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Anglesey Reinforcement

Document 1: Planning Report

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Introduction

This report relates to an application by SP Energy Networks on behalf of SP Manweb for consent under section 37 of the Electricity Act 1989 for a new 132,000 volt (132kV) overhead line being constructed as part of the Anglesey Reinforcement Project, near Caergeiliog, Anglesey.

It is one of three documents that supports the application and should be read first followed by the Environmental Appraisal Report. The application is accompanied by a request for a screening opinion and a Screening Report is presented to support this request.

Purpose of Report

This report describes the key design elements of the Proposed Reinforcement and sets out the design principles SP Energy Networks follow. It also provides technical details of the 132kV overhead line together with information on construction, operation and maintenance.

This first section of this report sets out the background to the Proposed Reinforcement, then goes on to describe the design of the proposed project and describing the construction activities. Planning policy is set out and the potential environmental effects of the project. The design evolution for the Proposed Reinforcement is then explained including an explanation of the approach to routing. Consultations undertaken as part of this project are also detailed.

Overview of SP Manweb

SP Manweb is the electricity Distribution Network Operator (DNO) for north and mid Wales, Cheshire, Merseyside and parts of Shropshire. The electricity distribution network operates from 132kV down to 240 volts (240v) taking the electricity from the National Grid and distributing it to homes and businesses across Wales and north west England. SP Manweb has duties placed upon it by the Electricity Act 1989 (the Electricity Act) and operates under the terms of its distribution licences.

Under section 9(2) of the Electricity Act, SP Manweb has a duty:

- To develop and maintain an efficient, co-ordinated and economical system of electricity distribution; and
- To facilitate competition in the supply and generation of electricity.

SP Energy Networks manages the network on behalf of SP Manweb, the distribution licence holder.

The Existing Anglesey Electrical Network

SP Energy Networks manages existing 132kV overhead lines in Anglesey which take power from the Wylfa Power Station to substations at Caergeiliog and Amlwch. At these substations the 132kV voltage is lowered to 33kV by two 60 Mega Volt Ampere (MVA) transformers. The electricity is then distributed across the island via a mixed network of 33kV overhead lines and underground cables.

As well as the traditional generation source of electricity from Wylfa, new embedded generation[1] is connecting into the distribution network and there are numerous other potential generation projects either contracted for connection or in the planning pipeline. Currently there is 80 megawatts (MW) of generation connected into SP Energy Networks network. There is 84MW of contracted generation and an estimate of a further 336MW in the pipeline.

Need for the Reinforcement

The reinforcement of the distribution network is needed as it is becoming increasingly difficult to accommodate current and future generation expected in Anglesey over the next 10 years, without exceeding upper voltage limits of the existing equipment and causing voltage control stability issues across the distribution network.

The existing level of embedded generation in the 33kV network in Anglesey causes the power to flow in reverse through the existing grid transformers at times of low demand for electricity by businesses and residents. If there is an outage[2] on one of these existing grid transformers the remaining grid transformers may not be able to cope with the reverse power flow and the equipment will trip and turn off.

A need to reinforce the 33kV network has been identified. This can be achieved by installing a second 132/33 kV grid transformer at the existing SP Energy Networks Caergeiliog grid substation. A new 132kV section of network will connect into the existing National Grid Electricity Transmission (NGET) 132kV overhead line that runs from Wylfa to Penrhos. This new section of network consist of approximately 850m of overhead line and 650m of underground cable. A new 12km 33kV overhead line between Llangaffo - Llanfairpwll is also proposed but will follow at a later stage. This is required to facilitate the reconfiguration of the 33kV network, to balance demand and maintain fault levels within limits.

The Proposed Reinforcement will resolve current thermal[3] and voltage[4] constraints in full and provide capacity headroom for the forecast demand growth detailed above.

[1] Electricity produced from generation stations that are connected directly into the distribution network. Include small scale renewable generation.
[2] An outage is either a planned shutdown of electrical equipment to carry out routine maintenance or an unexpected fault.
[3] Overhead line conductors are designed for a certain operating temperature, and safe clearances between the conductors and the ground/structures are based on this assumption.
The thermal rating translates into standard seasonal current ratings. Overloading causes conductors to overheat which will increase the sag of the conductors and potentially reduce statutory safety clearances.

The Proposed Project

The Proposed Reinforcement comprises of the installation of a new 60 MVA 132/33 kV grid transformer at Caergeiliog grid substation. This would be supplied at 132kV by a new tee-connection from the existing NGET's Wylfa – Penrhos (formally Anglesey Aluminium) 132kV tower line. The tee-connection would be from an NGET steel tower onto a new 850m overhead line which would run to the edge of Caergeiliog adjacent to the end of Tre Ifan Farm. The remaining 650m through Caergeiliog would be via a 132kV underground cable into the existing Caergeiliog grid substation.

A new 12km 33kV overhead line between Llangaffo - Llanfairpwll would also be constructed at some point in the future. As this 33kV line is not part of the current section 37 application it will not be covered in detail in this report.

Consents

All development requires planning permission. However, some forms of development, including underground cables, are classed as 'permitted development' under the Town and Country Planning (General Permitted Development)(Amendment)(Wales) Order 2014. Developments classified as permitted development may automatically be granted planning permission, by statutory order, and do not require submission of a planning application to the Local Planning Authority.

For this project the installation of the new transformer at the existing Caergeiliog grid substation and the underground cable connecting the 132kV overhead line to the substation is classed as permitted development under the Town and Country Planning (General Permitted Development)(Amendment)(Wales) Order 2014.

Electricity Act Consent

Consent is required from the Secretary of State for Business, Energy and Industrial Strategy under section 37(1) of the Electricity Act 1989 to install and keep installed a new 132kV overhead line. When preparing an application for consent, the applicant must:

a) Have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest[5]; and
b) Do what they reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.

[4] The statutory voltage level limits are ±10% at 132kV and ±6% at 33kV. This allows for a voltage gradient along the length of a circuit. The voltage gradient is directly related to the current flowing in the conductor.
If there is an instantaneous change in power flow (for example as a result of a circuit or transformer being switched out) this will cause an instantaneous step change in voltage. Plant and equipment can be sensitive to sudden changes in voltage, therefore events that cause instantaneous changes in power flow are avoided as much as possible.
[5] Paragraph 1(1) of Schedule 9 to the Electricity Act 1989

In considering such proposals the Secretary of State must have regard to the matters mentioned in sub-paragraph (a) and the extent to which the applicant has complied with this duty under sub-paragraph (b)[6].

Description of the 132 kV Overhead Line

The Route

The overhead line route runs for approximately 850m from the existing NGET Wylfa - Penrhos 132kV tower line to a terminal pole on the edge of Caergeiliog. The route runs within a rural agricultural area, passing through fields with hedgerow and post and wire fence boundaries before crossing the A55. The route then continues through agricultural field to a terminal pole, where the overhead line terminates.

From this point the proposed underground cable route runs approximately south along a private road adjacent to Tre Ifan farm, before heading south along the unclassified Cymyran Road to the existing substation. Figure 1 illustrates the route of the 132kV overhead line and the underground cable.

[6] Paragraph 1(2) of Schedule 9 to the Electricity Act 1989

N
W
E
S

National Grid

08/3078/001/G-CAERGEILIOG GRID

Meters
0
165
330

Legend

- Proposed 132kV Overhead Line
- Proposed Underground Cable Route
- Grid Substation Existing
- Existing (Switchgear Only)
- Externally Deleted
- Externally Deleted (Switchgear Only)
- National Grid Overhead Line

SP ENERGY NETWORKS

Coordinate System: British National Grid
Datum: OSGB 1936

Project:

Anglesey Reinforcement

Title:

Figure 1
Proposed 132kV Overhead Line and Underground Cable Route

Drawn by:	Claire Duffy
Sheet Size:	A3 (297mm x 420mm)
Scale:	1:5,000

Overhead Line Design

The proposed 132kV overhead line between the existing NGET Wylfa – Penrhos tower line and the Caergeiliog grid substation will be of single circuit construction. A single circuit 132kV overhead line can be supported on wooden poles or on lattice steel towers (pylons). In this instance the proposal is for a wood pole 'Trident' design overhead line (see Figure 2). Post insulators support three bare metallic phase conductors. Utilising post support insulators instead of vertical string insulators reduce the overall height of the construction. It was considered that wooden poles supporting post insulators, are lower in height, have a more slender and simpler appearance than steel lattice towers or wood portal construction and would be more sympathetic to the predominantly rural landscape through which the line will be routed.

Figure 2. Photograph of a 132kV wood pole Trident overhead line.

The new 132kV overhead line would tee-off from the existing NGET Wylfa – Penrhos 132kV tower line onto a new single circuit wood pole overhead line. The tee-off would consist of new overhead conductors (wires) coming off the existing NGET line down onto a new two-pole structure. Figure 3 shows a similar arrangement for an existing line in Cheshire.

Figure 3. Photograph of a tee-off arrangement from a 132kV tower line to a 132kV wood pole line.

The wood pole overhead line would then run for approximately 850m to a terminal pole on the edge of Caergeiliog adjacent to Tre Ifan farm. Figure 4 shows a similar structure near Oswestry. At Tre Ifan farm the overhead line terminates into an underground cable.

Figure 4. Photograph of a 132kV wood pole Trident overhead line termination.

Pole Types

It is proposed to use a wood pole Trident design which would comprise predominantly single and some double wood poles (see Figure 5). Trident wood poles are approximately 13m tall with poles typically spaced approximately 110m apart. It is anticipated that approximately 7 spans of Trident will be required for this 132kV overhead line. Each pole carries three 200mm aluminium conductors.

In comparison with a typical 33kV wood pole circuit (see Figure 6), the cross-arm of the 132kV Trident design is only approximately 1-2 m higher. The insulator stack at 132kV needs to be larger than at 33kV to ensure electrical clearances are maintained to the steel crossarms.

Figure 5 (left). Typical 132kV Trident wood pole overhead line.

Figure 6 (right). Typical 33kV wood pole overhead line.

Line Height

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. The overall height of the line is also dependent on a number of criteria, including geographical location, topography, height above sea level, wind & ice loading, span length and conductor type.

Pole sizes may be reduced where there are short spans or they are located on a hillock, or they may be increased to provide adequate clearance for conductors over elevated land, structures or features. To ensure the statutory minimum ground clearance is maintained, in particular in mid span at maximum operating temperature, the conductors are the highest at pole positions. Typical conductor height at pole positions is 13m with a maximum height of 15m.

Span Length

The span length also depends on the same criteria as line height. The normal span length between poles is 110m with a maximum of 150m when using the standard crossarm configuration. Longer spans, of up to 200m, can be accommodated if the crossarm of the pole is increased in length for both the single and double pole configuration. However extra-long spans have to be accompanied by several short spans to reduce the wind loading on the line support structures.

Supports

The line comprises a combination of three types of support or pole types:

- Intermediate,
- Section/angle and
- Terminal

Intermediate structures are used where the overhead line follows a straight line/alignment. Options include single pole or 'H' pole structures with the majority being single poles. Intermediate Double or 'H' poles are used only where longer spans are required. Both types of structure support a small amount of steelwork and insulators to carry the conductors. The single pole supports a steel crossarm of 3.0m overall length. The intermediate 'H' pole comprises two poles set 2.5m apart, with a similar overall crossarm length.

In some situations the 'H' pole structure can be secured further with stays, allowing span lengths to increase. The 'footprint' of the structure, however, will be increased as a result.

Angle section structures, with a crossarm of 5.0m overall length, are used to enable changes of direction in the overhead line. The structures can be single or H pole structures dependent upon the angle of deviation. The maximum angle of deviation is 75 degrees.

Terminal structures are used at either end of the overhead line supported by staywires. The terminal structure allows the overhead line to be connected either to a cable or directly to a substation. The cable termination structure comprises of two terminal poles anchored by staywires and two smaller poles in front to support the cable termination

All wood poles are fully seasoned and treated with an appropriate preservative. The galvanised steelworks associated with this support (pole top steelwork) is assembled using galvanised high tensile steel bolts with nuts and locking devices.

Overhead Line Components

The single-circuit comprises three separate phase aluminium conductors which are attached to the pole top structure on insulators, made from porcelain, glass or modern composite materials. Insulators are fastened to the pole top steel cross arm. At intermediate supports the conductors sit on top of post insulators. At other supports

(terminal or section) the conductors are cut and terminated either side of the pole and supported by tension string insulators with post insulators placed on top of the steelwork. The line is earthed at the terminal poles using copper conductor connected to below ground copper rods installed in a grid formation around the base of the poles.

The Trident design will carry a conductor which is 20mm in diameter with a 200mm^2 cross section referred to as 'Poplar'. One or more phase conductors may carry an optical fibre within the centre This fibreoptic cable is utilised for protection, signalling and indication purposes and forms an integral part of the conductor.

Line Clearance

New overhead lines are positioned to maintain statutory clearances from buildings, structures, trees, vegetation, etc. High voltage overhead lines are constructed to conform with the Electricity Supply Industry's own engineering specifications which specify the minimum clearances that must be provided between the conductors and the ground, and between the conductors and obstacles on the ground. Safety clearances for overhead lines are specified in ENA-TS 43-8 Issue 3, 2004, and as required under the Electrical Safety, Quality and Continuity Regulations, 2006 as amended (ESQCR).

Limit of Deviation

The overhead line will be constructed within a Limit of Deviation (LoD). The LoD identifies the maximum distance or measurement of variation within which the works must be constructed. The lateral LoD is 10m either side of the centreline.

The LoD provides a degree of flexibility which is required as following consent and pre-construction, micro-siting would take place involving more detailed technical survey information, particularly for unconfirmed ground conditions.

Underground Cabling

A cable section will be installed at the Caergeiliog end of the overhead line to connect the circuit to the Caergeiliog grid substation. The 132kV cable section consists of three separate single phase cables laid in a trefoil formation and each cable has a typical diameter of 60mm. Besides the three power cables a fibreoptic (utilised for protection, signalling and indication purposes) and a separate earth cable may be installed adjacent to the trefoil formation.

Cable Installation in Private Land

Cables will be laid typically at a depth of 1m below ground level in a trench typically 0.5m wide. To ease cable installation and/or to provide additional mechanical protection cables can be laid in separate polyethylene ducts supplemented by a fibre optic duct and/or a transposition duct all laid in the same trench.

Topsoil excavated from the cable trench will be stored separately from other material from the trench and would be stored separately local to the trench. Excavated topsoil would be used to complete the backfilling once the cable has been laid initial backfilling taken place. During the operation to lay the cable suitable crossing points over the cable

trench would be provided as necessary to ensure access to properties local to the trench is maintained.

The underground cable would be protected by concrete or polymeric tiles laid at such a distance above the cable as to ensure, so far as reasonably practicable, that any person inadvertently excavating the ground above the cable would receive a warning of its presence. The preference is to install cables in public footway and/or road. In some instances this may not be possible due to obstructions or on the basis of economic grounds, the cable may be installed in agricultural fields or similar environment. In some instances the cable route would be indicated by above-ground markers located at the centre of the cable trench and which would be placed at field boundaries to indicate the cable route. Such markers would be located so as not to interfere with normal farming activities.

It is expected that the underground cable would intersect with existing underground services at some point, such as water mains and sewage pipes. The normal procedure in such cases is to provide a deeper trench for the underground cable and tunnel under the existing services. Excavation and reinstatement local to existing services would be carried out with due care.

Once the cable is laid, no maintenance would be required. However, in the event that the cable is damaged or a fault occurs it may be necessary to expose the cable to carry out a repair. At the end of the working life of the underground cable it would be decommissioned.

Cable Installation in the Public Highway

All works would be agreed in advance with the relevant highway authority. Prior to any works on the public highway, appropriate warning signage and barriers would be erected. All existing services would be located and their positions marked. Procedures for working near to statutory undertakers equipment would be followed.

If not installed direct the underground cable would be drawn through pre-laid ducts. Typical duct size is 200mm and are usually made of PVC and surrounded by consolidated backfill material to suit ground conditions.

Excavated material from the trench would generally be removed promptly. An appropriate trench support system may be required dependent on the prevailing ground conditions. During excavations it may be necessary to install temporary bridging across excavated trenches.

Where reinstatement of the highway is necessary, the selection of materials, correct depths of backfill and surface courses and compaction layers would be those specified in HAUC Specification for Reinstatement of Openings in Highways June 2002 and subsequent update notices. All reinstatement works would be completed to the satisfaction of the highway authority. Notices indicating the presence of the underground cables will be prominently displayed local to the cable route, e.g. on road lighting standards.

Construction Activities

Overhead line construction follows a standard sequence of activities. For a 132kV wood pole line these activities are:

- Preparation of accesses;
- Undergrounding/deviation of lower voltage lines where necessary to ensure electrical clearances;
- Excavation of foundations for poles and stays;
- Delivery of poles;
- Dressing of poles at location;
- Erection of poles and stays;
- Delivery of conductor drums and stringing equipment;
- Insulator and conductor erection and sagging; and
- Clearance and reinstatement.

It is estimated that the 132kV overhead line works will take approximately 4 weeks to construct once the pre-engineering and site set works are complete.

Pre-construction Activities

Prior to construction of the overhead line a precise ground survey is carried out to determine the ground profile along the centre of the line route and for 7m on either side where the ground profile slopes across the line route. This is to ensure that the location selected for poles and stays and their relationship with each other comply with the technical limits laid down for maximum span lengths, maximum sums of adjacent spans and safe clearance to live conductors.

Where the route of the line passes over or in close proximity to trees that could infringe safe clearances to 'live' conductors, the trees must be felled or pruned prior to the construction of the line. In order to reduce the likelihood of trees falling and causing damage to the power line during abnormal weather conditions, the Energy Networks Association has recommended that cutting back of vegetation incorporates an allowance for growth (ENA Engineering Technical Report 132, 2006).

Land Use and Access During Construction

Vehicular access has to be secured to every pole site on the route. Access routes and detailed arrangements are agreed with each landowner or occupier. In certain circumstances, where there is no existing access available, or where ground conditions prevent normal access, it may be necessary to construct a temporary access. Every effort is taken to minimise land damage by using four wheel drive or tracked vehicles.

For the 132kV wood pole line construction, typically access is required for an excavator (JCB and/or tracked 360 degree excavator) JCB or similar agricultural 'loader', 4x4 lorry (often with Hiab) and 4x4 pick-ups. During the stringing phase of the works, there is also a need for access for 1 tractor, 1 tensioner and 1 MEWP (mobile elevated working platform) and cable trailers to gain access to several locations along the line. These works are sequential and this plant will move from one location to the next until the stringing is completed.

If temporary access roads need to be installed then either a trackway system or temporary stoned access roads are technically acceptable. Any such temporary access roads are removed following construction, with no requirement for permanent access tracks to the overhead line.

Pre-construction survey is used to ensure that any new access or working areas are located within areas of least environmental sensitivity.

Access for 132kV wood pole construction requires an area of 225m^2 at pole sites. Additionally a working area of 250m^2 (25m x 10m) is required at locations to accommodate the winches required for stringing the conductors. These working areas are located depending on the availability of access and the terrain, number of angle structures and severity of angle deviations. The greater the severity of angle deviations, the closer the working areas required. These working areas will not extend more than 80m beyond the last wood pole being strung in that section.

At a convenient place along the route of the overhead line, a temporary storage area may be required for the dispersal of plant and equipment. Identification of a temporary storage area is undertaken to minimise any potential environmental effects. It is anticipated that a temporary storage area will primarily be within a farmyard, subject to agreement between the contractor and the landowners.

Wood Pole Erection

The erection of a wood pole requires excavations to allow the pole, timber foundations and stays to be positioned in place and then backfilled and consolidated in layers normally with the original materials. The top soil is reserved for the top layer and any surplus subsoil or rock removed from the site.

Wood Pole Conductor Stringing

Having completed the erection of all poles within the section of line terminated by angle supports or terminal support poles (normally 1-2 km) the intermediate poles are fitted with insulator supports. Running blocks are fitted to the top of the insulator support and the conductor is fitted as follows.

Drums of conductor and a tensioner with a hydraulic brake are located at one end of the line section, with the pulling winch at the other. The conductor is joined to a single heavy duty pilot wire and drawn through the section, one conductor at a time under constant tension. During stringing radio communication is maintained between the operators of the pulling winch, the tensioner, hydraulic brake and intermediate observation points so the pulling can be stopped if problems arise. By using the “Continuous Tension Stringing” method the conductors are held aloft at all times and do not touch the ground or any other structure. The erection is completed with the agreed reinstatement of the ground and access routes taking place.

Transport of Materials

The basic transport used for wood pole construction is a general purpose cross country vehicle with four wheel drive weighing some 6.0 tonnes and incorporating a lifting devise.

Drums of conductors are delivered as close as possible to the angle or tension pole sites from which the conductors are pulled. If necessary tractors, adapted to carry such loads, are used to transport drums to the pole site.

The relative speed of construction of a pole means that storage areas for materials will be relatively small both off and on site.

Staff and vehicle numbers

It is envisaged that the overhead line works will be undertaken by a team of approximately 8 staff using the vehicles identified above and a transit van or similar to transport the staff to site.

The overall number of vehicle movements on the public highway during the construction period will be limited. In the context of the vehicle movements already present in the general area, no formal assessment of any potential effects arising from the vehicle movements associated with the reinforcement line construction has been undertaken, as the vehicle numbers are appreciably too limited to give rise to any significant traffic effects.

Noise during Construction

The noise level generated during the construction of the wood pole line is likely to be insignificant unless significant rock formations are encounter that prohibit the use of digger or ground drill (auger). In these instances some disturbance may be experienced but the duration is anticipated to be of short duration. Typically 1 to 2 days per identified location limited to daytime hours.

Construction contractors would, be required to maintain low noise levels for adjacent dwellings by employing sufficient machinery, by distancing and where practicable by screening noisy items of plant or activities, as outlined in BS5228:2009.

Crossing/paralleling roads, railways, waterways and other services

Where the proposed line crosses roads, railways, and other electricity lines or telephone wires, certain precautionary works have to be completed prior to the commencement of conductor stringing. Scaffolding and sometimes nettings would normally be erected over major roads and railways to enable the conductors to be pulled out unhindered. Temporary traffic lights may also be employed during construction to ensure safety to the workers and general public.

Where the proposed distribution line crosses navigable rivers and underground pipelines, all requirements of the appropriate authority would be adhered to, both at the design stage when locating individual poles and ensuring minimum clearances are provided, and at the construction stage by complying with relevant codes of practice, specifications and procedures.

Where the proposed line crosses rivers, the conductors will be strung across without the need to access the water or river banks. To enable conductor stringing, a pilot wire will be fired across from one bank to the other, with conductors subsequently pulled over

under tension. The conductors will not touch the water during this operation. It will not be necessary to construct a safety net (skycradle) across the watercourse.

Maintenance

In general, the majority of components of overhead lines are maintenance free. The working conditions in which a line operates and the effects of the environment on exposed elements do give rise to corrosion, wear, deterioration and fatigue after many years in service. Regular inspection identifies unacceptable deterioration at an early stage, so that action can be taken to maintain a high level of security and safety on all components in accordance with the Electricity Supply Regulations 1989.

Operational Life

Experience indicates that a new overhead line of this type would require refurbishment after approximately 40 years depending on the severity of pollution, and local weather conditions. At this time conductors (and probably insulators and fittings) would be replaced. The lifespan of wood poles is approximately 40 years.

Planning Policies

This section summarises the national, regional and local planning policy guidance and development plan policies (including adopted and emerging development plan policies) that are relevant to the Anglesey Reinforcement Project.

National Policy Statements

The PA 2008 introduced a new system for examining and determining NSIPs as defined by Section 14 of the Act.

The policy framework for examining and determining applications for NSIPs is provided by National Policy Statements (NPSs). Section 5 of the PA 2008 allows the Secretary of State ('SoS') to designate NPSs setting out national policy in relation to the types of infrastructure set out at Section 14 of the Act.

Section 1 of the PA 2008 confirms that where NPSs are in place, these shall be the primary basis for decisions by the SoS on applications for NSIPs.

In July 2011 the SoS for the Department of Energy and Climate Change ('DECC') designated a number of NPSs relating to nationally significant energy infrastructure. These include an 'Overarching NPS for Energy (EN-1)', which sets out the Government's overall policy for the delivery of nationally significant energy infrastructure and five 'technology-specific' NPSs.

While the Project is not a NSIP it is should be noted that paragraph 1.2.1 of EN-1 states that:

> *"…In England and Wales this NPS is likely to be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended)…"*

The energy NPSs will therefore be a material consideration in the SoS's determination of the applications for section 37 consent (and deemed planning permission) made in respect of the Project.

The most relevant energy NPSs for transmission infrastructure are the Overarching National Policy Statement for Energy (EN-1) and the National Policy Statement for Electricity Networks Infrastructure (EN-5) (which must be read in conjunction with EN-1).

NPS EN-1

EN-1 Part 2 (Government policy on energy and energy infrastructure development), paragraph 2.1.2 states that:

> *"energy is vital to economic prosperity and social well-being and so it is important to ensure the UK has secure and affordable energy" and that producing the energy the UK requires, necessitates a significant amount of infrastructure both large and small scale".*

Part 3, paragraph 3.7.1 of EN-1 (The need for new nationally significant infrastructure projects) specifically refers to the need for new electricity network infrastructure noting that:

> *"Much of the new electricity infrastructure that is needed will be located in places where there is no existing network infrastructure. This is likely to be the case for many wind farms"...*

It also notes:

> *"Lack of sufficiently robust electricity networks can cause, or contribute to, large scale interruptions. Existing transmission and distribution networks will have to evolve and adapt in various ways to handle increases in demand, but construction of new lines of 132 kV and above will also be needed to meet the significant national need for expansion and reinforcement of the UK's transmission and distribution networks" (para 3.7.2).*

And:

> *"it is important to note that new electricity network infrastructure projects, which will add to the reliability of the national energy supply, provide crucial national benefits, which are shared by all users of the system",….(para 3.7.3).*

The NPS states that a 'smarter' electricity grid will be needed to support a more complex system of electricity supply and demand with generation occurring in a greater diversity of locations. It notes that;

> *"… new lines will have to be built, and the location of renewable energy sources and designated sites for new nuclear power stations makes it inevitable that a significant proportion of those new lines will have to cross areas where there is little or no transmission infrastructure at present, or which it may be claimed should be protected from such intrusions."(para 3.7.7)*

It emphasises that;

> *"The urgency of need for new generating capacity means that the need for new transmission infrastructure that is required to connect that capacity will be similar" (para 3.7.7).*

Paragraph 3.7.10 confirms that:

> *…."there is an urgent need for new electricity transmission and distribution infrastructure (and in particular for new lines of 132 kV and above) to be provided".*

The need for a new reinforcement has been demonstrated if:

> *…."it represents an efficient and economical means of connecting a new generating station to the transmission or distribution network … and has sufficient capacity … to supply current or anticipated future levels of demand."(para 3.7.10)*

Paragraph 3.7.10 also states that there will be more than one technological approach to connect the network such as overhead lines or underground cables and the costs and benefits of these alternatives should be properly considered, as set out in EN-5, before any overhead line is consented.

Parts 4 and 5 of the NPS identify the 'Assessment Principles' and Generic Impacts' which are key factors influencing decision making.

Part 4, 'Assessment Principles', sets out general policies in accordance with which applications relating to energy infrastructure are to be decided.

Part 5 'Generic Impacts' identifies the impacts of energy infrastructure that are anticipated to arise most frequently, noting that it is not intended to provide a list of all possible effects or ways to mitigate such effects.

NPS EN-5

NPS EN-5 provides specific guidance relevant to 'electricity networks infrastructure' NSIPs.

It notes that:

> *"This National Policy Statement (NPS) taken together with the Overarching National Policy Statement for Energy (EN-1), provides the primary basis for decisions taken by the Infrastructure Planning Commission (IPC) on applications it receives for electricity networks infrastructure."…(para 1.2.1)*

Part 2 'Assessment and Technology-Specific Information' provides guidance, under a number of headings, as to what should be considered.

The NPS notes that the general location of electricity network projects is often determined by the location, or anticipated location, of the existing network infrastructure taking electricity to centres of energy use (para 2.2.2).

Paragraph 2.6.1 sets out additional technology specific considerations on the following generic impacts considered in EN-1. These are:

- Biodiversity and geological conservation;
- Landscape and visual; and
- Noise and vibration.

Para 2.6.2 notes that the NPS also sets out technology-specific considerations for the impact of EMFs, which is not an impact considered in EN-1.

Further more detailed guidance on these four topics is provided in Sections 2.7 – 2.10 of the NPS.

Draft National Development Framework for Wales

The Planning (Wales) Act 2015 provides a statutory requirement for the Welsh Ministers to produce a National Development Framework (NDF) which will replace the current

Wales Spatial Plan. It will fulfil a number of roles, including setting out the Welsh Government's land use priorities and providing a national land use framework for Strategic and Local Development Plans. The NDF will concentrate on development and land use issues of national significance which the planning system is able to influence and deliver. The NDF will have "Development Plan" status and provide the context for Local Development Plans. It will identify key locations to accommodate change and infrastructure investment.

Wales Spatial Plan

The Wales Spatial Plan People, Places, Futures 2008 Update aims to deliver sustainable development through its area strategies in the context of its Sustainable Development Scheme. It sets out national spatial priorities, providing the context for the application of national and regional policies for specific sectors reflecting the distinctive characteristics of different areas of Wales and their cross-border relationships.

Planning Policy Wales

Planning Policy Wales (PPW) (Edition 9, 2016) sets out the land use planning policies of the Welsh Government.

PPW identifies the Welsh Government's commitment to achieving at least a 40% reduction in all greenhouse gas emissions in Wales by 2020 against a 1990 baseline (Para 4.5.2).

Section 4.4 of PPW sets out a series of sustainability objectives. It states that planning policies, decisions and proposals should:

> *"Support the need to tackle the causes of climate change by moving towards a low carbon economy. This includes facilitating development that reduces emissions of greenhouse gases in a sustainable manner, provides for renewable and low carbon energy sources at all scales and facilitates low and zero carbon developments."*

Chapter 12 of PPW addresses infrastructure and services. The opening paragraph recognises that:

> *"adequate and efficient infrastructure … is crucial for the economic, social and environmental sustainability of all parts of Wales. It underpins economic competitiveness and opportunities for households and businesses to achieve more socially and environmentally desirable ways of living and working."*

Para 12.1.4 of PPW presents the infrastructure and services objectives to be achieved, which include (fourth bullet):

> *"to promote the generation and use of energy from renewable and low carbon energy sources at all scales ..."*

In relation to planning for renewable energy development and associated 'grid' infrastructure at a local level, para 12.8.14 of the PPW states that:

> *"An integrated approach should be adopted towards planning renewable and low carbon energy developments and additional electricity grid network infrastructure. Additional electricity grid network infrastructure will be needed to support the SSAs and local planning authorities should facilitate grid developments when appropriate proposals come forward whether or not the wind farms are to be connected are located within their authorities".*

Welsh Government policy recognises the potential threats that uncontained climate change poses to local communities. It acknowledges the urgent need to reduce greenhouse gas emissions and that the development of Wales's abundant renewable energy resources is one of the principal ways in which this can be achieved. Notably, there are commitments to maximise energy generation from renewable and low carbon sources, and to allow large renewable energy projects to come forward. Onshore wind is identified as one of the principal renewable energy technologies that must be deployed to this end. New distribution lines are also recognised as necessary to provide additional capacity to the grid.

The Proposed Reinforcement will strengthen the existing distribution network providing capacity headroom for the connection of renewable energy projects coming forward on the Isle of Anglesey. Therefore the reinforcement will make a contribution to meeting the aspirations identified within PPW.

The Proposed Reinforcement will have no direct impact on generation of the energy mix aspired to in Government energy policy. However, it is crucial to enabling a key element of that energy mix, the supply of renewable energy, to be provided.

Climate Change Strategy for Wales

The Climate Change Strategy for Wales ("CCSW") provides that the Welsh Government is committed to delivering the following targets:

a. Reducing greenhouse gas emissions by 3% per year from 2011 in areas of devolved competence, against a baseline of average emissions between 2006 and 2010;

b. Achieving at least a 40% reduction in greenhouse gas emissions in Wales by 2020 against a 1990 baseline (CCSW, Page 34).

The Proposed Reinforcement would assist in delivering these goals for the following reasons:

a. it would enable the supply of renewable energy to be effectively and economically distributed by strengthening in the existing network and providing capacity headroom; and

b. by providing a reinforcement and capacity headroom for future energy projects it would contribute to the UK achieving a low carbon economy and the targets set for a significant reduction in greenhouse gas emissions.

Therefore, SP Energy Networks considers that the Proposed Reinforcement would contribute to the achievement of the targets set out in the CCSW by providing a reinforcement and capacity headroom for future supplies of renewable energy to end-users in Wales.

A Low Carbon Revolution

The Welsh Government's Energy Policy Statement for Wales "A Low Carbon Revolution" ("LCR") seeks to increase the supply of resilient low carbon electricity production via indigenous (and secure) renewables (LCR, Page 5).

The LCR identifies goals to produce low carbon electricity on a large scale. A strategy identified to deliver this aim is to work:

> *"closely with the grid company and the regulator to ensure that new grid connections are provided sensitively, including seeking that connections should run underground where they would otherwise impact on protected landscapes".*

SP Energy Networks considers that the Proposed Reinforcement will contribute to the supply of resilient low carbon electricity production by providing critical additional distribution infrastructure and capacity headroom to convey renewable energy generated to end-users.

Energy Wales: A Low Carbon Transition

'Energy Wales: A Low Carbon Transition' ("LCT") sets out the Welsh Government's ambitions to create a sustainable, low carbon economy for Wales. It recognises that if Wales' energy ambitions are to be achieved, its energy infrastructure requires investment, reinforcement and upgrading.

The LCT sets out the following aspirations in relation to the grid and distribution network in Wales:

> *"We will continue to set out – clearly and consistently – our expectations: a grid and distribution network that enables us to make the most of our on and off-shore natural resources; a grid with the capacity to transmit the low carbon energy we generate, thereby meeting the needs of Welsh households and businesses and creating export wealth; and an increasingly 'smart grid' which integrates distributed and intermittent energy sources with emerging storage technologies, and underpins Wales' smart living goals" (LCT, page 14).*

Energy Wales Statement

More recently, Edwina Hart (the Welsh Minister for Economy, Science and Transport) restated the urgent need to increase grid capacity in Wales.

The following paragraph is extracted from the Energy Wales Statement dated 20th April 2015:

> *"Underpinning these energy ambitions is the urgent need to address electricity grid matters in Wales. Lack of grid capacity is stifling growth and in turn compromising the viability of businesses and communities across Wales. We therefore intend to challenge the current UK position both in terms of transmission and distribution and seek modernised and fit for purpose networks for Wales."*

The Proposed Reinforcement would go a significant way to addressing this lack of grid capacity, whilst simultaneously contributing to Wales' ambitions to transition to a low carbon economy.

SP Energy Networks considers that the Proposed Development would constitute a key component of the delivery of a stronger grid distribution network and ultimately contribute to the development of a new smarter energy system.

Technical Advice Notes

A series of guidance notes, known as Technical Advice Notes (TANs) supplement PPW 8. TANs considered to be relevant to the Proposed Reinforcement include:

TAN 5: Nature Conservation and Planning (Wales) (2009)

This TAN provides guidance on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation.

TAN 8: Renewable Energy (2005)

TAN 8 relates to the land use planning considerations of renewable energy in the context of UK and national energy policy. The TAN identifies that provision of electricity from renewable sources is an important component of UK energy policy.

TAN 11: Noise (1997)

TAN 11 provides advice on how the planning system can be used to minimise the adverse impact of noise without placing onerous restrictions on development. It outlines the main considerations that local planning authorities should consider when producing their development plan policies and in determining planning applications.

TAN 12: Design (2014)

TAN 12: Design, which provides advice for all those involved in the design of development on how good sustainable design can be facilitated through the planning system.

TAN 15: Development and Flood Risk (2004)

The overarching aim of TAN 15 is to direct new development away from those areas which are at high risk of flooding. Development will only be justified in higher risk areas if

it can be demonstrated that the potential consequences of a flooding event for the particular type of development have been considered, and found to be acceptable.

TAN15 is supplemented by additional climate change guidance published by the Welsh Government for use in the planning system and by Risk Management Authorities.

TAN 18: Transport (1997)

Describes how to integrate land use and transport planning and explains how transport impacts should be assessed and mitigated.

Draft TAN 24: Historic Environment

Advice on the historic environment is provided in three Welsh Office Circulars (1/98, 60/96 and 61/96). It is intended that the Welsh Office Circulars will be replaced by Technical Advice Note 24: Historic Environment which has been issued in draft form.

Consistency of the Proposed Reinforcement with Welsh National Planning Advice and Policy

The Welsh Government has a statutory duty in relation to sustainable development. Welsh energy policy recognises the potential threats that uncontained climate change poses to local communities. It acknowledges the urgent need to reduce greenhouse gas emissions and that the development of Wales's abundant renewable energy resources is one of the principal ways in which this can be achieved. Notably, there are commitments to maximise energy generation from renewable and low carbon sources, and to allow large renewable energy projects to come forward. New distribution lines are recognised as necessary to provide additional capacity to the grid.

The Welsh Government is committed to achieving at least a 40% reduction in all greenhouse gas emissions in Wales by 2020, against a 1990 baseline. In addition to this, Wales is also expected to make a contribution to the UK's 15% renewables target to 2015. Further, Wales has a 7TWh per annum renewable electricity target by 2020 and overall ambition of 60% carbon savings by 2050.

The documents also recognise that additional distribution infrastructure will be required to convey the energy generated to the homes and businesses where it is to be used. The lack of grid network capacity in North Wales is particularly identified.

PPW makes clear the commitment made by the Welsh Government to contribute positively to the UK's energy supply, including that gained from renewable sources. In addition, PPW recognises vital role that energy distribution infrastructure has in ensuring the delivery of that energy supply.

The Proposed Reinforcement would have no direct impact on generation of the energy mix aspired to in Government energy policy. However, it is crucial to enabling a key element of that energy mix, the supply of renewable energy, to be provided.

The Environmental Appraisal Report that accompanies this application demonstrates that the route and design of the Proposed Reinforcement is appropriate, and that it enables

the reinforcement to be made in an efficient, co-ordinated and economical manner that is in compliance with SP Energy Network's statutory environmental duties.

Local Planning Policy

The following local plans have been reviewed and relevant policies extracted for the Project:

- Ynys Mon Local Plan 1996;
- Anglesey's Stopped Ynys Mon unitary development plan (UDP) 2005 (unadopted); and
- Joint Local Development Plan (JLDP) for Anglesey and Gwynedd Deposit Plan 2015

Ynys Môn Local Plan

The Ynys Môn Local Plan (1996) interprets policies in the Gwynedd Structure Plan (1993) in more detail. It covers the whole island and will supersede the existing plan for the Menai Strait area. The written statement covers the following topics:

- Jobs;
- Physical Infrastructure and Environment;
- Conservation; and
- Housing.

The relevant local planning policies from the Ynys Môn local Plan are set out in Table A.1 in Appendix 1.

Anglesey's Stopped UDP

Anglesey's Stopped UDP 2005 is considered by the Council to be a material decision making document for development control purposes but does not have the status of a fully adopted plan. Relevant policies are listed in Table A.2 in Appendix 1.

Anglesey and Gwynedd JPDP

Gwynedd Council and the Isle of Anglesey County Council are preparing a JLDP that will serve the Anglesey and Gwynedd Local Planning Authority areas. The final adopted version will include the Council's vision and spatial strategy to achieve the development requirements that are already known and those anticipated up to 2026. It will act as a guide when developing and using land in the Anglesey and Gwynedd Planning Authority area until 2026. It will include the strategy and detailed policies for the scale, location and nature of future development in the area.

Consultation on the draft Deposit Plan was completed in March 2015 and it is expected that the JLDP will be adopted in Spring 2017.

When the JLDP is adopted, it will replace the Anglesey Local Plan (1996) and the Anglesey Unitary Development Plan (that was stopped in 2005), which currently is a material planning consideration for determining planning applications by the Isle of Anglesey County Council.

The relevant local planning policies from Anglesey and Gwynedd JLDP are set out in Table A.3 in Appendix 1.

The Proposed Reinforcement will strengthen the existing distribution network and provide capacity headroom for the connection of renewable energy projects coming forward on the Isle of Anglesey. It therefore assists with the aspirations within the energy and climate change policies and ensures that the generating contribution is connected to the wider distribution network.

The Proposed Reinforcement assists with the aspirations of the local planning policies. The route and design of the reinforcement and the construction stage commitments made have taken into account the natural and built environment of the area. The Environmental Appraisal demonstrates that these are appropriate, and that it enables the reinforcement to be made in an efficient, co-ordinated and economical manner that is in compliance with SP Energy Network's statutory environmental duties.

Possible Effects on the Environment

The accompanying Environmental Appraisal Report (Document 2) assesses the potential environmental effects associated with the construction of a new 132kV overhead line.

Environmental Appraisal

An Environmental Appraisal has been prepared to accompany the consent application. The Environmental Appraisal describes the route of the new line, the characteristics of the landscape through which the new line runs and sets out why it is considered that with carefully managed construction methods, the new line would result in no significant impacts on the environment. The report covers the following topic areas:

- Land
- Ecology
- Cultural heritage
- Landscape
- Social

The report is supported by a number of desk-based assessment and site visits. Maps are included which show the location of sensitive sites in proximity to the 132kV overhead line.

The construction of overhead lines is a well-established practice and the environmental effects of construction and operational presence are well understood. The report highlights that works will involve the construction of a short section of 132kV wood pole overhead line on land with little or no associated environmental sensitivities.

The Environmental Appraisal concludes that there will be no likely significant environmental effects during construction and operation of the overhead line.

SP Energy Networks Approach to Design

SP Energy Networks aims to ensure that the project is designed to mitigate potential adverse impacts which can be associated with overhead lines. SP Energy Networks has sought to develop a well-designed project which responds positively to environmental constraints and comments from key stakeholders.

SP Energy Networks has a legal duty to develop and maintain an efficient, co-ordinated and economical electricity system. This requirement is relevant and material to the need for, and routeing of, major electrical infrastructure projects. SP Energy Networks must fulfil this duty with due regard to environmental interests (including mitigation).

Duties under the Electricity Act 1989

The Electricity Act 1989 provided for the privatisation of the electricity supply industry in the UK and established a licensing regime and a regulator for the industry. SP Energy Networks are authorised to transmit and distribute electricity within its network area. As such, the Company has a statutory obligation to carry out the duties outlined within the Electricity Act.

Section 9 of the Electricity Act states that it shall be the duty of a license holder:

"to develop and maintain an efficient, co-ordinated and economical system of electricity transmission/ distribution".

Schedule 9 of the Electricity Act requires SP Energy Networks to take account of specific factors in formulating any relevant proposals. This provides that SP Energy Networks must:

"have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and, to do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects"

Approach to Routing

The evidence available, including economic, technical and environmental factors, including statutory duties and licence obligations, will support an overhead line approach in most cases.

It is therefore SP Energy Network's view that wherever practical; an overhead line approach is taken when planning and designing major electrical infrastructure projects. However, it is appreciated that there are specific circumstances in which an underground approach should be considered. This will be a balance between technical and economic viability, deliverability and environmental considerations.

Having established the need for a project, the starting point is always to identify an overhead line route. If an underground cable is required for a section of an overhead line route, the objective is to minimise the length of underground cable necessary to overcome the constraint to overhead line routeing, consistent with a balance between technical, economic viability, and environmental considerations.

The approach to routeing an overhead line is based on the premise that the major effect of an overhead line is visual and that the degree of visual intrusion can be reduced by careful routeing.

A reduction in visual intrusion can be achieved by routeing the line to fit the topography, by using topography and trees to provide screening and/or background, and by routeing the line at a distance from settlements and roads. In addition, a well-routed line takes into account other environmental and technical considerations and will avoid, wherever possible, the most sensitive and valued natural and man-made features.

The extent of the routing studies/options depends on the length and complexity of the project. The approach is iterative and the steps may be re-visited several times. The outcome of each step is subject to a technical and, where relevant, consultation, 'check' with key stakeholders and the public, prior to commencing the next step. Professional judgement is used to establish explicitly the balance between technical, economic and environmental factors.

The objective of route selection is to identify a technically feasible and economically viable overhead line route, between specified points, which causes the least disturbance to people and the environment.

Routing the Anglesey Reinforcement

Alternatives Considered

At an early stage of the project a number of options were considered to provide the additional transformer capacity required on the Anglesey network. These alternatives looked at a number of options including installing transformers at different substation which were fed from other locations. Alternative 2 set out below was considered but discounted due to a combination of cost, technical and environmental risks.

Do Nothing - DISCOUNTED

Failure to reinforce the network would risk thermal overloads and voltage issues as demand is expected to continue to increase in Anglesey.

Alternative 1 – establish new 132kV grid infeed at Caergeiliog from Penrhos (National Grid Line), new 33kV overhead line Llangaffo to Lanfairpwll – PROGRESSED

This alternative requires a new grid transformer at Caergeiliog fed from the existing National Grid Wylfa - Penrhos circuit and a new 33kV overhead line between Llangaffo and Llanfairpwll. This option was selected as it delivers the increased capacity required, requires the shortest length of new 132kV overhead line with the potential to minimise environmental impacts and is the least cost option.

Alternative 2 – establish new 132kV infeed at Llanfairpwll from Pentir (Bangor), new 33kV overhead line Llangaffo to Lanfairpwll - DISCOUNTED

This alternative requires a new grid transformer at Llanfairpwll fed from the existing substation at Pentir and a new 33kV overhead line between Llangaffo and Llanfairpwll. The alternative would also require a new 6km 132kV underground cable from Pentir to Llanfairpwll including an undersea (Menai Strait) cable crossing. Additional work would be also be required at Llanfairpwll substation. This option was discounted as it was not possible to manage a number of technical issues associated with power flows through the Anglesey network.

Conclusion

The Proposed Reinforcement offered the most preferable balance of issues to solve the identified need.

Underground Cable Routing

As described above, the 132kV overhead line will terminate in an agricultural field to the north of the village and run underground for approximately 650m along the highway to the existing Caergeiliog substation.

Overhead Line Design and Routing

Overhead lines (such as that covered by this project) are not generally considered incompatible in rural areas. Less than 10% of the total 132kV circuit lengths in rural areas are underground cables.

There are a range of different technologies available for the new line, including steel lattice towers, heavy duty double wood poles and wood pole Trident designs.

It is proposed to use a wood pole Trident design for this project which would comprise single and double poles. It is considered that this design will have less of an impact on the area compared to other possible designs and will provide a better fit within the local landscape. This design is a modern, low impact tried and tested solution. It offers more flexibility in routing the line than the other options, which helps in reducing potential impacts.

Routeing options were identified and investigated through desk top design and on site studies.

An environmental appraisal of the area was undertaken to inform the options for the route alignment. The likely environmental effects of the proposed route and measures to reduce, offset or prevent adverse effects, where practicable are presented in the Environmental Appraisal Report accompanying this Section 37 application.

SP Energy Networks carried out consultation with a number of stakeholders to help shape the choice of the final route. Details of this consultation are provided in the next section of this report.

The final route alignment was determined from consideration of the environmental, technical and financial constraints along with the views obtained from consultation with stakeholders. The final route alignment presented in this report has been amended to take into account topographical issues surrounding the crossing of the A55(T), proximity to watercourses and views from local communities regarding proximity to residential properties. This iterative process has resulted in an overhead line route which provide a technically feasible and economically viable reinforcement which causes the minimum disturbance to people and the environment.

Consultation

SP Energy Networks attaches great importance to the effect that its works may have on the environment and on local communities. In seeking to achieve 'least disturbance', SP Energy Networks is keen to engage with key stakeholders including local communities and others who may have an interest in the project. This engagement process begins at the early stages of development of a project, and continues into construction once consent has been granted.

Affected Landowners

SP Energy Networks has identified all landowners and occupiers affected by the route of the 132kV overhead line and underground cable. The installation of the new grid transformer is contained within the existing Caergeiliog substation and does not require any additional land. All land required is owned by SP Energy Networks.

SP Energy Networks has entered into discussion with the affected landowners and occupiers regarding the proposals and is working towards securing voluntary agreements wherever possible. If a voluntary agreement cannot be reached SP Energy Networks will consider whether to apply to the Secretary of State for a necessary wayleave hearing.

SP Energy Networks is also in discussion with the Welsh Government, North and Mid Wales Trunk Roads Agency and UK Highways regarding the crossing of the A55(T).

Isle of Anglesey Council

Pre-application discussions with the council were undertaken to gain their views on the proposed project and keep them up to date with the development of the proposed project. Further discussions have also been undertaken with the relevant council Highways contacts regarding the crossing of the A55(T) and the route of the underground cable along the local road network.

Gwynedd Council

Pre-application discussions with Gwynedd Council's Highway's team regarding the crossing of the A55(T) have also taken place.

Natural Resources Wales and Cadw

Natural Resources Wales (NRW) and Cadw have been contacted to discuss the project. Information regarding the project in the form of an Overview Report was sent to NRW and Cadw. This Report set out the following information:

- details on SP Energy Networks;
- the project background;
- the project description;
- details of the route of the 132kV overhead line including a plan of the route;
- a description of construction activities;
- an overview of the environmental appraisal and a description of the likely effects on the environment;
- details of SP Energy Networks screening assessment, and;
- details of construction environmental management plan

A copy of the Overview Report sent to NRW and Cadw can be found in Appendix 2.

NRW have provided a formal response to the project. They have confirmed that as the proposals cross a main river, an exemption from NRW will be required prior to works commencing. NRW provided details of best practice guidelines to prevent and minimise pollution and sedimentation. They confirmed that the proposals are unlikely to adversely affect the nearest Special Area of Conservation (Llyn Dinam, approximately 580m away). NRW provide guidance on dealing with protected species if any hedgerows require removal during construction. They also confirm that the proposals are unlikely to impact significantly on the nearest protected landscape. The full response from NRW can be found in Appendix 3.

Further discussions with NRW are ongoing regarding the crossing of the main river and the exemption.

SP Energy Networks is still waiting for response from Cadw on the project.

Valley Community Council

SP Energy Networks attended a community council meeting on 15th February 2017. At the meeting SP Energy Networks presented the following information:

- project description;
- photographs of construction activities;
- plan of the route of the proposed overhead line;
- photographs of the proposed route, and;
- timescales for the project and construction

A discussion was undertaken regarding the project with the councillors and SP Energy Networks took away a number of actions to provide further information to the councillors and agreed to meet again later in the year. Community councillors raised concerns regarding the impact of the underground cable route through the Tre Ifan residential estate. SP Energy Networks investigated an alternative route for the overhead line and underground cable and this resulted in the route being changed to the current route to remove those concerns. A copy of the presentation given to the Valley Community Councillors can be found in Appendix 4.

Llanfair-yn-Neubwll Community Council

SP Energy Networks attended a community council meeting on 21 February 2017. At the meeting SP Energy Networks presented the following information:

- project description;
- photographs of construction activities;
- plan of the route of the proposed overhead line;
- photographs of the proposed route, and;
- timescales for the project and construction

The presentation given was the same as that given to Valley Community Council. Community councillors raised concerns regarding the impact of the underground cable route through the Tre Ifan residential estate. SP Energy Networks investigated an alternative route for the overhead line and underground cable and this resulted in the route being changed to remove those concerns.

Summary

There is a need to reinforcement the distribution electrical network on the Isle of Anglesey to accommodate current and future generation on the island. SP Energy Networks propose to reinforce the network through the construction of a new 850m 132kV overhead line, 650m of underground cable and grid transformer at Caergeiliog.

Construction of a new wood pole overhead line requires consent under section 37 of the Electricity Act 1989. SP Energy Networks considers that the laying of a cable underground and the installation of a new transformer in an existing substation to be permitted development.

SP Energy Networks has produced this document and an Environmental Appraisal Report to support an application under section 37 to the Secretary of State for Business, Energy and Industrial Strategy for consent to construction the overhead line.

This document has described the design and construction of the overhead line, examined the planning policies that are relevant to the development and explained the process SP Energy Networks follows when routeing an 132kV overhead line. Alternatives to the proposed project have been discussed and discounted.

The Environmental Appraisal describes the route of the new line, the characteristics of the various sections of the new line and sets out why it is considered that with carefully managed construction methods, the new line would result in no significant impacts on the environment.

Consultation has been undertaken with affected landowners, Isle of Anglesey Council, two local community councils, NRW and Cadw. Comments received from the community councils led to the route of the overhead line and underground cable being amended to remove those concerns. No major objections to the proposals have been received by SP Energy Networks and NRW have confirmed that the project is unlikely to significantly affect either protected sites or landscapes.

The Proposed Reinforcement minimises disturbance to people and the environment and is consistent with SP Energy Network's statutory duty to maintain a coordinated, efficient and economical system of electricity distribution.

Based on the scale of the proposals, the lack of significant environmental effects and no objections from the key consultation bodies, SP Energy Networks sees no impediment to the granting of the section 37 consent.

Appendix 1 – Relevant Local Planning Policies

Table A.1: Ynys Môn Local Plan

Table A.2: Anglesey's Stopped Ynys Mon UDP Plan

Table A.3: JLDP Local Plan Policies

Table A.1: Ynys Môn Local Plan

Policy	Summary
General Policy 1	The Council will determine planning applications in accordance with policies and proposals in this Plan. In considering planning applications, the Council will take into account: General Policy. Energy conservation. The effect on pedestrian and vehicular travel patterns including the use of public transport, public rights of way and cycling. Pollution or nuisance problems. The need to protect the quality of surface, underground and coastal waters. The need to ensure that adequate water resources exist or can be made available without detriment to existing users. The increased danger of flooding. The effect on any site or area of ecological, landscape, scientific, archaeological or architectural interest or a wildlife species of significance. The extent to which siting, scale, density, layout and appearance, including external materials, fit in with the character of the area. Adequate and appropriate landscaping. The effect on residential amenities. The need to ensure that vehicular access, the roads leading to the site and parking provisions are safe and adequate. Safeguarding of mineral reserves. Protection of the best and most versatile agricultural land.
Policy 28 Tidal Inundation and River Flooding.	The Council will refuse applications for development: i. In areas liable to tidal inundation or river flooding. And ii. Which would involve the loss of natural flood plain. iii. Which would increase the risk of flooding to other areas. Which would harm or impair the maintenance or management of river and sea defences.
Policy 31 Landscape	With the exception of the AONB, and that land which falls within the settlement boundaries as defined in the Plan, the

Policy	Summary
	island is designated as a Special Landscape Area. Proposals for development in the Special Landscape Area will be expected to have particular regard to the special character of their surroundings. In considering the landscape impact of any proposal, the Council will need to be satisfied that the development can be fitted into its surroundings, without unacceptable harm to the general landscape character, before planning permission is granted.
Policy 32 Landscape	The Council will refuse applications which result in the loss of trees, hedgerows, stone walls, 'cloddiau' and other traditional landscape features unless acceptable proposals are included for their replacement. Appropriate management of these features will be encouraged generally and particularly by the imposition of conditions on planning permissions where appropriate, the use of planning obligations and by entering management agreements with landowners and developers where appropriate.
Policy 33 Nature Conservation	The Council will refuse to permit any development that will unacceptably affect either directly or indirectly, any notified or proposed Site of Special Scientific Interest (SSSI), Local Nature Reserve (LNR), or Marine Nature Reserve (MNR).
Policy 35 Nature Conservation	Development will be permitted away from sites recognised as being important for nature conservation, provided that it does not have an adverse impact on a wildlife species with statutory protection, and accords with the other policies of this plan.
Policy 39 Archaeology	The Council will use its planning powers to ensure that Scheduled Ancient Monuments and their settings are retained intact. Unscheduled archaeological sites and their settings of sufficient importance to merit preservation will also be protected. Where proposals affect other unscheduled archaeological remains which do not merit preservation, provision will be made for an appropriate archaeological response. Schemes for the development of visitor and educational facilities on suitable sites will be permitted provided that the archaeological site is not put at risk.
Policy 40 Conservation of	The character and appearance of all designated

Policy	Summary
Buildings	conservation areas will be protected from unsympathetic development. Enhancement of their characters will be achieved by carrying out improvements and permitting high quality new development. The Council will define and designate additional Conservation Areas within other areas of special architectural or historic interest where it is considered necessary to preserve and enhance the character and appearance of those areas.
Policy 41 Conservation of Buildings	Buildings of special architectural and historic interest and their settings will be protected from unsympathetic development, alterations or demolition. Appropriate uses which help to preserve their character and fabric will be permitted.
Policy 42 Design	The Council will favour proposals for development which promote a high quality of design. In considering proposals, the Council will take into account : i. How well the development fits in with its surroundings. ii. The quality of its layout, design and external finishes. iii. The provisions made for landscaping and for the protection of existing trees on a site. iv. The provision made for pedestrian access and circulation. v. The extent to which the proposal, by nature of its siting and design, promotes energy conservation and reduces the opportunity for crime. vi. The extent to which proposals meet the need to minimise artificial light pollution into the sky and beyond the boundaries of the site.
Policy 44 Hazardous Installations	The Council will only allow new hazardous installations, or extensions to or intensification of use at an existing installation, where the proposal, in itself or by the transport of hazardous material to the site, does not prejudice public safety.

Table A.2: Anglesey's Stopped Ynys Mon UDP Plan

Policy	Summary
GP1	Development will be permitted where it :- i) Accounts for the effect on pedestrian and vehicular travel patterns including the use of public transport, public rights of way and cycling; ii) Minimises pollution or nuisance problems, and has regard for sustainable waste management; iii) Ensures water resources exist or can be made available without detriment to other users; iv) Does not cause significant harm to people, general amenity, residential amenity and the environment; v) Has adequate vehicular access and the roads leading to the site are safe and adequate and the highway network can accommodate the traffic generated; ix) Protects the best and most versatile agricultural land; Safeguard and enhance the integrity and/or continuity of the environment, including archaeological sites, landscape features and corridors such as stone walls, cloddiau, hedgerows, trees, ponds and rivers.
GP2	New development should promote a high quality of design and take into account all of the following criteria :- i) How well the development fits in with the character of its surroundings and respects the site and its setting; ii) The quality of its layout, design; use of local distinctive materials or materials of equivalent characteristics, roofing and other external finishes; iii) That the form, proportion; density and scale of the development is in harmony with its surroundings; iv) The provision made for boundary details, for landscaping and the protection of existing trees on a site; iva) The current nature conservation value of the site and the contribution landscaping proposals make to enhancing biodiversity; v) The integration of highway and traffic safety considerations along with pedestrian, public transport and cycle movements ; vi) The extent to which the proposal, by nature of its siting and design promotes energy conservation and water saving

Policy	Summary
	measures; viii) The links between public and private spaces around developments; The Council will also look for the application of sustainable principles in design including waste water usage within the site, minimisation of waste and energy management.
Part 1 PO8.	Development which causes significant harm to the natural and historic environment will not be permitted. The Anglesey Area of Outstanding Natural Beauty, Special Areas for Conservation, Scheduled Ancient Monuments, Special Protection Areas, Sites of Special Scientific Interest (SSSI), National Nature Reserves World Heritage Sites, Listed Buildings and Conservation Areas will be preserved or enhanced.
Environment Policy EN1	Development will be required to fit into its surroundings without significant harm to the Landscape Character Areas.
Environment Policy EN4	Development will only be permitted where it does not cause unacceptable harm to the biodiversity interest of Ynys Môn. Development must be designed to maintain, and where appropriate enhance the biodiversity of the natural environment including particular species.
Environment Policy EN5	Development will not be permitted where it would adversely affect either directly or indirectly the integrity of a site, or proposed sites of European importance for nature conservation, including Special Protection Areas, Special Areas of Conservation, and Ramsar Sites, including potential or candidate or listed sites awaiting designation. The Authority will need to be satisfied that : i) There is no alternative solution ii) There are imperative reasons of overriding public interest for the development or land use proposed. Where development is permitted the authority will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's nature conservation interest. Developments not directly connected with or necessary to the management of a European site, a proposed European site or a RAMSAR site which are likely to have significant effects on the site (either individually or in combination with other plans or projects) will be subject to the most rigourous examination.
Environment	Development that is likely to result in damage or have a detrimental effect on a Site of Special Scientific Interest will be subject to special

Policy	Summary
Policy EN6	scrutiny and will not be permitted unless the reasons for the development clearly outweigh the value of the site itself. Where development is permitted the authority will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's nature conservation interest.
Environment Policy EN7	Development will not be permitted where it would cause unacceptable harm to a Local Nature Reserve, Ancient Woodlands and ancient woodland sites that have been replanted/regenerated, a site of Importance for Nature Conservation or a Regionally Important Geological / Geomorphological Site unless it can be demonstrated that there are reasons for the proposal which clearly outweigh the need to safeguard the site. Where proven environmental, economic or social need necessitates the loss or damage of all or part of a site developers will be expected to create a suitable replacement habitat and to make provision for future management.
Environment Policy EN9	Proposals for development in or the vicinity of wetlands, watercourses or the shoreline will only be permitted where the proposed use is satisfactory in terms of water conservation, water quality, nature conservation and public access considerations. Development should be limited to essential transport & utilities infrastructure on natural flood plain.
Environment Policy EN10	There will be a presumption in favour of the protection, conservation, restoration of parks and gardens of special historic interest and their settings included in the volume of the CADW/ICOMOS Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales. There will be a presumption in favour of protecting two historic landscapes on Ynys Mon which are included in the second part of the Register and Information about these will be taken fully into account in assessing the implications of development which has more than local impact on these landscapes.
Environment Policy EN12	The Council will use its planning powers to ensure that Scheduled Ancient Monuments and their settings are retained intact and preserved for future generations. Unscheduled Archaeological Sites and broader historic landscapes which merit protection for their historic interest and significance will also be protected. Opportunities to record, investigate, and properly manage, understand and enhance the historic environment will be permitted. Where proposals affect other unscheduled archaeological remains

Policy	Summary
	which do not merit preservation, provision will be made to encourage, develop or provide further opportunities to record, investigate, properly manage, understand or enhance the historic environment. Schemes for the development of visitor and educational facilities on suitable sites will be permitted provided that the archaeological site is not put at risk. A representative sample of industrial archaeological sites will be retained and protected from development and from derelict land reclamation schemes.
Environment Policy EN13	The character and appearance of all designated conservation areas will be protected from unsympathetic development. Enhancement of their characters will be achieved by carrying out improvements and permitting suitably designed new development. Buildings of special architectural and historic interest and their settings will be protected from unsympathetic development, alterations or demolition. Appropriate uses which help to preserve their character and fabric will be permitted.
Environment Policy EN14	Measures for the protection and retention of existing trees, hedgerows and woodlands will be required to be submitted as part of development proposals. Where trees or hedgerows are removed as part of a development replacement using the original and indigenous species will normally be required. Hedgerows will be protected from inappropriate development.
Environment Policy EN16	Development that would adversely affect the integrity or continuity of the following landscape features (which are of major importance for wild fauna and flora) will be permitted if it can be demonstrated that the need for the development clearly outweighs the need to retain the features. Mitigating measures which would reinstate the integrity or continuity of the features will be required. The following list of features apply: Hedgerows; ditches and bank; stone walls and cloddiau; tree belts; woodlands; veteran trees; parklands; green lanes; river and stream corridors; lakes; ponds; road verges; or habitat mosaics or networks of other locally important habitats."
Infrastructure Policy SG2	Development (including the raising of land) will only be permitted where: (a) It would not result in risk to human life and damage to property within the Areas of Indicative Flood Risk defined on the proposal Maps; and/or (b) It would result in flooding, including tidal inundation, either on or off site, or adversely affect flood management or maintenance schemes.

Policy	Summary
	In areas of flood plain currently unobstructed, where water flows in time s of flood, built development will only be permitted wholly exceptionally and will be limited to essential transport and infrastructure.
Infrastructure Policy SG3	Development which may adversely impact upon the water environment and associated land will only be permitted where it :- (i) Would not pose an unacceptable risk to the capacity, quality or flow of groundwaters, surface waters or coastal water systems and; (ii) Would have access to an adequate water supply which either already exists or will be provided in time to serve the development, without detriment to existing water abstractions, water quality, fisheries or nature conservation.
Infrastructure Policy SG6	Proposals for development which would result in an unacceptable adverse impact on the water environment due to additional surface water run-off will not be permitted. Proposals for development which include disposal of surface run off water by means of soakaway will only be considered subject to criteria. Proposals for development which include disposal of surface water run off by means of soakaway will be evaluated in terms of satisfactory soil properties, geotechnology hydrogeology reviewed alongside the hydraulic design of the soakaway.
Infrastructure Policy SG7	Development will not be permitted; i) Within the Noise Constraint Area defined on the Proposal Maps where the development would be subject to an unacceptable exposure to noise; and/or ii) When the level of noise generated by the development does not satisfy the relevant current standards, and would be detrimental to the amenity of adjacent users.
Infrastructure Policy SG9	Development proposals within the defined Consultation Zone applying to Hazardous Installations will be strictly controlled to safeguard residential development, areas of public use and areas of particular sensitivity or interest. In determining whether or not to grant planning permission for a proposed development within these Zones, the Health and Safety Executive will be consulted in respect of potential risks and harm from Hazardous Installations that may arise.

Table A.3: JLDP Local Plan Policies

Policy	Summary
Strategic Policy PS5	Proposals will only be permitted where it is demonstrated that they are consistent with the principles of sustainable development. All proposals are required to: 1. Accord with national planning policy and guidance in accordance with Policy PCYFF1; 2. Alleviate the causes of climate change and adapting to those impacts that are unavoidable in accordance with Strategic Policy PS6; 3. Give priority to effective use of land and infrastructure, prioritizing wherever possible the reuse of previously developed land and buildings within the development boundaries of Sub Regional Centre, Urban and Local Service Centres, Villages or in the most appropriate places outside the min accordance with Strategic Policy PS15; 4. Promote greater self-containment of Centres and Villages by contributing to balanced communities that are supported by sufficient services; cultural, arts, sporting and entertainment activities; a varied range of employment opportunities; physical and social infrastructure; and a choice of modes of travel; 5. Protect, support and promote the use of the Welsh language in accordance with Strategic Policy PS1; Preserve and enhance the quality of the built and historic environment assets (including their setting), improving the understanding, appreciation of their social and economic contribution and sustainable use of them in accordance with Strategic Policy PS17; 7. Protect and improve the quality of the natural environment, its landscapes and biodiversity assets, including understanding, and appreciating them for the social and economic contribution they make in accordance with Strategic Policy PS16; 8. Reduce the effect on local resources, avoiding pollution and incorporating sustainable building principles in order to contribute to energy conservation and efficiency; using renewable energy; reducing / recycling waste; using materials from sustainable sources; and protecting soil quality; 9. Reduce the amount of water used and wasted; reducing the effect on water resources and quality; managing flood risk and maximizing use of sustainable drainage schemes; and progressing the objectives of the Western Wales River Basin Water Management Plan.

Policy	Summary
	Proposals should also where appropriate: 11. Promote a varied and responsive local economy that encourages investment and that will support our Centres, Villages and rural areas in accordance with Strategic Policy PS10; Promote high standards of design that make a positive contribution to the local area, accessible places, that can respond to future requirements and that reduce crime, antisocial behaviour and the fear of crime in accordance with Policy PCYFF2
Strategic Policy PS6	In order to alleviate the effects of climate change proposals will only be permitted where it is demonstrated that they have fully taken account of and responded to the following: 1. The energy hierarchy: i. Reducing energy demand; ii. Energy efficiency; iii. Using low and zero carbon energy technologies energy wherever practical and viable and consistent with the need to engage and involve communities, protect visual amenities, the natural, built and historic environment and the landscape. 2. Reducing greenhouse gas emissions, help to reduce waste and encourage travel other than by car. In order to adapt to the effects of climate change, proposals will only be permitted where it is demonstrated with appropriate evidence that they have fully taken account of and responded to the following: 3. Implementing sustainable water management measures in line with the objectives in the Western Wales River Basin Management Plan; 4. Locating away from flood risk areas, and aim to reduce the overall risk of flooding within the Plan area and areas outside it, taking account of a 100 years and 75 years of flood risk in terms of the lifetime of residential and non--residential development, respectively, unless it can be clearly demonstrated that there is no risk or that the risk can be managed (in line with Policy PCYFF1); 5. Be able to withstand the effects of climate change as much as possible because of its high standards of sustainable design, location, layout and sustainable building methods (in line with Policy PCYFF2); 6. Safeguarding the best and most versatile agricultural land and promoting allotments, support opportunities for local food production and farming in order to reduce the area's contribution to food miles; 7. Providing additional carbon management measures such as natural

Policy	Summary
	shelter and cooling and provide networks of green infrastructure and tree planting to compensate for CO_2 emissions (in line with Policy PCYFF4); 8. Ensuring that the ability of landscapes, environments and species to adapt to the harmful effects of climate change is not affected, and that compensatory environments are provided if necessary; 9. Aim for the highest possible standard in terms of water efficiency and implement other measures to withstand drought, maintain the flow of water and maintain or improve the quality of water, including using sustainable drainage systems (in line with Policy PCYFF 5); 10. Protecting soil in order to ensure that the effects of climate change can be withstood.
Policy PCY FF1	A proposal: 1. Must comply with all relevant policies in the Plan; 2. Must comply with national planning policy and guidance. 3. Will be approved within defined development boundaries or the built form of identified clusters listed in the settlement framework set out in Strategic Policy PS15, subject to detailed material planning considerations; 4. Should make the most efficient use of land, including achieving densities of a minimum of 30 housing units per hectare for residential development (unless there are local circumstances that dictate a lower density); 5. Must provide appropriate amenity space to serve existing and future occupants; 6. Should have regard to the generation, treatment and disposal of waste; Includes, where applicable, provision for the appropriate management and eradication of invasive species;
Policy PCY FF2	All proposals will be expected to demonstrate high quality design which fully takes into account the natural, historic and built environmental context and contributes to the creation of attractive, sustainable places. Innovative and energy efficient design will be particularly encouraged.
Policy PCY FF3	All proposals should integrate into their surroundings. Proposals that fail to show (in a manner appropriate to the nature, scale and location of the proposed development) how landscaping has been considered from the outset as part of the design proposal will be refused.
Strategic	In their role as authorities giving permission for associated development or as a consultees for applications to other bodies, within the context of

Policy	Summary
Policy PS8	national policy statements and national planning policy, the Councils will aim to ensure that development makes a positive contribution to achieving the vision and strategic objectives set out in the Plan. In doing so, consideration will be given to the nature, scale, range and possible impact of any development.
Policy CYF6	In order to promote economic growth as well as contributing towards social and environmental sustainability proposals for urban renewal schemes that accord with any master plan/ strategy adopted or supported by the Councils will be granted provided they conform to the following criteria: 1. Include provision of appropriate infrastructure; 2. Support any local, regional and national economic regeneration plans; Encourage the reuse of previously developed land, vacant buildings or land that is underutilized;
Strategic Policy PS16	The Councils will manage development so as to conserve and enhance the Plan area's distinctive natural environment, countryside and coastline, and proposals that have an adverse affect on them will be refused. When considering permitting an application the Planning Authorities will ensure that they are: 1. Safeguarding the Plan area's habitats and species, geology, history and landscapes; 2. Protecting and enhancing sites of international, national, regional and local importance and, their settings in line with National Policy; 3. Having regard to the relative significance of the designations in considering the weight to be attached to acknowledged interests in line with National Policy; 4. Protecting and enhancing biodiversity within the Plan area and enhancing and/or restoring networks of natural habitats in accordance with the Local Biodiversity Action Plan and Policy AMG4; 5. Protecting and enhancing biodiversity through networks of green/ blue infrastructure; 6. Safeguarding internationally, nationally and locally protected species; 7. Protecting, retaining or enhancing the local character and distinctiveness of the individual Landscape Character Areas (in line with Policy AMG2) and Seascape Character Areas (in line with Policy AMG3); Protecting, retaining or enhancing trees, hedgerows or woodland of visual,

Policy	Summary
	ecological, historic cultural or amenity value.
Policy AMG1	When considering proposals within Special Landscape Areas (SLA) as identified by the proposals map and listed below, there will be a need to appropriately consider the scale and nature of the development thus ensuring that there is no detrimental impact on the landscape. The development should aim to add to the historic, visual, geographical, ecological and cultural features of the SLA. Proposals should address and coincide with the prepared 'Statement of Significance'. Where there are reasonable grounds to suggest that proposals may result in a significant adverse impact on the SLA (either located within or directly outside) the Council will require a Landscape and Visual Impact Assessment in order to further consider the impact of the development on the designated area. In exceptional circumstances, where development is necessary and could result in significant impact on the landscape, appropriate mitigation and compensation measures should be provided.
Policy AMG2	Proposals that would have an adverse impact upon landscape character as defined by the Landscape Character Areas included within the current Landscape Strategy for the relevant authority, must demonstrate through a landscape assessment how landscape character has influenced the design, scale, nature and site selection of the development. A proposal will be granted provided that it doesn't have an adverse impact upon features and qualities which are unique to the local landscape in terms of visual, historic, geological, ecological or cultural aspects. Measures should be taken to ensure that the development doesn't:--- 1. Cause significant adverse impact to the character of the built or natural landscape; 2. Fail to harmonise with, or enhance the landform and landscape; 3. Lose or fails to incorporate traditional features, patterns, structures and layout of settlements and landscape of both the built and natural environment. Particular emphasis will be given to the landscapes identified through the Landscape Character Areas as being of high and outstanding quality because of a certain landscape quality or a combination of qualities. Additional consideration will also be given to developments which directly affect the landscape character and setting of the AONBs or the National Park.
Policy AMG4	Proposals should protect and enhance biodiversity that has been identified as being important to the local area. Proposals will be refused unless they can conform to all the following criteria: 1. Ensure that there is no other satisfactory alternative site for the

Policy	Summary
	development. 2. Ensure that the development is in a suitable location, avoiding locations that are of international, national and local biodiversity importance. 3. Provide measures to mitigate potential detrimental impact. Protect and enhance the nature conservation features. 4. Create, improve and manage wildlife habitats and natural landscape including wildlife corridors and stepping stones. 5. Contribute towards achieving the targets set in the Local Biodiversity Action Plan. Where necessary, an Ecological Assessment which highlights the relevant biodiversity issues should be included with the planning application. When a development can't protect or enhance biodiversity and the need for the development outweighs the importance of the site for nature conservation it should be clearly shown that there is no other appropriate location available and there are appropriate mitigation or compensation measures in place.
Policy AMG5	Proposals that are likely to cause direct or indirect significant harm to Local Nature Reserves (LNR), Wildlife Sites (WS) or regionally important geological / geomorphologic sites (RIGS) will be refused, unless it can be proven that there is an overriding social, environmental and/or economic need for the development, and that there is no other suitable site that would avoid having a detrimental impact on sites of nature conservation value and local geological importance. When development is granted, assurance will be required that there are appropriate mitigation measures in place. It will be possible to use planning conditions and/or obligations in order to safeguard the site's biodiversity and geological importance.
Policy PS17	In seeking to support the wider economic and social needs of the Plan area, the Local Planning Authorities will preserve and, where appropriate, enhance its unique heritage assets. Proposals that will preserve and enhance the following heritage assets, their setting and significant views into and out of the building/area will be granted: 1. Scheduled Ancient Monuments and other areas of archaeological importance (in line with Policy AT4). 2. Listed Buildings and their curtilages. 3. Conservation Areas (in line with Policy AT1). 4. Beaumaris Castle and Caernarfon Castle and Town Walls World Heritage Sites (in line with Policy AT1). 5. Candidate World Heritage Sites. 6. Registered Historic Landscapes, Parks and Gardens (in line with

Policy	Summary
	Policy AT1). Buildings of architectural/ historic/ cultural merit which are not designated or protected (in line with Policy AT3).
Policy AT1	Proposals within or affecting the setting and/ or significant views into and out of Conservation Areas, World Heritage Sites and Registered Historic Landscapes, Parks and Gardens shown on the Constraints Map must, where appropriate, have regard to: 1. Adopted Conservation Area Character Appraisals, Conservation Area Plans and Delivery Strategies. 2. World Heritage Site Management Plans. 3. The Register of Landscape, Parks and Gardens of Special Historic Interest in Wales. 4. Other detailed assessments adopted by the Local Planning Authority. Development proposals should be supported by a Heritage Impact Assessment, where appropriate.
Policy AT3	Proposals will be required to conserve and seek opportunities to enhance buildings, structures and areas of locally or regionally significant non-designated heritage assets, for example: 1. The sympathetic re-use of redundant and under-used historic buildings and areas which are consistent with their conservation; and 2. Opportunities to enhance the Plan area's historic public realm by ensuring that all development, including transport and infrastructure work, is sympathetic to the historic environment. Distinctive elements of the Plan area's historic environment, which creates a sense of local character and identity and variation across the Plan area, will be conserved, enhanced and their potential to contribute towards wider social, cultural, economic and environmental benefits will be exploited.
Policy AT4	Proposals which may affect sites that are of potential national archaeological importance or are of acknowledged local heritage importance including sites of industrial archaeology that are not scheduled will: 1. Be assessed in terms of the intrinsic importance of the 'site' and the potential extent of harm. 2. Require, where appropriate, either an archaeological assessments and/ or field evaluation by an archaeological body or a professionally qualified archaeologist in order to determine the archaeological impact of the proposed development before the

Policy	Summary
	Planning Authority determines the application. A proposal which affects locally important archaeological remains will only be granted if the need for the development overrides the significance of the archaeological remains. Where proposals are acceptable, a site a site a condition will be attached to the permission stating that no development should take place until an agreed programme of archaeological work has taken place.

Appendix 2 – Overview Report

SP MANWEB PLC,
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PRENTON WAY PRENTON
CH43 3ET

January / 2017

Anglesey 33kV Reinforcement Overview Report for Statutory Consultees

SP ENERGY NETWORKS

1. Introduction

1.1. Overview of SP Manweb

SP Manweb is the electricity distribution network operator for North and mid Wales, Cheshire, Merseyside and parts of Shropshire.

The electricity distribution network operates from 132,000 volts (132kV) down to 240 volts (240v) taking the electricity from the National Grid and distributing it to homes and businesses across Wales and north west England.

SP Manweb has duties placed upon it by the Electricity Act 1989 (the Electricity Act) and operates under the terms of its distribution licences.

Under section 9(2) of the Electricity Act, SP Manweb has a duty:

- To develop and maintain an efficient, co-ordinated and economical system of electricity distribution; and
- To facilitate competition in the supply and generation of electricity.

1.2. Project Background

SP Energy Networks requires to reinforce the existing distribution electrical network across the Isle of Anglesey. The current 132kV and 33kV network is not sufficient to meet current and future generation capacity expected on Anglesey. In order to overcome this constraint SP Energy Networks is proposing to construction a new 132kV wood pole overhead line. The proposed overhead line will tee-off from an existing National Grid transmission line and run to the existing Caergeiliog substation. A short section of underground cable and a new grid transformer are required to connect the overhead line into Caergeiliog substation. The approximate length of the new overhead line will be 1 kilometre (km). The underground cable section is approximately 750m in length. The new transformer will be sited in the existing substation compound.

2. Project Description

2.1. Introduction

The proposed project comprises of the installation of a new 60 Mega Volt Ampere (MVA) 132/33 kV grid transformer at Caergeiliog grid substation. This would be supplied at 132kV by a new tee-connection from the existing NGET's Wylfa – Penrhos (formally Anglesey Aluminium) 132kV tower line. The tee-connection would be from an NGET steel tower onto a new 1 kilometre (km) overhead line which would run to the edge of Caergeiliog adjacent to the end of Tre Ifan. The remaining 750m through Caergeiliog

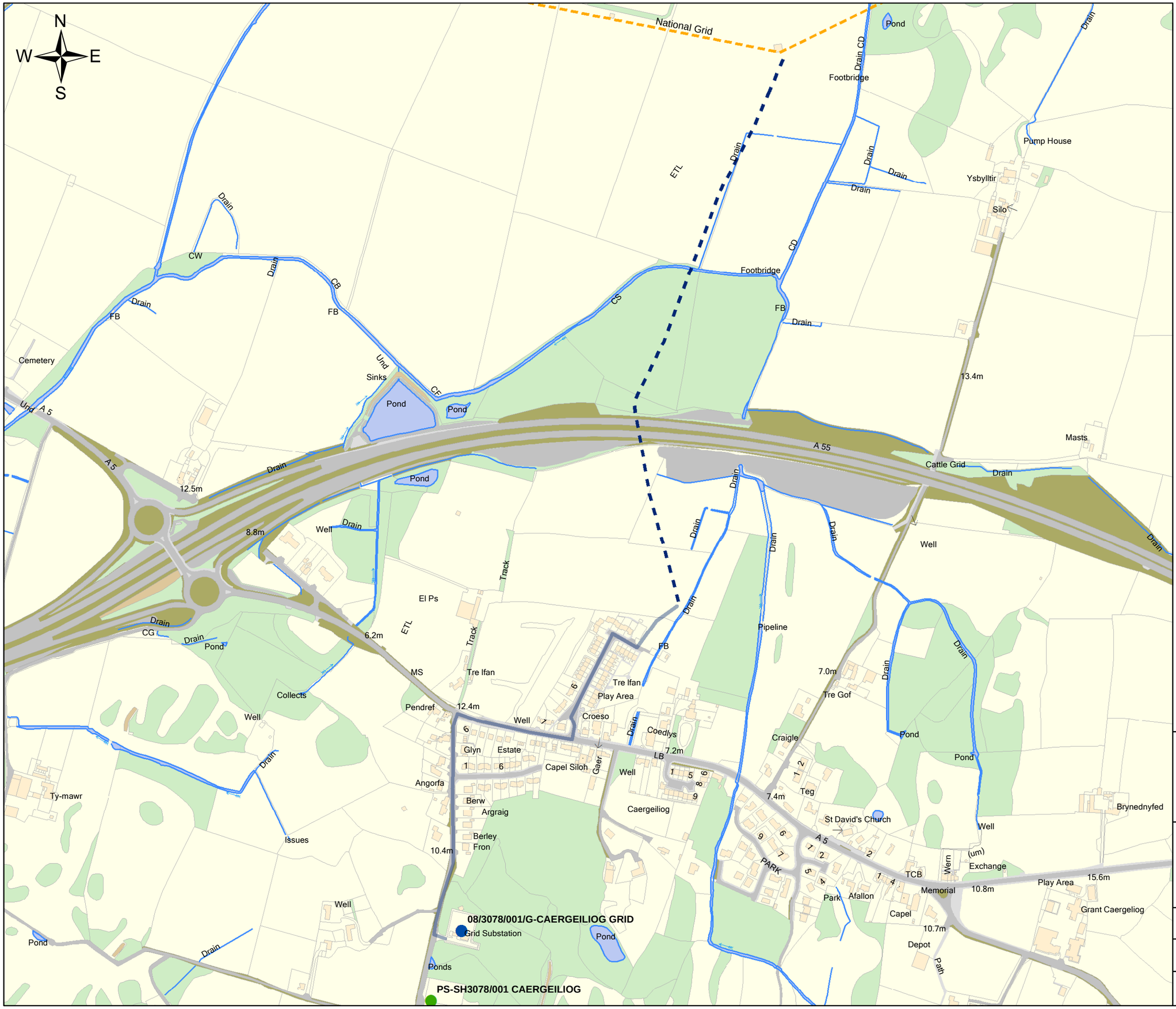
would be via a 132kV underground cable into the existing Caergeiliog grid substation. A new 12 km 33kV overhead line between Llangaffo - Llanfairpwll would also be constructed.

SP Energy Networks considers that only the 132kV overhead line part of the Proposed Reinforcement has the potential to require an EIA as is described below in detail.

2.2. The Route

The overhead line route runs for approximately 1 km from the existing NGET Wylfa - Penrhos 132kV tower line to a terminal pole on the edge of Caergeiliog. The route runs within a rural agricultural area, passing through fields with hedgerow and post and wire fence boundaries before crossing the A55. The route then continues through agricultural field to a terminal pole, where the overhead line terminates.

An overview of the proposed route for the overhead line is presented in Figure 2.1.



Legend

- Indicative 132kV Overhead Line Route
- Indicative 132kV Underground Cable Route

SP ENERGY NETWORKS

Coordinate System: British National Grid
Datum: OSGB 1936

Project:

Anglesey 33kV Reinforcement

Title:

Figure 2.1. 132kV Overhead Line Indicative Route

Drawn by:	Claire Duffy
Sheet Size:	A3 (297mm x 420mm)
Scale:	1:5,000

2.3. Overhead Line Design

The proposed 132kV overhead line between the existing NGET Wylfa – Penrhos tower line and the Caergeiliog substation will be of single circuit construction. A single circuit 132kV overhead line can be supported on wooden poles or on lattice steel towers (pylons). In this instance the proposal is for a wood pole 'Trident' design overhead line. Figure 2.2 is a photograph of an existing 132kV Trident design overhead line. It was considered that wooden poles, which are lower in height and have a more slender and simpler appearance than steel lattice towers, would be more sympathetic to the predominantly rural landscape through which the line would be routed.

Figure 2.2 Photograph of an existing 132kV 'Trident' overhead line in North Wales.

2.4. Construction Activities

Overhead line construction follows a standard sequence of activities.

For a 132kV wood pole overhead line these activities are:

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

- Clearance and reinstatement.

An allowance of two weeks per kilometre will be made for construction.

Therefore the new 132 kV overhead line will take approximately two weeks to construct.

3. Possible Effects on the Environment

3.1. Introduction

An Environmental Appraisal has been prepared to accompany the consent application. The Environmental Appraisal describes the route of the new line, the characteristics of the new line and sets out why it is considered that with carefully managed construction methods, the new line would result in no significant impacts on the environment. Below is a summary of the main findings of the appraisal. Figure 3.1 illustrates the designated sites in proximity to the Proposed Reinforcement.

N
W
E
S

National Grid

Caergeiliog

Park

Depot

08/3078/001/G-CAERGEILIOG GRID

PS-SH3078/001 CAERGEILIOG

Legend

- Indicative 132kV Underground Cable Route
- Indicative 132kV Overhead Line Route
- Overhead Lines
- Areas of Outstanding Natural Beauty
- Special Area of Conservation
- Site of Special Scientific Interest
- RSPB Reserves
- Listed Buildings Grade II

SP ENERGY NETWORKS

Coordinate System: British National Grid
Datum: OSGB 1936

Project:

Anglesey 33kV Reinforcement

Title:

Figure 3.1. 132kV Overhead Line Indicative Route and Designated Sites

Drawn by:	Claire Duffy
Sheet Size:	A3 (297mm x 420mm)
Scale:	1:7,500

3.2. Land

The Proposed Reinforcement with be located on agricultural land in an area which is predominately rural. There are number of water courses and drains in proximity to the Proposed Reinforcement. Two main rivers are located within the study area, these are:

- River Caergeiliog; and
- Maes y Wrach.

Tributaries of Maes Y Wrach continue south, through Caergeiliog to Llyn Dinam. Further small tributaries are located approximately 100m south of the starting point for the Proposed Reinforcement adjacent to the existing National Grid tower line.

There are no allocated sites or designations within the draft JDLP in proximity to the Proposed Development. Based upon Agricultural Land Classification (ALC) information from a desk assessment undertaken and provided by Isle of Anglesey County Council, the indicative route passes entirely through Grade 3b land.

3.3. Ecology

Ecological survey and assessment work is proposed to be carried out for the Proposed Reinforcement to identify the habitats within the area of the Proposed Reinforcement.

There are no designated sites in close proximity to the Proposed Reinforcement. The closest designated site is the Llyn Dinam Special Area of Conservation (SAC) and Llynnau y Fali/Valley Lakes site of special scientific interest (SSSI). The site is also a RSPB reserve known as Valley Wetlands. This is situated approximately 900m at its closest point. Qualifying habitat features for the SAC include natural eutrophic lakes, standing water, fen topogenous mires in valley basins and flood plains and swamp. Additional notified and qualifying features/species include; vascular plant assemblage, marsh fern (*Thelypteris palustris*), shoveler (*Anas clypeata*), gadwall (Anas strepera), pochard (*Aythya farina*), tufted duck (*Aytya fuligula*), and other breeding bird assemblage of open waters and their margins.

There are no Ramsar, Special Protection Areas (SPAs), National Nature Reserves, Local Nature Reserves, Marine Nature Reserves, Biosphere Reserves, Local Wildlife Sites, ancient woodlands or geological conservation review sites within close proximity to the Proposed Reinforcement.

3.4. Cultural Heritage

There are no sites designated for their cultural heritage interest within close proximity to the Proposed Reinforcement.

3.5. Landscape

The proposed route is located within the southernmost extent of the North West Anglesey Landscape Character Area, which broadly extends from Llanfair-yn-neubwll (approximately 2.5km south west of Caergeiliog) to Cemaes, northern Anglesey, covering the majority of the north-west Anglesey area. The Anglesey/Ynys Mon Area of Outstanding Natural Beauty (Anglesey AONB) is situated 1.2km from the Proposed Reinforcement at its nearest point. Almost the entire coastline of Anglesey is designated as an AONB measuring 221 sq. km, covering one third of the island. Although predominantly a coastal designation, the AONB encompasses Holyhead Mountain and Mynydd Bodafon. Some of the main features are low cliffs alternating with coves and pebble beaches, limestone cliffs scattered with fine sandy beaches and stretches of sand dunes. There are no Special Landscape Areas or Heritage Costs within 5km of the Proposed Reinforcement.

3.6. Social

There are no national trails, bridleways, National Trust land, Country Parks or sites of tourist interest/facilities in close proximity to the Proposed Reinforcement. A number of public rights of ways and footpaths can be found in proximity to the Proposed Reinforcement. None will be directly affected by the construction works associated with the Proposed Reinforcement.

3.7. Screening Assessment

SP Energy Networks will be seeking a screening opinion from the Secretary of State for Business, energy and Industrial Strategy to confirm that an EIA is not required for the 132kV overhead line. This section provides information about the Proposed Reinforcement, its setting and potential effects on the environment and people. In order to facilitate the screening process the information is provided for each question in the screening checklist advocated by the UK government:

(https://www.gov.uk/government/publications/environmental-impact-assessment-screening-checklist).

The information is contained here to provide statutory consultees with further detail on the Proposed Reinforcement prior to the completion of the environmental appraisal and the formal consultation that will occur when an application for section 37 consent is made.

Table 3.1 below provides the details of the screening assessment.

Table 3.1 Screening Checklist

Questions to be considered		Likely/Unlikely – briefly describe	Is this likely to result in a Significant effect? Yes/No – why?
1	Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?	Unlikely The Proposed Reinforcement will consist of small scale works to construct a new 132kV wood pole overhead line. The line is routed through agricultural land and there will be no changes to topography, land use or waterbodies.	No Only very small physical changes will occur and will be only in the near vicinity of the Proposed Reinforcement. No changes to topography, land use or waterbodies.
2	Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Likely The Proposed Reinforcement will use water, materials and energy as part of standard construction activities. All activities will be sort term and the requirement for water, materials and energy minimal. The main resource required for the construction is wood. None of the resources required are in short supply.	No The Proposed Reinforcement will not consume significant quantities of natural resources that are not already in the supply chain or which are in short supply. No significant effects arising from the use of resources by the Proposed Reinforcement are anticipated.
3	Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Unlikely The materials to be used for construction are well known and potential risks associated with use and storage	No No significant effects from materials causing actual or perceived risks to human health are anticipated.

		understood. There are no concerns regarding actual or perceived risks to human health associated with these materials.	
4	Will the Project produce solid wastes during construction or operation or decommissioning?	Likely Wastes such as excavated material, packaging and un-useable construction materials will be produced during construction. Operation of the Proposed Reinforcement is not expected to produce waste. Decommissioning is expected to produce similar levels of waste as construction as the activities are broadly similar.	No Construction will generate small quantities of waste. This will be recycled where possible or disposed of using standard waste management practices. No significant effects arising from waste management are anticipated.
5	Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	Unlikely No pollutants or any hazardous, toxic or noxious substances to air.	No No significant effects arising from emissions to air are anticipated.
6	Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Likely Construction activities will generate noise and may generate light if security lighting is required. No vibration or heat energy is anticipated. The operation of the Proposed Reinforcement will produce electric and magnetic fields (EMFs).	No The Proposed Reinforcement is not routed in close proximity to residential properties. Construction work is short term and temporary. No piling is anticipated for the Proposed Reinforcement and other construction activities will be controlled by best practices to minimise noise. The overhead line will be designed to

			comply with the statutory requirements of the Electricity Safety, Quality and Continuity Regulations 2002, and would be fully compliant with UK government policy which requires EMFs to be below the current public exposure limits. The scale of the construction works and the level of EMFs produced are unlikely to result in significant environment effects.
7	Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	Unlikely Standard construction best practice will be used to ensure that pollutants are not released to the ground, surface waters or groundwater. The Proposed Reinforcement is not close to coastal water or the sea. No risk of contamination to waters will arise during operation of the Proposed Reinforcement.	No Adherence to construction best practice and NRW guidance will ensure that no significant effects on land or water will occur during construction.
8	Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the Project?	Unlikely The surrounding area is agricultural land none of which is subject to pollution or environmental damage.	No No locations are subject to pollution or environmental damage.
9	Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	Unlikely Adherence to standard health and safety construction procedures will ensure a	No There is a low risk of accidents during construction or operation of the Proposed

		minimal risk of accidents that could affect human health or the environment.	Reinforcement.
10	Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	Unlikely The small scale of the Proposed Reinforcement will not result in any social changes. Construction staff will be sourced from existing markets.	No No economic or demographic changes will occur as a result of the Proposed Reinforcement.
11	Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the Project?	Unlikely The Proposed Reinforcement is not located within any statutory or non-statutory sites designated for ecological, landscape, cultural or other value. The closest designated site is the Llyn Dinam SAC and Llynnau y Fali/Valley Lakes SSSI. This is situated approximately 900m at its closest point. The Anglesey/Ynys Mon Area of Outstanding Natural Beauty (Anglesey AONB) is situated 1.2km from the Proposed Reinforcement at its nearest point.	
12	Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the Project?	Likely The Proposed Reinforcement runs through agricultural fields used for grazing and is adjacent to a small watercourse. This watercourse is also crossed at one location. Standard construction management	No No significant effects are expected on ecologically sensitive areas due to control measures to be used during construction.

		practices will be employed to ensure that pollutants are not released to water or land. No construction or operational activities are required in the watercourse. The Proposed Reinforcement will oversail the watercourse where it crosses.	
13	Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the Project?	Likely Areas around the Proposed Reinforcement have the potential to be used by protected species such as bats, badgers, amphibians and breeding birds. The small scale and temporary nature of the works proposed and standard construction best practice will be employed to minimise any potential effects.	No The construction activities are not anticipated to significantly affect protected, important or sensitive species of fauna or flora.
14	Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the Project?	Likely The Proposed Reinforcement is located in proximity to a number of small drains and watercourses. The Proposed Reinforcement is not located next to coastal or marine waters. The Proposed Reinforcement only involves small scale excavations which are unlikely to interfere with underground waters. Appropriate construction measures will be employed to ensure that pollutants are not release to	No Adherence to construction best practice and NRW guidance will ensure that no significant effects on land or water will occur during construction.

		water or land.	
15	Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the Project?	Unlikely The landscape within which the Proposed Reinforcement is routed is largely open and agricultural with undulating hills. Views extend over medium distances with existing electrical infrastructure present to the north and west of the Proposed Reinforcement. The Anglesey AONB is approximately 1.2km away from the Proposed Reinforcement at its nearest point.	No Existing electrical infrastructure is present in the locality of the Proposed Reinforcement and the Proposed Reinforcement is over 1km from the AONB boundary. It is unlikely that the new wood pole overhead line will be visible from the boundary of the AONB due to the size and height of the proposed overhead line and the intervening topography between the Proposed Reinforcement and the AONB boundary. The village of Caergeiliog is also situated between the Proposed Reinforcement and the AONB boundary to the south and west. It is not expected that the visual impact of the new overhead wood pole line will be significant.
16	Is the Project in a location where it is likely to be highly visible to many people?	Unlikely The landscape within which the Proposed Reinforcement is routed is largely open and agricultural with undulating hills. Views extend over medium distances with existing electrical infrastructure present to the north and west of the Proposed Reinforcement.	No Due to the height and design of the proposed wood pole overhead line and the short overall length of the new line, it is not expected that the visual impact will be significant.

		The village of Caergeiliog is situated to the south and west of the Proposed Reinforcement. The proposed overhead line is terminated in agricultural fields on the outskirts of the village and runs underground through the village to ensure minimal visual impact in this location.	
17	Are there any routes on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the Project?	Unlikely A section of public and private road is located approximately 200m to the east of the proposed overhead wood pole line. There is a public footpath also located on this public/private road. This does not appear to be heavily used. The proposed overhead line crosses the A55. It is anticipated that short term single land road closure may be required during conductor stringing. This is likely to last a couple of hours and will be timed to coincide with a quiet time for road usage (e.g. Sunday morning).	No The proposed construction activities and associated traffic will not result in any significant changes to the accessibility of the public/private road and public footpath. The stringing of the conductors over the A55 will be managed in discussion with the local authority and highways authority to ensure minimal disturbance to users of the road.
18	Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the Project?	Unlikely The route of the overhead line crosses the A55 but any requirement for single land road closures will be developed in	No The Proposed Reinforcement will generate very low levels of construction traffic and therefore no significant effects from

		consultation with the local authority and highways authority. Construction traffic is minimal and will not impact on the usage of the A55.	increased traffic are anticipated.
19	Are there any areas or features of historic or cultural importance on or around the location which could be affected by the Project?	Unlikely There are no areas or features of historic or cultural importance on or around the location of the Proposed Reinforcement.	No The construction activities are not anticipated to significantly affect areas of features of historic or cultural importance.
20	Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	Unlikely The Proposed Reinforcement is located in a previously undeveloped area but it will not result a loss of greenfield land. The proposed design of the overhead line – a 'Trident' wood pole – results in minimal land take and will not impact on the greenfield status.	No There will be no significant loss of greenfield land as a result of the Proposed Reinforcement.
21	Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the Project?	Unlikely The Proposed Reinforcement is located in a previously undeveloped area. No other existing land uses will be affected by the Proposed Reinforcement.	No The Proposed Reinforcement will not result in significant effects on land use in the wider area.
22	Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Unlikely The village of Caergeiliog is located to the south and west of the Proposed Reinforcement. The proposed overhead	No The Proposed Reinforcement will not result in significant effects on densely populated or built-up areas.

		line is terminated in agricultural fields on the outskirts of the village and runs underground through the village to ensure minimal impact in this location.	
23	Are there any areas on, or around, the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the Project?	Unlikely The nearest sensitive land use is a school in Valley/Y Fali which is approximately 2km away from the proposed overhead line at its nearest point. No sensitive land uses are expected to be affected by the Proposed Reinforcement.	No The Proposed Reinforcement will not result in significant effects on sensitive land uses.
24	Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the Project?	Unlikely The Proposed Reinforcement is located in a previously undeveloped area. There are no high quality or scarce resources within or close to the Proposed Reinforcement that could be affected by the Proposed Reinforcement.	No The Proposed Reinforcement will not result in significant effects on areas of high quality or scarce resources.
25	Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the Project to present environmental problems?	Unlikely The Proposed Reinforcement is located within an area of flood risk. No other environmental or climatic conditions exist at the Proposed Reinforcement location.	No The nature of the Proposed Reinforcement means there is limited risk to it from flooding. If flooding were to occur, it is anticipated that flood water would flow around the poles with little impact on the overhead line and with no contact with critical elements such as the conductors.

			Therefore no significant environmental effects are anticipated.
26	Are there any plans for future land uses on or around the location which could be affected by the Project?	Unlikely A review of Anglesey Council's planning register has not identified any planned land use changes of developments in the vicinity of the Proposed Reinforcement.	No The Proposed Reinforcement will not result in significant effects on future land use in the wider area.
27	Are there any other factors which should be considered, such as consequential development which could lead to environmental effects, or the potential for cumulative impacts with other existing or planned activities in the locality?	Unlikely National Grid is proposing a new transmission tower line across Anglesey. This is over 13km away at its nearest point to the Proposed Reinforcement.	No The Proposed Reinforcement will not result in any significant environmental or other effects. There is no potential for the Proposed Reinforcement to contribute significantly to cumulative effects with the proposed National Grid transmission line.

4. Environmental Management Conclusions

4.1. Construction Environmental Management Plan

In advance of construction, a Construction Environmental Management Plan (CEMP) will be complete. The purpose of the CEMP will be to manage the likely environmental effects of the works, through ensuring that planned mitigation measures are implemented, unforeseen impacts are managed and that standards of good construction practice are adopted throughout construction. The requirements of third parties and the recognised standard good practice for overhead line design and construction will be reflected in the CEMP.

The CEMP will be developed in conjunction with the appointed construction contractor and will reflect any conditions and obligations contained in the section 37 consent.

4.2. Conclusions

The construction of overhead lines is a well-established practice and the environmental effects of construction and operational presence are well understood. The works will involve the construction of a short section of 132kV wood pole overhead line on land with little or no associated environmental sensitivities.

Overall there will be no likely significant environmental effects during construction and operation.

Appendix 3 – NRW Response 07/02/17

Cyfoeth Naturiol Cymru
Natural Resources Wales

Land and Planning,
Energy Networks,
Prenton Way,
Prenton,
CH43 3ET

Ein cyf/Our ref: TH/CAS-28799-K1Q4

Eich cyf/Your ref: ANGCD003

07/02/2017

Er sylw / For the attention of Claire Duffy

Annwyl Syr/Madam / Dear Sir/Madam,

TOWN & COUNTRY PLANNING ACT 1990

BWRIAD / PROPOSAL: 132KV AND 33KV LINE IMPROVEMENTS / NEW LINE IN PLACES LLEIOLIAD / LOCATION: WYLFA TO CAERGEILIOG 132KV OVERHEAD ELECTRIC LINE

Thank you for consulting Cyfoeth Naturiol Cymru / Natural Resources Wales about the above.

NRW would not object to the proposals as we consider they are unlikely to have a significant adverse effect upon the interests listed.

Flood Risk:

The proposals will cross a main river, and as such will require an exemption from NRW prior to works commencing. NRW have already been in contact with SP Energy Networks regarding this exemption.

Environmental Management:

Works should be undertaken in accordance with best practice guidelines to prevent and minimise pollution and sedimentation. Further information can be found at: http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/

Protected sites:

The proposal lie approximately 580m from the Llyn Dinam Special Area of Conservation. NRW consider that the proposals are unlikely to adversely affect this area.

Protected Species:

The proposals will mainly cross improved grassland. There is no indication that hedgerows will require removal. Should any hedgerow / dense scrub require removal, they should be surveyed for otter holts/ resting places prior to works commencing. NRW hold records of otters in the vicinity.

Any holes being dug for the proposals should be covered overnight to ensure no mammals become trapped.

Protected Landscapes:

The proposals lie approximately 830m from the proposals. NRW considers that the impact upon this area is unlikely to be significant.

Please do not hesitate to contact us if you require further information or clarification of any of the above.

Our comments above only relate specifically to matters that are included on our checklist “Natural Resources Wales and Planning Consultations” (March 2015) which is published on our website: (https://naturalresources.wales/planning-and-development/planning-and-development/?lang=en). We have not considered potential effects on other matters and do not rule out the potential for the proposed development to affect other interests, including environmental interests of local importance. The applicant should be advised that, in addition to planning permission, it is their responsibility to ensure that they secure all other permits/consents relevant to their development.

Yn gywir / Yours sincerely,

Tomos Hughes

Mr T P L Hughes

Uwch Gynghorydd Cynllunio Datblygu / Senior Development Planning Adviser
Gwasanaeth Cynghori Cynllunio Datblygu / Development Planning Advisory Service

Ebost/Email: Northplanning@naturalresourceswales.gov.uk
Ffôn/Tel: 03000 655 241

Appendix 4 – Valley Community Council Presentation

Anglesey Reinforcement

SP ENERGY NETWORKS

Valley Community Council Meeting

February 2017

Agenda

- Welcome and introductions

- Project description

- Discussion

- Next steps and key dates

Welcome and Introduction

Today's SP Energy Networks representatives

- Mark Sobczak, 132kV Major Projects Programme Manager
- Claire Duffy, Planning Consents Lead

Project Description

We are seeking to reinforce the electrical infrastructure across Anglesey by investing £9m in a new 2km 132,000 volt circuit near Caergeiliog

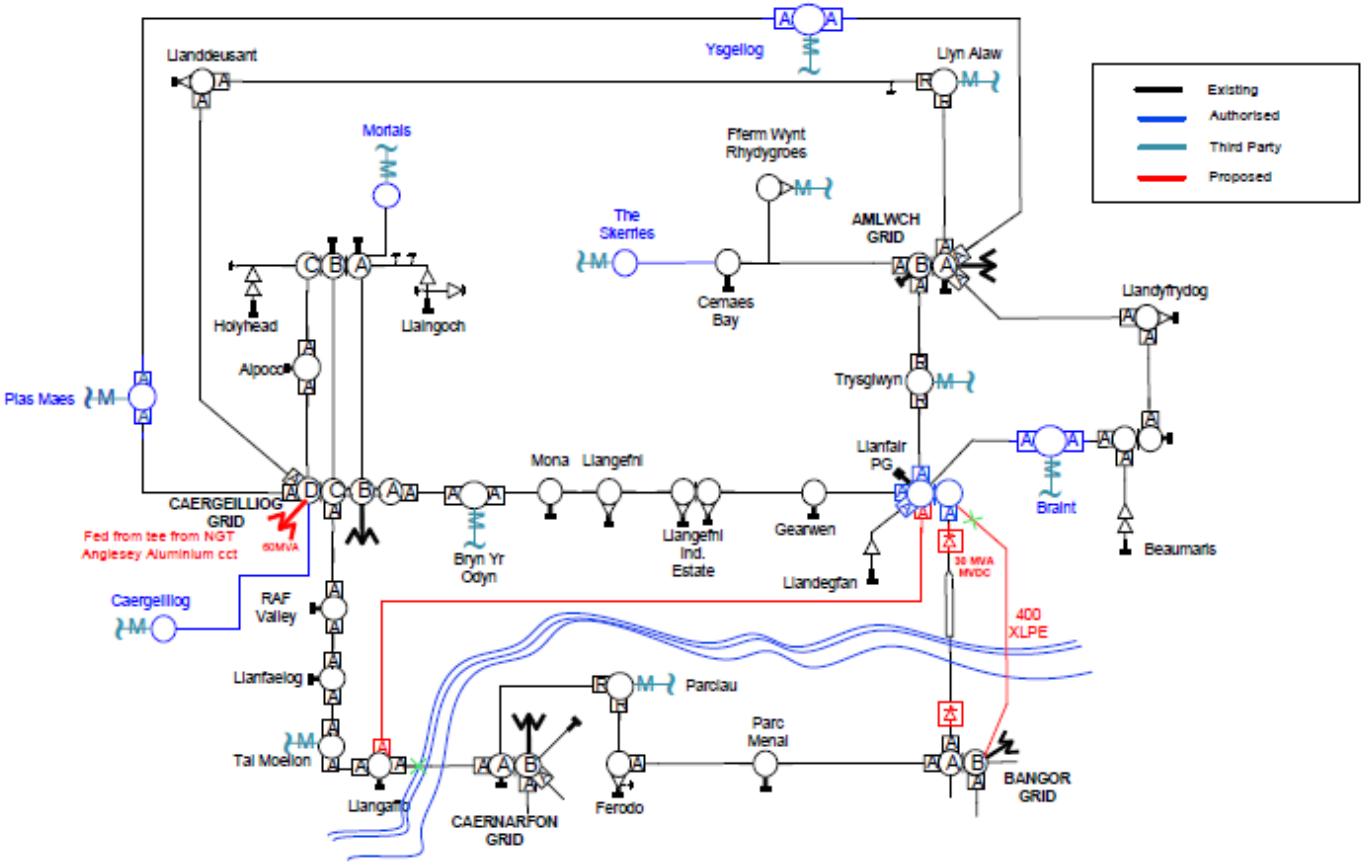
- The opportunity for future generation in Anglesey is limited with our existing network
- The demand in Anglesey is anticipated to increase significantly over the next 10 years due to various regeneration and development projects:
  - there is currently approximately 80MW of wind generation connected to the 33kV system in Anglesey
  - a further 83MW is currently contracted
  - the level of generation connection activity is high and is anticipated to increase

Project Description

We are seeking to reinforce the electrical infrastructure across Anglesey by investing £9m in a new 2km 132,000 volt circuit near Caergeiliog

- We have studied our infrastructure across Anglesey and as a result we are proposing a new 2km 132,000 volt circuit from the existing Penrhos National Grid tower line to Caergeiliog which will consist of:
  - T connection from the tower line
  - Section of 132,000 volt overhead wood pole line
  - Section of 132,000 volt underground cable
  - New grid transformer at the existing Caergeiliog substation
  - New 33,000 volt circuit between Llangaffo and Llanfairpwll - tbc

Project Description



Project Description

Project Photographs: Wood Pole (Trident) Line

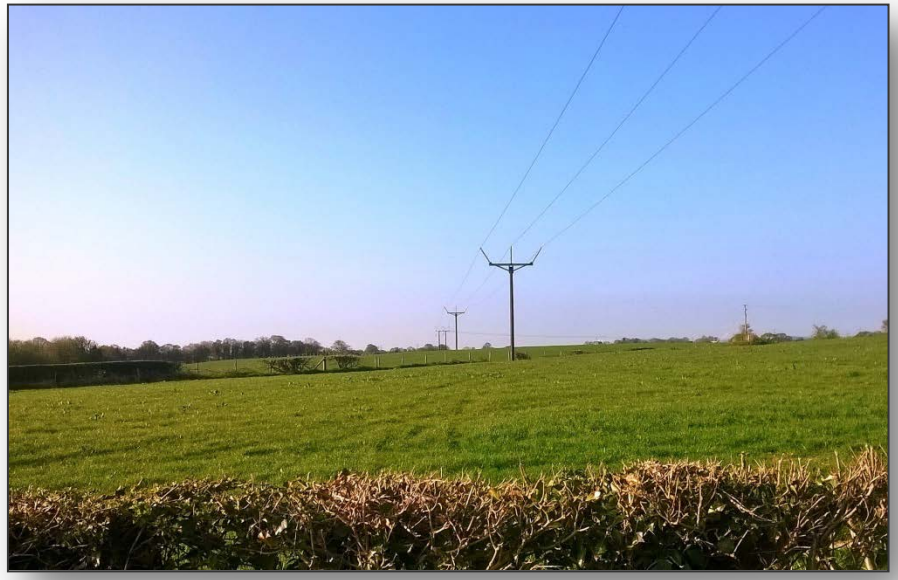
Proposed route Caergeiliog

Proposed route Caergeiliog

Proposed route Caergeiliog

Proposed route Caergeiliog

Proposed route Caergeiliog



Discussion

Next steps and key dates

SP Manweb is required to submit an application for consent under the Electricity Act 1989 to the Department of Business, Energy and Industrial Strategy (DBEIS)

Key Dates:

- December 2016 – route finalised, discussions with landowners commenced
- Start February 2017 – environmental impact assessment (EIA) screening request sent to DBEIS
- End February 2017 – section 37 application for consent sent to DBEIS
- March 2017 – consultation by DBEIS on application
- End May 2017 – decision from DBEIS
- Autumn 2017 – construction commences (substation works)
- Spring 2018 – overhead lines construction commences
- Autumn 2018 – construction completed