgamated and families move out... There is evidence for the employment of agricultural contractors...	High	Unassessed	High	Moderate	Unassessed	High	Moderate	High	Moderate	Unassessed	High	As an historic landscape and for the way it articulates the role of the great estates...

**Appendix 15A: Overview of Planning Policy and Procedure relating to Biodiversity in
England and Wales**

OVERVIEW OF PLANNING POLICY AND PROCEDURE RELATING TO BIODIVERSITY IN ENGLAND AND WALES

Disclaimer: This document is a guide to legislation and procedure relating to biodiversity in England. It is offered to readers only as general guidance and it does not give specific advice in relation to any site or species or project. The document represents TEP's interpretation of legislation and procedure as at July 2012. Readers should note that legislation and procedure changes continually and is interpreted on a case-specific basis. No warranty is offered by TEP that any statement touching on legal matters is true, precise or correct. Nothing in the document should be construed as an offer of advice or legal opinion. The offer of this document does not form an agreement between a reader and TEP. TEP shall not be held liable for any loss, damage or delay caused by reliance on any statements herein.

1.0 GENERAL

- 1.1 Wildlife legislation in the UK is complicated. It has undergone a steady evolution and its amendment process has created numerous different acts, regulations and statutory orders, all of which must be referred to in order to gain the complete picture. In addition, the Environment has become a devolved function for the different country administrations in the UK, resulting in different legislation and policy developing in the different countries of the UK. It is further complicated by the interaction between national, European and international legislation and jurisprudence. Different levels of protection apply to different species.
- 1.2 The following paragraphs will provide an overview to the ecological planning and legislative context generally applying to England Wales. It is not a comprehensive analysis and does not purport to advise in relation to any specific site, species or habitat. It is accurate at the date of writing, but current legislative documentation must be referred to in full to identify specific ecological legislative context for any given situation.
- 1.3 Sites, species or habitats may be protected or highlighted by six broad categories of instrument:
- Statutory Instruments
 - National Planning Policy Guidance
 - County, District and Unitary Development Plans
 - The UK Biodiversity Action Plan
 - Local Biodiversity Action Plans & locally adopted Wildlife Strategies
 - Other lists of species of conservation concern

2.0 STATUTORY INSTRUMENTS

- 2.1 Statutory protection is afforded to wildlife sites and to particular species in England and Wales by EU Directives, various international conventions to which the UK is signatory and various Acts and Regulations of Parliament, principally the **Wildlife and Countryside Act 1981** as amended by various Statutory Instruments relevant to England and/or Wales (**WCA**).

- 2.2 Other relevant legislation includes the Conservation (Habitats &c) Regulations, 2010 (usually known as the **Habitats Regulations**). These Regulations translate the EU Habitats Directive into British Law, by requiring particular protection for European species and for European sites of nature conservation value.
- 2.3 The **Natural Environment and Rural Communities Act 2006 (NERC)** also introduces statutory obligations for public bodies to have regard to biodiversity in the exercise of their functions – in terms of planning, this includes decisions taken by Local Planning Authorities.
- 2.4 ODPM have published a useful circular (ODPM 06/2005) which summarises how these statutory obligations affect the planning system. Although this Circular is only obligatory in England, the vast majority of its guidance applies in Wales. Specific guidance on the consideration that the local planning authorities (LPA) in Wales should give to nature conservation interest is also contained in **Planning Policy Wales (PPW)** on Nature Conservation.

Statutory wildlife sites

- 2.5 In the UK there are many designations for giving protection to sites of national or international importance. The most commonly-encountered designations are summarised below:
- **Special Area of Conservation (SAC)**: An area of land or water of international (European) conservation importance as designated by European Member States under the EU Habitats Directive (Directive 92/43/EC). In the UK, all SACs will also be designated as Sites of Special Scientific Interest (SSSI).
 - **Special Protection Area (SPA)**: A site of international (European) conservation importance for birdlife as designated by European Member States under the Birds Directive (Directive 79/409/EC). In the UK, all SPAs will also be designated as SSSIs.
 - **Ramsar site**: A wetland of recognised international importance designated under the Ramsar Convention 1971. In the UK, all Ramsar sites will also be designated as SSSIs.
 - **National Nature Reserve (NNR)**: A nationally important nature reserve designated by Countryside Council for Wales (CCW) or Natural England (NE) under the WCA and managed by CCW, NE or an approved body. NNRs will usually be designated as SSSIs.
 - **Local Nature Reserve (LNR)**: A nature reserve on public land, established by a Local Authority under Section 21 of the National Parks and Access to the Countryside Act 1949. LNRs may or may not be Sites of Special Scientific Interest.
 - **Site of Special Scientific Interest (SSSI)**: An area of land or water notified by CCW or NE under the WCA or the National Parks and Access to the Countryside Act 1949 as being of special nature conservation interest for its plant or animal communities, geological or landform features.

Statutorily protected species and their habitats

- 2.6 In most cases relevant to planning applications, protected species are those listed in Schedules 2 and 4 of the Habitats Regulations, in Schedule 1, 5 and 8 of the WCA (as amended) and in the **Protection of Badgers Act 1992** (PBA). The extent of legal protection varies between species and the protocols for development which affects such species also varies.
- 2.7 It is particularly important to obtain site-specific advice before formulating an action plan when considering development affecting protected species. The following paragraphs are outlines of legal protection afforded to some of the species most frequently encountered.
- 2.8 It must also be remembered that many protected species can range widely, and their presence outside the proposed development must always be considered. Many planning applications have failed because inadequate consideration was given to the terrestrial habitats of amphibians present some distance from the proposed development.
- 2.9 **European protected species** include great crested newts and native species of British bat. The full list of European species is in the Habitats Regulations, 2010.
- 2.10 The extent of legal protection covers both the species and its habitat. Any development proposal that would impact on either species or habitat is required to provide for conservation of the species and its habitat under licence from the relevant licensing authority (Natural England or Welsh Assembly).
- 2.11 The licensing authority require the LPA to consider (1) the impact of the proposed development on the European species and their habitat; (2) the need for development; and (3) consideration of possible alternative development proposals, before determining planning applications that could affect European protected species.
- 2.12 The LPA will therefore expect detailed surveys to be carried out prior to them determining a planning consent for a development that may adversely affect a European species or its habitats.
- 2.13 CCW or NE local teams will advise the LPA on their policies for European protected species and also any conservation implications of individual planning decisions which affect European protected species.
- 2.14 The licensing authority will normally expect the planning situation to be fully resolved prior to determining a licence application.
- 2.15 The licensing authority will also expect detailed surveys to have been carried out before granting any licences for handling the species or affecting the habitat when development is proposed.
- 2.16 The conservation scheme necessary to enable any development project will depend on the size of the population of the affected species, the locality and the impact of the proposed development. Usually an extended period of alternative habitat creation, trapping and movement of the animals is required, followed by a period of site management and monitoring.

- 2.17 **Schedule 1** of the WCA lists a number of **birds** for which it is illegal to disturb or destroy the birds or nests. Some Schedule 1 species can be locally common, such as kingfisher or barn owl, but most are rare.
- 2.18 The WCA also makes it illegal to disturb the nests of **most British wild birds** while at the nest. In this sense a wild bird is defined as being any bird, other than a game bird, that is resident in or a visitor to Great Britain in a wild state.
- 2.19 For most UK wild birds there is no provision within the current legislative or licensing system to disturb nesting birds. Certain “pest” species are permissible to disturb under licence from the relevant licensing authority. Legal advice may be needed to determine if a proposed nest disturbance or destruction is lawful. In some cases it will be, in other cases it may not be. Game birds are protected separately by the Game Acts that affords them full protection during the closed season.
- 2.20 **Schedule 5** of the WCA lists animals which are protected. Schedule 5 was most recently amended by Statutory Instrument 2008 No. 431, which increased the level of protection for certain species, including **water voles**, which now receive full protection of both animal and habitat. It is not possible to obtain a licence under the provisions of the WCA for the purposes of development. If it is not possible to avoid possible impacts to water voles or their habitats under the development proposals, it is therefore vital that water vole survey, mitigation design and implementation are considered early in order to avoid significant delays to programmes.
- 2.21 All UK native **amphibians** and **reptiles** are protected to some degree. The rarer species and their habitats (great crested newt, natterjack toad, sand lizard and smooth snake) are protected under the WCA and are also European protected species, for which the licensing implications are discussed above.
- 2.22 The more common amphibian species are only protected against sale, which is not relevant to developments. The more common reptile species (adder, grass snake, slow worm and viviparous lizard) are protected only from killing and injury (and also sale). In practice, this requires a reptile protection scheme before implementing a planning permission, but no specific licence is required.
- 2.23 **Badgers** receive protection under the PBA, 1992. In terms of development, this means that any scheme which involves the destruction of a recently active sett (even if an outlier) requires a licence from the appropriate licensing authority (NE or CCW). The licensing authority will require adequate protection of the animals, which means that alternative provision is needed and disturbance will not be permitted in the hibernation or early spring period when badgers are gestating or have dependent young. The licensing authority will tend to object to loss of a main sett.
- 2.24 **Schedule 8** of the WCA lists **plants** that are statutorily protected. In relation to development, these plants do tend to be very rare and not frequently encountered. The **bluebell** is scheduled, but this is intended to prohibit commercial bulb-picking from the wild rather than to prohibit development.
- 2.25 **Schedule 9** of the WCA lists **plants** which it is an offence to introduce to the wild. These include **Japanese knotweed**, which is frequently encountered on brownfield sites. Care is needed to avoid spreading the species around the site during

earthworks, and to ensure that any removal of infested soils off-site is to a licensed tip. **Himalayan balsam** and **Giant hogweed** are also listed in this category of non-native invasive plant species.

3.0 NATIONAL PLANNING POLICY GUIDANCE

England

3.1 The National Planning Policy Framework (NPPF) was published on 27th March 2012, coming into immediate effect and replacing the majority of previous Planning Policy Guidance Notes (PPGs) and planning Policy Statements (PPSs).

3.2 Chapter 11 of the NPPF states that '*The planning system should contribute to and enhance the natural and local environment by:*

- *Protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *Recognising the wider benefits of ecosystem services;*
- *Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline of biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'.*

3.3 In addition, Government Circular 06/2005 states at Part IV.A.98:

"The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would likely result in the harm of a protected species or its habitat. Local authorities should consult with English Nature before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take appropriate steps to ensure the long term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned..."

Wales

3.4 Planning Policy Wales (PPW) sets out the land use policy of WAG.

3.5 PPW confirms that the natural heritage of Wales is not confined only to statutorily protected sites but across the entire extent of the country. It identifies that attractive and ecologically rich environments are important for their own sake and for the health and social and economic well being of individuals and communities, with the quality of the environment often being a factor in business location decisions. PPW identifies the importance of biodiversity and landscape considerations being taken into account at an early stage in both plan preparation and development control.

3.6 PPW states at paragraph 5.2.7:

The planning system has an important part to play in meeting biodiversity objectives by promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable. Local planning authorities must address biodiversity issues in so far as they relate to land use planning, in both UDPs and development control decisions.

- 3.7 PPW guides LPAs specifically in relation to the protection of trees and woodlands at paragraph 5.2.8:

Trees, woodland and hedgerows are of great importance, both as wildlife habitats and in terms of their contribution to landscape character and beauty. Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality. Ancient and semi-natural woodlands are irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage.

- 3.8 Section 5.5 of PPW outlines Development Control and the conservation and improvement of the natural heritage. Relevant statements include:

At 5.5.1 "The effect of a development proposal on the wildlife or landscape of any area can be a material consideration. In such instances and in the interests of achieving sustainable development it is important to balance conservation objectives with the wider economic needs of local business and communities. Where development does occur it is important to ensure that all reasonable steps are taken to safeguard or enhance the environmental quality of the land."

At 5.5.2 "when considering any development proposal (including land allocated for development) local planning authorities should consider environmental impact, so as to avoid, wherever possible, adverse effects on the environment. Where other material considerations outweigh the potential adverse environmental effects, authorities should seek to minimise those effects and should, where possible, retain and, where practicable, enhance features of conservation importance".

At 5.5.11 "The presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would likely result in disturbance or harm to the species or its habitat. ... An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the planning decision."

- 3.9 In relation to European protected species where derogation from the provisions of the Habitats Regulations is required to permit the development, PPW stresses that the *"Local planning authorities are under a duty to have regard to the requirements of the Habitats Directive in exercising its functions. To avoid developments with planning permission subsequently not being granted a derogation in relation to a European protected species, planning authorities should take the three requirements for a derogation into account when considering development proposals where a European protected species is present."*

- 3.10 PPW is supplemented by a series of **Technical Advice Notes (TAN)**, which are issued on a topic basis. The most relevant is TAN5 Nature Conservation and

Planning (1996), but TAN12 Design (2002) also refers to landscape and biodiversity interests being material in the planning process.

- 3.11 The thrust of guidance in TAN5 is aimed at local planning authorities who must consider nature conservation impacts in planning policy and decision. However, TAN5 is a very useful summary of wildlife policy and practice, providing advice on:
- Development control issues for Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs);
 - The selection and designation of non-statutory nature conservation sites, such as local nature reserves;
 - The protection of species, commons and greens;
 - Annexes outlining the statutory framework for nature conservation and designated sites and give information about the Countryside Council for Wales.
- 3.12 TAN5 1996 is the version currently available from the Welsh Assembly, but it is expected to be updated shortly.

4.0 COUNTY, DISTRICT AND UNITARY DEVELOPMENT PLANS

- 4.1 Under the Planning and Compulsory Purchase Act 2004, Local, Structure and Unitary Development Plans are to be replaced by Local Development Plans (LDP). The LDP sets out each local planning authority's proposals for future development and use of land in their area. Once the LDP is adopted, it will form the basis of planning decisions that the local planning authority makes.
- 4.2 The degree of protection for sites and species will vary, but policies will always be very heavily weighted against development which might affect **statutory wildlife sites** (see section 2 above).
- 4.3 The development plan will allow for the designation and policy protection of **non-statutory wildlife sites**, (sometimes generically called second-tier sites, to distinguish them from statutory sites). These sites go under a variety of names such as. Site of Biological Importance (SBI), Site of Importance for Nature Conservation (SINC), Biological Heritage Site (BHS) etc. Often geological sites are grouped with ecological sites, for example Regionally Important Geological/Geomorphological Sites (RIGS), Geological Heritage Sites (GHS).
- 4.4 Non-statutory sites are usually identified by a fairly rigorous system of criteria which are themselves usually adopted as supplementary planning guidance.
- 4.5 Adopted development plans often provide protection for '**Wildlife Corridors**' or '**Greenways**', which are identified on plan.
- 4.6 The extent of protection to non-statutory sites is usually not absolute, but even where the importance of development is considered to outweigh ecological interests, a mitigation strategy is usually required as a condition of a planning consent.
- 4.7 In England, PPS12 (2004) Local Development Frameworks has been replaced by the NPPF.

- 4.8 In Wales, procedural advice is given in National Assembly for Wales/Welsh Office circulars. PPW, the TANs and the circulars together comprise national planning policy which to be taken to account by local planning authorities in Wales in the preparation of UDPs.

5.0 THE UK BIODIVERSITY ACTION PLAN

- 5.1 The publication of the **UK Biodiversity Action Plan (UKBAP)** is in response to Article 6 of the Rio Biodiversity Convention, to develop national strategies for the conservation of biological diversity and the sustainable use of biological resources. The UKBAP contains action plans for over 200 **UK priority species** and 30 **UK key habitats**, considered to be of national conservation priority.
- 5.2 UK priority species are defined in the *UK Biodiversity Group Tranche 2 Action Plans* (HMSO, 1998) as either globally threatened or rapidly declining in the UK, i.e. by more than 50% in the last 25 years. Some of the UK Priority species are statutorily protected, while others receive partial or no protection.
- 5.3 Specific to Wales, the list of the principal species of biodiversity importance which should be considered by Local Planning Authorities was published in 2003 in the document "Going Wild in Wales" (GWW).
- 5.4 The listing of a species or habitat in the UKBAP or in GWW, does not *per se* provide it with any statutory or planning policy protection; however, it is likely that many planning authorities will begin to introduce policies that provide protection to UKBAP species and habitats. Many non-statutory wildlife sites are already selected by reference to populations of UKBAP species and habitats.
- 5.5 In September 2007, UK Government endorsed a thorough review of the UK List of priority species and habitats. There are now 1149 priority species and 67 priority habitats. Some of these are frequently encountered on development sites, even in brownfield situations.

6.0 LOCAL BIODIVERSITY ACTION PLANS

- 6.1 Many districts, counties or metropolitan areas have **adopted nature conservation strategies** that tend to set out general principles of attention to nature conservation. Most of these date from the early to mid 1990s.
- 6.2 More recently, counties have prepared **Local Biodiversity Action Plans (LBAP)**, in conjunction with partners such as CCW, EA and the Wildlife Trust. These LBAPs highlight species and habitat types which are either of national concern (UKBAP species and habitats) or are endemic to the county and of local concern. LBAPs will be prepared for these species and habitats. As with the UKBAP, listing of a habitat type, a site or a species in a LBAP does not confer any new statutory or planning policy protection. However, impacts upon sites, habitats or species prioritised in LBAPs may be a material consideration in a planning application.
- 6.3 In Wales, some LBAPs have been adopted as Supplementary Planning Guidance by the local authority as recommended by 'Go Wild in Wales' 2003. In England, many LBAPs are used in the evidence base for emerging LDPs or are used as the basis to create Nature Conservation and biodiversity Supplementary Planning Documents

(SPDs). Use of the BAPs in the manner may result in local species or habitats of conservation concern becoming a material consideration in planning.

7.0 OTHER LISTS OF SPECIES OF CONSERVATION CONCERN

- 7.1 In addition to the lists referred to above, there are other lists made of national abundance of groups of fauna, particularly the less well-documented groups. These lists do not themselves confer any statutory protection, but may often be used in Environmental Impact Assessment to establish whether or not a proposed development will have a significant impact.
- 7.2 In the case of **plants** and **invertebrates**, few species are statutorily protected or listed in the UK Biodiversity Action Plan, but many are thought to be rare or vulnerable. Such species are known as **Red Data Book** (RDB) species and there are various grades of ecological sensitivity, e.g. Nationally Rare/Vulnerable species, Nationally Notable (A), Nationally Notable (B) and Nationally Scarce. These gradings are based on frequency of occurrence of species in 10km² squares across the country e.g. for invertebrates Nationally Notable species occur in less than 300 10km² squares in the UK.
- 7.3 In the case of **birds**, there are various species categorised by a consortium of leading statutory and non-statutory organisations as **Species of Conservation Concern** (SPOCC), but which may not necessarily be statutorily protected or listed in the UKBAP.
- 7.4 Species such as those discussed above are often listed in LBAPs (see Section 6 above).

APPENDIX 15B
UPDATED ECOLOGICAL SURVEY REPORT



Proposed Route for 132kV Line Legacy to Oswestry Ecological Assessment – Public Version July 2012

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**Proposed Route for 132kV Line
Legacy to Oswestry
Ecological Assessment – Public Version
Document Reference: 700.299
Version 1.0
July 2012**

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APPENDICES

Appendix A:	Ecological planning and legislative context
Appendix B:	Desktop survey information – <i>only available in 2012 ES APPENDIX 15.D</i>
Appendix C:	Target notes
Appendix D:	Pond descriptions
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DRAWINGS

Figure 15.1 **Nature Conservation Designations within 500m of Routes Surveyed 2011**

Figures 15.2 -15.17 **Phase 1 Habitat Survey & Protected Species Survey (16 plans)**

Figures 15.20-15.21 **Location of Ponds within 150m of Underground Sections**

Figure 15.19 **Surveyed routes 2011 in relation to Johnstown Newts Site SAC**

NOTE: these Figures are presented in the 2012 Environmental Statement

1.0 INTRODUCTION

- 1.1 TEP was commissioned by Scottish Power Manweb to update the baseline ecological surveys of land along the route of a proposed wood pole 132kV overhead line (OHL) between Legacy (Wrexham), and Oswestry that were originally undertaken between 2006 and 2008. The original surveys are reported in Technical Appendices 15B, 15C, 15D, 15E and 15F of the Environmental Statement completed in 2009. The purpose of the baseline surveys is to form a basis for evaluation of the likely ecological effects of the proposed overhead line.
- 1.2 This report has the following objectives:
- to describe the existing vegetation and habitats present on the site;
 - to identify whether there are any features of conservation value; such as legally protected species or habitats of biodiversity importance¹;
 - to advise of further surveys or mitigation requirements that might be needed prior to construction of the line.
- 1.3 A description of the planning and legislative context of the considerations listed above is presented at Appendix A.
- 1.4 The surveyed area is shown on Figure 15.1 and in detail on Figures 15.2-15.17 and 15.20-15.21. Information was gathered for the wider area by means of a desktop study.
- 1.5 The following surveys were undertaken and are described in this report:
- Desktop survey;
 - Phase 1 habitat survey;
 - Amphibian survey;
 - Badger survey;
 - Bat and veteran tree survey;
 - Otter survey;
 - Water vole survey.
- 1.6 Additionally, an ornithological survey was undertaken involving an extensive desk study and targeted site assessments. The findings of this survey are reported in document TEP ref. 700.282.

2.0 BACKGROUND

- 2.1 SP Manweb has identified a need to reinforce the existing 132kV network which presently supplies electricity to 80,000 customers located in the area south of Wrexham. This could be achieved through the establishment of a new wood pole mounted overhead line connection between Legacy substation (near Wrexham) and Oswestry substation (on the northern outskirts of Oswestry).

¹ Such as habitats prioritised in the UK Biodiversity Action Plan (BAP) or the Local BAP

- 2.2 Desk-based investigations regarding the environmental characteristics of the area, together with visual site appraisals, were undertaken over a wide study area in order to appraise the various route options and propose a route. This information is summarised in a Consultation Document (TEP ref 700.054rev F).
- 2.3 An application was submitted to the Secretary of State, the Department for Business, Enterprise and Regulatory Reform (BERR) in April 2009 for consent under Section 37 of the Electricity Act 1989 to construct the new overhead line. This was accompanied by an Environmental Statement. The Environmental Statement was prepared in accordance with the Electricity Works (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2007.
- 2.4 Prior to undertaking the initial environmental assessment, consultations took place with Natural England and the Countryside Council for Wales (CCW) regarding the scope of ecological baseline surveys. This information is reported in the Environmental Statement Volume 3: Appendix 15B.

3.0 SURVEY EXTENT

- 3.1 The proposed route for the Trident wood pole overhead line extends south from Legacy, near Wrexham, to Oswestry linking two substations in these areas. This route is approximately 20km in length and runs to the east of Ruabon, Chirk and Gobowen. Approaches to both substations would utilise underground cables, laid within the public highway.
- 3.2 The support poles will be positioned within a corridor of 80m width (40m either side of a notional centre line). Stays to supports may extend outside this corridor by an estimated maximum of 5m. Further beyond this distance will be a working area within the corridor, where temporary effects may occur (for example due to construction of access tracks). For the purposes of survey, this was defined as a further 5m on either side, giving a total corridor width of 100m (50m either side of notional centre line).
- 3.3 The **survey corridor** for each ecological receptor comprises, as a minimum, the route corridor. Added to this, on either side, is the distance which has been identified as necessary to survey in order to adequately assess effects upon the receptor. This varies with receptor, from just the route corridor for Phase 1 habitats to 150m either side of the route corridor for amphibians.
- 3.4 In 2011/2012, the 2009 ecological survey corridor was resurveyed together with variations to the route including anticipated limits of deviation.
- 3.5 As the location of the overhead line has been further developed, surveys related to trees, including trees with bat roost potential, have concentrated on the proposed route, with detailed surveys only of the trees directly affected (i.e. needing works to them in order for the line to be constructed). In practice this meant that the 2011/2012 survey corridor width for trees was approximately 13m, rather than the original ES survey corridor for trees of 130m.

- 3.6 Following discussions with Wrexham and Shropshire Councils, a veteran tree survey was added to the arboricultural assessment within this same reduced corridor.
- 3.7 The amphibian survey (ponds survey) has been extended to encompass ponds within 150m of underground sections of the route. Previously only ponds within 150m of the overhead line route corridor were surveyed, together with all ponds within 500m of Johnstown Newt Sites SAC.
- 3.8 An ornithological survey has been undertaken based upon the proposed route and is reported separately in document TEP ref. 700.282.

4.0 METHODS

DESKTOP SURVEY UPDATE

- 4.1 In order to update the desktop records presented in the Environmental Statement, information regarding historic species records, protected sites, land allocation and relevant policies was obtained from the sources listed in Table 1. Information relating to an area up to 500m either side of the 2009 Environmental Statement route centreline and the proposed route is reviewed in this report.

Table 1: Ecological information and consultations

CONSULTEE / SOURCE OF INFORMATION	NATURE OF INFORMATION SUPPLIED BY CONSULTEE
Magic Map: Multi-Agency Geographic Information for the Countryside	Online mapping system identifying statutory and rural designations, citations, natural area boundaries etc
UK Biodiversity Action Plan	Identification of national priority species and habitats known to occur in the region.
COFNOD North Wales Environmental Information Service	Locations of wildlife sites Records for protected/BAP species and habitats
TEP	Previous survey results
Clwyd Bat Group	No records returned
Shropshire Badger Group	No records returned
Shropshire Biodiversity Action Plan	Identification of local priority species and habitats known to occur in Shropshire
Wrexham Biodiversity Action Plan	Identification of local priority species and habitats known to occur in Wrexham
Nature on the Map(Natural England)	Online mapping system for England showing UK Biodiversity Action Plan (UKBAP) habitats and protected sites
Shropshire Wildlife Trust	Locations of wildlife sites Records for protected/BAP species and habitats
Wrexham Borough Council Unitary Development Plan (adopted 14 th February 2005)	Delineation of protected sites, green corridors and land designations
Shropshire Council Core Strategy, Development Plan Document (adopted 24 th February 2011)	Delineation of protected sites, green corridors and land designations

4.2 Correspondence and other relevant information is presented at Appendix B.

FIELD SURVEYS

4.3 The original data in 2006 to 2008 was collected in the field using hand held computers with GIS mapping software and OS landline information. The 2011 data was recorded on paper maps of the original surveys, with positional information obtained using GPS.

PHASE 1 HABITAT SURVEY

4.4 The survey corridor width for Phase 1 Habitat survey was 100m (50m either side of a notional centreline of both the 2009m Environmental Statement route and the proposed route.

4.5 The Phase 1 Habitat survey was undertaken by ecologists Cathy Highfield, David Sweeting MIEEM and Lynsey Crellin, between 14th and 23rd June 2011. This is a standard method of survey (JNCC, 2003) and gives an overview of key habitats, wildlife corridors and the likely sites for species of conservation concern. Target notes are normally used to provide a botanical list of the immediate area and are

used either to give an indication of typical species in a habitat or to describe a habitat that does not fit a Phase 1 category. They can also be used to note other features of ecological interest. Target notes are presented at Appendix C.

- 4.6 As part of the Phase 1 Habitat survey, a number of categories of hedgerows were recorded. These were species-rich intact hedgerows with trees, and without trees, and species-poor intact hedgerows with and without trees. Species-rich and species-poor defunct (with gaps and undermanaged) hedgerows were also recorded.
- 4.7 Incidental observations of birds and invertebrates were also made during the Phase 1 Habitat survey.

AMPHIBIAN SURVEY

- 4.8 The 'Great crested newt mitigation guidelines' (English nature, 2001) recommend that all ponds within 500m of development are surveyed for great crested newt presence if it is thought likely that great crested newt populations centred on these ponds would be affected by changes to the development site. In this case however, the level of anticipated impact of a wood pole mounted overhead line is relatively low, with the opportunity for installation works to avoid impacts in the first instance. This has enabled the spatial scope of the great crested newt survey to be reduced, from 500m to 150m from the route corridor, without compromising the adequacy of the survey to establish the need, or otherwise, for a licence.
- 4.9 For the above ground section of the proposed route, ponds within 150m of the proposed route corridor were identified from Ordnance Survey maps and visual inspection.
- 4.10 Due to the nationally significant population of great crested newts present at the Johnstown Newt Sites SAC, all ponds lying within 500m of this site were also identified for survey.
- 4.11 In 2011/2012 the amphibian survey was extended to encompass ponds within 150m of underground sections of the route, giving a 300m wide survey corridor for the underground approaches to the substations at Legacy and Oswestry.
- 4.12 A total of 58 ponds were identified for survey in 2011. Of these, access permission at the appropriate time of year was obtained for 54 ponds in 2011; 52 ponds were surveyed by TEP using the strategy set out below. 2 ponds were surveyed by Jane Walsh Ltd on behalf of SP Energy Networks Ltd by means of torch surveys and bottle trap surveys as per Natural England guidelines (2001); this was a survey to support a great crested newt licence application for separate works at Oswestry substation. The remaining 4 ponds were surveyed by TEP in 2012 using the strategy set out below.
- 4.13 The TEP amphibian survey followed the following strategy:
- Visual survey of ponds/waterbodies including habitat survey form and photographic record;

- Egg-search of suitable aquatic vegetation in ponds to confirm presence/absence & breeding;
- Habitat Suitability Index (HSI) calculated for each pond

4.14 The HSI for great crested newts (Oldham *et al*, 2000) incorporates ten suitability indices, all of which are factors thought to affect great crested newts. HSI assessments of ponds are required as part of the application process for Natural England great crested newt licences. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. Lee Brady has developed a system for using HSI scores to define pond suitability for great crested newts on a categorical scale:

Table 3: Categorisation of HSI scores

HSI score	Pond suitability for great crested newts
<0.5	poor
0.5 – 0.59	below average
0.6 – 0.69	average
0.7 – 0.79	good
>0.8	excellent

4.15 Amphibian surveys were undertaken by licensed surveyors David Sweeting (Natural England licence no. 20112991), Kim Gallaher, Mark Ambrose (Natural England licence no. 2010388) and Graham Roberts (agent on Natural England licence no. 20111652).

4.16 Survey visits were undertaken between 18th April and 7th July 2011 and on 16th May 2012.

4.17 Descriptions of ponds are provided in Appendix D, a photographic record is presented in Appendix E and the HSI assessment is presented at Appendix F.

BADGER SURVEY

4.18 A survey looking for evidence of badger activity was undertaken on all land within the proposed route corridor plus 30m either side.

4.19 The badger survey was conducted during daytime visits to the site, during the Phase 1 Habitat survey during summer 2011. Details of legislation associated with badgers and descriptions of badger ecology and field signs are presented at Appendix G. The badger survey was conducted by ecologists David Sweeting MIEEM CEnv, Cathy Highfield, Lynsey Crellin, Mark Ambrose and Kim Gallaher.

BAT SURVEY AND VETERAN TREE SURVEY

4.20 There are no buildings that will be affected by the proposed works. A ground-based assessment of trees and tree groups to determine whether they have potential for use by roosting bats was undertaken during the arboricultural survey of the reduced corridor relating to the proposed route. This assessment followed the guidelines for 'Site Walkover Survey', as set out in 'Bat Surveys – Good Practice Guidelines' (Bat Conservation Trust, 2007). This survey work was undertaken by arborist Richard Round between 7th July and 11th August 2011.

- 4.21 Trees with high bat roost potential are those with suitable cracks and crevices that could be accessed by bats, or those covered with dense ivy that bats could shelter behind.
- 4.22 Details of the legislative context of bats and survey methods employed for identifying bats and their field signs are presented at Appendix H.
- 4.23 In addition, any veteran trees within the reduced corridor were noted. The definition of a veteran tree, developed by the Ancient Tree Forum, is a tree “that is of interest biologically, aesthetically or culturally because of its age, size or condition” (READ, 1999).

OTTER SURVEY

- 4.24 Surveys looking for evidence of otter activity were undertaken along the banks of watercourse sections (including adjacent habitat) within the proposed route corridor and 30m to either side.
- 4.25 Details of otter legislation, ecology and field signs are presented in Appendix J. There is no seasonal constraint for otter surveys. Otter surveys were conducted by TEP ecologists Dr Mike Walker MIEEM and Michael Penney on the 19th September, 17th October and 14th November 2011.

WATER VOLE SURVEY

- 4.26 Surveys looking for evidence of water vole activity were undertaken along the banks of rivers, streams, ditches and ponds within the proposed route corridor plus 30m either side.
- 4.27 Details of water vole legislation, ecology and field signs are presented in Appendix K. Water vole surveys would normally be undertaken between April and October inclusive. The majority of the water vole surveys were conducted by TEP ecologists Dr Mike Walker MIEEM, Mark Ambrose and Mike Penney on 19th September 2011 and 17th October 2011. Mike Walker and Michael Penney undertook survey of the north bank of the River Dee on 14th November 2011 as access could not be gained before this time.

5.0 RESULTS

DESKTOP SURVEY

- 5.1 Designated sites of nature conservation value within the desktop survey area are illustrated in Figure 15.1. Protected species records are provided at Appendix B.

Internationally and Nationally Designated Sites

5.2 There are two SACs within the desktop survey area:

- River Dee and Bala Lake; and
- Johnstown Newt Sites (Wrexham)

River Dee and Bala Lake

5.3 The proposed route corridor crosses the River Dee. The SAC designation covers an area of 1308.93 hectares, 90% of which is inland water body. Within the study area, the SAC comprises the watercourses of the rivers Dee and Ceiriog and their associated banks.

5.4 The primary reason for selection of the site is because the waters support a protected habitat (Annex I habitat), namely watercourse(s) of plain to montane levels with floating vegetation often dominated by water-crowfoot, a plant which occurs in relatively unpolluted waters. Atlantic salmon and floating water plantain are Annex II species that are also cited as a primary reason for selection of the site. This area is considered to be one of the best in the UK for Atlantic salmon. Other species which are qualifying features for site selection include otter, sea lamprey, brook lamprey, river lamprey and bullhead.

Johnstown Newt Sites (Wrexham)

5.5 The ecological survey corridor crosses the edge of this site, although the proposed route does not. The SAC designation has been applied to the SSSI known as Stryt Las A'r Hafod (see below), but under a different name. The reason for site selection is for presence of the protected species great crested newt. The area boundaries of the SAC and SSSI are the same.

5.6 There are five SSSI's within the desktop survey area. These are:

- Afon Dyfrdwy (River Dee)
- River Dee (England)
- Stryt Las A'r Hafod (Wrexham)
- Nant-y-Belan and Prynella Woods (Wrexham)
- Fernhill Pastures (Shropshire)

Afon Dyfrdwy (River Dee, Wales) and River Dee (England)

5.7 These two adjoining sites are of special interest for fluvial geomorphology, Carboniferous geology, range of river habitat types, saltmarsh transition habitats, populations of floating water plantain, slender hare's ear, sea barley, hard-grass, otter, salmon, bullhead, brook lamprey, river lamprey, sea lamprey, club-tailed dragonfly and other aquatic invertebrates.

5.8 The main channel of the River Dee lies within both Wales and England, and is notified as two separate SSSIs – the Afon Dyfrdwy (River Dee) SSSI in Wales and the River Dee (England) SSSI in England. The features for which the SSSIs are notified, in particular migratory fish, depend upon the whole river ecosystem. Salmon, otter, club-tailed dragonfly and fluvial geomorphology are of special interest in both Wales and England.

- 5.9 The designation includes the channel of the River Ceiriog. The proposed route corridor crosses the River Dee and the River Ceiriog.

Stryt Las A'r Hafod

- 5.10 The proposed route corridor crosses this site, although the proposed route does not. This is a composite site (total area 69.4 ha) located south west of Wrexham, of special interest for its amphibians. The waterbodies of the SSSI support one of the largest known breeding populations of great crested newt in Great Britain. Surrounding areas of land support a mosaic of scrub and planted trees, grassland, and tall ruderal vegetation. These form important foraging and over-wintering areas for adult and juvenile amphibians. Stryt Las is managed as a community nature park and land at Hafod is to be managed as community woodland.

Nant-y-Belan and Prynella Woods

- 5.11 The proposed route corridor crosses this site, although the proposed route does not. The largest (35.5 ha) and one of the best examples of a woodland type largely restricted to Wales and south-west England. The part of the Dee valley in which these woods lie is generally well wooded, but most of the woodland has been affected by large scale replanting with conifers and non-native hardwoods. Nant-y-Belan and Prynella Woods thus represent a significant area of largely semi-natural woodland which occupies the northern slopes of the Dee valley and extends up tributary valleys. The woods are very variable, the majority of the area being dominated by oak, ash, Wych elm and wild cherry. Lack of grazing has resulted in a well developed understorey with hazel the dominant shrub. The herb layer is equally variable, and there are extensive flush areas within the woods. The uncommon Wild Daffodil occurs in parts of Nant-y-Belan Wood.

Fernhill Pastures

- 5.12 The proposed route corridor does not cross this site. A series of traditionally managed fen-meadows situated on gently sloping ground alongside the River Perry in north west Shropshire, comprising a total of 11.8 hectares. Parts of the site support a type of fen-meadow which is characterised by an abundance of the rushes *Juncus effusus* and *J. acutiflorus*, whereas other areas are dominated by meadowsweet or by lesser pond-sedge. There has been widespread loss of unimproved wet grassland and fen meadow habitats in lowland Shropshire as a result of drainage and associated agricultural improvements. Fernhill Pastures is of special interest as the largest remaining example of these types of habitats which are now scarce in Shropshire.
- 5.13 Ifton Meadows Local Nature Reserve lies just outside the desktop survey area. The Old Racecourse at Oswestry (SJ 2573060) is effectively treated as a Local Nature Reserve for management purposes (English Nature 22/05/03). Neither site is crossed by the proposed route corridor.

Locally Designated Sites

County Wildlife Sites/Local Wildlife Sites

- 5.14 There are ten locally designated wildlife sites within the desktop survey area, seven within Wrexham and three within Shropshire. These are, from north to south:

- Legacy Substation (SJ 294484)
- Crematorium (SJ 299479)
- Erddig Estate (SJ 319470)
- Caldecott's Wood (SJ 336438)
- Nanterral Wood (SJ 334426)
- Moor Wood (SJ 324407)
- Bola's Dingle (SJ 311390)
- Flannog Wood (SJ324399)
- Fernhill (non SSSI) pastures (NGR 323327)
- Old Oswestry (NGR SJ259310)

5.15 The proposed route traverses two narrow protrusions of Moor Wood but does not cross any other locally designated sites.

Ancient Semi-Natural Woodlands

5.16 In England and Wales, ancient woodlands are defined as land continuously wooded since AD 1600. Ancient Woodland is divided into ancient semi-natural woodland (ASNW) and plantations on ancient woodland sites. ASNW is considered by the Joint Nature Conservation Committee to be a valuable and irreplaceable natural resource. The identification of an area of woodland as being of ancient or semi-natural origin does not carry any statutory force.

5.17 Information regarding ASNW has been received from English Nature (for Shropshire), CCW (Clwyd Inventory of Ancient Woodlands) and from Forestry Commission Wales. Most of this woodland type, together with plantations on ancient woodland sites, is found in the vicinity of the River Dee and River Ceiriog valleys.

5.18 The proposed route corridor would impinge upon one area of ASNW, namely Bramble Wood, on the eastern valley slope of the River Ceiriog.

Habitats of conservation concern

5.19 The following UKBAP priority habitats are present within the desktop survey area:

- Arable field margins
- Hedgerows
- Lowland meadows
- Lowland mixed deciduous woodland
- Ponds
- Reedbeds
- Rivers

Protected species and WBAP/SBAP birds

5.20 The UK Biodiversity Action Plan (UKBAP), Wrexham BAP (WBAP) and Shropshire BAP (SBAP) include extensive lists of flora and fauna which may potentially be present within the area. However, the majority of these species would be unaffected by either the construction or operation of the proposed overhead line. Table 2 below identifies those species with statutory protection and bird species that are listed on the WBAP or SBAP, which are potentially present within the desk-top survey corridor (1km width).

The Red/Amber List status of bird species is also provided. Desktop records are presented at Appendices B.

Table 2: Protected species and bird species listed on the WBAP and SBAP

Species	UK BAP	SBAP	WBAP	Conservation List (Birds only)	Statutory Protection
Badger <i>Meles meles</i>	x	x	✓	n/a	Protection of Badgers Act 1992
Barn owl <i>Tyto alba</i>	x	x	✓	Amber	Appendix II of the Bern Convention; Full protection, Schedule 1, <i>Wildlife and Countryside Act, 1981</i>
Brown Hare <i>Lepus europaeus</i>	✓	✓	x	n/a	Appendix III Bern Convention
Common Bulfinch <i>Pyrrhula pyrrhula</i>	✓	x	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Common Linnet <i>Carduelis cannabina</i>	✓	✓	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Common pipistrelle bat <i>Pipistrellus pipistrellus</i>	x	✓	x	n/a	Full protection, Schedule 5 & 6 <i>Wildlife and Countryside Act 1981</i> Schedule 2, <i>Conservation (Natural Habitats & c.) Regulations 1994</i>
Common Starling <i>Sturnus vulgaris</i>	✓	x	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Corn bunting <i>Miliaria calandra</i>	✓	x	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Dormouse <i>Muscardinus arvellanarius</i>	✓	✓	x	n/a	Full protection, Schedule 5 & 6 <i>Wildlife and Countryside Act 1981</i> Schedule 2, <i>Conservation (Natural Habitats & c.) Regulations 1994</i>
Eurasian Curlew <i>Numenius arquata</i>	x	✓	x	Amber	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Eurasian Tree sparrow <i>Passer montanus</i>	✓	✓	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
European Turtle dove <i>Streptopelia turtur</i>	x	✓	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Fieldfare <i>Turdus pilaris</i>	✓	x	x	Red	<i>Schedule 1 of the Wildlife and Countryside Act 1981 (but rarely nests in UK)</i>
Great crested newt <i>Triturus cristatus</i>	✓	✓	✓	n/a	Annexes II and IV of the EC Habitats Directive; Appendix II of the Bern Convention; Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> .
Grey partridge <i>Perdix perdix</i>	✓	x	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
House Sparrow <i>Passer domesticus</i>	✓	x	x	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Lesser horseshoe bat <i>Rhinolophus hipposideros</i>	✓	✓	✓	n/a	Full protection, Schedule 5 & 6 <i>Wildlife and Countryside Act 1981</i> Schedule 2, <i>Conservation (Natural Habitats & c.) Regulations 1994</i>

Species	UK BAP	SBAP	WBAP	Conservation List (Birds only)	Statutory Protection
Marsh tit <i>Poecile palustris</i>	✓	✗	✗	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Northern Lapwing <i>Vanellus vanellus</i>	✗	✓	✗	Amber	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Otter <i>Lutra lutra</i>	✓	✓	✓	n/a	Schedule 5 & 6 of the <i>Wildlife and Countryside Act 1981</i> ; Annexes II and IV of the EC Habitats Directive; Appendix II of the Bern Convention
Redwing	✗	✗	✗	Red	<i>Schedule 1 of the Wildlife and Countryside Act 1981 (but rarely nests in UK)</i>
Reed bunting <i>Emberiza schoeniclus</i>	✓	✓	✗	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Ring ouzel <i>Turdus torquatus</i>	✓	✓	✗	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Sky lark <i>Alauda arvensis</i>	✓	✓	✗	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Song thrush <i>Turdus philomelos</i>	✓	✓	✓	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Water vole <i>Arvicola terrestris</i>	✓	✓	✗	n/a	Full protection, Schedule 5 & 6 <i>Wildlife and Countryside Act 1981</i>
Willow tit <i>Poecile montanus</i>	✓	✓	✗	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>
Yellowhammer <i>Emberiza citrinella</i>	✓	✓	✗	Red	Protected at the nest, <i>Wildlife and Countryside Act 1981</i>

Key to table

UKBAP = UK Biodiversity Action Plan

SBAP = Shropshire Biodiversity Action Plan

WBAP = Wrexham Biodiversity Action Plan

RED = Red List of conservation concern (at high risk) set out for 2002–2007 in Gregory et al (2002)

AMBER = amber list of conservation concern (at moderate risk) set out for 2002–2007 in Gregory et al (2002)

Note re: Dormouse

5.21 This protected species favours deciduous woodlands with a diverse range of tree species. They are also found in hedgerows that contain a diverse range of fruiting and flowering shrubs.

5.22 Although no records for this species were obtained, the dormouse is potentially present within the survey area due to the presence of suitable habitat; however, construction of the proposed overhead line will not result in fragmentation of woodland or loss of hedgerows. Access to the route during construction will make use of existing tracks and field entrances. It was therefore not considered appropriate to undertake a specific dormouse survey.

Amphibians (great crested newt)

5.23 There are extensive records of great crested newt near to the northern end of the proposed route, mainly associated with Johnstown Newt Sites SAC (Stryt Las A'r

Hafod SSSI). Only seven records of great crested newt were obtained for the Shropshire (southern) section of the survey area, and these records are associated with ponds to the south of Oswestry Substation (more than 150m from the underground route section approaching Oswestry Substation) or with Old Oswestry County Wildlife Site (also more than 150m from the underground route section).

Badger

- 5.24 Information on badger records is available in Environmental Statement 2012 Confidential Appendix 15D.

Bats

- 5.25 The desktop survey revealed records of bats within 500m of the proposed overhead line, including common pipistrelle, noctule, whiskered and brown long-eared species. Nearly all the records were of bats in flight or were records of presence/absence only. A common pipistrelle bat roost was identified within the Johnstown Newts Site SAC in 2004 within the survey area.

Birds

- 5.26 Only limited records were obtained for waders, wildfowl, raptors, large water birds and birds of conservation concern within 500m of the proposed route. For detailed assessment of bird records see TEP doc. Ref 700.282 Ornithology Assessment.

Otter

- 5.27 Information on otter records is available in Environmental Statement 2012 Confidential Appendix 15D.

Water vole

- 5.28 Water vole records were fairly sparse within the survey area, being limited to two records in the area near to the Shropshire Union Canal in the south of the site and two records near to the Johnstown Newt Sites SAC in the north. One of the former and two of the latter records are more than ten years old.

Biodiversity Context

- 5.29 Natural England has sub-divided England into Natural Areas, each of which has a characteristic association of wildlife and natural features. These areas are biogeographic zones which provide a framework for setting objectives for nature conservation. The route corridor passes through both the *Meres and Mosses* Natural Area, and the *Oswestry Uplands* Natural Area. These are described by Natural England as follows:

Meres and Mosses

The Meres and Mosses form one of the most important wetland areas in England. They extend from Shrewsbury in the south to the Knutsford area in the north, as far east as central Staffordshire and as far west as the Wrexham area in the lowland fringe of north Wales. The landscape in which they occur is a gently undulating plain broken by sandstone ridges.

The area is mainly rural and agricultural; Cheshire in particular is important for dairy farming. The presence of tracts of peat and expanses of water in this landscape seems surprising, but can be accounted for by the influence of the last Ice Age, which ended about 10,000 years ago. An important feature of the Meres and Mosses Natural Area is the presence of a large range of different wetland habitats, including open water, swamp, fen, alder carr, marshy grassland and peat bog. The Natural Area is peppered with small peat and open water wetlands that are of international conservation importance.

Oswestry Uplands

The Oswestry Uplands is one of the smallest Natural Areas and has much greater affinities with areas in Wales than other parts of Shropshire.

The character of the Oswestry Uplands Natural Area lies in the undulating landscape of Carboniferous Limestone hills with calcareous grasslands and occasional rocky outcrops together with steep wooded valleys with marsh and fen habitats on the valley floor. This complex of habitats has resulted in a diverse assemblage of rare and uncommon flora and fauna. Changes in land management practice, however, have caused some decline in the nature conservation interest within the Natural Area.'

PHASE 1 HABITAT SURVEY

- 5.30 The Phase 1 Habitat Survey is illustrated at Figures 15.2-15.17. Target notes are presented at Appendix C.
- 5.31 The following habitats are present within the Phase 1 Habitat survey area:
- Scattered trees
 - Semi-natural broadleaved woodland
 - Mixed and broadleaved plantation woodland
 - Dense/continuous scrub
 - Improved grassland
 - Semi-improved grassland
 - Arable land
 - Modified neutral grassland
 - Amenity grassland
 - Marshy grassland
 - Tall ruderal herb
 - Species-rich hedgerow
 - Species-poor hedgerow
 - Species-rich hedgerow with trees
 - Species-poor hedgerow with trees
 - Defunct species rich hedgerow
 - Defunct species-poor hedgerow

- Standing water
- Running water
- Swamp
- Wet ditch
- Dry ditch

5.32 Brief descriptions of the key species and relative importance of the habitats are set out below.

Scattered trees

5.33 There are various groups of scattered trees throughout the Phase 1 habitat survey area. These are mainly native broadleaved species located surrounding features such as ponds, and along field boundaries.

Semi-natural broad-leaved woodland

5.34 There are ten areas of semi-natural broad-leaved woodland within the Phase 1 habitat survey area, most of which are located within the central part of the route to the east of Chirk around the River Dee, and consist of species such as crack willow (*Salix fragilis*), hazel (*Corylus avellana*), English oak (*Quercus robur*), ash (*Fraxinus excelsior*), and alder (*Alnus glutinosa*). Semi-natural broadleaved woodland is both a UKBAP priority habitat, and a Shropshire BAP habitat. Woodland is a Wrexham BAP habitat.

Mixed and Broad-leaved plantation woodland

5.35 There are a number of blocks of broad-leaved plantation within the Phase 1 habitat survey area, which mainly consist of species such as English oak, alder, ash, sycamore (*Acer pseudoplatanus*) and hazel.

Dense/continuous scrub

5.36 There are occasional areas of dense/continuous scrub within the Phase 1 habitat survey area, consisting of hawthorn (*Crataegus monogyna*) or elder (*Sambucus nigra*).

Improved grassland

5.37 The majority of the habitat within the Phase 1 habitat survey area consists of improved grassland. These areas are generally grazed, in most cases by cattle, and have a raised nutrient content either through the application of inorganic fertilisers or slurry, or through high doses of manure. These areas are generally species poor, with species typical of high nutrient areas present including rye-grass (*Lolium perenne*), white clover (*Trifolium repens*), nettle (*Urtica dioica*), broad-leaved dock (*Rumex obtusifolium*) and creeping thistle (*Cirsium arvense*).

Semi-improved grassland

5.38 Although less extensive than the improved grassland, there are also areas of less nutrient enriched, semi-improved grassland throughout the Phase 1 habitat survey area. Although still species poor, these areas tend to contain more species than improved grassland, with species such as creeping buttercup, Yorkshire fog (*Holcus lanatus*), creeping bent (*Agrostis stolonifera*), and various rush (*Juncus*) species. There are occasional areas of more species-rich semi-improved grassland, within the survey area such as the area south of the River Dee at Halton wood with greater frequency of dicotyledonous herbs such as pignut (*Conopodium*

majus), bird's-foot trefoil (*Lotus corniculatus*) and wood dog-violet (*Viola riviniana*) within the sward.

Arable Land

- 5.39 Although less extensive than grassland fields, arable fields used to grow cereal and vegetable crops comprise a significant proportion of the land within the Phase 1 habitat survey area.

Modified neutral grassland

- 5.40 A small area of species-poor modified neutral grassland is recorded within the Phase 1 habitat survey area, associated with building surrounds. Modified neutral grassland naturally regenerates on disturbed ground and is unmanaged, rather than originating from agricultural grassland.

Amenity grassland

- 5.41 There are two areas of amenity grassland at the northern end of the Phase 1 habitat survey area. These areas are adjacent to buildings, and are intensively managed through regular mowing. These areas have been seeded with a limited number of species such as rye-grass and annual meadow-grass (*Poa annua*). There is a further strip of amenity grassland adjacent to the main road edge at the southern end of the Phase 1 habitat survey area.

Marshy grassland

- 5.42 There are occasional small areas of marshy grassland within the Phase 1 habitat survey area. These areas contain species such as soft rush (*Juncus effusus*), creeping bent, branched bur-reed (*Sparganium erectum*), marsh foxtail (*Alopecurus geniculatus*) and floating sweet-grass (*Glyceria fluitans*).

Tall ruderal herb

- 5.43 Many of the hedgerows bordering the fields have a thin strip of tall ruderal vegetation along their length. These areas typically consist of species such as nettle, hogweed (*Hieraceum umbellatum*), cleavers (*Galium aparine*), and broad-leaved willowherb (*Epilobium hirsutum*). A large area of damp tall ruderal vegetation has colonised an area of cleared woodland plantation, south of the River Ceiriog, dominated by giant horsetail (*Equisetum telmateia*).

Hedgerows

- 5.44 In excess of 100 hedgerows were identified within the Phase 1 habitat survey area of which approximately half were species-rich. The majority of species-poor hedgerows consisted of hawthorn, blackthorn (*Prunus spinosa*) and elder. Species-rich hedgerows included a variety of other species such as ash, holly (*Ilex aquifolium*), dog rose (*Rosa canina*), field maple (*Acer campestre*), guelder rose (*Viburnum opulus*) and hazel. Hedgerows are both a UKBAP priority habitat and a Shropshire BAP habitat.
- 5.45 A number of species-rich hedgerows within the Phase 1 habitat survey area contained seven or more woody species, classifying them as 'Important' under the *Hedgerow Regulations 1997* (see Appendix A), granting them protection against unauthorised removal.

Standing Water, Swamp, Ditches

- 5.46 There are 58 ponds that have been identified for the amphibian survey. Of these, 10 are within the Phase 1 survey area. Descriptions of ponds are provided in Appendix D, a photographic record is presented at Appendix E and a HSI assessment is presented at Appendix F. Ponds are a UKBAP priority habitat.
- 5.47 The Phase 1 survey area also crosses a linear body of standing water, the Shropshire Union Canal, at one location. Standing open water is a UKBAP broad habitat and a Shropshire BAP habitat (this covers canals, meres, pools and ponds). The Wrexham BAP includes the action plans 'Pond' and 'River, stream and canal'.
- 5.48 Swamp habitat was recorded as the marginal habitat to many ponds. The botanically diverse habitat provides habitat for a wide range of associated invertebrates, amphibians and small mammals.
- 5.49 Numerous ditches are crossed by the proposed route, with wet ditches providing opportunities for diverse native flora and potentially supporting water vole; however low rainfall in 2011 had left the majority of ditches dry at the time of survey.

Running Water

- 5.50 The Phase 1 habitat survey area crosses three rivers - the Ceiriog, the Dee, and the Perry. The habitat 'Rivers and streams' is a Shropshire BAP habitat. Rivers are a UKBAP habitat.

River Ceiriog

- 5.51 The banks of the River Ceiriog are vegetated with a number of herb and fern species. The banks also support areas of scrub and scattered trees of alder, elm and willow, and several patches of Japanese knotweed (*Fallopia japonica*). There is an area of sandy cliffs on the south bank of the Ceiriog, providing suitable nesting habitat for kingfishers.

River Dee

- 5.52 The banks of the River Dee support thin strips of woodland for the sections within the Phase 1 habitat survey area. The woodland areas adjacent to the south bank of the River Dee were found to contain a number of ancient woodland indicator species such as ramsons (*Allium ursinum*), wood sorrel (*Oxalis acetosella*), opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*), great woodrush (*Luzula sylvatica*), and wild daffodil (*Narcissus pseudonarcissus*). The banks also contain patches of Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*).

River Perry

- 5.53 The River Perry is bordered by an area of marshy grassland to the north, and by mixed conifer and broadleaved plantation to the south.

Wildlife Corridors

- 5.54 Hedgerows are likely to act as wildlife corridors, linking populations of species within the farmland landscape. Hedgerows which are intact are more valuable as wildlife corridors. The various rivers, the canal and associated strips of bankside vegetation are also likely to act as wildlife corridors.

AMPHIBIAN SURVEY

- 5.55 A total of 54 ponds were surveyed in 2011. Access to survey four ponds (P47, P48, P49 and SAC2) at the appropriate time for egg searching (March to June inclusive) was not obtained in 2011; these ponds were surveyed in May 2012.
- 5.56 Numbered pond locations are shown on Figures 15.2-15.17 and Figure 15.19, with descriptions of ponds being provided at Appendix D, a photographic record of the ponds at Appendix E and a Habitat Suitability Index (HSI) assessment for each pond surveyed by TEP in 2011 presented at Appendix F. The pond numbering system from TEP surveys 2006-2008 has been retained to avoid confusion with previous records, so no survey information is presented for ponds P37-46 inclusive and pond P50 as these were not within the current survey area.
- 5.57 During the 2011/2012 field surveys, great crested newt eggs were recorded within four of the ponds within the amphibian survey corridor, confirming breeding in these ponds. Three of these ponds (P8, P16 and P18) are located northeast of Ruabon in the northern half of the survey area, while pond P48 is located near to the southern end of the above ground section of the overhead line near to Park Hall Farm. Great crested newt eggs were also identified in pond SAC2 in the wider survey area associated with Johnstown Newts Site SAC.
- 5.58 Additionally, full pond surveys conducted by Jane Walsh Ltd on behalf of SP Energy Networks Ltd identified a medium sized population (as defined by English Nature, 2001) of great crested newts at Ponds D and E, which are near to or within the grounds of Oswestry substation.
- 5.59 Previous surveys undertaken between 2006 and 2008 by TEP revealed great crested newt eggs in ponds SAC1, P10, P13 and P16. During 2011, P13 was found to be dry. Of the other three ponds previously found to contain great crested newt eggs, only P16 contained them in 2011.
- 5.60 The Habitat Suitability Index assessment found that five ponds (P8, P16, P18, P49 and SAC2) were 'Excellent', nine ponds (P20, P25, P26, P47, P48, P56, P58, A, SAC1) were 'Good', nine ponds were 'Average', six ponds were 'Below Average', two ponds were 'Poor' and twenty-five ponds were dry at the time of survey. No HSI was undertaken for ponds D and E (surveyed by Jane Walsh Ltd).
- 5.61 Although the TEP amphibian survey focused on the presence/absence of breeding great crested newts, the ponds throughout the survey area would also provide valuable habitat for other species of native amphibian, including the common toad (*Bufo bufo*), which is a UKBAP priority species.

BADGER SURVEY

- 5.62 Badger evidence was identified within the survey area. For detailed results refer to Environmental Statement 2012 Confidential Appendix 15D.

BAT SURVEY AND VETERAN TREE SURVEY

- 5.63 Trees potentially affected by the proposed route with high or medium potential to support bat roosts are indicated on Figures 15.2-15.17. Only two trees were found to have high potential for use by roosting bats, one being just south of pond P23 to the southeast of Ruabon and one being just south of pond P57 to the southeast of St Martin's. A further 11 trees potentially affected by the proposed route were found to have medium potential for use by roosting bats.
- 5.64 8 tree groups potentially affected by the proposed route were assessed as containing trees with high or medium potential to support bat roosts and these are indicated on Figures 15.2-15.17. Of these, only two groups were assessed as containing trees with high potential for use by roosting bats – one of which was woodland surrounding pond P28 to the southeast of Ruabon and the other was within woodland at Moor Wood County Wildlife Site to the east of Rhosymadoc.
- 5.65 Two veteran trees were recorded within the survey area in 2011 and will be affected by the proposed route. One is located to the south east of St Martin's and one is located 125m south of the River Ceiriog.

OTTER SURVEY

- 5.66 Otter evidence was identified within the survey area. For detailed results refer to Environmental Statement 2012 Confidential Appendix 15D.

WATER VOLE SURVEY

- 5.67 During the 2006 and 2007 water vole surveys, evidence of water vole was recorded on the River Ceiriog, the River Dee, the River Perry and on a ditch south of the Shropshire Union Canal.
- 5.68 During the 2011 water vole survey many of the burrows previously identified were found to be old, broken down and disused. This is likely to be due to the exceptionally dry conditions. Many of the smaller streams and ditches surveyed were dry, making them unfavourable habitat for water vole.
- 5.69 Two active water vole burrows were identified within the survey area along the banks of the River Dee in 2011, however no other evidence such as latrines or feeding remains was identified.
- 5.70 During the 2011 survey an active water vole burrow was identified within the survey area on the River Perry. No other water vole evidence was found at this location.
- 5.71 No evidence of water vole was identified on the River Ceiriog in 2011.

OTHER OBSERVATIONS

Non-native Invasive Plants

- 5.72 Japanese knotweed, Himalayan balsam and Australian swamp stonecrop have been identified during field surveys. These species are classed as non-native invasive plants under the Wildlife and Countryside Act 1981 (as amended). Any waste containing these plants is classed as controlled waste under the Environmental Protection Act (Duty Of Care) Regulations 1991, which requires all producers, carriers and disposers of waste to follow a code of practice and keep records. Under provisions made within the *Wildlife and Countryside Act 1981 as amended* it is an offence to spread these species.

Japanese knotweed

- 5.73 Small stands (up to 100m²) of this plant were recorded during the Phase 1 habitat survey of 2011 in numerous locations along the banks of both the Dee and the Ceiriog, where the proposed route crosses these rivers (see Figures 15.8 and 15.9). Japanese knotweed is present within the 80m siting corridor for the wood poles of the overhead line on the south bank of the River Dee and the south bank of the River Ceiriog.
- 5.74 There are two small stands of Japanese knotweed on two ditches that flow east into Moor Wood (Figure 15.7). These stands are just outside of the 80m siting corridor for the wood poles of the overhead line, but underground rhizomes may be within the siting corridor.
- 5.75 There is a small stand of Japanese knotweed (less than 100m²) on the eastern edge of Johnstown Newt Sites SAC.

Himalayan balsam

- 5.76 Extensive stands of Himalayan balsam are present along the banks on the River Dee and the River Ceiriog. This plant is present within the 80m siting corridor for wood poles at both of these locations.

Australian swamp stonecrop

- 5.77 Australian swamp stonecrop was identified southwest of Gyfelia in the vicinity of pond P9, Target Note 1, Figure 15.4), although P9 was found to be dry in 2011. Pond P9 is within the 80m siting corridor.

6.0 CONCLUSIONS AND RECOMMENDATIONS

- 6.1 Desktop studies, Phase 1 Habitat survey and protected species surveys were undertaken in 2011. Designated sites of nature conservation value within 500m of the proposed route are indicated in Figure 15.1. The results of Phase 1 habitat survey and protected species surveys are illustrated in Figures 15.2-15.17. Ponds within 150m of underground sections of the route are shown on Figures 15.20 and 15.21. Ponds within 500m of Johnstown Newt Sites SAC are shown on Figure 15.18.

INTERNATIONALLY AND NATIONALLY DESIGNATED SITES

- 6.2 The River Dee and Bala Lake SAC and Johnstown Newt Sites SAC are the only SACs within the desktop survey area. The proposed route would cross the River Dee SAC in two places (Rivers Dee and Ceiriog). The proposed route corridor also impinges upon Johnstown Newt Sites SAC, although the Revision 7 Route alignment would avoid this designated area.
- 6.3 There are five SSSIs within the desktop survey area. These are the River Dee SSSI and its Welsh equivalent, Afon Dyfrdwy SSSI, Nant-Y-Belan and Prynella Woods SSSI, Stryt Las a'r Hafod SSSI and Fernhill Pastures SSSI. The River Dee/Afon Dyfrdwy SSSIs would be crossed in two locations. The boundary of Stryt Las a'r Hafod SSSI follows that of Johnstown Newt Sites SAC in the vicinity of the route corridor, and so would be similarly affected. Nant-y-Belan and Prynella Woods SSSI would be crossed by the proposed route corridor, but not by the proposed route
- 6.4 The following measures are recommended for works affecting SACs/SSSIs:
- No wooden poles, apparatus or access tracks should be located within an SAC/SSSI boundary
 - Detailed method statements will be required for line installation works adjacent to SAC/SSSI sites. These are to be produced in consultation with the Countryside Council for Wales/Natural England and must demonstrate that all reasonable impact avoidance measures are to be taken during construction works.
 - Licences and/or reasonable avoidance measures may be needed in respect of European protected species associated with the SAC/SSSI
- 6.5 If the above precautions and procedures are followed then there will be no adverse effect on the integrity of SAC/SSSI sites. Appropriate Assessment scoping, involving formal consultation with Countryside Council for Wales/Natural England, was undertaken in 2009 in respect of both the River Dee and Bala Lake SAC and Johnstown Newt Sites SAC. The conclusion of the scoping procedure was an Appropriate Assessment was not required in respect of either SAC.

LOCALLY DESIGNATED SITES

- 6.6 There are 10 locally designated sites within the desktop survey area. The proposed route corridor and proposed route cross Moor Wood County Wildlife Site in two locations.
- 6.7 The proposed route corridor would impinge upon one area of ancient semi-natural woodland, namely Bramble Wood, on the eastern valley slope of the River Ceiriog. In this vicinity the route corridor occupies a gap in the woodland, created during installation of a gas pipeline.
- 6.8 Detailed method statements should be produced to ensure that Bramble Wood ancient woodland and Moor Wood County Wildlife Site are not damaged during construction works.

PROTECTED HABITATS AND PRIORITY SPECIES

- 6.9 There are a number of hedgerows within the Phase 1 Habitat survey corridor that are classed as important under the Hedgerow Regulations 1997, due to the large number of woody species they contain (7 or more).
- 6.10 There are no other protected habitats within the survey corridor, and no protected plants were found.
- 6.11 The following UKBAP priority habitats are found within the Phase 1 Habitat survey corridor:
- Arable field margins (also Shropshire BAP)
 - Hedgerows (also Shropshire BAP)
 - Lowland meadows
 - Lowland mixed deciduous woodland (also Shropshire BAP; 'Woodland' is a Wrexham BAP habitat)
 - Ponds ('Standing open water' is a Shropshire BAP habitat; 'Pond' is a Wrexham BAP habitat)
 - Rivers ('Rivers and Streams' is a Shropshire BAP habitat; 'River, stream and canal' is a Wrexham BAP habitat)
- 6.12 Small areas of arable field margins, hedgerows, lowland meadows and lowland mixed deciduous woodland are likely to be lost due to the siting of poles for the overhead line, although the area of permanent loss will be minimal. Access routes and working areas should be designed to minimise disturbance to these habitats.
- 6.13 Where the overhead line route results in the cumulative loss of tall hedgerows or other woodland cover, consideration should be given to the creation of new UKBAP lowland mixed deciduous woodland habitat to offset this loss. This would be at locations to be agreed with the local planning authority and landowners.
- 6.14 No works should result in the loss of any pond or river habitat. River habitat is taken to include the bank habitat up to 8m from the banktop.
- 6.15 Where works are required within 50m of a pond or within 8m of a river bank, a detailed method statement will be required to minimise the impact on these features.

AMPHIBIANS

- 6.16 Great crested newt eggs were recorded in five of the ponds within the survey area, confirming this species as breeding in ponds P8, P16, P18, P48 and SAC2. Survey also confirmed that a 'medium' sized population (English Nature, 2001) as present at Ponds D and E in 2011. As access was not gained during the peak survey period of mid-April to mid-May, this could account for the lack of positive egg searches in ponds SAC1, P10 and P16 which contained great crested newt eggs in previous surveys. The timing of the survey work could also account for the increased occurrence of dry ponds in 2011 as compared with previous years, although the lack of rainfall in the spring and early summer would also have contributed to this finding.

6.17 The following recommendations are made with reference to the proposed development activities:

- Where possible, development activity should aim to be at least 50m from any great crested newt pond
- For works within 150m of a great crested newt pond (where no barriers to newt migration such as major roads or canals are present), a licence from Natural England/ Welsh Assembly Government should be obtained (the designing of detailed method statements for licence applications will require further site visits).
- Licensed works could include the use of newt fencing to exclude great crested newts and other amphibians from areas that will be subject to line installation works.

6.18 If the above precautions and procedures are followed there should be no adverse effect on great crested newts or other amphibian populations as a result of the development.

BADGERS

6.19 Detailed results of the badger survey are presented in the 2012 Environmental Statement Confidential Appendix 15D.

6.20 A licence is required from Natural England (England) or CCW (Wales) for works using machinery or involving excavations near to an active sett. There is no specified distance from a badger sett within which a licence is required. A site specific assessment by a suitably qualified person is required in order to determine whether a licence is required. Licences are only granted to cover works between July and November inclusive. This is to avoid disturbance to badgers during the breeding season.

6.21 Badgers are highly mobile and sett location can vary from year to year. New setts can also be established anywhere within the range of a badger clan, which can cover several square kilometres. An inspection of the final overhead line route and access corridor, plus a 30m additional buffer either side, is therefore recommended prior to access track construction and pole installation.

BATS AND VETERAN TREES

6.22 There are no buildings that will be affected by the proposed works.

6.23 Hedgerows and other linear habitats are known to provide strong foraging and commuting corridors for bats. It is likely that these features within the survey area will be used in this way by bats. The rivers and canal may provide foraging areas for species such as pipistrelle (*Pipistrellus pipistrellus*) and daubenton's (*Myotis daubentonii*) bats. There is a diverse range of foraging habitats for bats within the Phase 1 habitat survey area.

- 6.24 There are only two trees potentially affected by the proposed route that have high potential for use by roosting bats. There are 11 trees with medium potential for use by roosting bats that are potentially affected by the proposed route.
- 6.25 There are 2 groups of trees identified as having high potential for use by roosting bats and 7 groups with medium potential for use by roosting bats that are potentially affected by the proposed route.
- 6.26 All species of UK bat and their roosts are statutorily protected under UK and European legislation. The protection of bat roosts includes periods when the bats may not be physically present. There are therefore implications for the construction of an overhead line in this area. Any trees to be removed should be checked by a licensed bat ecologist immediately prior to removal or surgery. If any trees have bat roosts, a Natural England/Welsh Assembly Government licence will be needed to undertake the necessary lopping/felling.
- 6.27 The two veteran trees identified within the 2011 tree survey area both have high potential for roosting bats. Based on the proposed route, it will be necessary to fell the veteran tree that is south east of St Martins and prune the veteran tree that is just south of the River Ceiriog. Further bat survey work will be needed prior to the works and a Natural England bat licence for development works may be required. A best practice method statement will be prepared, which may form part of a bat licence application.

OTTER

- 6.28 Detailed results of the otter survey are presented in the 2012 Environmental Statement Confidential Appendix 15D.
- 6.29 In England, Scotland and Wales, European otters are protected under the *Habitats Regulations* and the *Wildlife and Countryside Act 1981* and listed in Schedules 5 and 6. These pieces of legislation make it an offence to intentionally damage, destroy or obstruct access to or disturb any otter shelter or animal while occupying such shelter.
- 6.30 As the otter is a European protected species, a licence from Natural England/Welsh Assembly Government would be needed in order to disturb otters or their habitat.
- 6.31 It is recommended that disturbance to river habitats is avoided or minimised during construction. Protocol should ensure that rivers remains unpolluted during construction, and this should also apply to adjoining ditches, which are likely to be used as foraging habitat by otters.
- 6.32 If it is possible to put measures in place during the line installation process to ensure that the river and bank habitats are not disturbed during works, ie that reasonable avoidance measures are put in place, then a licence will not be required.

WATER VOLES

- 6.33 The water vole receives full protection under the *Wildlife and Countryside Act, 1981 as amended*.
- 6.34 Evidence of water voles, in the form of active burrows, was identified on the River Dee and River Perry in 2011.
- 6.35 It is recommended that the distance between any proposed structures and river banktops should be greater than 8m. Woodland and other vegetation adjacent to these rivers should be retained where possible as this provides cover and food for these and other species.
- 6.36 Where an 8m standoff from banktops is unachievable a method statement designed to minimise impacts on protected species will need to be agreed with the Environment Agency, Natural England and CCW.

OTHER ISSUES

- 6.37 Non-native invasive plants, which require either strict on-site management or disposal off-site as a controlled waste, were recorded during the Phase 1 habitat survey. Japanese knotweed, Himalayan balsam and Australian swamp stonecrop are present within the survey area. There are therefore potential implications for overhead line construction with regard to these non-native invasive plants.
- 6.38 A method statement will be required to cover the management on non-native invasive plants during construction works.
- 6.39 For details of the findings of the ornithological survey please refer to document TEP ref. 700.282.

7.0 REFERENCES AND BIBLIOGRAPHY

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APPENDIX A: Ecological planning and legislative context

APPENDIX A: ECOLOGICAL PLANNING AND LEGISLATIVE CONTEXT

A1.0 GENERAL

- A1.1 This is a brief summary of the ecological planning and legislative context generally applying to England. It is not a comprehensive view and does not purport to advise in relation to any specific site, species or habitat. Specific advice is provided by TEP in the main body of the report.
- A1.2 Sites, species or habitats may be protected or highlighted by six broad categories of instrument:
- Statutory Instruments
 - National Planning Policy Guidance/Statements
 - Development Plans
 - The UK Biodiversity Action Plan
 - Local Biodiversity Action Plans, locally adopted Wildlife Strategies and the Natural Area profile for the area
 - Other lists of species of conservation concern

A2.0 STATUTORY INSTRUMENTS

- A2.1 Statutory protection is afforded to wildlife sites and to particular species by EU Directives, various international conventions to which the UK is signatory and various Acts and Regulations of Parliament, principally the ***Wildlife and Countryside Act, 1981 (as amended) (WCA)***.
- A2.2 ***The Conservation of Habitats and Species Regulations 2010*** consolidate all the various amendments made to the ***Conservation (Natural Habitats, &c.) Regulations 1994*** in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations came into force on 30 October 1994.
- A2.3 ***The Conservation of Habitats and Species Regulations 2010*** provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. Under ***The Conservation of Habitats and Species Regulations 2010***, competent authorities i.e. any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the EC Habitats Directive.
- A2.4 The ***Natural Environment & Rural Communities Act 2006 (NERC)*** introduces statutory obligations for public bodies to have regard to biodiversity in the exercise of their functions – in terms of planning, this includes decisions taken by Local Planning Authorities.
- A2.5 ODPM have published a useful circular (ODPM 06/2005) which summarises how

these statutory obligations affect the planning system.

Statutory wildlife sites

A2.6 In the UK there are many designations for giving protection to sites of national or international importance. The most commonly-encountered designations are summarised below:

- **Special Area of Conservation (SAC):** An area of land or water of international (European) conservation importance as designated by European Member States under the EU Habitats Directive (Directive 92/43/EC). In the UK, all SACs will also be designated as Sites of Special Scientific Interest (SSSI).
- **Special Protection Area (SPA):** A site of international (European) conservation importance for birdlife as designated by European Member States under the Birds Directive (Directive 79/409/EC). In the UK, all SPAs will also be designated as SSSIs.
- **Ramsar site:** A wetland of recognised international importance designated under the Ramsar Convention 1971. In the UK, all Ramsar sites will also be designated as SSSIs.
- **National Nature Reserve (NNR):** A nationally important nature reserve designated by English Nature under the WCA and managed by either English Nature or an approved body. NNRs will usually be designated as SSSIs.
- **Local Nature Reserve (LNR):** A nature reserve on public land, established by a Local Authority under s21 of the *National Parks and Access to the Countryside Act, 1949*. LNRs may or may not be Sites of Special Scientific Interest.
- **Site of Special Scientific Interest (SSSI):** An area of land or water notified by English Nature under the WCA or the *National Parks and Access to the Countryside Act, 1949* as being of special nature conservation interest for its plant or animal communities, geological or landform features.

Statutorily protected species and their habitats

A2.7 In most cases relevant to planning applications, protected species are those listed in Schedule 1, 5 and 8 of the WCA (as amended), in the ***Protection of Badgers Act, 1992 (PBA)*** and in the *The Conservation of Habitats and Species Regulations 2010*. The extent of legal protection varies between species, and the protocols for development which affects such species also varies.

A2.8 It is particularly important to obtain site-specific advice before formulating an action plan when considering development affecting protected species. The following paragraphs are outlines of legal protection afforded to some of the species most frequently encountered.

A2.9 It must also be remembered that many protected species can range widely, and their presence outside the proposed development must always be considered. Many planning applications have failed because inadequate consideration was given to the terrestrial habitats of amphibians present some distance from the proposed development.

- A2.10 The WCA Act makes it an offence (with exception to species listed in Schedule 2) to intentionally:
- kill, injure, or take any wild bird,
 - take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006), or
 - take or destroy an egg of any wild bird.
- A2.11 Special penalties are available for offences related to birds listed on **Schedule 1**, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate Areas of Special Protection (subject to exceptions) to provide further protection to birds. The WCA also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.
- A2.12 The WCA makes it an offence (subject to exceptions) to intentionally ([or recklessly] - only under the Nature Conservation (Scotland) Act 2004) kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The WCA also prohibits certain methods of killing, injuring, or taking wild animals.
- A2.13 The WCA makes it an offence (subject to exceptions)
- to intentionally pick, uproot or destroy:
 - any wild plant listed in **Schedule 8**, or
 - any seed or spore attached to any such wild plant (only under the Nature Conservation (Scotland) Act 2004));
 - unless the authorised person, to intentionally ([or recklessly] - only under the Nature Conservation (Scotland) Act 2004) uproot any wild plant not included in Schedule 8,
 - to sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.
- A2.14 Animals and plants found on schedules 5 and 8 are listed on a spreadsheet of conservation designations for UK taxa.
- A2.15 The WCA contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife prohibiting the release of animals and planting of plants listed in Schedule 9 (e.g. **Japanese knotweed, Himalayan balsam, Australian Swamp Stonecrop**), (and any hybrid - only under the Nature Conservation (Scotland) Act 2004). It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

- A2.16 **Reptiles** are all protected under the WCA. The more common and widespread species are protected only from killing/injury; their habitats are not strictly protected. In practice this requires a reptile protection scheme before implementing a planning permission. No specific licence is required. The rarer reptiles require a protection and conservation scheme, and the relevant licensing authority (Natural England or Welsh Assembly) may not grant such licences unless they are assured that protection and conservation is guaranteed.
- A2.17 **Badgers** receive protection under the PBA, 1992. In terms of development, this means that any scheme which involves the destruction of a recently active sett (even if an outlier) requires a licence from the appropriate licensing authority (Natural England or Countryside Council for Wales). The licensing authority will require adequate protection of the animals, which means that alternative provision is needed and disturbance will not be permitted in the hibernation or early spring period when badgers are gestating or have dependent young. The licensing authority will tend to object to loss of a main sett.
- A2.18 **Schedule 8** of the WCA lists **plants** which are statutorily-protected. In relation to development, these plants do tend to be very rare and not frequently encountered. The **bluebell** is scheduled, but this prohibits commercial bulb picking from the wild rather than to prohibit development.
- A2.19 **European protected species** include **great crested newts** and native species of British **bat**. The full list of European species is in the *The Conservation of Habitats and Species Regulations 2010*. The extent of legal protection covers both the species and its habitat. Any development proposal that would impact on either species or habitat is required to provide for conservation of the species and its habitat under licence from the relevant licensing authority (Natural England or Welsh Assembly).
- A2.20 The licensing authority require Local Planning Authorities to consider the impact of the proposed development on the European species and their habitat, the need for development and consideration of possible alternative development proposals before determining planning applications that could affect European protected species.
- A2.21 The licensing authority will also expect detailed surveys to have been carried out before granting any licences for handling the species or affecting the habitat when development is proposed.
- A2.22 The conservation scheme necessary to enable any development project will depend on the size of the newt population, the locality and the impact of the proposed development. Usually an extended period of alternative habitat creation, trapping and movement of the animals is required, followed by a period of site management and monitoring.
- A2.23 **The Hedgerows Regulations** (made under Section 97 of the Environment Act 1995) were introduced to England and Wales in 1997 to protect this characteristic element of the countryside. The Regulations prevent the removal of most countryside hedgerows without first submitting a hedgerow removal notice to the

local planning authority. Local planning authorities are able to order the retention of ‘important’ hedgerows (but not others). The Regulations set out criteria to be used by the local planning authority in determining which hedgerows are important.

A2.24 The Regulations specify in detail how the criteria are met. This is a simplified guide, derived from a leaflet entitled “The Hedgerow Regulations – Your Questions Answered”, produced by Dept. of the Environment in May 1997.

- 1 Marks a pre-1850 parish or township boundary.
- 2 Incorporates an archaeological feature.
- 3 Is part of, or associated with, an archaeological site.
- 4 Marks the boundary of, or is associated with pre-1600 estate or manor.
- 5 Forms an integral part of a pre-Parliamentary enclosure field system.
- 6 Contains certain categories of species of birds, animals or plants listed in the Wildlife and Countryside Act or Joint Nature Conservation Committee (JNCC) publications.
- 7 Includes:
 - a) at least 7 woody species, on average, in a 30 metre length;
 - b) at least 6 woody species, on average, in a 30 metre length and has at least 3 “associated features”;
 - c) at least 6 woody species, on average, in a 30 metre length, including a black poplar tree, or large-leaved lime, or small leaved lime, or wild service-tree; or
 - d) at least 5 woody species, on average, in a 30 metre length and has at least 4 “associated features”.

NB The number of woody species is reduced by one in northern counties (broadly north of the Mersey-Humber line, but following county boundaries. The list of 56 woody species comprises mainly shrubs and trees. It generally excludes climbers (such as clematis, honeysuckle and bramble) but includes wild roses.

- 8 Runs alongside a bridleway, footpath, road used as a public path, or a byway open to all traffic and includes at least 4 woody species, on average, in a 30 metre length and has at least 2 of the associated features listed in the box below:

Hedgerow Regulations, 1997 – list of “Associated Features”
<ol style="list-style-type: none">i) a bank or wall supporting the hedgerow along at least half its length;ii) less than 10% gaps;iii) on average, at least one tree per 50 metres;iv) at least 3 species from a list of 57 woodland plants;v) a ditch along at least half the length;vi) scores 4 for the number of connections with other hedgerows, ponds or woodland (where there is a score of 1 for a connection with another hedge and a score of 2 for a connection with a pond or broadleaved wood)vii) a parallel hedge within 15 metres.

A3.0 NATIONAL PLANNING POLICY GUIDANCE

England

A3.1 The National Planning Policy Framework (NPPF) was published on 27 March 2012, coming into immediate effect and replacing the majority of previous Planning Policy Guidance Notes (PPGs) and planning Policy Statements (PPSs).

A3.2 Chapter 11 of the NPPF states that *'The planning system should contribute to and enhance the natural and local environment by:*

- *'Protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *Recognising the wider benefits of ecosystem services;*
- *Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline of biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'.*

A3.3 In addition, Government Circular 06/2005 states at Part IV.A.98:

"The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would likely result in the harm of a protected species or its habitat. Local authorities should consult with English Nature before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take appropriate steps to ensure the long term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned..."

Wales

A3.4 Planning Policy Wales (PPW) sets out the land use policy of WAG.

A3.5 PPW confirms that the natural heritage of Wales is not confined only to statutorily protected sites but across the entire extent of the country. It identifies that attractive and ecologically rich environments are important for their own sake and for the health and social and economic well being of individuals and communities, with the quality of the environment often being a factor in business location decisions. PPW identifies the importance of biodiversity and landscape considerations being taken into account at an early stage in both plan preparation and development control.

A3.6 PPW states at paragraph 5.2.7:

The planning system has an important part to play in meeting biodiversity objectives by promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable. Local planning authorities must address biodiversity issues in so far as they relate to land use planning, in both UDPs and development control decisions.

- A3.7 PPW guides LPAs specifically in relation to the protection of trees and woodlands at paragraph 5.2.8:

Trees, woodland and hedgerows are of great importance, both as wildlife habitats and in terms of their contribution to landscape character and beauty. Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality. Ancient and semi-natural woodlands are irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage.

- A3.8 Section 5.5 of PPW outlines Development Control and the conservation and improvement of the natural heritage. Relevant statements include:

At 5.5.1 "The effect of a development proposal on the wildlife or landscape of any area can be a material consideration. In such instances and in the interests of achieving sustainable development it is important to balance conservation objectives with the wider economic needs of local business and communities. Where development does occur it is important to ensure that all reasonable steps are taken to safeguard or enhance the environmental quality of the land."

At 5.5.2 "when considering any development proposal (including land allocated for development) local planning authorities should consider environmental impact, so as to avoid, wherever possible, adverse effects on the environment. Where other material considerations outweigh the potential adverse environmental effects, authorities should seek to minimise those effects and should, where possible, retain and, where practicable, enhance features of conservation importance".

At 5.5.11 "The presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would likely result in disturbance or harm to the species or its habitat. ... An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the planning decision."

- A3.9 In relation to European protected species where derogation from the provisions of the Habitats Regulations is required to permit the development, PPW stresses that the *"Local planning authorities are under a duty to have regard to the requirements of the Habitats Directive in exercising its functions. To avoid developments with planning permission subsequently not being granted a derogation in relation to a European protected species, planning authorities should take the three*

requirements for a derogation into account when considering development proposals where a European protected species is present.”

- A3.10 PPW is supplemented by a series of **Technical Advice Notes (TAN)**, which are issued on a topic basis. The most relevant is TAN5 Nature Conservation and Planning (1996), but TAN12 Design (2002) also refers to landscape and biodiversity interests being material in the planning process.
- A3.11 The thrust of guidance in TAN5 is aimed at local planning authorities who must consider nature conservation impacts in planning policy and decision. However, TAN5 is a very useful summary of wildlife policy and practice, providing advice on:
- Development control issues for Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs);
 - The selection and designation of non-statutory nature conservation sites, such as local nature reserves;
 - The protection of species, commons and greens;
 - Annexes outlining the statutory framework for nature conservation and designated sites and give information about the Countryside Council for Wales.
- A3.12 TAN5 1996 is the version currently available from the Welsh Assembly, but it is expected to be updated shortly.

A4.0 DEVELOPMENT PLANS

- A4.1 PPS12 (2004) Local Development Frameworks has been replaced by the NPPF in England.
- A4.2 Local, Structure and Unitary Development Plans (to be replaced by Local Development Plan Documents under the Planning and Compulsory Purchase Act 2004) will provide protection, both to sites and to certain species. The degree of protection varies according to different types of site, or different species. Policies will always be very heavily weighted against development which might affect **statutory wildlife sites** (see section 2 above).
- A4.3 The development plan will allow for the designation and policy protection of **non-statutory wildlife sites**, (sometimes generically called second-tier sites, to distinguish them from statutory sites). These sites go under a variety of names such as. Site of Biological Importance (SBI), Site of Importance for Nature Conservation (SINC), Biological Heritage Site (BHS) etc. Often geological sites are grouped with ecological sites, for example Regionally Important Geological/Geomorphological Sites (RIGS), Geological Heritage Sites (GHS).
- A4.4 Non-statutory sites are usually identified by a fairly rigorous system of criteria which are themselves usually adopted as supplementary planning guidance.
- A4.5 Adopted development plans often provide protection for '**Wildlife Corridors**' or '**Greenways**', which are identified on plan.

- A4.6 The extent of protection to non-statutory sites is usually not absolute, but even where the importance of development is considered to outweigh ecological interests, a mitigation strategy is usually required as a condition of a planning consent.

A5.0 THE UK BIODIVERSITY ACTION PLAN

- A5.1 The publication of the **UK Biodiversity Action Plan (UKBAP)** is in response to Article 6 of the Rio Biodiversity Convention, to develop national strategies for the conservation of biological diversity and the sustainable use of biological resources. The UKBAP contains action plans for '**UK Priority**' species and '**UK Priority Habitats**', considered to be of national conservation priority.
- A5.2 'UK Priority Species' are defined in the 'UK Biodiversity Group Tranche 2 Action Plans' (HMSO, 1998) as either globally threatened or rapidly declining in the UK, i.e. by more than 50% in the last 25 years. Some of the UK Priority species are statutorily protected, while others receive partial or no protection.
- A5.3 The listing of a species or habitat in the UKBAP does not *per se* provide it with any statutory protection. However, as discussed in Section 4, above, new planning guidance requires planning authorities to introduce policies that provide protection to UKBAP species and habitats. Priority species may become a material consideration in a planning decision. Many non-statutory wildlife sites are already selected by reference to populations of UKBAP species and habitats.
- A5.4 In September 2007, UK Government endorsed a thorough review of the UK List of priority species and habitats. There are now 1149 priority species and 67 priority habitats. Some of these are frequently encountered on development sites, even in brownfield situations.

A6.0 LOCAL BIODIVERSITY ACTION PLANS AND ECOLOGICAL STRATEGIES

- A6.1 Many districts, counties or metropolitan areas have **adopted nature conservation strategies** that tend to set out general principles of attention to nature conservation. Most of these date from the early to mid 1990s.
- A6.2 More recently, counties have prepared **Local Biodiversity Action Plans (LBAP)**, in conjunction with partners such as the Wildlife Trust. These LBAPs highlight species and habitat types which are either of national concern (UKBAP species and habitats) or are endemic to the county and of local concern. LBAPs will be prepared for these species and habitats. As with the UKBAP, listing of a habitat type, a site or a species in a LBAP does not confer any new statutory or planning policy protection. However, impacts upon sites, habitats or species prioritised in LBAPs may be a material consideration in a planning application.
- A6.3 On a broader level, English Nature has mapped the country into a number of

discrete Natural Areas. Each Natural Area has a distinct ecological identity, e.g. the 'Cheshire Meres and Mosses' is characterised by waterbodies in peat or boulder clay. Conservation priorities are set in terms of retaining and enhancing waterbody and field hedgerow connections. By comparison, the 'Sefton Coast' Natural Area highlights the unique sand dune and mudflat systems, with conservation priorities being set accordingly.

- A6.4 Natural Areas have no legislative power, and for many developments, they are described in too broad a scale to have site-specific value. Nevertheless they give an indication of which habitats are particularly valued locally.

A7.0 OTHER LISTS OF SPECIES OF CONSERVATION CONCERN

- A7.1 In addition to the lists referred to above, there are other lists made of national abundance of groups of fauna, particularly the less well-documented groups. These lists do not themselves confer any statutory protection, but may often be used in Environmental Impact Assessment to establish whether or not a proposed development will have a significant impact.
- A7.2 In the case of **invertebrates**, few species are statutorily protected or listed in the UK Biodiversity Action Plan, but many are thought to be rare or vulnerable. Such species are known as **Red Data Book (RDB)** species and there are various grades of ecological sensitivity, e.g. Rare/Vulnerable species, Nationally Notable (A), Nationally Notable (B) and Nationally Scarce. These gradings are based on frequency of occurrence of species in 10km² squares across the country e.g. Nationally Notable species occur in less than 300 10km² squares in the UK.
- A7.3 In the case of **birds**, there are various **species of conservation concern (SPoCC)**, known informally amongst ornithologists, but not protected or listed in the UKBAP e.g. the lapwing has undergone substantial decline in numbers, particularly on farmland.
- A7.4 Such RDB/SPoCC species are often listed in LBAPs (see Section 6 above).

**APPENDIX B:
Desktop survey information**

***Note: this information is only available in 2012 Environmental
Statement Confidential APPENDIX 15D***

APPENDIX C Target Notes

Target Note 1 – Australian Swamp Stonecrop

Pond 9 was found to be dry and contained native sweetgrass *Glyceria sp* and the non-native invasive plant, Australian swamp stonecrop *Crassula helmsii*.

APPENDIX D

Pond Descriptions

POND DESCRIPTIONS 2011/2012

Pond ID	Description	Great Crested Newt Eggs	Area (m ²)	Notes
1	Pond shaded by mature oak trees. Elder and hawthorn dominate north bank, nettles dominate south bank. Buttercups and duckweed in water. Muddy bottom. Murky water. Tadpoles	N		<i>Pond was dry at the time of survey</i>
2	Shaded pond in broadleaved woodland. Leaf litter but little aquatic vegetation. Frog tadpoles	N		<i>Pond was dry at the time of survey</i>
3 and 4	Ponds 3 and 4 are actually one pond with 2 lobes. It is lined with broadleaved trees and is heavily shaded with no aquatic vegetation and clear water.	N	200m ²	
5	A shaded pond. Marshy edge dominated by soft rush, clear water.	N		<i>Pond was dry at the time of survey</i>
6	Water clear, overshadowed by oak & willow scrub. Small stream runs in from west.	N		<i>Pond was dry at the time of survey</i>
7	Shaded by oak hawthorn and willow. Leaf litter in abundance in pond. Film of blossom leaves on surface, no aquatic plants. Water clear but brown.	N	50m ²	
8	Open pond in SI field with banks poached by livestock. Willow scrub on north bank, soft rush along margins. Fish likely (ripples etc). Damsel flies, buzzard, heron & 2 brown hares observed.	Y	200m ²	
9	In hedge line, shaded, no aquatic vegetation, water clear. On virtually dry ditch-line. Adult frog observed.	N		<i>Pond was dry at the time of survey</i>
10	Open, <i>Deschampsia</i> sp. along 50% margins, water clear. Fenced off.	N	150m ²	
11	Widened section of ditch. Water forget-me-not, canary reed-grass, nettles. Ditch along	N		<i>No longer classed as a pond</i>

Pond ID	Description	Great Crested Newt Eggs	Area (m ²)	Notes
	hedge, dry in parts, damp in shaded parts.			
12	Marshy area (swamp), no open water. Single oak on bank, not shading area significantly. Soft rush, horsetail.	N	300m ²	<i>Pond was dry at the time of survey</i>
13	In corner of grazed Semi improved field, banks poached, not fenced, water murky. Water forget-me-not, great willowherb. Shaded by oak & hawthorn on banks, willow sp. in water.	N	200m ²	<i>Pond was dry at the time of survey</i>
14	Shaded by oak and willow scrub. Common reed along 20m of shore.	N	200 m ²	
15	Shaded by scrub willow and mature oaks. In improved grassland field. No aquatic plants.	N	150m ²	
16	Open aspect in improved grassland field next to hedge, soft rush along 25% of margins.	Y	300m ²	
17	Pond dry. Dry depression by hedge. Nettle, soft rush, rosebay willowherb	N		<i>Pond was dry at the time of survey</i>
18	Open pond in improved grassland field by hedge. Soft rush along 40% margins. Branched burr-reed and <i>Callitriche</i> sp. present. Clear water.	Y	250m ²	
19	Pond in broadleaved woodland. Shaded, much leaf litter no aquatic vegetation, clear water.	N	300m ²	
20	Open pond in improved grassland, marginal aquatic plants 70% perim. Soft rush, yellow flag iris, branched burr-reed, water buttercup present. Murky water	N	200 m ²	
21	Part shaded, murky water. Willow carr, <i>Typha</i> in pond on east side, <i>Lemna minor</i> on west	N	600m ²	
22	Dry hollow under hedge. Dense scrub.	N		<i>Pond was dry at the time of survey</i>
23	Dry Pond, dominated by nettles.	N		<i>Pond was dry at the time of survey</i>

Pond ID	Description	Great Crested Newt Eggs	Area (m2)	Notes
24	Dry area dominated by rosebay willowherb, under mature oaks in improved grassland field	N		<i>Pond was dry at the time of survey</i>
25	Marshy hollow in improved grassland. Soft rush, branched burr-reed, nettle and scrub willow present.	N	150m ²	
26	Much leaf litter, little aquatic vegetation. Limited soft rush along margin.	N	400 m ²	
27	Dry depression with mature oak, holly, nettle, improved grassland	N		<i>No longer classed as a pond</i>
28	Shaded by mature oaks, hawthorns, willows. Much leaf litter, water clear at margins, no aquatic plants.	N	250m ²	
29	Dry hollow in hedgeline dominated by nettles.	N		<i>Pond was dry at the time of survey</i>
30	Pond has been filled in.	N		<i>Pond was dry at the time of survey</i>
31	Dry ditch only, no pond	N		<i>No longer classed as a pond</i>
32	Shallow depression in improved grassland field, surrounded by willow scrub and mature oaks, no aquatic plants, leaf litter present.	N		<i>Pond was dry at the time of survey</i>
33	100m perim, virtually dry, dominated by <i>Glyceria maxima</i> , small area of open water 10m perim, shaded by mature ash, alder	N		<i>Pond was dry at the time of survey</i>
34	Patch of bare ground located under scrub within an arable field.	N		<i>Pond was dry at the time of survey</i>
35	Marshy area dominated by floating sweet-grass under mature oak & sycamore in improved grassland field against hedgeline. 2 square metres open water	N		<i>Pond was dry at the time of survey</i>
36	Woodland edge.	N	150m ²	
47	Lake at edge of farmyard. No marginals, banks heavily grazed	N	5000m ²	

Pond ID	Description	Great Crested Newt Eggs	Area (m ²)	Notes
48	Small pond at edge of farmyard, limited marginals mainly rushes.	Y	400m ²	
49	Pond against hedgerow, good marginal cover, dominated by greater reedmace	N	100m ²	
51	Dry pond, shaded by mature broadleaf trees. Nettle dominated.	N		<i>Pond was dry at the time of survey</i>
52	Small pond shaded by broadleaf trees on one side (50%). in improved grassland. <0.1m deep, 50ms, <5% marginals.	N	100m ²	<i>Pond was dry at the time of survey</i>
53	Many froglets seen. 300m perim, >3m deep, <5% aquatics, 50% marginals, 20% shade. Fishing pond.	N	2000m ²	<i>Glyceria maxima, Iris pseudacorus, Juncus inflexus, Nymphaea species</i>
54	70m perim, <0.5m deep, 60% shaded by mature broadleaf trees, water clear, no marginals, 5% aquatics	N	300 m ²	<i>Mentha aquatica, Polygonum bistorta, Cladophora glomerata</i>
55	30m perim, <1m deep, murky, 100% shade, no aquatics or marginals	N	100m ²	<i>Pond was dry at the time of survey</i>
56	Large flooded area along ditch. 1m deep, clear, 80% marginals 40% aquatics 50% shaded	N	1200 m ²	<i>Juncus effusus, Iris pseudacorus, Callitriche sp.</i>
57	70m perim, 1m deep, 50% shaded by mature oak and white willow, holly (up to 18m high), 15% aquatics 0% marginals murky	N	400m ²	<i>Pond was dry at the time of survey</i>
58	Large open shallow waterbody <1m deep, murky 20% aquatics (duckweed) 50% marginals (hardrush throughout), no shade	N	10,000 m ²	<i>Lemna minor, Juncus inflexus</i>
59	85m perim, >1m deep, murky, 30% marginals, 0% aquatics, 50% shaded by mature ash and grey willow.	N	200 m ²	<i>Urtica dioica, Juncus inflexus</i>
60	Widened ditch area 30m perim, damp, overgrown with nettle. No marginals or aquatics	N		<i>No longer classed as a pond</i>
61	Against 1.5m high hedge, 60m perim, 1m deep, <5% marginals and aquatics, <5% shade, water clear	N	50m ²	<i>Sparganium erectum, Ranunculus repens, Epilobium hirsutum</i>

Pond ID	Description	Great Crested Newt Eggs	Area (m ²)	Notes
62	Small depression along the edge of an area of trees. Dry, bare ground.	N	25m ²	<i>Pond was dry at the time of survey</i>
63	Duck pond. Dug in the last couple of years. No marginal or aquatic vegetation. Surrounded by semi-improved grassland.	N	400m ²	
64	Shallow pond/swamp near hedge. Lots of marginal aquatic plants, very little water.	N	100m ²	
SAC 1	Murky water, pond was heavily vegetated with the majority of the pond covered by duckweed. There is a small island in the centre. Dense vegetation surrounding the pond.	N	150m ²	
SAC 2	Ornamental lake within open grassland, limited marginals	N	1200m ²	
SAC 3	Dry shallow depression at edge of field	N	25m ²	
SAC 4	A heavily shaded, shallow pond in woodland. Murky water with little vegetation.	N	150m ²	
SAC 5	Dry patch of bare ground.	N	25m ²	<i>Pond was dry at the time of survey</i>
A	Disused water treatment tanks. Split into segments with approximately half dry. Photo was the only section with aquatic plants.	N	2500m ²	
B	Large ornamental pond associated with cemetery. > 1m deep, clear 30% aquatics, 20% shade, Large Koi Carp present	N	1600m ²	
C	Ornamental pond associated with cemetery. < 5% aquatics, 90% shade	N	200m ²	
D	Pond located on edge of housing estate adjacent to Oswestry Substation.	N/A	200m ²	<i>Medium sized great crested newt population identified in 2011 by Jane Walsh Ltd</i>

Pond ID	Description	Great Crested Newt Eggs	Area (m2)	Notes
E	Small pond dominated by greater reedmace, within boundary fence of Oswestry Substation.	N/A	25m ²	<i>Medium sized great crested newt population identified in 2011 by Jane Walsh Ltd</i>

APPENDIX E

Pond Photographic Record

1.



2.



3/4.



5.



6.



7.



8.



9.



10.



Note:

Due to corruption of .jpg files, not all photos are from 2011.

1 Green highlight indicates photo taken in 2011.

1 Blue highlight indicates photo taken pre-2011.

Revision	Description	Amended by	Date
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	Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844004 e-mail tep@tep.uk.com
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Project

Legacy to Oswestry

Title

Pond Photographic Record

Drwg No
700.278 Sheet 1 of 6

Scale
N / A

Drawn by KG	Checked by DCS	Date Jul 2012
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11. No longer exists



12.



13.



14.



15.



16.



17.



18.



19.



Note:

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Project

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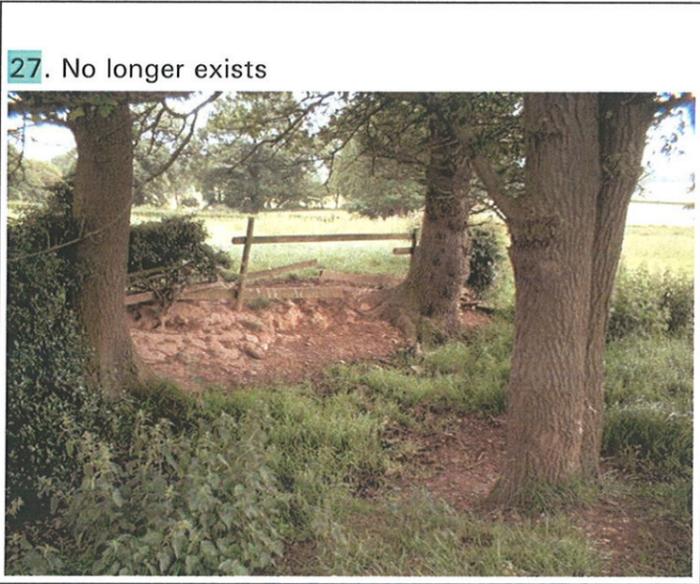
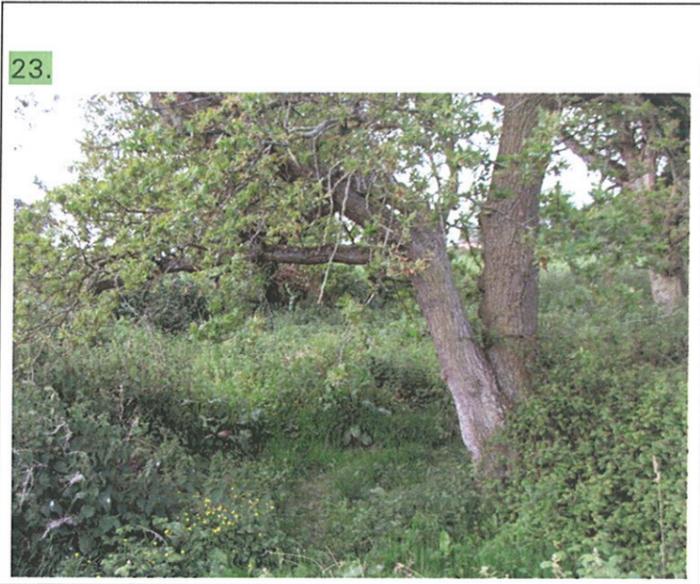
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Pond Photographic Record

Drwg No 700.278 Sheet 2 of 7

Scale N / A

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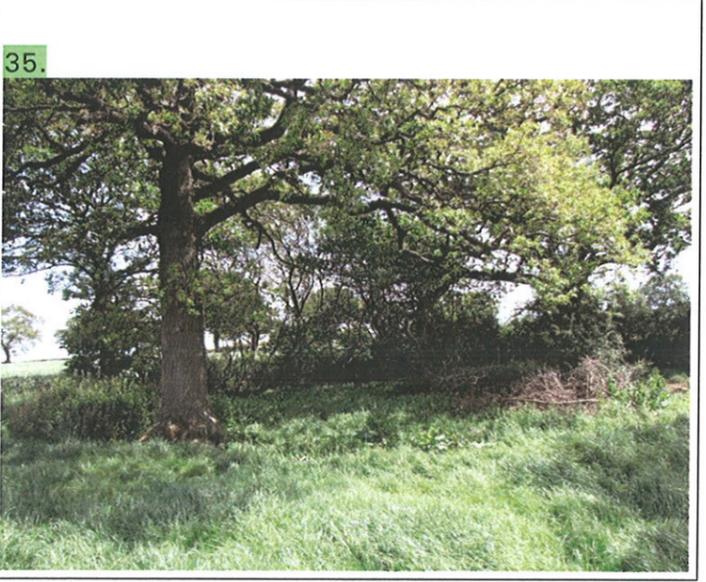
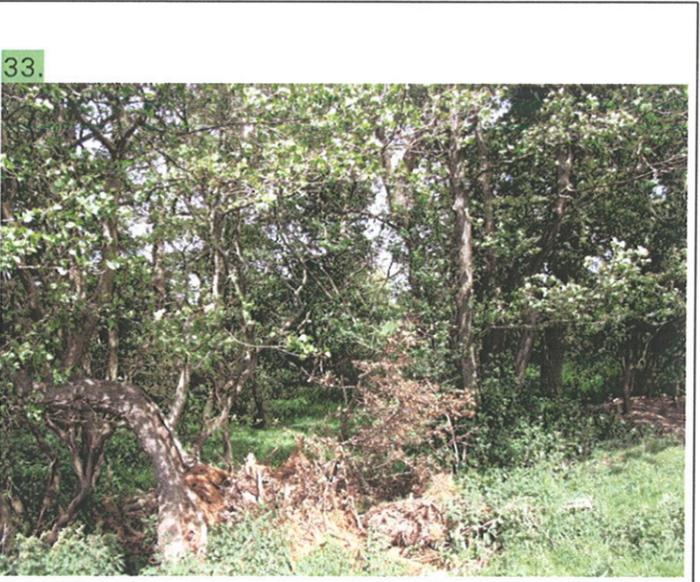
Title

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Drwg No 700.278 Sheet 3 of 7

Scale N / A

Drawn by KG	Checked by DCS	Date Jul 2012
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Drwg No 700.278 Sheet 4 of 7

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48.



49.



51.



52.



53.



54.



55.



56.



57.



Note:

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1 Green highlight indicates photo taken in 2011.

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Drwg No 700.278 Sheet 5 of 7

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KG	DCS	Jul 2012

58.



59.



60. No longer exists



Note:

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1 Blue highlight indicates photo taken pre-2011.

61.



62.



63.



64.



SAC1.



SAC2.



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700.278 Sheet 6 of 7

Scale

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KG

Checked by

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Date

Jul 2012

SAC3.



SAC4.



SAC5.



Note:

Due to corruption of .jpg files, not all photos are from 2011.

1 Green highlight indicates photo taken in 2011.

1 Blue highlight indicates photo taken pre-2011.

A.



B.



C.



D. No Photo, survey not undertaken by TEP

E. No Photo, Survey not undertaken by TEP

Revision	Description	Amended by	Date

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Title

Pond Photographic Record

Drwg No

700.278 Sheet 7 of 7

Scale

N / A

Drawn by

KG

Checked by

DCS

Date

Jul 2012

APPENDIX F

Habitat Suitability Index (HSI) Assessment for Ponds

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 1		Pond Ref: 2		Pond Ref: 3 & 4		Pond Ref: 5		Pond Ref: 6	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.00	A	1.00	A	1.00	A	1.0	A	1.0
SI2	Pond Area	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	200m ²	0.40	<i>Dry</i>	-
SI3	Pond permanence	Sometimes	0.50	Sometimes	0.50	Sometimes	0.50	Sometimes	0.50	Sometimes	0.50
SI4	Water quality	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	Moderate	0.67	<i>Dry</i>	-
SI5	Shading	90%	0.40	100%	0.20	100%	0.20	100%	0.20	100%	0.20
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67
SI7	Presence of fish	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00
SI8	Pond Density in area	> 10	1.00	> 10	1.00	> 10	1.00	> 10	1.00	> 10	1.00
SI9	Terrestrial Habitat Quality	Good	1.00	Good	1.00	Good	1.00	Good	1.00	Good	1.00
SI10	Macrophyte cover in pond	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	0%	0.30	<i>Dry</i>	-
	Overall HSI for pond	Dry		Dry		Below Average (0.59)		Dry		Dry	
	GCN Eggs Found	No		No		No		No		No	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 7		Pond Ref: 8		Pond Ref: 9		Pond Ref: 10		Pond Ref: 11	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.00	A	1.00	A	1.00	A	1.00		
SI2	Pond Area	50m ²	0.10	200 m ²	0.40	Dry	-	150 m ²	0.30		
SI3	Pond permanence	Sometimes	0.50	Rarely	1.00	Annually	0.10	Never	0.90		
SI4	Water quality	Moderate	0.67	Good	1.00	Dry	-	Moderate	0.67		
SI5	Shading	100%	0.20	10%	1.00	40%	1.00	50%	1.00		
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67		
SI7	Presence of fish	Absent	1.00	Absent	1.00	Absent	1.00	Minor	0.33		
SI8	Pond Density in area	> 10	1.00	> 10	1.00	> 10	1.00	> 10	1.00		
SI9	Terrestrial Habitat Quality	Good	1.00	Good	1.00	Moderate	0.67	Moderate	0.67		
SI10	Macrophyte cover in pond	0%	0.30	15%	0.45	Dry	-	40%	0.70		
	Overall HSI for pond	Below Average (0.52)		Excellent (0.81)		Dry		Average (0.67)		No Longer Exists	
	GCN Eggs Found	No		Yes		No		No		No Longer Exists	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 12		Pond Ref: 13		Pond Ref: 14		Pond Ref: 15		Pond Ref: 16	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
SI2	Pond Area	300m ²	0.60	200 m ²	0.40	200 m ²	0.40	150m ²	0.30	300m ²	0.60
SI3	Pond permanence	Annually	0.10	Annually	0.10	Sometimes	0.50	Sometimes	0.50	Rarely	1.00
SI4	Water quality	<i>Dry</i>	-	<i>Dry</i>	-	Moderate	0.67	Moderate	0.67	Good	1.00
SI5	Shading	5%	1.00	80%	0.60	100%	0.20	95%	0.30	10%	1.00
SI6	Presence of waterfowl	Minor	0.67	Absent	1.00	Minor	0.67	Minor	0.67	Minor	0.67
SI7	Presence of fish	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00
SI8	Pond Density in area	>10	1.00	>10	1.00	>10	1.00	>10	1.00	>10	1.00
SI9	Terrestrial Habitat Quality	Poor	0.33	Moderate	0.67	Good	1.00	Good	1.00	Good	1.00
SI10	Macrophyte cover in pond	0%	0.30	0%	0.30	0%	0.30	0%	0.30	5%	0.35
	Overall HSI for pond	Dry		Dry		Dry		Average (0.60)		Excellent (0.82)	
	GCN Eggs Found	No		No		No		No		Yes	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 17		Pond Ref: 18		Pond Ref: 19		Pond Ref: 20		Pond Ref: 21	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
SI2	Pond Area	<i>Dry</i>	-	250m ²	0.50	300m ²	0.60	200 m ²	0.40	600m ²	1.00
SI3	Pond permanence	Sometimes	0.50	Rarely	1.00	Sometimes	0.50	Sometimes	0.50	Sometimes	0.50
SI4	Water quality	<i>Dry</i>	-	Good	1.00	Moderate	0.67	Moderate	0.67	Moderate	0.67
SI5	Shading	0%	1.00	30%	1.00	95%	0.30	30%	1.00	100%	0.20
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67
SI7	Presence of fish	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00
SI8	Pond Density in area	>10	1.00	>10	1.00	>10	1.00	>10	1.00	>10	1.00
SI9	Terrestrial Habitat Quality	Good	1.00	Good	1.00	Good	1.00	Good	1.00	Good	1.00
SI10	Macrophyte cover in pond	<i>Dry</i>	-	30%	0.60	0%	0.30	15%	0.45	0%	0.30
	Overall HSI for pond	Dry		Excellent (0.85)		Average (0.64)		Good (0.73)		Average (0.65)	
	GCN Eggs Found	No		Yes		No		No		No	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 22		Pond Ref: 23		Pond Ref: 24		Pond Ref: 25		Pond Ref: 26	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
SI2	Pond Area	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	150m ²	0.30	400 m ²	0.80
SI3	Pond permanence	Annually	0.10	Annually	0.10	Annually	0.10	Sometimes	0.50	Rarely	1.00
SI4	Water quality	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	Moderate	0.67	Poor	0.33
SI5	Shading	100%	0.20	70%	0.80	20%	1.00	20%	1.00	70%	0.80
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67
SI7	Presence of fish	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00
SI8	Pond Density in area	> 10	1.00	> 10	1.00	> 10	1.00	> 10	1.00	> 10	1.00
SI9	Terrestrial Habitat Quality	Good	1.00	Good	1.00	Moderate	0.67	Moderate	0.67	Good	1.00
SI10	Macrophyte cover in pond	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	70%	1.00	0%	0.30
	Overall HSI for pond	Dry		Dry		Dry		Good (0.73)		Good (0.73)	
	GCN Eggs Found	No		No		No		No		No	

**LEGACY TO OSWESTRY
 GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 27		Pond Ref: 28		Pond Ref: 29		Pond Ref: 30		Pond Ref: 31	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location			A	1.0	A	1.0	A	1.0		
SI2	Pond Area			250m ²	0.50	Dry	-	Dry	-		
SI3	Pond permanence			Sometimes	0.50	Annually	0.10	Annually	0.10		
SI4	Water quality			Poor	0.33	Dry	-	Dry	-		
SI5	Shading			100%	0.20	70%	0.80	90%	0.40		
SI6	Presence of waterfowl			Minor	0.67	Minor	0.67	Minor	0.67		
SI7	Presence of fish			Absent	1.00	Absent	1.00	Absent	1.00		
SI8	Pond Density in area			> 10	1.00	> 10	1.00	> 10	1.00		
SI9	Terrestrial Habitat Quality			Good	1.00	Good	1.00	Good	1.00		
SI10	Macrophyte cover in pond			0%	0.30	Dry	-	Dry	-		
	Overall HSI for pond	No Longer Exists		Below Average (0.57)		Dry		Dry		No Longer Exists	
	GCN Eggs Found	No Longer Exists		No		No		No		No Longer Exists	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 32		Pond Ref: 33		Pond Ref: 34		Pond Ref: 35		Pond Ref: 36	
		Measure	SI Score	Measure	SI Score						
SI1	Geographic Location	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
SI2	Pond Area	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	150m ²	0.30
SI3	Pond permanence	Annually	0.10	Annually	0.10	Annually	0.10	Annually	0.10	Sometimes	0.50
SI4	Water quality	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	Poor	0.33
SI5	Shading	100%	0.20	100%	0.20	70%	0.80	100%	0.20	90%	0.40
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67	Minor	0.67
SI7	Presence of fish	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00
SI8	Pond Density in area	1.5	0.90	<2	0.75	<2	0.75	<2	0.75	0.4	0.50
SI9	Terrestrial Habitat Quality	Moderate	0.67	Good	1.00	Moderate	0.67	Moderate	0.67	Good	1.00
SI10	Macrophyte cover in pond	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	<i>Dry</i>	-	0%	0.30
	Overall HSI for pond	Dry		Dry		Dry		Dry		Below Average (0.54)	
	GCN Eggs Found	No		No		No		No		No	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 47		Pond Ref: 48		Pond Ref: 49		Pond Ref: 51		Pond Ref: 52	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
SI2	Pond Area	5000m ²	0.8	400m ²	0.8	100m ²	0.2	<i>Dry</i>	-	<i>Dry</i>	-
SI3	Pond permanence	Never	0.9	Sometimes	0.5	Rarely	1.0	Annually	0.10	Annually	0.10
SI4	Water quality	Moderate	0.67	Poor	0.33	Good	1.0	<i>Dry</i>	-	<i>Dry</i>	-
SI5	Shading	30%	1.0	30%	1.0	30%	1.0	100%	0.20	50%	1.00
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67	Absent	1.0	Minor	0.67	Minor	0.67
SI7	Presence of fish	Possible	0.67	Absent	1.0	Absent	1.0	Absent	1.00	Absent	1.00
SI8	Pond Density in area	> 10	1.0	7	1.0	> 10	1.0	0.5	0.55	2	0.80
SI9	Terrestrial Habitat Quality	Moderate	0.67	Moderate	0.67	Good	1.0	Moderate	0.67	Good	1.00
SI10	Macrophyte cover in pond	10%	0.40	50%	0.8	80%	1.0	<i>Dry</i>	-	100%	0.80
	Overall HSI for pond	Good (0.75)		Good (0.74)		Excellent (0.85)		Dry		Dry	
	GCN Eggs Found	No		Yes		No		No		No	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 53		Pond Ref: 54		Pond Ref: 55		Pond Ref: 56		Pond Ref: 57	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
SI2	Pond Area	2000m ²	0.80	300 m ²	0.60	100m ²	0.20	1200 m ²	0.92	400m ²	0.80
SI3	Pond permanence	Never	0.90	Sometimes	0.50	Annually	0.10	Rarely	1.00	Annually	0.10
SI4	Water quality	Moderate	0.67	Poor	0.33	<i>Dry</i>	-	Poor	0.33	<i>Dry</i>	-
SI5	Shading	20%	1.00	50%	1.00	100%	0.20	80%	0.60	80%	0.60
SI6	Presence of waterfowl	Major	0.01	Minor	0.67	Absent	1.00	Minor	0.67	Minor	0.67
SI7	Presence of fish	Major	0.01	Absent	1.00	Absent	1.00	Absent	1.00	Absent	1.00
SI8	Pond Density in area	> 10	1.00	> 10	1.00	> 10	1.00	> 10	1.00	> 10	1.00
SI9	Terrestrial Habitat Quality	Good	1.00	Moderate	0.67	Good	1.00	Good	1.00	Good	1.00
SI10	Macrophyte cover in pond	10%	0.40	0%	0.30	0%	0.30	20%	0.50	0%	0.30
	Overall HSI for pond	Poor (0.42)		Average (0.65)		Dry		Good (0.76)		Dry	
	GCN Eggs Found	No		No		No		No		No	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 58		Pond Ref: 59		Pond Ref: 60		Pond Ref: 61		Pond Ref: 62	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0			A	1.0	A	1.0
SI2	Pond Area	10,000 m ²	Omitted	200 m ²	0.40			50m ²	0.05	<i>Dry</i>	-
SI3	Pond permanence	Never	0.90	Sometimes	0.50			Rarely	1.00	Annually	0.10
SI4	Water quality	Good	1.00	Poor	0.33			Moderate	0.67	<i>Dry</i>	-
SI5	Shading	0%	1.00	70%	0.80			0%	1.00	90%	0.40
SI6	Presence of waterfowl	Minor	0.67	Minor	0.67			Minor	0.67	Minor	0.67
SI7	Presence of fish	Minor	0.33	Absent	1.00			Absent	1.00	Absent	1.00
SI8	Pond Density in area	> 10	1.00	> 10	1.00			< 2	0.70	0.2	0.40
SI9	Terrestrial Habitat Quality	Good	1.00	Good	1.00			Good	1.00	Moderate	0.67
SI10	Macrophyte cover in pond	< 5%	0.30	0%	0.30			20%	0.50	<i>Dry</i>	-
	Overall HSI for pond	Good (0.73)		Average (0.63)		No Longer Exists		Average (0.62)		Dry	
	GCN Eggs Found	No		No		No Longer Exists		No		No	

**LEGACY TO OSWESTRY
 GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: 63		Pond Ref: 64							
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0						
SI2	Pond Area	400m ²	0.8	100m ²	0.2						
SI3	Pond permanence	Sometimes	0.5	Annually	0.1						
SI4	Water quality	Poor	0.33	Moderate	0.67						
SI5	Shading	0%	1.0	20%	1.0						
SI6	Presence of waterfowl	Major	0.01	Minor	0.67						
SI7	Presence of fish	Absent	1.0	Absent	1.0						
SI8	Pond Density in area	> 10	1.0	1.5	0.90						
SI9	Terrestrial Habitat Quality	Moderate	0.67	Good	1.00						
SI10	Macrophyte cover in pond	0%	0.3	100%	0.80						
	Overall HSI for pond	Poor (0.44)		Average (0.6)							
	GCN Eggs Found	N		N							

**LEGACY TO OSWESTRY
 GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: SAC 1		Pond Ref: SAC 2		Pond Ref: SAC 3		Pond Ref: SAC 4		Pond Ref: SAC 5	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
SI2	Pond Area	150m ²	0.30	1200m ²	0.9	<i>Dry</i>	-	150m ²	0.30	<i>Dry</i>	-
SI3	Pond permanence	Never	0.90	Never	0.9	Annually	0.10	Sometimes	0.50	Annually	0.10
SI4	Water quality	Good	1.00	Moderate	0.67	<i>Dry</i>	-	Poor	0.33	<i>Dry</i>	-
SI5	Shading	70%	0.80	70%	0.8	50%	1.00	100%	0.20	85%	0.50
SI6	Presence of waterfowl	Minor	0.67	Absent	1.0	Absent	1.00	Minor	0.67	Minor	0.67
SI7	Presence of fish	Absent	1.00	Possible	0.67	Absent	1.00	Absent	1.00	Absent	1.00
SI8	Pond Density in area	> 10	1.00	> 10	1	> 10	1.00	> 10	1.00	> 10	1.00
SI9	Terrestrial Habitat Quality	Moderate	0.67	Good	1.0	Moderate	0.67	Moderate	0.67	Moderate	0.67
SI10	Macrophyte cover in pond	0%	0.30	20%	0.5	<i>Dry</i>	-	0%	0.30	<i>Dry</i>	-
	Overall HSI for pond	Good (0.70)		Excellent (0.82)		Dry		Below Average (0.52)		Dry	
	GCN Eggs Found	No		Yes		No		No		No	

**LEGACY TO OSWESTRY
GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT 2011**

SI Ref	Description of Index	Pond Ref: A		Pond Ref: B		Pond Ref: C		Pond Ref: D		Pond Ref: E	
		Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score	Measure	SI Score
SI1	Geographic Location	A	1.0	A	1.0	A	1.0				
SI2	Pond Area	2500m ²	Omitted	1600m ²	0.85	200 m ²	0.40				
SI3	Pond permanence	Never	0.90	Never	0.90	Never	0.90				
SI4	Water quality	Moderate	0.67	Good	1.00	Good	1.00				
SI5	Shading	30%	1.00	20%	1.00	90%	0.40				
SI6	Presence of waterfowl	Absent	1.00	Minor	0.67	Minor	0.67				
SI7	Presence of fish	Absent	1.00	Major	0.01	Minor	0.33				
SI8	Pond Density in area	> 10	1.00	> 10	1.00	> 10	1.00				
SI9	Terrestrial Habitat Quality	Poor	0.33	Good	1.00	Good	1.00				
SI10	Macrophyte cover in pond	< 5%	0.30	30%	0.60	< 5%	0.30				
	Overall HSI for pond	Good (0.73)		Below Average (0.56)		Average (0.63)		FULL POND SURVEY 2011 by Jane Walsh for SP Energy Networks Ltd			
	GCN Eggs Found	No		No		No		MEDIUM SIZED GCN POPULATION RECORDED, NO EGGS			

APPENDIX G

Badger ecology and field signs

APPENDIX G: BADGER ECOLOGY AND FIELD SIGNS

G1.0 STATUTORY AND LEGISLATIVE CONTEXT

- G1.1 Badgers and their setts are given legal protection under the *Protection of Badgers Act 1992*. This legislation, among other things, makes it illegal to:
- wilfully kill, injure or take any badger or attempt to do so
 - intentionally or recklessly damage, destroy or obstruct access to any part of a badger sett
 - disturb a badger when it is occupying a sett
- G1.2 The definition of a badger sett within the meaning of the 1992 Act is given as "any structure or place, which displays signs indicating current use by a badger". "Current" is not defined in the Act, and may be open to interpretation. CCW/English Nature guidance indicates that a sett is in "current use" if it has been occupied at all over the previous 12 months. Whatever the interpretation of "current use" however it is important to note that a sett is protected whether or not there is a badger actually in residence at the time of inspection.
- G1.3 Badgers are relatively widespread in Britain. They are protected under the PBA largely for animal welfare purposes to prevent activities such as badger baiting, which is still common in certain areas of Britain.

G2.0 ECOLOGY AND FIELD SIGNS

- G2.1 Badgers in Britain are known to inhabit a range of habitats, but generally speaking there are certain characteristics that badgers will favour, based upon food supply, soil type, slope, cover and altitude. Optimal habitat for badgers will usually possess well drained soil that is easy to dig into but firm enough to prevent the sett from collapsing, a sufficient food supply which is reliable throughout the year, adequate cover near the sett to allow inconspicuous entry and exit. Well used, established setts are generally found in areas that are also free from disturbance, especially by people and domestic animals (particularly dogs).
- G2.2 Food supply is highly influential in the selection of habitat for badgers. Earthworms are the most common food item, but badgers are opportunistic omnivores and will take a variety of other food items including seeds, berries and small mammals. Diet will change through the year and between habitats.
- G2.3 Badger setts are most commonly dug into a slope, which increases the ease of excavation and generally provides better drainage. Badger setts are generally dug in deciduous woodland, small copses or mixed woodland, which can provide good ground cover. Coniferous woodland is rarely used because ground cover is generally scarcer and food supply limited.
- G2.4 Badgers have distinct home ranges and territories tend to be in the region of 40 - 50 hectares. Within a territory, badgers often use a number of outlier setts in addition to the main sett. Badgers patrol their territories faithfully, establishing

well used trails. These are used for travelling to/from feeding sites and for maintaining the territory.

APPENDIX H

British bat ecology and survey techniques

APPENDIX H: BRITISH BAT ECOLOGY AND SURVEY TECHNIQUES

H1.0 BATS IN BRITAIN

- H1.1 There are 16 species of bat occurring in Britain, one of which is possibly now extinct. These species all belong to one of two families – horseshoe bats or vesper (evening) bats.
- H1.2 As recently as the 1950's bats in Britain were numerous to the point that colonies of thousands of bats could be seen. Today, colonies of such numbers are extremely rare.
- H1.3 The greater horseshoe bat has declined by 99% in Britain, and other species have suffered similar declines.
- H1.4 Bats are highly specialised animals, being the only mammal with the ability of true flight. They are nocturnal and, in Britain, they are all insectivorous. Bats have evolved to use a specialised echolocation system by which to navigate and catch insects, even in complete darkness.
- H1.5 Bats need a variety of roosts throughout the year in which to breed, hibernate and give birth.
- H1.6 Six different categories of bat roost have been described (Hutson, 1993):
- Spring gathering roosts
 - Maternity roosts
 - Mating roosts
 - Night roosts and feeding roosts
 - Prehibernal roosts
 - Hibernation roosts
- H1.7 It is uncommon for bats to use the same roost throughout the year as they require different conditions for breeding and hibernating. Some bats can fly long distances between suitable sites, which can be remotely located. There are three main types of roost:
- Buildings: most important in the summer, but some are used throughout the year.
 - Caves / mines / underground structures: most important for winter hibernation because they give stable, cold conditions.
 - Trees: used throughout the year.
- H1.8 Each species of bat prefers its own type of roost. Some almost always use one type of roost, while others switch between roosts during the year. Once a roosting site is established, bats are quite faithful to it and return regularly.

H2.0 BATS IN TREES

- H2.1 Trees (especially native ones such as Oak, Beech, Ash and Scots Pine) and hedgerows play host to swarms of insects, which forms the primary prey item for UK bats.
- H2.2 Trees also provide bats with a place to roost or rest, give birth, raise young, form groups and hibernate in natural holes, crevices and sheltered places. Such features are traditionally associated with mature trees.
- H2.3 The availability of suitable holes may limit the number of these species.
- H2.4 Identification of tree roosts is an area with a poor record of success. Typical sites may be old woodpecker holes, cavities and cracks in trees, crevices behind peeling-off bark, woodpiles and behind ivy or dense epicormic growth.
- H2.5 Over a period in time bats will use a number of trees to optimise roosting conditions. External disturbances, an internal build up of parasites or distance from feeding area can influence the choice of tree.
- H2.6 Bats also use trees, lines of trees and hedges to navigate at night. Loss or damage to such features affects the ability of bats to commute safely and economically between roosts and feeding sites. A gap in a hedge as little as 10 metres may force some bats to seek an alternative route or to change roosts.
- H2.7 Bats in tree roosts may offer little or no evidence of their occupation, especially when in hibernation. Signs to look for include:
- Obvious holes, cavities and splits
 - Dark staining on the tree below a hole
 - Staining around a hole caused by the natural oils in bats' fur
 - A maze of tiny scratch marks around the hole made by bats' claws
 - Droppings below a hole – they look similar to those for rodents, but crumble to a powder of insect fragments
 - Noise (squeaking or chittering) coming from a hole, especially on a hot day or at dusk
 - On closer inspection a hole may contain droppings or smell of bats
- H2.8 All UK bat species are dependent to some extent on trees. This dependency varies with species, season, roosting behaviour and foraging behaviour.
- H2.9 Some bat species, such as noctule (*Nyctalus noctula*), Bechstein's bat (*Myotis bechsteinii*) and barbastelle (*Barbastella barbastellus*) rely almost exclusively on trees for roost sites throughout the year. A number of other species may use tree roosts for only a part of the year, including pipistrelles (*Pipistrellus* spp.) and brown long-eared bats (*Plecotus auritus*).

APPENDIX I

Conservation status classification of birds of conservation concern

APPENDIX I: CONSERVATION STATUS CLASSIFICATION OF BIRDS OF CONSERVATION CONCERN

11.0 UK BAP Priority Species

- 11.1 The publication of the UK BAP is in response to Article 6 of the Rio Biodiversity Convention, to develop national strategies for the conservation of biological diversity and the sustainable use of biological resources. The UKBAP contains action plans for over 200 "UK Priority" species and 30 "UK Key Habitats", considered to be of national conservation priority.
- 11.2 "UK Priority Species" are defined in the 'UK Biodiversity Group Tranche 2 Action Plans' 1998 as either globally threatened or rapidly declining in the UK, i.e. by more than 50 % in the last 25 years.
- 11.3 Some of the UK priority species are statutorily protected, while others receive partial or no protection. The status of UK priority species does not confer any additional statutory or planning protection. The Countryside and Rights of Way Act 2000 introduces a duty on local authorities to have regard to UKBAP priority species in their policies.

12.0 UK Birds of Conservation Concern

- 12.1 Red and amber lists of Birds of Conservation Concern in the UK (BCC) are set out for 2002–2007 in Gibbons et al (2003). These lists are compiled by the Royal Society for the Protection of Birds (RSPB) on the basis of the following criteria. The abbreviations are those given in Gibbons et al (2003).

Red list BCC species

- BDr Rapidly contracting species:³ 50% decline in range in UK over the last 25 years.
- BDp Rapidly declining species:³ 50% decline in population in UK over the last 25 years.
- HD Historical population decline in the UK between 1800 and 1995
- SPEC1 Of global conservation concern

Amber list BCC species

- BDMr Moderately contracting species: declined by 25 – 49 % in the UK in range in the last 25 years.
- BDMp Moderately declining species: declined by 25 – 49 % in the UK in numbers in the last 25 years.
- BR Rare breeder: five-year mean of 0.2 - 300 breeding pairs in the UK.
- BI Internationally important breeding species:³ 20 % of European breeding population in the UK.
- WI Internationally important non-breeding species:³ 20% of north-west European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding populations in the UK.
- BL Localised breeders (³50% of the UK breeding population found in ten or fewer sites), but not BR.

- WL Localised non-breeders (³ 50% of the UK non-breeding population can be found in ten or fewer sites)
SPEC 2, SPEC 3 Species of unfavourable conservation status in Europe
- 12.2 The SPEC categories (Species of European Conservation Concern, as defined by Tucker and Heath (1994)) were used as one criterion for the revised red and amber listings.
- 12.3 All European bird species have been allocated to one of five categories of conservation concern:
- SPEC 1 Species of global conservation concern that regularly occur in Europe
 - SPEC 2 Species whose global populations are concentrated in Europe and whose European populations have an unfavourable conservation status
 - SPEC 3 Species whose global populations are not concentrated in Europe, but whose European populations have an unfavourable conservation status.
 - SPEC 4 Species whose global populations are concentrated in Europe and whose European populations have a favourable conservation status
 - Non-SPEC Favourable conservation status and not concentrated in Europe (i.e. all other species)
- 12.4 Remaining bird species are placed on the green list of low conservation concern.

APPENDIX J: Otter ecology and field signs

APPENDIX J: OTTER ECOLOGY AND FIELD SIGNS

J1.0 STATUTORY AND LEGISLATIVE CONTEXT

- J1.1 Otters are listed in Annexes II & IVa of the EC Habitats Directive (EC/92/43) translated into UK law by the *Conservation (Natural Habitats, &c) Regulations 1994*. Article 10 requires the UK to encourage the management of features of the countryside which, by virtue of their linear nature, promote the migration, dispersal and genetic exchange of wild species. 'Rivers and their banks' are cited as an example of such a feature. Article 11 also requires the surveillance of species on Annex IIa and IVa. Article 12 requires strict protection.
- J1.2 Otters are listed under Annex II of the *Bern Convention*. Article 2 of the convention requires that measure be taken to maintain populations of wild flora and fauna, whilst taking account of economic and recreational requirements. Article 6 seeks to ensure special protection for species listed in Appendix II. Article 8 prevents the use of indiscriminate means of capture.
- J1.3 The Bern Convention is implemented in England, Scotland and Wales by the *Wildlife and Countryside Act of 1981* (as amended), in which the otter is listed in Schedules 5 and 6. The WCA makes it an offence to intentionally kill, injury or trap an otter or be in possession of a live or dead otter or any part of one or intentionally damage, destroy or obstruct access or disturb any otter shelter or animal while occupying such shelter.

J2.0 ECOLOGY AND FIELD SIGNS

- J2.1 Otters live in most freshwater habitats and in many coastal areas and offshore islands. They may use any source of water within their home range for foraging or exploring. This includes many of the smaller streams which provide an invaluable source of food and secluded areas for cover especially for females when rearing cubs. These streams are also used by dispersing juveniles or adults to travel from one catchment to the next, searching for new areas to colonise.
- J2.2 Otters prefer rivers and streams which provide good cover and plenty of food. Although good swimmers, swimming is still an inefficient way for otters to move around the countryside, who prefer to run along the bank especially if moving upstream. Otters are not restricted to major waterways, but can be found in marshes and on small streams as well as lakes and reservoirs, preferring habitat with good vegetative cover, such as scrub with herbaceous vegetation. Reeds and other emergent vegetation have been shown to be an important resource for providing shelter and food. Otters often use wooded areas, where trees and a dense understorey provide plenty of cover, as well as holt sites, and laying up areas. Ponds, bogs and marshes also provide cover and often contain amphibians - a good food resource for otters.
- J2.3 Otters use many different sites for shelter, such as holts and couches, depending on availability. Many otters will seek shelter above ground, using couches which are usually formed from vegetation used as bedding, located in areas of scrub, reed

beds and long grass. Large stands of riparian gorse and other scrub or tussock sedge and extensive reedbeds are particularly important habitats.

- J2.4 On inland waterways, holts and couches are used to rest during nocturnal foraging and for lying up during the day. They are also important for breeding. Female otters prefer to use areas that are secluded and well camouflaged to avoid disturbance by man and other species and both holts and couches are equally important for this purpose. These areas also tend to be away from main rivers up to a kilometre away on a small tributary and can also be located up to 500m away over land. Otters are secretive animals and so breeding holts can be difficult to identify, especially if a female has young. In this instance, she will reduce her sprainting activity around the holt, so as not to attract the attention of other otters and predators.
- J2.5 Each otter has its own home range, which it defends against other otters of the same sex. The size of these home ranges varies depending on the habitat and food availability and can cover many kilometres, with males averaging 35 km and females 20 km along rivers. This home range will contain the various requirements that the animal needs on a day to day basis. It will combine several habitat types, allowing for different food resources at different times of year, areas of cover and sources of fresh water if located near the coast. Most home ranges appear to overlap, but conflicts are usually avoided by the use of spraints as markers, informing other otters of the presence of a particular individual in the locality.
- J2.6 The identification of spraint and holts is the standard method for determining otter activity in a particular area. Footprints can be used as an indicator of activity if the conditions are right for leaving prints. They are usually best identified when seen in mud or compacted sand. The otter has 5 webbed toes, each with claws, although these may not be clearly defined. Each print is around 50 - 60 mm wide. Otters also use areas where they groom and rolling on the ground creates beds of flattened vegetation. They use paths that run along and away from the river bank, often ending in slides when the path enters the water.

APPENDIX K

Water vole ecology and field signs

APPENDIX K: WATER VOLE ECOLOGY AND FIELD SIGNS

K1.0 STATUTORY AND LEGISLATIVE CONTEXT

- K1.1 The water vole receives full protection under the *Wildlife and Countryside Act, 1981 as amended*.
- K1.2 The water vole is also listed as a Priority Species on the UK BAP and as a locally important/endangered species on the Shropshire BAP.

K2.0 ECOLOGY AND FIELD SIGNS

- K2.1 The water vole is the largest of the British voles, weighing 200 – 350g. The species is semi-aquatic and adapted to living in burrow systems along the banks of watercourses. Changes and land-use and riparian habitat management have resulted in a general loss and degradation of water vole habitat, causing fragmentation and isolation of water vole populations. This has led to an increased vulnerability to predation, especially by the American mink. Researchers suggest the most effective mechanism for arresting this decline and encouraging recolonisation is through habitat restoration projects and more sensitive bank management practices.
- K2.2 The identification of water vole fieldsigns is used to determine the presence/absence of the species. Fieldsigns to record (in approximate order of usefulness as an indication of occupation and for density estimates) are:
- Latrines, showing discrete piles of droppings;
 - Feeding stations or chopped vegetation;
 - Burrows above or below water (those above water may have a cropped 'lawn' around the tunnel entrance);
 - Paths and runs at the water's edge, runs in the vegetation and footprints in the mud;
 - Sightings, sounds of entering the water.
- K2.3 The best index of abundance is the number of latrines counted. This provides an indication of the relative abundance of water voles, based on the presence of breeding individuals (visiting and maintaining latrines) at that site and is useful for comparison between sites and future surveys. Very approximately six latrines equate to one female territory, and therefore one 'breeding unit', although this may vary markedly between different habitats and different months of the year.

DRAWINGS

NOTE: Figures are presented in the 2012 Environmental Statement

