

**Environment and Economy
Overview and Scrutiny
Panel**

Agenda
Item:
A.5

Meeting Date: 1 December 2016
 Portfolio: Economy, Enterprise and Housing
 Key Decision: Yes: Recorded in the Notice Ref:KD.15/16
 Within Policy and Budget Framework NO
 Public / Private Public

Title: NORTH WEST COAST CONNECTIONS PROJECT -
S42 CONSULTATION RESPONSE
 Report of: Corporate Director of Economic Development
 Report Number: ED.42/16

Purpose / Summary:

The report sets out the issues for consideration relating to the National Grid’s consultation on the North West Coast Connections project including a draft headline report on the consultation response attached in Appendix 1.

Recommendations:

That the Panel considers this report and the Headlines Issues contained in Appendix 1, and refers their observations to Executive as the basis of the Council’s response to National Grid’s formal consultation on the North West Coast Connections Project.

Tracking

Executive:	19 December 2016
Overview and Scrutiny:	1 December 2016
Council:	

1. BACKGROUND

- 1.1 National Grid plans to build a 400 kilovolt (kV) connection from the proposed Moorside Power Station in West Cumbria to the national electricity grid at Harker, near Carlisle and Heysham, near Lancaster. This project – ‘North West Coast Connections’ – is a nationally significant infrastructure project (NSIP), which will be decided by the Secretary of State through the Development Consent Order (DCO) process.
- 1.2 National Grid is carrying out a public consultation on the North West Coast Connections (NWCC) project from 28th October 2016 to 6th January 2017. This is a formal stage of consultation under Section 42 of the Planning Act 2008 with the public and local authorities, and is the main opportunity to comment on this project before a DCO application is submitted to the Planning Inspectorate, currently scheduled for April 2017.
- 1.3 Members of the Executive previously received report ED.24/12, which related to the consultation on the Strategic Options at its meeting on 2nd July 2012, and report ED. 47/14 on the Routeing Corridor Study and Outline Siting Studies for Associated Infrastructure on the 10th November 2014. On the latter consultation, Members resolved to agree that the emerging preferred route (C2.8) was appropriate, and that detailed routing needs to fully assess impacts and understand the mitigation in relation to: rationalisation of lines (2 instead of one); careful technology choice; maximising economic benefits - using local workforce, using local manufacturers, economic impact assessment; transport plans/construction management; continued involvement in the project.
- 1.4 Carlisle City Council has been involved in the evolution of the project through a Planning Performance Agreement to help steer the project and identify any issues which need to be considered prior to an application being made. This involvement does not prejudice the way the Council should respond to any consultation nor does it prejudice the Council’s involvement in later, formal stages of the project, when the council deals directly with the Planning Inspectorate
- 1.5 Carlisle City Council is a statutory consultee and this report sets out a proposed response for consideration by Overview and Scrutiny Panel prior to consideration by Executive on the 19th December.

2. PROPOSALS

- 2.1 National Grid plans to build a 400 kilovolt (kV) connection from the proposed Moorside Power Station to the national electricity grid at Harker, near Carlisle and Heysham, near Lancaster. This project will only be implemented if the new nuclear power station at Moorside goes ahead.
- 2.2 The proposed project (the subject of consultation) includes the following principle elements:

- Construction of 400kV transmission connections totalling approximately 163km from Harker to Heysham. This connection comprises overhead lines, underground cables and the use of tunnelling technology;
- Construction of new 400kV substations at Stainburn and Roosecote and extensions to the existing 400kV substations at Harker and Middleton;
- Relocation of existing 400kV overhead line west of Harker;
- Construction of a tunnel beneath Morecambe Bay between tunnel head houses at Roosecote and Middleton (Heysham);
- Modifications to existing 132kV distribution infrastructure and removal of certain existing 132kV overhead lines;
- Works to modify the existing Electricity North West Limited (ENW) 132kV and lower voltage network where necessary to allow construction of the 400kV connections;
- Modifications to the railway network to provide access to temporary rail sidings in certain locations;
- Areas of mitigation, restoration and/or reinstatement; and
- Associated works, for example, temporary access roads, highways works, temporary compounds (rail, helicopter and general construction) two temporary shafts, work sites and ancillary works.

2.3 The area of the consultation is divided up into two parts in order to better help consultees understand the areas that affect them – North (Moorside to Harker near Carlisle) and South (Moorside to Middleton near Heysham in Lancashire). National Grid has further divided these two parts into geographic sections for ease of reference. The Northern connection is divided as follows:

- A1: Moorside to Thornhill
- A2: Thornhill to Whitehaven
- B1: Whitehaven to Seaton
- B2: Seaton to Tallentire
- B3: Tallentire to Aspatria
- C1: Aspatria to Wigton
- C2: Wigton to Harker (part 1 of 2)
- C2: Wigton to Harker (part 2 of 2)

2.4 The Southern connection is divided as follows:

- D1: Moorside to Waberthwaite
- D2: Waberthwaite to Silecroft
- E1: Silecroft to Arnaby
- E2: Arnaby to Lindal-in-Furness
- H1: Lindal-in-Furness to Morecambe Bay
- H2: Morecambe Bay
- H3: Morecambe Bay to Middleton (Lancashire)

2.5 Other proposed works are also proposed at Natland Substation near Kendal.

- 2.6 The areas within the Northern connection affecting Carlisle district are: C2 (Wigton to Harker (part 2 of 2) only). The Draft Order Limits (DOL) for the North route commence at Moorside and ends at the existing 400kV Harker Substation, approximately 5.5km north of Carlisle city centre. The 400kV connection would follow a complete route approximately 81km long. The principal settlements in proximity to the North Route of the DOL are the western and northern urban edge of Carlisle, Great Orton, Cargo and Rockcliffe.
- 2.7 To put the size of the pylons into context with existing 132kV pylons, double circuit pylons and low height double circuit pylons are the two main 400kV designs of pylon for the Project. The 400kV standard lattice pylon is 46.5m high with an approximate arm width of 18.2m. The 400kV low height lattice pylon is 35.3m high with an approximate arm width of 30m. This contrasts with a 132kV standard lattice tower whose height is 26.1m and approximate arm width of 8.4m. A 33kV standard lattice tower height is 18.5m with an approximate arm width of 5.3m.
- 2.8 In terms of other proposed structures, a typical Cable Seal End (CSE) compound would occupy a footprint of up to 100m x 50m for a 400kV double circuit compound with equipment (excluding pylons and gantries) of up to 12m in height. A small control building approximately 4m wide and 3m long would be required in each compound. Each compound would be surrounded by 2.4m high palisade fence, with an electrified fence attached inside up to 1.6m above, to provide protection to the public and the equipment.
- 2.9 132kV overhead lines on lattice pylons or trident wood pole and 33kV overhead lines on lattice pylons connecting to a section of underground cable would commence and terminate at a cable sealing end platform (CSEP) structure. These would comprise a steel platform and steel cable 'ladder' structure. A typical single circuit 132kV CSEP is 7.5m wide and 5m deep and is supported by three vertical steel supports concreted into the ground.
- 2.10 The documents comprising National Grid's consultation can be viewed on National Grid's web site www.northwestcoastconnections.com. Members have been provided with the generic consultation material which is supported by a number of technical reports and drawings/plans.
- 2.11 As an NSIP, the NWCC project needs approval from the Secretary of State through the DCO process. A DCO is a composite consent that avoids the requirement for several different consents for a single project. It can include planning permission, the compulsory acquisition of land and interests in land, the stopping up of highways and highways works. The DCO application is submitted to the Planning Inspectorate (PINS) for determination.
- 2.12 As part of the S.42 consultation, the applicants have provided what is known as a Preliminary Environmental Information (PEI) report, which sets out the likely environmental effects of the development at this stage. The PEI is the precursor to a full Environmental Statement that will be submitted with the DCO.

- 2.13 Carlisle City Council is a statutory consultee in the DCO process and is classified as a 'host authority'. The Council's role as part of the current consultation is to:
- ensure that the developer provides and responds to evidence on likely impacts;
 - develop solutions for how the impacts can be avoided or mitigated;
 - maximise benefits for the local community;
 - consider the prospective detailed terms of any DCO, including requirements (planning conditions) and legal obligations.
- 2.14 The Council (jointly with the other Cumbrian Authorities affected by project, together with Lancashire County Council and Lancaster City Council) has entered into a Planning Performance Agreement (PPA) with National Grid to enable it to engage in a positive way and to reach an informed view on the impacts of the proposal. Consultants WYG are supporting the work of this PPA Group. WYG is preparing the technical consultation response to National Grid's formal consultation on behalf of the PPA Group.
- 2.15 Following submission of the DCO, PINS will have 28 days in which to confirm their acceptance of the application. Within this period, the Council will have 14 days to submit comments on the Adequacy of Consultation. Once the application has been accepted, the Council will be asked to submit relevant representations within the next 28 days. To inform the Examination, the Council will also be invited to submit a Local Impact Report (LIR) and Statement of Common Ground. The LIR sets out the Council's view on how the project will affect the local area and effectively forms the evidence base against which the case will be assessed by PINS for mitigation and or legacy measures sought by the Council. The Council will also submit written representations to the Examining Authority and participate in oral Examination hearings, when invited to do so. The LIR will be approved by Executive prior to submission to PINS.
- 2.16 The expected timetable for the project is as follows:
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| • DCO application submitted | April 2017 |
| • Prepare Local Impact Report | Summer/Autumn 2017 |
| • Examination | Nov 2017 to April 2018 |
| • Consent (if secured) | October 2018 |
| • Construction | 2019 onwards |
| • Operation begins | 2024 |
- 2.17 The Council has worked with the PPA Group authorities to prepare a joint response to the current S.42 consultation (including the PEI report) highlighting the key issues. Appendix 1 provides a summary response setting out the issues of key concern to the Group. The more detailed PPA Group response will be submitted jointly with the support of all the PPA authorities.

Key Issues arising from the S.42 Consultation/PEI report relevant to Carlisle City Council

2.18 The key concerns arising from the current S.42 consultation affecting Carlisle are focused on the following topic areas;

- Landscape and Visual Impact;
- Historic Environment;
- Ecology;
- Socio Economics, Recreation and Land Use;
- Construction and Operational Noise & Vibration;
- Air Quality
- Hydrology and Flood Risk
- Traffic and Transport;
- Lack of Information and Timescales; and
- Community Benefits.

2.19 The following sections consider each of the key topic areas in turn together with appropriate recommendations relating to those areas.

Landscape & Visual Impact

2.20 General concern is raised about the significant impact of the overhead line directly and cumulatively on the landscapes across Cumbria. The proposal incorporates substantial mitigation measures, which are acknowledged including; the deployment of 23.4km (14.5 miles) of new underground cable and removal of the ENW 132kV line through the western section of the Lake District National Park (LDNP), a tunnel beneath Morecambe Bay, to avoid the southern section of the LDNP and a reduction in the extent of existing ENW 132kV lines in the area around the Hadrian's Wall World Heritage Site.

2.21 More locally within Carlisle district between Wigton and Harker (Subsection C2), National Grid is proposing to remove the existing south/eastern ENW 132kV line (closest to Thursby and Baldwinholme) to just south of the roundabout where the A689 meets the B5307, as well as a section of the northern/western existing line where it passes Little Orton; removal of the existing 132kV lines as far as the River Eden and place one underground; remove the western existing 132kV line north of the River Eden. All of these proposals would mean taking down 70 132kV pylons in this subsection, and these mitigation measures are broadly welcomed. In addition, National Grid would remove 20 existing ENW 33kV pylons south east of Great Orton and Little Orton.

2.22 In terms of replacement pylons and line, National Grid would build a 400kV pylon line to be carried by 38 steel lattice pylons (of which 32 would be new) following the route of the existing ENW 132kV pylon lines running north east from north of Woodhouses towards Belle Vue in Carlisle, and then north towards Rockcliffe and would connect into an extended 400kV substation near Harker. National Grid proposes to plant native trees to the east of the properties at Rockcliffe to help screen the 400kV connection.

- 2.23 The existing 400kV substation at Harker would be extended so that the new transmission line would join the national transmission system. The existing road would be diverted around the extension, and native trees would be planted to the north east and west of the proposed 400kV substation extension to help screen it. Two short sections of the existing National Grid and ENW 132kV lines that run north from Harker substation would be placed underground to make space for the substation, and there would be a cable sealing end platform (CSEP) at one end. One new 400kV pylon would be built to the east of the existing 400kV substation at Harker to divert the existing National Grid 400kV pylon line that connects into Harker substation from the east so it connects to the new substation extension
- 2.24 National Grid are proposing to underground almost 700m of the northern/western existing 132kV pylon line closest to Little Orton, and would build a CSEP at either end. A short section of 132kV cable would be undergrounded south of the roundabout where the A689 meets the B5307. Approximately 2.3km of existing 132kV pylon line would be placed underground from just north of the A689 where it meets the B5307 under Hadrian's Wall and the Vallum to the River Eden. National Grid would use a technique to drill under the feature rather than digging a trench but they would need to build a CSEP at either end. This would reduce the number of pylons crossing the Frontiers of the Roman Empire World Heritage Site.
- 2.25 There would be less than 1km of new 132kV pylon line to the west of Cargo, and would connect to the existing 132kV pylon nearest to Cargo to the proposed 2.3km underground cable under Hadrian's Wall. A short section of the existing 132kV line closest to Rockcliffe would be undergrounded where it would cross the 400kV connection. A CSEP would be built at either end. Just less than 1km of new 132kV pylon line south of Rockcliffe would be built to divert a section of the existing National Grid 132kV pylon line and connect it to the short section of underground cable.
- 2.26 There would be site compounds located at: Kingmoor Park Heathlands Estate (site 1), Kingmoor Park Heathlands Estate (site 2) plus a site compound at Harker Substation extension. There would be use of a rail compound at Kingmoor Depot (off Queen's Drive), plus helicopter operating bases near Rockcliffe and at Cargo. Highway works include the construction of new bellmouths at public highway boundaries and the construction of new and resurfaced access tracks.
- 2.27 In terms of the landscape and visual impacts within the Wigton to Harker subsection (C2) affecting Carlisle district, the Solway Coast AONB extends along much of the northern edge of this subsection, and whilst the separation distance between the proposed route and the AONB is generally extensive through the southern and central sectors of the subsection, it extends to within 300m of the route near Rockcliffe, to the north west of Carlisle. As such, predicted effects on the AONB range from Minor to Moderate depending on separation distance.
- 2.28 From east of Wigton, the route extends through an undulating agricultural landscape between Thornby and Great Orton with a small-scale field pattern dissected by hedgerows, tree belts and areas of woodland. Whilst these features often combine to reduce the perception and extent of pylons/overhead line visible,

the scale of the larger 400kV pylons could potentially be significant in this small-scale landscape. It is also noted that the route will extend in proximity to the Watchtree Nature Reserve and Orton Moss SSSI.

- 2.29 Between Little Orton and Cornhill Farm (near the B5307 / A689 roundabout junction), views are generally influenced by the settlement edge of Carlisle, the A689 road corridor, and the existing overhead lines and pylons which extend around the settlement edge. These features often combine to create a more urban context to views and as such, the new 400kV pylons may not appear as prominently in the landscape. This effect will be potentially offset by the larger number of people who will experience views. The proposed route extends to the north west of the existing 132kV line and the pylons will potentially appear more significantly in views from Little Orton and the landscape around Priorwood and Priory Nook.
- 2.30 To the north of Cornhill Farm and the B5307, the route extends across the course of Hadrian's Wall and the Hadrian's Wall Path (long distance path). Whilst it is noted there are already undergrounding proposals for the 132kV line at this location as described above, it is suggested that there is an opportunity to further reduce landscape and visual effects on this important landscape and heritage feature with additional undergrounding of the route at this location. To the north of the River Eden crossing, the route passes in proximity to the edge of the AONB (see above) and the settlements of Cargo and Rockcliffe. Views from these locations are anticipated to be significantly affected by the introduction of larger 400kV pylons.
- 2.31 National Grid has adopted a one-up-one-down principle in relation to the two existing ENW 132kV OHL running between Workington and Carlisle, with a number of other areas where additional lines are removed or transferred underground. Whilst all the mitigation measures outlined above are broadly welcomed, the benefit of the one-up-one-down approach would, to a degree, be offset by the landscape and visual impact of the taller and more bulky form of the 400kV pylons. It is considered by Officers that a pragmatic solution is necessary requiring additional rationalisation than is currently proposed by National Grid, which although they acknowledge would be technically feasible but so far has been dismissed on grounds of cost. The Council would argue that further rationalisation should include the undergrounding of both 132kV lines to address the adverse impacts on the 400kV lines on the landscape set out in this report and the Council's detailed response.
- 2.32 An important issue is the consideration of the effects of the proposed National Grid pylons upon 'valued landscapes' within the rural part of Carlisle. The National Planning Policy Framework (NPPF) states that the planning system should contribute to, and enhance, the natural and local environment by protecting and enhancing valued landscapes where they are not nationally designated. The NPPF does not define what valued landscapes might be. However, recent planning appeal decisions and legal judgements would suggest that the sum of the landscape quality, scenic quality, representativeness and recreational value of a site may set it apart from mere countryside (Stroud District Council v SoS CLG and Gladman Developments Limited [2015] EWHC 488 (Admin)). National Grid must therefore submit evidence to demonstrate that they have considered and assessed whether

there are likely to be any effects on valued landscapes in the rural parts of Carlisle District affected by the development, given the proximity of the Solway Coast AONB, and that landscape character sub-types do not stop at a defined designation boundaries but instead merge across them.

- 2.33 In addition, there remains concern over National Grid's methodology for considering alternative technology across the whole length of the route, which is based on the notion that alternative technologies are only required where there would be 'particularly significant' effects. The use of 'particularly significant' in National Grid's 'Options Appraisal of Alternative Technologies' methodology has set an artificially high bar for the establishment of 'Focus Areas' where they have identified for specific mitigation. Their methodology is not in accordance with current guidance, and is in conflict with National Grid's 'Response to Consultee Feedback to Assessment of Mitigation Options Methodology' (February 2016), which states that mitigation will be considered for the entire length of the route. In this regard, there is concern that whilst 'significant' effects would be measured in the EIA, it is not clear as to why areas within the rural parts of Carlisle have not been considered for appropriate mitigation, where there are significant effects in a way that is both robust and accountable

Cumulative landscape and visual impacts

- 2.31 The cumulative impact of existing vertical infrastructures, which are sequentially visible in the landscape, and which can lead to adverse landscape and visual impacts is a concern, particularly in Carlisle, and the proposed larger 400kV pylons will further worsen the position. The Cumbria Cumulative Impact of Vertical Infrastructure (CIVI) document highlights that there are already significant cumulative landscape and visual effects of vertical infrastructure in the area of the proposed National Grid route, and there has been a clear increase in both off-shore and on-land wind farm development from 2010 onwards, with notable increases within the corridor between Workington and Carlisle.
- 2.32 It is likely that the effects of the 400kV line will result in a more dominant feature in the landscape. It is not clear as to whether sufficient consideration has been given to the effects of the development upon sensitive receptors, including the setting of the Solway Coast AONB within Carlisle, the potential for alternative technology to be used within the Workington to Carlisle corridor, and the need to minimise the cumulative impacts on settlements such as Great Orton, Little Orton, Kirkandrews, Cargo, and Rockcliffe as well as sporadic households in the rural area.
- 2.34 Rationalisation of the Electricity North West (ENW) line has afforded some reduction in overhead line (OHL) clutter in a number of locations in the North Section. However, the Council is seeking more substantial mitigation and there is opportunity for further rationalisation and/or undergrounding across the whole of the north route between Wigton and Carlisle to remove both of the 132 kV pylon lines, but especially so near the western edge of Carlisle and the settlements of Cargo and Rockcliffe.
- 2.35 Whilst the distance of the Solway Coast AONB would suggest that the predicted effect on this important landscape designation is judged to be Minor to Moderate

depending on separation distance, the lack of wireframes provided with the PEI would suggest a need for a further detailed review of the landscape and visual impacts of the development upon the AONB. In this regard, there is concern about the potential effects of skylining in certain areas where there may be adverse effects upon the setting of the AONB and other sensitive receptors. It is not clear as to whether or not National Grid has correctly applied its' own Holford Rules (which seek to avoid the incorrect siting of pylons and lines) in relation to skylining.

Recommendations

- 2.36 A key issue for landscape and visual impact is the cumulative effects of the new 400kV pylons along with the additional 132kV ENW pylons. National Grid must utilise the Cumbria Cumulative Impact of Vertical Infrastructure (CIVI) report to identify and provide further appropriate mitigation in the form of rationalisation of the 132kV ENW line east of Wigton to Harker.

Historic Environment

- 2.37 A major concern is that the desk based assessment and walkover survey of the route corridor has not, as far as we are aware, been completed and the results from this piece of work and other projects that have been recently completed, have not been used in the PEI. We therefore do not feel at this stage that we have all the information available to be able to ascertain the overall impact on the historic environment.
- 2.38 Assets grouped in terms of contemporary usage and date, are grouped within the assessment of setting impacts. Whilst in the majority of cases this is probably an appropriate response, in some individual cases this may not be appropriate mainly due to differences in 'setting' and the level to which setting contributes to the asset's significance. However, overall the majority of the assessments appear to be appropriate.
- 2.39 The 10km distance considered for settings to Frontiers of the Roman Empire (Hadrian's Wall) World Heritage site (FRE WHS) and high grade Listed Buildings and registered Parks and Gardens, and 2km distance for other Listed Buildings and Conservation Areas is unrealistic. It is difficult to envisage the exact impact on parts of the World Heritage Site or Listed Buildings and Conservation Areas without extensive site based assessment without relevant photomontages. The lack of assessment of the effects on views and therefore settings of above ground Heritage Assets using on-site assessments as well as visualisations, including photomontages, seems to be a considerable limitation. This concern is particularly case with regard to the proposed undergrounding beneath Hadrian's Wall WHS (see above Landscape section for description).
- 2.40 Whilst setting can include more than views into, out of and around a Historic Asset, many of these settings have been too narrowly defined, and it is likely that many impacts upon settings will have been missed. Concern is also expressed about the accuracy and relevance of the assessments. More information is required before

settings of Listed Buildings and other above ground Historic Assets have been properly assessed. A key concern is that the PPA Group disagrees with the conclusions of the assessment that there would be “a slight beneficial” significance of effect Frontiers of the Roman Empire (Hadrian’s Wall) World Heritage site (FRE WHS).

Recommendations

- 2.41 A key issue is the lack of information supplied with the PEI in order to assess the potential impacts on heritage assets. National Grid must provide sufficient detailed information to address this issue as part of the Environmental Statement submitted with the DCO.

Ecology

- 2.42 Many of the ecology assessments have been based on incomplete survey data, which will need updating when surveys have been completed. This information will now only be available for incorporation into reports at the ES stage, and so we will not be able to comment on any of the final ecology evaluations and assessments. Survey methodologies appear to be fine but, it is currently difficult to clearly identify a breakdown of all habitats and the degree to which these will be lost. There is inadequate approach and failure to progress with the statutory Habitats Regulation Assessment (HRA) of the impacts of the project on internationally important wildlife.
- 2.43 It appears that the existing incomplete information has been used to scope in or out various designated sites, habitats and species. This approach will not provide a robust assessment until all the information has been considered, and by scoping out features prior to obtaining all the data may result in these features being ignored prior to the final ES.
- 2.44 Clear rationale behind the selection of specific study areas for additional protected species survey and more detailed habitat/NVC survey is not provided, other than an overview of methodology used.
- 2.45 There appears to be a lack of inclusion of undesignated priority habitats in the assessment for each section. Some assessments provide a conclusion of no significant effect despite the fact that surveys are still ongoing. Issues have then been scoped out (habitats and/or species) from certain sections prior to assessing completed survey material.
- 2.46 The present route results in woodland areas, including parts of ancient woodland, being lost or the canopy removed. It appears that some sites or sections that are hydrologically linked to European or International sites have been scoped out. Each subsection lacks any detailed list of qualifying features (SAC, SPA, Ramsar) and interest features (SSSI) which is necessary baseline information to enable assessment of likely significant effects (for example tables just refer to ‘plants’ or ‘habitats’ or ‘birds’).

- 2.47 There is significant risk of wildlife impacts from the spread of invasive species is not adequately assessed and mitigated; this is a major risk from such a large scale linear project. Managing Invasive Non-Native Species (INNS) across the whole project area is vital as the risk of spread from such a major linear project (which will be using mobile teams moving across the development route) is a major biodiversity risk. The significance of this point must be addressed in the ES.

Recommendations

- 2.48 A key issue is the lack of information supplied with the PEI in order to assess the potential impacts on terrestrial and avian ecology. National Grid must provide sufficient detailed ecology information to address this issue as part of the Environmental Statement submitted with the DCO.

Socio Economics, Recreation and Land Use

- 2.49 The project will have a number of direct and indirect impacts on the Cumbrian Economy. In terms of the visitor economy, the NWCC project alone and in combination with other major projects has the potential to disrupt tourist trade through displacement and negative image. There is concern that National Grid has underestimated the impact on the visitor economy across the area, by relying on limited local survey and other national tourism studies. Little primary information regarding the visitor economy has been provided in the PEI, with full assessment of the impact on the visitor sector and visitor perceptions not available until the Environmental Statement, including damage to Cumbria's visitor image/brand. The impact of the project on Public Rights of Way (PRoWs), paths and cycleway could also have significant implication for the visitor economy.
- 2.50 Appropriate mitigation, such as support for marketing and promotional activities are required to counter the disruption caused during the construction period and the negative perception driven by the adverse impact of NWCC on the landscape which attracts visitors.
- 2.51 It is in the interests of National Grid and the local economy for the skills to be locally available and for the businesses to be equipped to become part of the supply chain. Although the number of jobs that would be generated specifically by the NWCC Project for the local workforce in Carlisle may not be substantial, the overall benefits of the scheme have to be seen in context with the indirect benefits of the new nuclear power station at Moorside, where there are likely to be cumulative employment benefits. Nonetheless, there will be a need for a financial commitment from National Grid to invest in local skills development and supply chain capability development. Funding will need to be provided to support training providers in delivering additional training to meet National Grid's requirements, but also to support ancillary skills training to mitigate wider impacts on the labour market.
- 2.52 In terms of skills and supply chain, National Grid has developed an outline Employment and Skills Framework (ESF) that sets out key principles that will be used to provide opportunity to local businesses and workers. National Grid is

proposing that 20% of the project workforce and supply chain would be derived from the local area, which is welcomed as a minimum at this stage. However, detailed analysis of the PEI material must be undertaken to understand the justification and appropriateness of this figure. Additionally, further investigation is required to understand how the appropriate local level of involvement on NWCC will be secured; for example at Hinckley Point C Connections (HPCC) project the equivalent figure was secured by a S.106 Agreement.

- 2.53 In terms of impacts on employment sites within Carlisle, the PPA Group previously suggested a number of sites that should be considered for investment and use within the NWCC Project. The assessment for Section C (Sub-Sections C1 and C2) shows that the Draft Order Limits would affect Kingmoor Park Industrial Estate, Kingmoor Park Rockcliffe, and Kingmoor Park Heathlands Estate. There are no planning land allocations for future development sites that fall within the Draft Order Limit with potential to be affected by the development in the long-term. During the construction phase, proposed site compounds would be located on employment land on Kingmoor Park Heathlands Estate, Harker, Kingmoor Business Park, and west of Kingsway, Carlisle. The assessment considers that given the temporary nature of the compounds the effects are not likely to be significant, especially where in the case of the Carlisle Local Plan support is given to business development. Whilst this may be the case, the amount of land to be taken up by the compounds compared to the available allocations seems large, and hence a concern is raised that this may stifle the long-term future development of these sites unless some form of long-term remediation could be guaranteed. It is also noted that a recent permission has been granted for an Energy from Waste plant on a potential compound site and may not therefore be available. The PPA Group has previously expressed concern regarding the resilience of the ENW infrastructure to flooding does not appear to be addressed, indeed the Carlisle 33kV substation is not included in the project.
- 2.54 The PPA Group has previously provided comment regarding maintaining the integrity of the ENW infrastructure in a number of areas across the route, while also ensuring the opportunity for new connections for both users and producers. National Grid's proposed route makes provision for a number of additional 400kV substations, the extension to a number of 132kV substation and substantial re-configuration of the ENW infrastructure.

Recommendations

- 2.55 A key issue is the need for National Grid to provide appropriate mitigation, such as support for marketing and promotional activities as well remediation of the compound sites are required to counter the disruption caused during the construction period and the negative perception driven by the adverse impact of NWCC on the landscape which attracts visitors. In addition, National Grid must provide a guarantee that at least 20% of the project workforce and supply chain would be derived from the local area, and this must be supported through a legally binding agreement.

2.56 More investigation is required to understand the detail of National Grid's proposals to ensure the impacts are considered and where possible legacy can be secured.

Construction and Operational Noise and Vibration

2.57 Two main sources of operational noise have been identified in Carlisle:

- Substations, in particular transformers and reactive plant (which are in continuous or semi-continuous operation) and
- 400kV overhead lines, which can make noise during certain weather conditions (described as wet and dry noise)

2.58 In general the approach taken with regard to construction and operational noise and vibration is acceptable, although there are some inconsistencies in the methodology over the sensitivity of receptors and the significance of impact. It is concluded that, with mitigation where appropriate, adverse effects which are significant are not generally likely.

2.59 Establishment of the baseline noise conditions should be considered a priority. The assessments and mitigation measures presented are based on assumption of noise levels. Although this could be worst-case and noise levels could be higher, there is also the possibility that the levels are lower.

2.60 The suitability of the mitigation measures outlined within the Code of Construction Practice (CoCP) and Noise and Vibration Management Plan (NVMP) can be enforced through planning condition. Given the currently assumed daytime operations within the northern route corridor, this is considered to be a reasonable outcome.

2.61 However, there are a number of information gaps, which should be addressed as part of the Environmental Statement (ES), such as source noise levels associated with the proposed helicopter movements / activities (e.g. at Rockcliffe and Cargo). Initial assessment does highlight that there could be significant effects for some properties close to the pylon delivery locations (e.g. at Great Orton). Specific consideration of mitigation will be undertaken to minimise adverse effects and reported within the ES following further investigatory work.

2.62 The classing of residential receivers as being of 'medium' sensitivity is also not acceptable. Recommendations have previously been provided by the PPA Group stating that residential/school receptors should be classed as 'high' sensitivity as opposed to being medium sensitivity for noise impacts. This has not been accepted in the submitted assessments and impacts on all the predictions and outcomes. The outcome of the assessments therefore show a potentially more positive outcome for the project than should otherwise be anticipated and is particularly relevant to the areas west and north of Carlisle.

2.63 The assessment of the 400kV overhead line noise is reasonable, however there is only limited detail regarding the methodology. The modelling however does not

include noise contribution from the switchgear or auxiliary plant at the substation due to its impulsive nature. No assessment of the proposed 132kV overhead lines or the underground cables is presented, and we would like to see quantitative information relating to the 132kV overhead lines confirming the levels are quiet enough to not have an effect on nearby receptors.

Recommendations

- 2.64 A key issue is that National Grid must work with the Council to provide sufficient information to enable it to understand and for National Grid to address the noise and vibration impacts of the lines and the supporting infrastructure on local communities, especially to the west and north of Carlisle and the key rural settlements affected by the route.

Air Quality

- 2.65 The PEI for Air Quality has considered the effects of the construction phase in accordance with the relevant guidance. However, an assessment of emissions from construction traffic should be undertaken as the EPUK and IAQM document 'Land Use Planning and Development Control: Planning for Air Quality limit on HGVs is triggered particularly in the Wigton to Carlisle Sub Section (C2). The Council is concerned about key road junctions around Carlisle, i.e. Junction 44 of the M6.
- 2.66 Due to the worst case effects on air quality being during the construction phase, and operational air quality effects will be negligible, it is not expected that there will be any significant residual effects.

Recommendations

- 2.67 A key issue is that National Grid must provide evidence of an assessment of emissions from construction traffic from the proposed development.

Hydrology & Flood Risk

- 2.68 Clarification of the appropriate standard of protection from flooding and critical infrastructure needs to be clearly set out and established in the Environmental Statement.
- 2.69 Specific modelling may be required to assess flood risk to take account of the following:
- (i) Any re-assessment of Flood Zones following the December 2015 floods arising from the current EA modelling programme;
 - (ii) Specific modelling of ordinary watercourses and overland flood routes where these are impacted either by the construction works or the permanent works.
 - (iii) Modelling to assess impacts of any stockpiling of materials or re-shaping of land (either permanent or temporary) within Flood Zones 2 and 3 or in areas of identified surface water flood risk

- 2.70 The design appears to be based on 'desk top' studies. At sensitive locations there is uncertainty over the deliverability of the proposed design due to the absence of supporting intrusive geotechnical data; this is particularly important in respect of proposals to use horizontal directional drilling to pass under rivers/estuaries. The potential associated risk could result in forced changes to the location and depth of the crossings, which would have associated wider impacts on other discipline areas.
- 2.71 Careful consideration is therefore required to establish optimal location of crossing of the River Eden in Carlisle, and there is a need to consider potential future lateral migration of the channel and any potential impacts on permanent access tracks and pylon bases; in particular pylon sited just to south of River Eden looks potentially vulnerable to any future lateral migration.
- 2.72 The impacts of surface water flood risk (including overland flows) needs to be considered for both the construction process and on the permanent works.

Recommendations

- 2.73 A key issue is that National Grid must work with the Council to provide sufficient information on the effects of flooding at the crossing of the River Eden.

Traffic and Transport

Transport Strategy

- 2.74 National Grid's conclusion there are no traffic reasons to favour a multi-modal option for moving materials and workers to the construction sites is not agreed. The PPA Group disagrees with the assessment of impacts relating to 'road based' and 'multi-modal' options, and consider that a multi-modal strategy can reduce traffic in certain locations, and a multi-modal approach could have a significant reduction in overall vehicle-kms, especially for HGVs, which might reduce emissions and accidents. These benefits have not been considered in the PEI, which is a considerable shortcoming.
- 2.75 National Grid has suggested that an additional reason for not choosing the multi-modal option through the central strategic route area is the impacts on capacity of the Cumbrian Coast Line (rail). The Council does not agree with this conclusion as the approach should be to provide investment to mitigate rail capacity issues, in order to keep traffic off the highway and also provide a legacy benefit.

Transport Improvements

- 2.76 The NWCC project will generate extensive traffic resulting from the importing (and decommissioning) of material for access and haul roads, construction materials, cabling and waste. The Council is concerned about the cumulative impact of these movements on the transport network, especially if a single source is used and a road based approach is adopted. These measures need to be informed by modelling of traffic flows both for the individual development and for the cumulative impact, and is dependent upon the completion of survey data. Additionally, a

number of rail and road construction sites are proposed to store and deploy materials along the route. Consequently, the impact of the movements is likely to require mitigation measures to address pinch points on the network and improve the local highway network.

Public Rights of Way, Cycle Ways and Paths

- 2.77 The NWCC project will have temporary (during construction) and permanent effect on the PRowS, paths and cycle ways across Cumbria. This will include closures, diversions and a reduction in the amenity and ability of users to enjoy the routes. Nonetheless, a number of specific mitigation measures are proposed in certain locations, such as a proposed Hadrian's Wall Mitigation Plan. National Grid are proposing a package of measures to mitigate the closures and disruption to the routes, and these will be set out in a PRow Management Plan (PMP), However these are not yet known and will need to be clarified prior to the submission of the DCO.

Construction Access points

- 2.78 Additional information has been provided outside the PEI, which show the routes from the main roads, to construction access points. Some of the routes are on narrow lanes with tight bends, sharp crests, narrow bridges, NCN cycle routes or past schools. Measures should therefore seek to provide a high standard of mitigation to address direct and indirect effects. No details of how these routes will be safely managed with the additional HGV flows have been provided. This is particularly important in the area north of Carlisle and should be part of the public consultation.

Recommendations

- 2.79 A key issue is that National Grid must take a multi-modal approach to the project, and they must provide investment to mitigate rail capacity issues, in order to avoid cumulative impacts and keep traffic off the highway and also provide a legacy benefit. A satisfactory PRow Management Plan must also be made available prior to the submission of the DCO, and measures should be provided to ensure that a high standard of mitigation is provided for the many construction access points in the interests of highway safety.

Lack of Information and timescales

- 2.80 There has been a general lack of sufficient information presented within the PEI for a full assessment of the potential effects of the development to be carried out by the PPA Group and its specialists. There are gaps as well as assumptions that have been made across a number of topic study areas (whether it is landscape, ecology, noise, hydrology etc), which if carried through to the final Environmental Statement could lead to incorrect assessments and the wrong conclusions drawn on the likely effects. This is addressed in more detail in the topic by topic analysis and will be drawn out in the final PEI response.

- 2.81 These matters will need to be addressed in the final Environmental Statement to be submitted with the DCO application.
- 2.82 The delay by National Grid in presenting material in the PEI has meant that a full consideration of all the documentation presented has been a significant challenge within the timescales to enable the PPA Group to provide National Grid with a properly considered and approved consultation response.

Recommendations

- 2.83 A key issue cross-cutting the whole of the S.42 consultation is the general lack of sufficient environmental and other information to assess the potential impacts of the development on the local area. National Grid must address this issue in order for it to satisfy not only the Local Authorities and their communities but also the Planning Inspectorate and ultimately the Secretary of State.

Community benefits

- 2.84 National Grid are aware of the local desire to secure a community benefit package. Ofgem, National Grid's regulator, will decide whether a community benefit package is justified and clearly sees National Grid's role as a purely statutory one, in that the upgrade to the grid is only taking place because of NuGen's request to connect the Moorside power station. This has implications as to which organisation would be responsible for the negotiation and payment of any community benefit package. However, notwithstanding this the Council will expect National Grid and NuGen to work with local communities to deliver benefits to the local area where the proposal is located.
- 2.85 It is noted that 'Bringing Energy To Life' is National Grid's new community investment programme in the UK. Being piloted this year it funds projects in communities affected by National Grid's operations. Through Bringing Energy to Life, National Grid only fund projects run by charities and community groups that meet local community needs by providing a range of social, economic and environmental benefits. These might include initiatives that support hard-to-reach members of the community improving inclusion and diversity; initiatives that support economic regeneration or prosperity (for example the development of a social enterprise) or initiatives that support a work placement or retraining scheme which increases employability of people disadvantaged in the workplace; or initiatives such as renewable energy or conservation projects that have a direct and positive environmental impact. Whilst this initiative is recognized, National Grid do not appear to have any community benefit/grant funding scheme for the locality, and in these circumstances it is unlikely that local communities will derive any social or other benefits from the NWCC Project development.

Recommendations

- 2.86 A key issue is the need to address adequate community benefits in Carlisle. It is recommended that further discussion is undertaken with both National Grid and

NuGen on this issue, noting National Grid's 'Bringing Energy to Life' programme, and that the Council's position regarding community benefit is highlighted as part of this consultation response.

3. CONSULTATION

- 3.1 The NWCC Project is being put forward by National Grid and Carlisle City Council is a statutory consultee, and therefore it has a direct role in the consultation procedure and the timescales. However, National Grid's Statement of Community Consultation (SoCC) has been considered by the PPA Group and has sought to achieve maximum public engagement with all stakeholders during the process. However, there is a serious question over the adequacy of the timescales that have been allowed for in this S.42 consultation, given the magnitude of the project and the timing of the consultation to include the Christmas Holiday period.
- 3.2 Members will note that this report and Appendix 1 relates to the headline issues and has had to be prepared early on in the consultation period in order to meet the Council's required deadlines for publication of reports. The PPA group of authorities is also preparing a more detailed technical response to support all the headline issues however this involves a number of specialists to advise the authorities. This work is currently ongoing and officers are involved in that process in order that the detailed concerns will be raised with National Grid to supplement the Council's individual response.

4. CONCLUSION AND REASONS FOR RECOMMENDATIONS

- 4.1 At this late stage in the development of the NWCC project, there are significant omissions and gaps in information, which have not been presented with the S.42 consultation and its supporting Preliminary Environmental Information.
- 4.2 There are also major concerns over potential impacts on the environment, especially landscape and visual impacts, and there is scope for further mitigation such as rationalisation of the ENW infrastructure, notwithstanding the level of undergrounding afforded elsewhere on the route of the line.
- 4.3 It is recommended that the Panel considers this report and the Headlines Issues contained in Appendix 1, and refers their observations to Executive as the basis of the Council's response to National Grid's formal consultation on the North West Coast Connections Project.

5. CONTRIBUTION TO THE CARLISLE PLAN PRIORITIES

- 5.1 When considering the project as a whole over the time span of construction and installation, the project represents an opportunity to support the growth of high quality and sustainable business and employment opportunities for Cumbria. In addition there may be opportunities to develop a skilled and prosperous workforce fit for the future.

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**Appendices
attached to report:**

Note: in compliance with section 100d of the Local Government (Access to Information) Act 1985 the report has been prepared in part from the following papers:

- NWCC National Grid Consultation Information
at www.northwestcoastconnections.com

CORPORATE IMPLICATIONS/RISKS:

Community Services – None

Corporate Support and Resources – The use of a Planning Performance Agreement between the relevant Local Authorities and National Grid has enabled the provision of resources to support the ongoing project.

Economic Development – Contained within the report

Governance and Regulatory Processes – This consultation is a formal process set out under Section 42 of the Planning Act 2008. The subsequent application will be in the form of Development Consent Order submitted to the Planning Inspectorate for determination by the Secretary of State.



NORTH WEST COAST CONNECTIONS PRELIMINARY ENVIRONMENTAL IMPACT HEADLINES REPORT

Prepared on behalf of the PPA Group Authorities

DRAFT



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1.0 Introduction

- 1.1.1 The PPA Group welcome National Grid's commitment to meaningful engagement on project design including technology choices and the significant mitigation that is required. The Group are pleased the informal engagement undertaken thus far has resulted in significant and much needed mitigation.
- 1.1.2 Based on the available information during the Route Corridors consultation (2014) the PPA Group provided positive feedback and support for the 'Onshore North' and 'Onshore South with Tunnel Option' including the Morecambe Bay tunnel.
- 1.1.3 The PPA Group have previously expressed support for the principle of rationalisation of existing overhead lines, therefore, the provision to take down lines is supported so long as the integrity of the electricity distribution network and connection opportunities is not weakened as a result. Additionally, the Group consider that there are a number of locations where additional lines need to be removed to provide appropriate mitigation.
- 1.1.4 Furthermore, the principle to develop a new 400kV underground cable through the western section of the Lake District National Park is strongly supported, given the alternatives. However, the implications of undergrounding on other topic areas, such as ecology and historic environment must still be addressed. Furthermore, the decision to remove the existing Electricity North West (ENW) 132kV overhead line (OHL) is also strongly supported, given the benefit this will have on the landscape and views in the area.
- 1.1.5 The PPA Group welcomes continued engagement with National Grid and considers that adequately addressing the impacts raised in this paper will minimise the risks to the project through the DCO process, protect our communities and increase delivery certainty for National Grid. The Group wants to continue to engage in positive dialogue to enable delivery of the NWCC project in a way that meets both national and local needs, and is consistent with legislation and government policy.



1.2 Document purpose and structure

- 1.2.1 This report provides a summary of the PPA Group's emerging consultation response and an outline of the headlines from the evaluation of the North West Coast Connections (NWCC) Preliminary Environmental Impact (PEI) Report issued for consultation by National Grid on 28 October 2016. The PEI Report provides a preliminary environmental assessment of the Project and proposed mitigation measures drawing on currently available information
- 1.2.2 This Headlines Report has been drafted in advance of the PPA Group Joint Specialist Response to provide the PPA Group members with an indication of the key emerging issues at an early stage. It is intended that this Report will assist in the development of a joint PPA Group position on issues and help meet challenging committee schedules required for formal Council approval.
- 1.2.3 The Report has been informed largely by the views of topic specialists from WYG supplemented by comments from the PPA Group Authorities where available. It is based on a broad assessment of the extensive documentation and therefore, is subject to change as specialist assessments are undertaken.
- 1.2.4 The remainder of this Report is structured as follows:
- Section 2 provides an over view of the key headline issues; and
 - Section 3 provides additional detail on the headline issues.



2.0 Key Headline Issues

Landscape and visual impact

Summary key points	
<p>Baseline</p> <ul style="list-style-type: none"> Baseline information is sufficient but further engagement is required as the project moves towards the development of the Environmental Statement and DCO submission to develop a more refined assessment that considers additional visual impacts especially from community user/receptor perspective. 	
<p>Methodology</p> <ul style="list-style-type: none"> The methodology for identifying areas where mitigation is required and options should be assessed is flawed; adopting 'particularly significant' as the bar for mitigation need is not consistent with the EIA Regulations There is a flawed interpretation of national policy and guidance that defines and protects the Lake District National Park and its setting. There has been a misrepresentation of the visual impact through use of photomontage tools. The recently updated Cumulative Impact of Vertical Infrastructure tool does not form part of the methodology for the assessment set out in the PEI Report. The PPA Group do not agree with that National Grid's rationalisation policy (one-up-one down) results in a benefit. 	
<p>Assessment</p> <ul style="list-style-type: none"> Cumulative and sequential impact is not adequately considered in the assessment along whole route. Specifically, the experience of visitors to the Lake District National Park protected landscape have not been adequately evidenced or addressed including the cumulative impacts of viewing this linear project. The application of the National Grid's methodology including the Options Appraisal of Alternative Technologies methodology has resulted in the establishment of inappropriate areas for mitigation of the NWCC project. This has led to a piecemeal approach to mitigation and the consideration of alternative technologies. 	
<p>Mitigation</p> <ul style="list-style-type: none"> Lack of appropriate mitigation of landscape and visual impacts arising from the use of over head lines; in particular within the landscape setting of the Lake District National Park, and related to cumulative impact to the east of Whitehaven, east of Workington following the existing 132kV line north and in the area of the Hadrian's Wall World Heritage Site. The PPA Group disagree with the assessment and rejection of alternative options for the Duddon Estuary, including a tunnel option, which are based on the flawed assessment of impacts within the landscape setting of the National Park. 	



Visitor economy

Summary key points	
	<p>Baseline</p> <ul style="list-style-type: none"> The baseline data set out within the PEI Report in relation to socio-economics, recreation and land use is generally derived from the appropriate sources. However, there is an overreliance on evidence from past projects, particularly in relation to the effects on the visitor economy. There is a failure to provide adequate information and evidence on the impact on the visitor economy of Cumbria, which is the largest sector in the County’s economy and growing. In particular, there is a lack of evidence to support National Grid’s position that Cumbria’s visitor image/brand will not be significantly damaged.
	<p>Methodology</p> <ul style="list-style-type: none"> Although the overall approach to the identification and assessment of socio-economic effects is considered to be appropriate, at this stage, there is limited analysis of the Project’s alignment with key local and sub-regional policy, specifically in terms of the visitor economy; Importantly, National Grid have failed to acknowledge the unique character of the Lake District National Park. The methodology adopted to assess the deterrence effect on visitors draws upon the results of survey evidence from other previous projects which raises several important issues; the transferability to NWCC study area, robustness and validity of this original research is uncertain, and there is substantial methodological criticism of the focus on survey-based approaches to evaluating impacts.
	<p>Assessment</p> <ul style="list-style-type: none"> Key risks and impacts to visitors’ enjoyment of Cumbria’s landscapes and environment through access and recreation have not been adequately assessed. In particular, the issues associated with negative effects on visitor perceptions, as demonstrated by the recent floods, should be recognised. In addition, as previously noted, the PEI Report does not adequately assess the significance of impact at the local level. The impact of disruption to public access and to road and rail transport networks has not been properly considered. The emerging assessment underestimates the project’s impact on the visitor economy in Cumbria.
	<p>Mitigation</p> <ul style="list-style-type: none"> There is a lack of appropriate mitigation of visitor economy impacts, including damage to Cumbria’s visitor image/brand. There is a lack of appropriate mitigation for disruption to public access and to road and rail transport networks. It is considered that appropriate mitigation, such as support for support small and medium sized businesses in the visitor economy and marketing and promotional activities are required to counter the disruption caused during the construction period and the negative perception driven by the adverse impact



of NWCC on the landscape which attracts visitors.	
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Tunnel head impacts at Barrow and Heysham

Summary key points	
<p>Baseline</p> <ul style="list-style-type: none"> • There is inadequate information provided on the storage, movement and final destination of tunnel spoil. • No clear information on the need, purpose or use of the temporary works at the tunnel-heads. • Noise, vibration, air quality, light, ecology and residential amenity impacts of development at the tunnel-head sites are not adequately stated. • Transport assessments have not been carried out. 	
<p>Methodology</p> <ul style="list-style-type: none"> • The PPA Group disagree with the determination of high sensitivity receptors assessment. • Standard noise criteria for assessment is inadequate for project of this scale and location. 	
<p>Assessment</p> <ul style="list-style-type: none"> • As the baseline data is largely absent the impacts have not been adequately measured and assessed. • National Grid have drawn conclusions on accommodation availability. However, there is a lack of clarity regarding the required collaboration with accommodation providers to overcome existing shortfalls and/or raise standards of suitable worker accommodation. 	
<p>Mitigation</p> <ul style="list-style-type: none"> • No meaningful mitigation is proposed to treat the noise, vibration, air quality, light, ecology or residential amenity impacts. • No mitigation is proposed to address the impacts caused by the storage, movement and final destination of tunnel spoil. • There is incomplete workforce planning and accommodation proposals at the tunnel-heads. 	

Transport and connectivity

Summary key points	
<p>Baseline</p> <ul style="list-style-type: none"> • The PPA group are significantly concerned that the baseline is insufficient to allow selection of road or multimodal strategy. • There is a lack of appropriate modelling of traffic flows to allow assessment and conclusions to be drawn. 	
<p>Methodology</p> <ul style="list-style-type: none"> • A method has not been proposed to enable the selection of the road or multimodal strategy. 	
<p>Assessment</p> <ul style="list-style-type: none"> • The key risks and impacts of traffic movements have not yet been addressed. 	



<ul style="list-style-type: none"> The PPA group strongly disagree with National Grid’s assessment that railway capacity issues should be a reason for not selecting the multi-modal option. The approach should be to mitigate the rail capacity issues, which would keep traffic off the highway and also provide a legacy benefit. Furthermore, the PPA Group disagree with the assessment of impacts relating to the ‘road based’ and ‘multi-modal’ options. The multi-modal option will reduce the scale of HGV movements in some areas, which could have safety and environmental benefits. Fundamentally, the cumulative impacts have not yet been assessed. Key risks and impacts on PRoW and cycle paths have not been adequately addressed. 	
<p>Mitigation</p> <ul style="list-style-type: none"> There is a lack of appropriate mitigation measures and improvements to address the traffic impacts on the highway network. These measures need to be informed by modelling of traffic flows both for the individual development and for the cumulative impact, and is dependent upon the completion of survey data. Mitigation should also address the following, for which no detail has yet been provided; the safe management of traffic on minor roads; the impact of worker accommodation locations – for example for the underground section within the National Park, and the implementation of Travel Plans. The PPA Group are concerned that the PRoW Management Plan has yet to be developed. Additionally, the economic impacts upon the visitor economy need to be assessed. Measures should seek to provide a high standard of mitigation to address direct and indirect effects. 	

Skills and supply chain

Summary key points	
<p>Baseline</p> <ul style="list-style-type: none"> The baseline data set out within the PEI Report in relation to skills and supply chain is derived from the appropriate sources, however, there is little detail available to assess the implications. 	
<p>Methodology</p> <ul style="list-style-type: none"> The methodology is as considered to be appropriate at this stage, and is consistent with that used for other major projects. 	
<p>Assessment</p> <ul style="list-style-type: none"> The PEI Report recognises that there are no published standards that define the sensitivity and magnitude of socio-economic effects. However, the overall conclusions are considered to be reasonable and consistent with that used for other major projects. 	
<p>Mitigation</p> <ul style="list-style-type: none"> Initial work towards an Employment and Skills Framework is welcomed, however, it is disappointing that the content of the consultation proposals on what measures will be put in place to achieve the targets and objectives is at this stage inadequate to provide support for the proposals. 	



<ul style="list-style-type: none"> • The PPA Group support the commitment to secure 20% as a minimum of the workforce from the local labour market – however, National Grid must provide commitment to providing support to target those that are currently economically inactive to help ensure they can secure work. • It is in the interests of National Grid and the local economy for the skills to be locally available and for the businesses to be equipped to become part of the supply chain. There will be a need for a financial commitment from National Grid to invest in local skills development and supply chain capability development. • There will need to be appropriate training facilities provided not only to support the existing population but also to help attract new workers and their families to come and work in Cumbria. 	
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Ecology

Summary key points	
<p>Baseline</p> <ul style="list-style-type: none"> • The baseline fails to provide adequate information and evidence to enable assessment of risks and impacts on key habitats and protected species. • There is an inadequate approach and failure to progress with the statutory Habitats Regulation Assessment (HRA) of the impacts of the project on internationally important wildlife. 	
<p>Methodology</p> <ul style="list-style-type: none"> • The potential risk to biodiversity from the spread of invasive species from the construction of the project has been inadequately addressed in the methodology. 	
<p>Assessment</p> <ul style="list-style-type: none"> • The assessment of impacts on habitats and species have been made in the absence of completed surveys. 	
<p>Mitigation</p> <ul style="list-style-type: none"> • Lack of appropriate mitigation and compensation for impacts on habitats and species The PPA Group would expect these to be measures such as avoiding key hotspots, inadequate construction methods and lack of information regarding compensation for loss and disturbance. • Significant risk of wildlife impacts from the spread of invasive species is not adequately assessed and mitigated; this is a major risk from such a large-scale linear project. 	

Historic environment and cultural landscapes

Summary key points	
<p>Baseline</p> <ul style="list-style-type: none"> • Inadequate evidence of impacts to the historic environment and archeology; in particular from underground construction methods including cabling in the LDNP and Roman Empire (Hadrian’s Wall) World Heritage site. • The baseline focuses on providing information and evidence relating to 	



<p>archaeology, and is inadequate for listed buildings and Conservation Areas.</p>	
<p>Methodology</p> <ul style="list-style-type: none"> • Key risks and impacts to World Heritage Sites are not adequately addressed. In particular, only one of the three key features of the English Lake District nominated World Heritage Site have been considered. • There is no evaluation of the setting of other elements of the historic environment for example listed buildings and Conservation Areas. 	
<p>Assessment</p> <ul style="list-style-type: none"> • Inadequate assessment of impacts to the historic environment and archeology. This includes; historic buildings and underground construction methods including cabling. • The PPA Group disagree with the conclusions of the assessment that there would be "a slight beneficial" significance of effect Roman Empire (Hadrian's Wall) World Heritage site and the candidate English Lake District. 	
<p>Mitigation</p> <ul style="list-style-type: none"> • Without an appropriate evidence base and assessment the PPA Group are unable to provide comment on mitigation measures. 	

3.0 Emerging Preliminary Environmental Impact Headlines

3.1 Landscape and visual impact

Mitigation Methodology

- 3.1.1 Fundamentally, National Grid's approach to landscape mitigation, including the Options Appraisal of Alternative Technologies methodology (OAAT) remains flawed. The PPA Group concerns appear not to have been addressed; therefore, the application has resulted in the establishment of inappropriate areas for mitigation of the NWCC project. This has led to a piecemeal approach to mitigation and the consideration of alternative technologies.

Undergrounding in the National Park

- 3.1.2 The principle to provide 23.4km (14.5 miles) of new 400kV underground cable through the western section of the Lake District National Park (LDNP) is welcomed. The decision to remove the existing Electricity North West 132kV overhead line is also welcomed, given the benefit this will have on the landscape.
- 3.1.3 However, the implications of undergrounding on other topic areas, such as ecology and historic environment must be addressed. Additionally, there is a need to consider the appropriate location for the Compound Sealing End (CSE) required as an interface between OHL and the section of underground cabling. The long-term reversible effects of the vegetation loss and disruption to landscape pattern and features due to the implementation of the undergrounding do not appear to have been fully considered. The undergrounding is a major engineering development, and needs to be addressed in far greater detail than is currently in order to understand the potential scale of the temporary disruption to the landscape.

Impacts of the Special Qualities and Setting of the National Park

- 3.1.4 The proposals for use of pylons and associated cabling within the setting of the Lake District National Park are a major concern. The LDNPA and the PPA Group has very clearly and over a long period of time raised strong concerns about impacts affecting landscape character and views in to and out of the National Park. The PPA Group disagree with the assessment of impacts on the landscape setting of the Lake District National Park; particularly the flawed assessment of national policy and guidance that defines and protects the setting. The Group are concerned that this has led to a inappropriate proposal and the a lack of the required mitigation.

3.1.5 The PEI makes little reference to the 'setting' of the LDNP. The PPA Group's position stated within the Stakeholder Feedback Questionnaire issued in September 2016 was clear that consideration of the wider landscape setting of the Lake District National Park is also of equal importance. Therefore, it is considered that the approach to mitigation currently proposed by National Grid is particularly deficient in its assessment of the effects on the 'setting' of the Lake District National Park.

3.1.6 Three issues on setting arise –

- Definition of setting in policy - this is a flawed definition that can be strongly challenged. It fails to consider the long established definition of setting for Protected Landscapes of assessing impacts from within AND outside of the designated area;
- Definition of setting for the NWCC project - the application of National Grid's flawed definition of the setting set out above leads to a flawed assessment in the PEI in section 6A.3. The impact on receptors is framed entirely by those receptors within the National Park only;
- Landscape character types - the failure of the PEI assessment of landscape and visual impacts to recognise the continuity of landscape types and topography across the National Park boundary is a significant flaw that can be challenged.

3.1.7 The route to the north of the LDNP is to be carried on lattice pylons whilst the section through the LDNP is proposed to be undergrounded from the location of the CSE compound located to the north of Drigg. The baseline description of the area provides a description of the existing landscape and visual context; however, the presence of the Low Level Waste Repository at Drigg is a large repository site within the Subsection and is not referenced. The presence of this site is of particular importance in the consideration of the setting of the LDNP and the proposed 400kV route.

- 3.1.8 It is noted that there is a short length of undergrounding extending south of the LDNP boundary to a CSE at Silecroft, which is welcomed. However, following a preliminary review of the part of the Subsection that runs from the head of Duddon Estuary over the mosses to Kirkby-in-Furness, we would question why this section of the route is above ground when it forms the setting of the LDNP. Although, the alignment of the route is outside the boundary line of the LDNP designation, the area of land is of similar/equal value and susceptibility as the LDNP in landscape terms in providing the setting to the LDNP. It is therefore considered that this section should be considered for undergrounding. This option would avoid the considerable problems raised by the proposed route across Foxfield Ridge and the Duddon Mosses SAC, as well as in the setting of the LDNP that have been identified in the Duddon Estuary. Whilst we acknowledge that designing a route crossing the Duddon Estuary is challenging, it is vital that the appropriate design and mitigation is provided.
- 3.1.9 National Policy EN-1, DCLG guidance, the Electricity Act 1995 as well as current planning practice make it clear that the 'setting' of National Parks should be considered in the same way as those areas within the National Park. However, the approach to mitigation currently proposed by National Grid is particularly deficient in its assessment of the effects on the 'setting' of the Lake District National Park. Consideration of the wider landscape setting of the Lake District National Park is also of equal importance along the whole route of the NWCC Project. Landscape planning guidance from DCLG, including that shown on its website, provides clarity that development by 'relevant authorities' impacting on the setting of National Parks should be considered in the same way as those within the National Park. There is a long-established recognition that the legislative and policy framework, including current planning guidance, provides protection of the setting of National Parks. Although these areas are not designated as National Park, developments within the setting can impact upon their statutory purposes and Special Qualities.

The Duddon Tunnel

- 3.1.10 The PPA Group had also recommended undergrounding beneath the Duddon Estuary to avoid major adverse impacts, particularly at the Foxfield Ridge and the Duddon Mosses SAC, plus the wider landscape setting of the LDNP (see points above about setting of the LDNP). This would also avoid significant visual, landscape and community impacts of the proposals in the vicinity of Kirkby in Furness and Becksid and further south.

3.1.11 However, this recommendation has not been taken forward as part of the consultation proposals. The PPA Group disagree with the assessment and the rejection of alternative options for the Duddon Estuary, including a tunnel option, which are based on the flawed assessment of impacts within the landscape setting of the National Park.

Cumulative Impact

3.1.12 The cumulative impact of the vertical infrastructure, particularly in Allerdale, and Carlisle and north Copeland, and in parts of the Furness peninsula is already a concern and larger pylons will further worsen the position. Rationalisation of the Electricity North West (ENW) line has afforded some reduction in OHL clutter in a number of locations in the North Section and notably in the LDNP; however, this does not go provide sufficient mitigation (see below). The PPA Group do not consider that the PEI provides sufficient details to understand the cumulative impact of the project and further assessment is required to assess the impact of the new OHL cumulatively with the existing lines.

Electricity North West Rationalisation

3.1.13 National Grid has adopted a one-up-one-down principle in relation to the ENW 132kV OHL, with a number of other areas where additional lines are removed or transferred underground. These are largely focused on the North Section of the route, with additional rationalisation; in the area around the Hadrian's Wall World Heritage Site (WHS), a section at Broughton Moor and in the area north of Westlakes Science Park. However, The PPA Group do not consider that the appropriate level of mitigation of landscape and visual impacts arising from the use of pylon and overhead cables has been proposed. In particular, to the north of the Moorside site, east of Whitehaven, east of Workington following the existing 132kV line north, and Hadrian's Wall World Heritage Sites.

3.1.14 Although the additional rationalisation is largely welcomed where the 132kV cable is undergrounded there are concerns regarding the appropriate positioning of Cable Sealing End Platform Pylons (CSEPP), particularly where these are close to the highway or existing properties. This infrastructure is also required where 132kV and below OHL is placed underground to facilitate the cross of the new 400kV OHL.

Electricity North West 132kV Trident over head line

- 3.1.15 A new 132kV trident route on timber poles extends from Millom and converges with the proposed 400kV route near The Green, extending north beyond the 400kV route round the head of the Duddon Estuary. This line has just been revealed and is required to provide a 132kV connection to the Millom area and specifically the Haverigg wind farm extension. The line connects to a 132kV substation (not proposed within NWCC) and is considered to provide an ungraded local electricity distribution network, as well as connection opportunities in the areas of Millom.
- 3.1.16 The principle of upgrading the network in the Millom area is welcomed, however, it is considered that this route, albeit on timber poles, will result in a notable increase in visual clutter within the bottom of the valley. There is also concern about the additional visual clutter from the 132KV trident line and associated sealing end pylons around the wider Duddon estuary including at Foxfield, Kirkby in Furness and south to Lindal in Furness.

Methodology

- 3.1.17 The PPA group are very concerned by the lack of wireframe diagrams to support the photomontages. These make assessment of the impacts, particularly on skylining of the pylons and other infrastructure, difficult to assess. These have been requested by the PPA Group over a long period. While National Grid has very recently agreed to provide some basic wireframes for some viewpoints, this does not fully address the lack of vital information as a key tool for Landscape and Visual Impact Assessment.
- 3.1.18 The selection of viewpoints for photomontages included in the PEI fails to address some of the concerns posed by the proposals. For example, the PEI viewpoints within the Whicham Valley fail to help assessment of the impact to receptors at lower elevation and from the coastal plain around Silecroft. These locations are within the setting of the National Park, and the PPA Group has been clear that this is a sensitive location. It is a flaw in the PEI to fail to adequately cover them in the viewpoint and photomontage assessments.

3.2 Socio-economics, recreation and land use

Visitor Economy

- 3.2.1 The NWCC project alone and in combination with other major projects has the potential to disrupt tourist trade through displacement and negative image. The PPA Group is concerned that National Grid underestimates the impact on the visitor economy across the area, by relying on limited local survey and other national tourism studies. Limited primary information regarding the visitor economy has been provided in the PEI, with full assessment of the impact on the visitor sector and visitor perceptions not available until the ES. The PPA Group consider that National Grid have failed to provide adequate information and the level of assessment required to understand the key risks and impacts on the visitor economy.
- 3.2.2 The impact of the project on Public Rights of Way (PRoWs), paths and cycleway could have significant implication for the visitor economy. This issue is set out below under paragraph 3.4.11 and 3.4.11.
- 3.2.3 The PPA Group consider that there is a lack of appropriate mitigation of visitor economy impacts, including damage to Cumbria's visitor image, and the disruption to public access, road and rail transport networks. Appropriate mitigation, such as support for small businesses and marketing and promotional activities are required to counter the disruption caused during the construction period and the negative perception driven by the adverse impact of NWCC. In addition to specific mitigation measures for key tourism and visitor economy assets affected.

Skills and Supply Chain

- 3.2.4 The PPA Group consider that there is inadequate detail in the PEI to understand the impacts and assess the extent to which these are addressed. Initial work on an Outline Employment and Skills Framework (ESF) is encouraging, however, it is disappointing that measures, targets and objectives are not available at this stage to support the proposals.
- 3.2.5 Review of the PEI reveals that National Grid is proposing that 20% of the project workforce and supply chain would be derived from the local area, however, detailed analysis of the PEI material must be undertaken to understand the justification and appropriateness of this figure. While the commitment to secure 20% as a minimum is welcomed, further investigation is required to understand how this level of involvement on NWCC will be secured; the Hinkley Point C Connections project secured a similar undertaking by a S.106 Agreement.

- 3.2.6 Furthermore, the PPA Group consider that it is in the interests of National Grid and the local economy for the skills to be locally available and for the businesses to be equipped to become part of the supply chain. However, this needs commitment from National Grid to invest in local skills development and supply chain capability development. Additionally, as part of the package of measures National Grid and their contractors should commit to target economically inactive people in the area and the recruitment of apprentices to support local skills training and development. These measures will help mitigate displacement impacts, however, they will require a funded programme of intervention and support and a commitment from Grid (and their contractors) to recruit from the pool of people that are supported.
- 3.2.7 The PPA Group are concerned that there is very limited detail on mitigation measures that will be required to address the impacts of the NWCC Project, and therefore, few details of how the mitigation will be secured and monitored. It is important that National Grid;
- makes clear and early commitments to providing funding to support the development of local business capability and capacity, working with the LEP and other local partners, through the development and implementation of a supply chain strategy..
 - progresses the development of a detailed skills action plan to ensure that there is investment in skills development in advance of construction in order to facilitate employment and training of local people.
 - makes early commitments to capital investment in training facilities.
 - provides a clear procurement strategy and to develop specific interventions with measurable and enforceable targets that capture the local benefit for Cumbrian businesses.
- 3.2.8 Additionally, the PEI suggests that the need for investment in education and training facilities will be explored further, and if there is a need, any proposed support and investment measures will be reported in the Employment and Skill Framework and submitted with the DCO. The PPA group consider that such investment is required for appropriate training facilities provided not only to support the existing population but also to help attract new workers and their families to come and work in Cumbria. However, an understanding of the delivery mechanism is required to evaluate the appropriateness of this undertaking. It is also suggested that

Employment sites and land allocations

- 3.2.9 The PPA Group previously suggested a number of sites that should be considered for investment and use within the NWCC Project. A number of these have been proposed for use as construction, rail and helicopter compounds, notably sites at; Port of Workington and Kingmoor Park Lillyhall, Wigton, Aspatria, Flimby, and Heysham. There are also potential effects on land allocations at Barrow Port and Marina, as well as employment and current planning applications proposed for Roosecote Power Station, and land at Heysham, Heysham Port and Heysham Moss. The PEI considers that the likely effects of the NWCC Project would not be significant during both the construction and operational phases. Permanent land take effects would occur in relation to the proposed Tunnel Head and substation areas at Roosecote and Middleton. As both of these areas of ground are currently vacant at present, the PEI states that their use is expected to lead to longer-term beneficial effects. Similarly, their use is considered in the PEI to be consistent with policy objectives as set out in the respective Development Plans.
- 3.2.10 The assessment for the North Route identifies a number of planning site allocations in Local Plans, where there could potentially be conflicts during the construction phase. These include: the Ehen/Keekle Valleys Tourism Opportunity Site and the Whitehaven Eastern Relief Road; a possible Opportunity Site at Hensingham Common comprising 16ha of employment land of which 1.8ha would be used as a site compound; Whitehaven Commercial Park, Lillyhall Industrial Estate and Derwent Forest Site; Kingmoor Park Industrial Estate, Kingmoor Park Rockcliffe, Kingmoor Park Heathlands Estate, and land at Station Road Wigton. In terms of the operational phase, only the Ehen/Keekle Valleys Tourism site would seem to have any long-term effects, as all the others would be used for temporary site compounds.
- 3.2.11 In terms of the South Route, further investigation is required to assess the impacts on allocations described above especially in Barrow and Heysham. In addition the above new permanent lattice trident terminal pylons (with laydown), are shown to be located within the site boundary of a housing site next to Burlington School in Kirkby-in-Furness, which is allocated in the SLDC Land Allocations DPD. This will cut across the allocated site and could have a negative effect on the allocation.
- 3.2.12 Further investigation will be undertaken within the detailed response to understand the detail of National Grid's proposals to ensure the impacts are considered and where possible legacy secured.

Ability to connect to the ENW network

- 3.2.13 The PPA Group has previously provided comment regarding maintaining the integrity of the ENW infrastructure in a number of areas across the route, while also ensuring the opportunity for new connections for both users and producers. National Grid's proposed route makes provision for a number of additional 400kV substations, the extension to a number of 132kV substation and substantial re-configuration of the ENW infrastructure. Initial review of the PEI suggests that reconfiguration of the infrastructure could be better designed to meet future needs of users and producer, for example ensuring connection opportunities at the Stainburn substation. Additionally, previously expressed concern regarding the resilience of the ENW infrastructure to flooding does not appear to be addressed, indeed the Carlisle 33kV substation is not included in the project.
- 3.2.14 Furthermore, initial review of the PEI suggests that the integrity of the ENW network in the Millom area appears to have been addressed by the addition of a 132kV trident line that connects from a 132kV substation (not part of this project) near Millom, round the Duddon Estuary to the network at Lindal. However, it is understood that the new substation is contingent on the development of the Haverigg Wind Farm. The impact of the trident line is considered above.

3.3 Tunnel head impacts at Barrow and Heysham

Lack of details

- 3.3.1 Significant issues have been raised regarding the impact of the tunnel construction on the local community, transportation links and social infrastructure in Roosecote and Heysham. Initial review of the PEI suggests that there is limited information regarding the tunnel heads and the impact on the surrounding community. For example, information on the construction processes (such as the slurry treatment plant) will not be available until the ES. Proposed construction working hours are included in the Code of Construction Practice that accompanies the PEI Report. In the absence of vital information, the PPA Group considers that the impacts related to noise, vibration, air quality, light, ecology and residential amenity at the tunnel-head sites are not adequately measured, addressed, or mitigated. This issue is a significant concern.

Impact of Tunnel Head construction

- 3.3.2 Following on from the section above the PPA Group has significant concerns about both proposed layouts given their proximity to existing and proposed residential and commercial development, and adverse impacts on PRow. Little information is available regarding the onsite processes, such as those relating to the 20m high slurry treatment plant or off site movements. Therefore, at this stage it is not clear whether the local areas will be subject to an unacceptable adverse impact on amenity and health for a prolonged period of construction.
- 3.3.3 As stated above, National Grid does not intend to provide more information on the project infrastructure, or an assessment of the impacts on the amenity of the local community until the Environmental Statement (ES) to be submitted alongside the DCO.
- 3.3.4 It should be noted that the indicative layout for the Roosecote tunnel head now reflects the submitted planning application by Centrica for a gas fired power station and energy storage plant. National Grid is confident that there remains sufficient space to accommodate the manufacture of all the concrete segments required for the tunnel. Additionally, after concerns were expressed regarding the location of the segment factory in Heysham, proposals do not include a factory on the Lancashire side.

Worker accommodation

- 3.3.5 During the construction of the project there is likely to be a concentration of over 380 workers at each of the tunnel heads at Barrow and Heysham. Given the number of directly employed workers required for the construction of the tunnel, and the other major projects in local areas, accommodation for workers is a key concern. The PEI concludes that there is limited effect in the Heysham area given access to transport links and the wider catchment of workers. However, the PPA Group consider that a workforce strategy is nevertheless required that will include commitments from Grid to support delivery of worker accommodation (including refurbishment of existing housing stock) so as to avoid adverse impacts on the existing housing market and visitor accommodation
- 3.3.6 The impact in the Barrow area is acknowledged and National Grid commit to working with stakeholders to produce an Accommodation Plan to be submitted with the ES. There are currently no details on the content of the Plan. This accommodation will also cover the area of undergrounding in the LDNP.

- 3.3.7 The PPA Group is concerned that currently there is incomplete workforce planning and accommodation proposals at the tunnel-heads. The PEI Report does not indicate any collaboration with accommodation providers to overcome existing shortfalls and/or raise standards of suitable worker accommodation.

Material, waste and tunnel spoil

- 3.3.8 The Key Issues Report suggested that the level of construction materials and tunnel spoil generated will place extensive pressure on the transport infrastructure if a road based strategy is followed. Currently National Grid is consulting on both a road based, and multimodal transport strategy (see transport section below). Until a decision has been made it is difficult to appreciate the implications for the materials and waste resulting from the tunnel construction. This is a significant issue that needs addressed before the impacts can be appreciated. National Grid state they are happy to continue to discuss opportunities for the positive use of the tunnel spoil with the PPA Group. However, plans do not appear to have been progressed. A proposed use at Cavendish Dock has been rejected, as the site is part of a SSSI, a SPA and Ramsar, primarily for its bird interest, and National Grid consider that initial investigations suggest there is no reason for its de-notification.
- 3.3.9 National Grid has proposed a materials movement corridor on the causeway forming the southern edge of Cavendish dock. Movement options being considered include conveyors, narrow gauge rail or use of HGVs with traffic control. This route allows direct access to the Port of Barrow as means of importing and exporting materials and waste. However, some of these options may result in closure to the causeway, including a PRoW for the period of use, in addition to possible noise and amenity issues. The PPA Group suggest that there is inadequate information on the storage, movement and final destination of tunnel spoil.

3.4 Transport and connectivity

Transport Strategy

- 3.4.1 National Grid have yet to select the Transport Strategy, however, review of the PEI suggests that the key risks and impacts of traffic movements have not yet been addressed.

- 3.4.2 The PPA Group are significantly concerned that National Grid are not consulting on a single and coherent transport strategy. This is a major issue that has widespread impact across other topic areas, such as visitor economy and waste and material. Additionally, the PPA Group and affected communities need to understand how the project will be delivered and what the mitigation and transport improvements are. This approach is inadequate and therefore the PPA Group cannot support National Grid's transport strategy at this point. Given these fundamental issues it is suggested that a subsequent consultation may be required when National Grid have sufficient information and a single strategy to appropriately address these issues.
- 3.4.3 National Grid conclude that there are no traffic reasons to favour the multi-modal option because of increased flows on more sensitive routes, the road option having a greater impact on the strategic routes which are generally less sensitive. The PPA Group do not accept this conclusion, as it is not clear that this is this appropriate and whether it should apply in all cases. For example, the multi modal strategy would reduce the number of traffic movements though Barrow.
- 3.4.4 Overall, the PPA Group strongly disagree with the assessment of impacts relating to the 'road based' and 'multi-modal' options. The multi-modal option will reduce the scale of HGV movements in some areas, while also having safety and environmental benefits. Additionally the Group are concerned that the cumulative impacts have not yet been assessed.
- 3.4.5 The multi-modal options will have a significant reduction in overall vehicle usage, especially for HGVs. This will reduce emissions and accidents, however, these benefits have not been considered.
- 3.4.6 Furthermore, the PPA Group do not accept National Grid's assertions that railway capacity issues should be a reason for not selecting the multi-modal option. The approach should be to mitigate the rail capacity issues, which would keep traffic off the highway and also provide a legacy benefit.
- 3.4.7 For the central strategic route area National Grid suggest an additional reason for not choosing the multi-modal option is given as the impacts on capacity of the Cumbrian Coast Line, Workington Port and Workington Port rail depot, although it is understood that there is sufficient capacity at Workington Port to accommodate the additional tonnage.

Transport improvements

- 3.4.8 The construction of the NWCC project will require extensive traffic related to the importing (and decommissioning) of material for access and haul roads, construction materials, cabling and waste. There is concern about the cumulative impact of these movements on the transport network especially if a single source is used and a road based approach is adopted. Additionally, a number of rail and road construction sites are proposed to store and deploy materials; these are all along the route and are more concentrated in the areas where underground technology will be used, such as Drigg, Silecroft and Foxfield. The transport infrastructure along the route and in these areas in particular is constrained, therefore, the impact of the movements is likely to require mitigation measures to address pinch points on the network and improve the local highway network, and minimise impact on nearby residents and businesses including at Foxfield Business Park.
- 3.4.9 Fundamentally, there is a lack of appropriate mitigation of traffic impacts on the highway network, which needs to be informed by modelling of traffic flows both for the individual development and for the cumulative impact, and is dependent upon the completion of survey data. It is suggested that mitigation should also address the following, for which no detail has yet been provided; the safe management of traffic on minor roads, the impact of worker accommodation locations – for example for the underground section within the National Park, implementation of Travel Plans
- 3.4.10 Lack of information on mitigation is a serious issue that needs to be addressed to enable a full assessment to be made.

Public Rights of Way (PRoW), cycle ways and paths

- 3.4.11 The NWCC project will have temporary (during construction) and permanent effect on the PRoW across Cumbria and those related to the tunnel head at Heysham. This will include closures, diversions and a reduction in the amenity and ability of users to enjoy the routes.

- 3.4.12 Review of the PEI reveals that the project will have an adverse impact on a number of PRoW, paths and cycleways. Key risks and impacts on PRoW and cycle paths have not been adequately addressed. More in depth assessment is required to understand the extent of these impacts across the area, however, at this stage National Grid are proposing a package of measures to mitigate the closures and disruption to the routes. These will be set out in a PRoW Management Plan (PMP) that will form part of the application for DCO. In addition, a number of specific mitigation measures are proposed in certain locations, these relate to proposed plans for the mitigation of key features such as a proposed Hadrian's Wall Mitigation Plan. These specific plans will also be secured in the DCO. The PPA Group are concerned that at this time there is a lack of clarity on appropriate mitigation measures that are required.
- 3.4.13 While the undergrounding through the Park be supported, in terms of setting, the A5092 transport corridor approach to the Western Lakes, along with the 'view out' of the National Park from Open Access and specific PRoW are undeniably affected by the proposed stretch of pylons that hug the National Park Boundary through Whicham and the Duddon.

Construction Access Points

- 3.4.14 WYG have been provided additional information outside the PEI showing the routes from the main roads, such as the A596, to construction access points. There are a significant number of access points to service the 1000 individual construction sites across the area. Some of the routes are on narrow lanes with tight bends, sharp crests, narrow bridges, NCN cycle routes or past schools, e.g. Beacon Hill School in Aspatria. Access to the Barrow tunnel head is off the A5087 which has residential frontage, on-street parking and a low bridge. No details of how these routes will be safely managed with the additional HGV flows have been provided. This should be part of the public consultation.

Highway Assessment

- 3.4.15 The impact of construction traffic has been assessed based on the average daily flow in the busiest peak four week period – based on engineering judgement. Whilst the principle that the impact should be reasonably prolonged (not just for a day or two) is accepted it is not clear why four weeks is appropriate.

3.5 Terrestrial and avian ecology

Habitats Regulation Assessment

- 3.5.1 The PPA Group are significantly concerned that there has been a failure to progress with the statutory Habitats Regulation Assessment (HRA) of the impacts of the project on internationally important wildlife. This has resulted in a failure to identify risks, such as those associated with the Ravenglass Estuary SAC of undergrounding/HDD operation, and of tunnel option on Morecambe Bay SAC/SPA. Furthermore, the PPA Group are concerned that a number of sites or sections which are hydrologically linked to European or International sites have been scoped out (e.g. South Solway Mosses SAC); Additionally, it is considered that the lack of any assessment of cumulative impacts on ecology, including EU protected sites and species, will affect the timescale for the HRA.
- 3.5.2 This could lead to significant delays to the acceptance of the DCO by PINS if not addressed.

Ecology Surveys

- 3.5.3 Many of the ecology -assessments have been based on incomplete survey data, which will need updating when surveys have been completed. This information will now only be available for incorporation into reports at the ES stage so we will not be able to comment on any of the final ecology evaluations and assessments.
- 3.5.4 Additionally, some assessments provide a conclusion of no significant effect despite the fact that surveys are still ongoing.

Topics Scoped out

- 3.5.5 It appears that the existing incomplete information has been used to scope in or out various designated sites, habitats and species. This approach will not provide a robust assessment until all the information has been considered, and scoping out features prior to obtaining all the data may result in these features being ignored prior to the final ES. Provision of habitat areas in table format should be sought for the development order limits sections.
- 3.5.6 Issues have then been scoped out (habitats and/or species) from certain sections prior to assessing completed survey material. The PPA Group suggest this results in unreliable conclusions on significance of potential impacts.

Non-designated priority habitats

- 3.5.7 The PPA Group are concerned that non-designated priority habitats are not effectively assessed and therefore are not appropriately protected. This is of particular significance in the southern section where undergrounding is proposed which has potential to result in more significant damage to habitats. Additionally, parts of the assessment rely on Aerial Photo Interpretation and therefore it has not been possible to possible to accurately assess the value of most habitats using this approach.

Invasive Non Native Species

- 3.5.8 Although invasive species have been recorded as present or absent within entire route sections there is no detail on location of Japanese knotweed where it may provide a constraint to the works. The PPA Group consider that in view of the large geographic extent of the linear project it is vital that non-native invasive species are dealt with extreme care due to the risk of spread over a wide area posing potential significant risks to biodiversity. In particular – Japanese knotweed can take many years to eradicate, therefore it will be important to deal with this problem well in advance of the proposed construction schedule.

Effective Mitigation

- 3.5.9 The PPA Group are concerned that the mitigation measures outlined are not considered adequate. There is a lack of appropriate mitigation and compensation for impacts on habitats and species; in particular not avoiding key hotspots, inadequate construction methods and compensation for loss and disturbance.
- 3.5.10 Design mitigation will be important to avoid impacts on several County Wildlife Sites and woodland areas. For example, the present route results in woodland areas, including parts of ancient woodland, being lost or the canopy removed. Compensation is proposed by National Grid to comprise planting of a similar area of woodland to that lost. However, loss of mature woodland and in particular ancient woodland cannot be mitigated or compensated for. The first consideration should be the avoidance of woodland through micro-siting but the information provided does not make it clear in most cases whether micro-siting has been considered and why this cannot be achieved.

3.5.11 The PPA Group consider that in all cases avoidance should be adopted, and if this is impossible then the reasons for this need to be highlighted and explained in detail. Additional compensation will be expected where loss of mature/ancient woodland is still being considered. It is also considered that a clear Code of Practice for any development work in the vicinity of ancient or mature woodland.

Protected Species Impacts

3.5.12 Clear rationale behind the selection of specific study areas for additional protected species survey and more detailed habitat/NVC survey is not provided other than an overview of methodology used. It is not always apparent how disturbance to protected species will be assessed and addressed during construction and maintenance phases.

3.6 Historic environment and cultural landscapes

World Heritage Sites

- 3.6.1 The PPA Group are concerned that the key risks and impacts to World Heritage Sites are not adequately addressed. In particular, only one of the three key features of the English Lake District nominated World Heritage Site have been considered. Although the assessment terminology used in the PEI is the same as in the ICOMOS HIA Guidance (2011), it exclusively focuses on the physical historic environment as an attribute of Outstanding Universal Value (OUV). There is a tendency within the suite of PEI documents to treat World Heritage as solely a historic environment issue. However, this approach covers only part of the first of the three themes of OUV which have been identified for the English Lake District. There is a need to ensure that the HIA takes into account the full range of OUV attributes from the three main themes. There is also a need to make sure that the wider EIA also takes into account the full range of National Park Special Qualities. Currently it is not clear that the PEI has done this.
- 3.6.2 Furthermore, the PPA Group consider that there is a failure to provide adequate information and evidence to enable assessment of impacts on the Frontiers of the Roman Empire (Hadrian's Wall) World Heritage site (FRE WHS).

- 3.6.3 The PEI concludes that for both the FRE WHS and the candidate English Lake District WHS, the net effect of NWCC would be "*a slight beneficial significance of effect on this asset as a whole*". This appears to be based primarily on the removal of ENW infrastructure and improvement of the ability to appreciate the physical historic landscape. In terms of the Lake District National Park, this relates only to part of the first theme of Outstanding Universal Value (OUV).
- 3.6.4 The HIA should also assess the potential impact on OUV of the surface treatment of the undergrounded section within the National Park.
- 3.6.5 Without a demonstrably comprehensive HIA it is difficult at this stage to accept the conclusion that NWCC would have "*slight beneficial significance*" for the OUV of the candidate English Lake District WHS.

Historic Environment and Archaeology

- 3.6.6 The PPA Group consider that there is inadequate evidence and assessment of impacts to the historic environment and archaeology across the route, and in particular from underground construction methods including cabling in the Lake District National Park. Undergrounding will have a major impact on any archaeological remains within the corridor and although mitigation can be provided, in terms of evaluation and recording, there is a risk that any archaeological remains could be destroyed on the route and they are a finite and unrenewable resource.
- 3.6.7 A major concern is, however, that the desk based assessment and walkover survey of the route corridor has not, as far as we are aware, been complete; and no viewpoint analysis is provided in connection with potential impacts on the setting of designated heritage assets. It is understood that the results from this piece of work and other projects that have been recently completed (i.e. aerial mapping project/Romans in Ravenglass), have not been used in the PEI. We therefore do not feel at this stage that we have all the information available to be able to ascertain the overall impact on the historic environment.

3.7 Project wide comments

Cumulative impact assessment

- 3.7.1 As stated in the PPA Group comments on the PEI Cumulative Effects Briefing Paper, the adopted four-stage approach which reflects the approach within the PINS Advice Note 17 is welcomed. It is understood that the PEI will only contain stages 1 and 2 as set out in the advice note, and that the EIA procedure will enable decision making as to the actual final cumulative impacts to be assessed, their extent and residual outcomes.
- 3.7.2 As this is such a critical element for decision makers, whilst paragraph 22.1.6 states that *“Consultee comments have been considered during the compilation of this chapter, with the ZoI and assessment methodology amended where appropriate”*, it would be more helpful and clearer to the Planning Inspectorate in the future for a table be provided in the ES setting out whether or not the changes sought by the PPA Group have been accepted, and if they have not then there should be clear justification for doing so.
- 3.7.3 There are a number of specific areas that require clarification, which relate to the assumptions for the distances used for the Zones of Influence identified for each of the topic areas covering: landscape (10km), Socio economics (20km), terrestrial and avian ecology (20km), historic environment (10km), and waste (10km).
- 3.7.4 With regard to marine matters, we note and welcome that Table 22.1 now confirms that the Islet associated with the Morecombe Bay tunnel, consultation with relevant bodies and Government levels and that works in the Duddon and Ravenglass estuaries are to be included.

PEI consultation

- 3.7.5 In a letter dated 21 October 2016, the PPA Group had expressed concern to National Grid that despite a 10-week consultation period running from 28 October 2016 to 6 January 2016, this was a compromise position and had been based on assurances by National Grid that technical information would be released to the Authorities well in advance of the formal consultation date. This length of time was needed to allow all the PEI material to be properly considered and for that consideration to inform the Local Authorities’ consultation response.

3.7.6 However, notwithstanding that assurance, several deadlines offered by National Grid were passed without the technical information being released on time. Consultation responses have to be approved by the various Local Authority Executives prior to issue to National Grid, and there is a significant lead-in time for all Committee reports to be prepared by the Local Authorities. The delay by National Grid in presenting material in the PEI has therefore meant that a full consideration of all the documentation is a significant challenge within the timescales. As a consequence the original request that the S.42 consultation be extended to the 3 February 2017 still stands to enable the PPA group to provide National Grid with a properly considered and approved consultation response, and enable National Grid to have full information on local sensitivities and impacts when it finalises the application ready for the DCO submission.

Lack of information

3.7.7 There has been a general lack of sufficient information presented within the PEI for a full assessment of the potential effects of the development to be carried out by the PPA Group and its specialists at this formal stage of consultation.

3.7.8 There are gaps as well as assumptions that have been made across almost all topic areas (including landscape, ecology, transport, historic environment, socio-economics, noise, hydrology etc). If this is carried through to the final Environmental Statement could lead to incorrect assessments and the wrong conclusions drawn on the likely effects. Additionally, the approach would be inadequate in terms of ongoing engagement with the PPA Group and other organisations. This is addressed in more detail in the topic-by-topic analysis and will be drawn out in the final PEI response.

3.7.9 The PPA Group are concerned that these matters need to be addressed and consulted on prior to the development of an Environmental Statement and the submission of the DCO.