Proposed Solar Development on Land Between Hawksworth and Thoroton

Town and Country Planning Act 1990
Appeal under Section 78

by

By Renewable Energy Systems (RES) Ltd, against the decision of Rushcliffe Borough Council (as local planning authority) to refuse planning permission for the installation of renewable energy generating solar farm comprising ground-mounted photovoltaic solar arrays, together with substation, inverter stations, security measures, site access, internal access tracks and other ancillary infrastructure, including landscaping and biodiversity enhancements

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Grid Connection Structure Options Assessment

Written statement prepared by

Carly Tinkler BA CMLI FRSA MIALE

on behalf of

Hawksworth and Thoroton Action Group (HTAG)
(Rule 6(6) Party)

12th July 2024

Planning Inspectorate Reference: APP/P3040/W/23/3330045

Planning Application Ref: 22/02241/FUL

Contents

1. Introduction

1.1 At the start of the Inquiry, there were discussions about the measures that would be required to connect the Appeal scheme to the National Grid, including the type of structure/s needed to achieve this.

1.2 During the Inquiry, it was concluded and agreed that an assessment of the landscape and visual effects arising from the required structure/s (in combination with the rest of the scheme elements) should be carried out separately by the Appellant (RES Ltd), the Defendant (Rushcliffe Borough Council (RBC), and the Rule 6 Party (R6P), and submitted to the Planning Inspectorate (PINS) by the 12th of July 2024.

1.3 This note sets out the findings of the R6P's assessment.

2. Background

2.1 The Appellant submitted two 'preliminary' Options Plans with the Application: Figure 12A Client / DNO Substation Plan & Elevation Option 1, and Figure 12B Client / DNO Substation Plan & Elevation Option 2.

2.2 The plans show proposals for two alternative design options for the structure/s which are required to enable connecting cables to run between the proposed District Network Operator (DNO)[1] substation, and a nearby existing pylon[2]. The existing pylon is part of a line of pylons which cross the eastern half of the Appeal site from north east to south west, and which carry overhead 132kV cables.

2.3 Both plans are annotated with a note saying that '*This drawing is preliminary and subject to change at the detailed design stage*', and this was emphasised by the Appellant during the Inquiry.

2.4 Normally, DNO substations are designed and built by Independent Connection Providers (ICPs) on behalf of the DNOs, to their specification. In this case, the DNO is National Grid Electricity Distribution East Midlands (NGED EM). Page 3 of the Appellant's *Grid Connection Feasibility* report (at Appendix 3 of Mr Cusson's planning evidence for the Appellant) confirms that '*The design, consenting and delivery of the "loop in" works will be the responsibility of NGED EM and aspects of drawings submitted relating to those loop in works are based on information and drawings provided by NGED EM*'.

2.5 The proposed design options are explained in more detail in the next section, but in summary, Option 1 is a single tall pylon, similar to the existing pylons on the site, and Option 2 is for two shorter poles, one of them wooden.

2.6 It appears that RBC and other parties (myself included) were not aware of the inclusion of the structure/s in the Application: this was not factored into the Appellant's landscape consultants' assessments of landscape and visual effects, nor included in their landscape witness's landscape proof of evidence (PoE).

2.7 I note that a 'tower' structure is mentioned at para. 1.52 of the Appellant's Design and Access Statement (DAS), which states: '*With regard to the proposed ancillary buildings and associated infrastructure, they are designed to be as small as possible while still being capable of undertaking their*

[1] DNOs are licensed companies that own, control and operate the electricity distribution network (there are six DNOs in England). The National Grid runs the transmission network (in England and Wales), and owns large substations (where 275kV and 400kV overhead power lines or underground cables are switched and where electricity is transformed for distribution to surrounding areas – they also own the associated pylons); smaller substations (and pylons) are owned and maintained by the local distribution networks.

[2] Pylons are used to support electrical cables that transmit high-voltage electricity from where it's generated (eg a solar power station or windfarm) to where it can be distributed. Electricity comes out of a power station at a low voltage, around 10-30 kilovolts (kV). It then passes through a 'step-up' transformer at a transmission substation to create high-voltage electricity – up to 400,000 volts – which travels via cables around National Grid's electricity transmission network.

required function within the site. Such structures, ***with the exception of the tower on the substation located in Field 8****, will not be prominent within the surroundings*' (my emphasis).

2.8 However, it is not clear whether this relates to the 15m tall communications tower that would be situated within the substation complex (which is shown on the Options plans, and was taken account of in my assessment: I am not sure if it was included in the Appellant's assessments / visualisations), or the proposed pylon option (in the UK, the correct 'technical' term for a pylon is a suspension, tension, or transmission tower), or the proposed shorter poles option.

2.9 Clarification of this point would be helpful, given that the DAS concludes that the 'tower' would be 'prominent within the surroundings'.

2.10 It would also be helpful to know why a pylon is proposed as an option when only the shorter poles option is mentioned in the *Grid Connection Feasibility* report (on page 5, under the heading *Overhead Line or Underground Cable*), as follows: '*For voltages up to and including 132kV* [which is the case here], *a single circuit can be carried on a wooden pole structure*' (page 6 explains that the underground cable option was discounted due to it being '*a significant undertaking with a wide range of potential construction impacts*', and '*land take is significant which contributes to a much increased unit cost. Underground cable can cost anywhere from 5 times to 10 times more than overhead line*').

2.11 In addition, assuming that both options are equally appropriate for the connection, why have a pylon when the shorter poles would not only result in lower levels of adverse landscape and visual effects (being less industrialising and visually-prominent than pylons), but also, presumably, would cost less than a pylon?

3. Proposed Structures

Location

3.1 The Options Plans show that the proposed structure/s would be situated adjacent to the proposed DNO substation, which would be located in the centre of Field 8, in the south-eastern sector of the site.

3.2 Although not clear from the Options Plans, I assume that the structure/s would be located at the eastern end of the substation complex, as the existing pylon / cable line is east of the substation (c. 50m away at that point), and the Masterplan and Infrastructure Layout Plan show a small, square area extending from the substation complex at its eastern end, which corresponds to the area taken up by the connection structure shown on the Options plans – see below.

Extract from Figure 4 Infrastructure Layout (RES Drg No. 04668-RES-LAY-DR-PT-004 Rev 6).

Number

3.3 Page 4 of the *Grid Connection Feasibility* report sets out '*the actual connection solution that has been agreed with National Grid Electricity Distribution East Midlands (NGED EM)*'. It explains that '*Longhedge Solar Farm will "loop" into an existing 132kV overhead line that passes through the project site boundary. To achieve this, NGED EM will construct* ***two new terminal towers*** *from which the existing*

132kV overhead line will drop into the project substation and short lengths of cable run into the Longhedge Solar Farm substation' (my emphasis).

3.4 I assume that the above is referring to Option 2, not Option 1.

3.5 Option 1 entails the construction of a single pylon in the area just beyond the eastern end of the substation complex, described above.

3.6 Option 2 entails the construction of a single wooden pole in the same area, and a second, slightly taller connection pole / post / tower in the substation complex.

Design

3.7 During the Inquiry, the Appellant made it clear that the designs of the structures shown on the Options Plans are illustrative / indicative. As noted above, both plans state, '*This drawing is preliminary and subject to change at the detailed design stage*'. However, for the purposes of this exercise, and notwithstanding some uncertainty (see comments below), I have assumed that the designs would be as shown or very similar.

Option 1

3.8 Option 1 comprises a pylon, the layout / design of which the Option Plan shows in plan-form and elevation.

3.9 The pylon would carry new overhead cables running from the existing overhead 132kV line at pylon no. 3 to the north east, and from the proposed pylon's cross-arms, downlead cables would run to the ground within the substation complex, secured by anchor blocks.

3.10 Electricity pylons / towers are tall, steel, open-lattice, A-frame structures, which first came into general use in the UK in the early 1930s. As with many of the country's new major infrastructure projects, they were intended to be 'of architectural beauty and interest', and so in 1927, were made the subject of a design competition run by the Central Electricity Board. The winning entry, from an American engineering company called Milliken Brothers, was selected by Sir Reginald Blomfield, a leading architect of the day. The design concept has changed little since then, although in 2011, an international competition was organised jointly by the National Grid, UK Government, and the Royal Institute of British Architects, with the winning entry proposing T-pylons (a 'new shorter, sleeker pylon design'), and these are now operational in some areas.

3.11 The height of the proposed pylon was not given on the Option Plan, nor elsewhere, as far as I was able to ascertain, so I scaled the height from the plan and found the top of the tower to be c. 24m above the ground level of the substation complex.

3.12 The Zone of Theoretical Visibility (ZTV) Plan which the Appellant's landscape consultants prepared for the grid connection structure assessment assumes that the top of the pylon would be 23.3m above ground level, which is in line with the Options Plan.

3.13 However:

i) The proposed pylon shown on Option Plan 1 appears to be the L4(m) type (possibly DT STD).

ii) Standard L4 towers are **26.5m** high.

iii) The height of the towers is dictated by the need to maintain ground clearance, and the length of span on the overhead line. With L4(m) towers, if required, the height can be reduced by removing one or more 3m panels, and increased by adding one or more 3m panels up to an increase of 24m.

iv) Subject to the above factors, generally, towers tend to be the standard 26.5m height with a 3m panel added, so **29.5m**.

v) If that was the case here, then the proposed pylon would be almost exactly the same height as the existing pylon (which is **29.09m** according to the ZTV, but it may not be – see Section 4).

vi) It is not clear whether the ZTV plan is based on the foot of the tower being at the existing, or the proposed ground level.

vii) The existing and proposed ground / AOD levels on and around the substation complex are not shown on the Options Plan.

viii) It is possible that the ground floor level of the substation complex would need to be raised above existing ground levels, for example to avoid water ingress.

ix) As noted in my PoE (paras. 2.2.35 – 45), the Appellant does not appear to have factored in the recent (December 2022) revisions to climate change allowances for flooding in the Humber River Basin. Although the DNO substation currently lies within Flood Zone 1, it is only c. 50m from the boundary of Flood Zone 2 (to the east – the existing pylon line is within Flood Zones 2 and 3).

x) The revised allowances suggest that the substation would need to be raised considerably higher than assumed.

xi) However, the proposed pylon could perhaps be located at a lower level, within the flood zone.

Option 2

3.14 Option 2 entails the construction of a single wooden pole in the area just beyond the eastern end of the substation complex, and a second, slightly taller connection tower / pole, which would be located within the substation complex.

3.15 The wooden pole and connection tower / pole are shown on the Option Plan in plan-form and elevation. I was unable to ascertain what the connection tower / pole would be constructed of, but possibly, metal.

3.16 From the connection tower / pole in the substation complex, overhead cables would run to the proposed wooden pole, and on to the existing overhead 132kV line at pylon no. 3.

3.17 The heights of the structures are not stated on the Option Plan; however, I scaled the heights from the plan and found the top of the wooden pole to be c. 9m above the ground level of the substation complex. The Appellant's ZTV plan for the wooden pole also assumes 9m.

3.18 I scaled the top of the connection tower / pole to be c. 12m above the ground level of the substation complex. The Appellant did not include the connection tower / pole as a ZTV target.

3.19 An image of a typical wooden pole structure is provided in Figure 1 of the Appellant's *Grid Connection Feasibility* report. This is a system of wood pole construction called Trident, where 'H' poles are employed for carrying 132kV conductors.

3.20 Page 5 of the *Grid Connection Feasibility* report states that '*Typical 132kV wood pole support structures will be of elevation between 12.5m and 17m*'. In fact, Trident wood poles have a standard height above ground of 15m (including steelwork and insulators), but individual pole heights are determined by the statutory clearance requirements. Pole heights may have to be increased where circumstances dictate, eg road and railway crossings, and over elevated land, structures or features.

3.21 The *Grid Connection Feasibility* report explains that the wood pole '*will also require a working width corridor in the region of 25m*'.

3.22 I understand that in certain situations, the tension from an L4(m) cross arm to a Trident wood pole may be too great for the tower's cross-arms: in that event, either the cross-arms would have to be reinforced, or, the tower changed to a L4(m) DJT, which is designed to take downleads to free-standing cable sealing ends, or a Trident pole.

4. Method

4.1 My assessment involved a combination of desktop study / research, including consulting an engineering colleague who used to work for Western Power Distribution (WPD), and two visits to the site and surrounding area.

4.2 The first visit focussed on views towards the location of the proposed structure/s at viewpoints in the wider area, broadly following the R6P's Inquiry Site Visit Route Map; the second focussed on near-distance views.

4.3 I carried out the site visits before receiving the Appellant's plans showing the bare-earth ZTVs of a) the existing pylon nearest to the proposed substation, b) the proposed pylon, and c) the proposed pole, so was not certain of the exact locations from which the proposed pylon would theoretically be visible; however, I was able to use the existing pylons on the site as a visual reference.

4.4 For ease of reference, I numbered the three pylons on the site 1 – 3, from north (1) to south (3): the pylon nearest to the proposed substation is no. 3.

4.5 As well as the ZTV plans, in his Inquiry Note of the 14th of June, the Inspector asked the Appellant to provide a visualisation from LVA VP6 by the 21st of June, which I received. In his 17th of June Inquiry Note, the Inspector asked the Appellant to provide (*inter alia*):

1) *The height above the ground level of the 132kV pylons on the appeal site.*

2) *Visualisations from VP1 and VP2 for the appeal scheme showing Options 1 and 2 as depicted on CD1.16 and CD1.17.*

3) *Cross sections (bare earth) through the appeal site from the highest section of Bridleway BW6 towards (a) St Helena spire and (b) Pylon 3 - as shown in blue on the attached plan.*

4.6 The submission date for the above was given as the 12th of July, which is the date on which the parties' connection structures assessments are to be submitted, although in an email dated the 21st of June, the Appellant said, "*we anticipate* [the information] *will be ready earlier than this and will circulate as soon as possible*". Unfortunately, I did not receive it in time to factor it in to my study.

4.7 Regarding the height of the existing pylons on the site, the ZTV is based on pylon no. 3, with a height of 29.09m. However, my research indicates that the existing pylons are probably CEB L132 0.4" towers, which were designed in 1940 (or the almost-identical L16 D2 and PL16 D2S towers). A standard L132 tower is 86' 3" (26.29m), and a standard PL16 is 26.44m.

4.8 If that is the case, they would be somewhat lower than 29.09m, unless 3m panels had been added to bring them up to 29.3m, which would almost equate to the ZTV height.

4.9 I understand, however, that it is unusual for all the towers on a line to be the standard height, due to localised factors such as clearance requirements. Some of the existing towers could be L132 / PL16 SH + 3m which would give 30m. Some could be in excess of 30m, particularly where they cross 33kV and 11kV lines.

4.10 For ease of comparison between the parties' assessments, I have assumed that the height of the existing pylon no. 3 is 29.09m.

4.11 Regarding the height of the proposed structures, as explained above, there is some uncertainty about this, but again, for ease of comparison, I have assumed that the heights of the proposed pylon and the wooden pole are as given on the ZTV plans, ie pylon 23.3m, and wooden pole 9m, and that the second connection tower / pole required for Option 2, which would be within the substation compound, is as scaled off the plan, ie c. 12m.

4.12 Other assumptions I have made are set out above, but in summary, they are that:

i) The structure/s would be located at the eastern end of the substation complex.

ii) The designs would be as shown on the Options Plans, or very similar.

iii) The tops of the structures are measured from existing ground level.

4.13 Also, my assessment assumed that the structure/s would be permanent, as they would remain in place after decommissioning.

5. Findings

Option 1: Pylon

5.1 There is no doubt that pylons are industrialising elements in rural landscapes.

5.2 Here, three 400kV / 132kV power lines cross the study area, and pylons are noted as being characteristic in these landscapes.

5.3 In terms of effects on landscape character, I concluded that the addition of the proposed pylon to the scheme, as shown in Option 1, would not make any difference to my conclusions about levels of effects on the character of the site and the surrounding area that would arise from the industrial nature and scale of the development as a whole, so levels remain as set out in my evidence, ie the overall level of direct effect on the character of the site would be **Major to Moderate Negative** for the duration of the operation. On the character of the site's contextual landscapes, the overall level of indirect effect would endure for the duration of the operation, and would gradually decrease with distance from the site (ie from **between Major to Moderate and Moderate Negative**, to **None**).

5.4 Please note that the above results are based on the matrix at Table 1-10: Degrees of landscape and visual effects in Appendix 1B - LVA Methodology of Neo Environmental's LVA, that was submitted with the planning application, and not the equivalent matrix at Table 11, Significance of landscape and visual effects in Appendix 9: LVIA Methodology of Pegasus's PoE.

5.5 That is because, as explained during the round table session at the Inquiry, there appears to be an error in Pegasus's Table 11. The combination of High sensitivity and High magnitude results in a Major effect; however, so do the combinations of High sensitivity and Medium magnitude, and Medium sensitivity / High magnitude, which is not logical (compare with Neo's Table 1-10). If High + High was changed to Substantial, it would work. Also, logically, the bottom row of the table shouldn't show all levels as Negligible: logically, it should be Minor, Minor, Negligible (note I don't agree with the use of the different point-scales).

5.6 Thus, if I used Pegasus's Table 11 matrix, the overall level of direct effect on the character of the site would have to be increased from 'Major to Moderate Negative', to 'Major', which I do not agree with.

5.7 The problem with the matrix also applies to levels of overall effects on views, as shown on the Scott schedule.

5.8 The assessment of visual effects was more complex than that which I carried out to assess effects on character, as many different factors needed to be considered.

5.9 Within the study area set for the Appeal site, pylons may frequently be seen whilst travelling around, but conversely, in many long- and middle-distance views towards the site, pylons are absent from the vista, due to localised topographical variations and screening elements (vegetation and built form).

5.10 At closer quarters, a pylon's open steel lattice framework allows the contextual landscape and / or sky to be read through it; however, when viewed from further away, the structures appear more solid.

5.11 In fact, the visual effects arising from pylons depend greatly on the background against which the structure is viewed, which varies with distance, and the location and elevation of the viewpoint. Light and weather conditions also play a part.

5.12 The skeleton of a pylon seen against sky will be starkly-outlined, especially in near-distance views, whereas with a background of fields or woodland, the structure is likely to be better visually-integrated. At closer quarters, no matter what the contextual backdrop, the structure is likely to be highly visible, and prominent / dominant, whereas from longer distances, it may form part of / integrate into a much broader panorama, and would therefore be less likely to draw the eye.

5.13 However, materials, colours, tonality, light, and contrast, relating to both structures and the contextual landscapes, are important factors in a metal pylon's degree of visibility in views from all distances, but in longer-distance views especially, where unnatural colour / tonality contrast is a visual detractor.

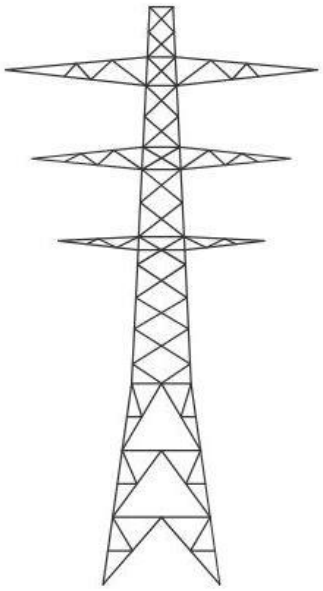
5.14 Also, levels of visual effects depend on the angle at which pylons are viewed.

5.15 From longer-distance viewpoints, if a line of pylons crosses a vista, it tends to draw the eye along it, from one pylon to the next. Where pylons are of the same height and design, and are evenly-spaced, there is a balanced visual rhythm. However, if one stands at a point close to a pylon line and looks along it, one may only be aware of a single pylon, as it screens / filters those beyond / behind it.

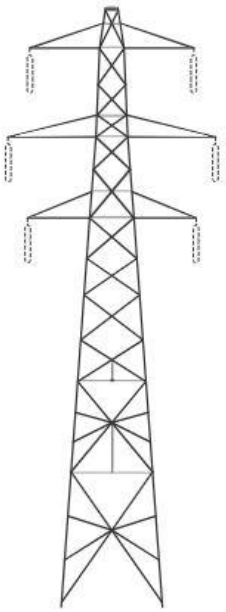
5.16 In this case, a new pylon is proposed c. 50m west of the existing pylon line. At closer quarters, from certain angles, this would be seen as an 'anomaly' in the line, drawing the eye to it, especially in combination with the cluster of substation elements and nearby existing pylon no. 3, where visible.

5.17 Furthermore, the difference in height between the existing and proposed pylon (assuming that is the case – see Design above) would be another noticeable visual anomaly.

5.18 In addition, if the proposed pylon is the L4(m) DT STD type, then the difference in design between that and the existing pylon (probably L132 / equivalent L16 D2) would also be a noticeable visual anomaly (see comparison overleaf, but note not at / to scale).



L4(m) **DT STD**



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Pylon 1 on site

5.19 Another factor in the visibility of both existing and proposed pylons in the study area is the amount and nature of existing and proposed screening vegetation.

5.20 This is covered extensively in my PoE, but in summary, it is not possible to predict with any certainty whether views of the proposed pylon – which would be a permanent feature in the landscape – would be screened or filtered by vegetation at any given point in time due to the high number of variables, including hedgerow and tree management practices, pests and diseases, and so on.

5.21 The Appellant's visualisation from LVA VP6 is a good illustration of how the degree of vegetative screening / filtering can vary in views from points just a few metres apart: in the image, the proposed pylon is hidden behind an isolated mature tree (possibly poplar or willow), which is unlikely to remain standing for many more years.

5.22 It may have been helpful to this exercise if there had also been a visualisation of the proposed pylon in its scheme context from a point further west along the bridleway, where trees are unlikely to screen / filter views towards it, and from which it is likely that the cluster of the proposed pylon, existing adjacent pylon no. 3, and the substation, would also be visible, possibly along with pylon nos. 1 and / or 2, and other proposed scheme elements such as inverters. Also, further west, the elevation is a few metres higher than at the visualisation VP, so more of the developed site would be visible.

5.23 Assuming that the height of the proposed pylon would be a few metres lower than the existing pylon (see above), then broadly-speaking, the proposed pylon would be marginally less visible within the wider landscape than the existing; however, as explained above, so much depends on the angle and

elevation of view, and how the new pylon would visually relate to both the nearest existing pylon (no. 3), and those further along the line (north and south). In some cases, the new pylon would draw the eye to the cluster of existing pylon, new pylon and substation elements; in others, the new and existing pylons may appear as a single structure. Existing and proposed screening vegetation is another very important consideration.

5.24 Having taken all the above into account, I concluded as follows:

i) At longer-distance viewpoints, the addition of the proposed pylon to the scheme would not make any difference to the conclusions set out in my evidence (and summarised in the Scott schedule, but see note above about Pegasus's matrix at Table 11), so levels of visual effects would remain the same.

ii) At the closer-distance viewpoints, as noted above, levels of effects are dependent on a number of factors such as background context, elevation and angle of view, and the amount and nature of the existing and proposed screening vegetation.

iii) Regarding the latter, for the purposes of this exercise, I have assumed that:

a) The proposed screening vegetation on the site would reach, and be maintained at, the heights specified by the Appellant (but see my PoE regarding hedge-management practices).

b) There would be no change to the amount and nature of the existing screening vegetation within the site, for example the mature plantation woodlands (although as explained above and in my evidence, in reality, many of the existing trees are either over-mature, and / or are species affected by pests / diseases such as ash, so are highly unlikely to be standing for many more years).

c) There would be no change to the amount and nature of the existing screening vegetation beyond the site for the duration of the operation (as explained in my evidence, in reality, there is likely to be constant change, and the changes cannot be predicted).

iv) On that basis, I concluded that where visible, the addition of the proposed pylon would marginally increase the levels of visual effects predicted to occur at near-distance viewpoints, but not enough to change the levels reported in my original assessment.

v) Thus, levels of visual effects would remain as set out in my evidence and summarised in the Scott schedule (but note comments about Pegasus's Table 11 matrix), the highest level being **Major Negative**, which would endure for the duration of the 40-year operational period.

Option 2: Wooden Pole

5.25 My assessment assumed that the proposed wooden pole would be 9m high, as specified on the Appellant's ZTV plan, and the associated connection tower / pole within the substation complex would be c. 12m tall, as scaled off the Option Plan.

5.26 In terms of effects on character, I concluded that in the context of the industrial nature and scale of the scheme as a whole, the addition of the proposed poles would not make any difference to my original conclusions about levels of effects on the character of the site and its contextual landscapes, so they would remain **Major to Moderate Negative** for the site, and **between Major to Moderate and Moderate Negative**, to **None** for the site's contextual landscapes (levels gradually decreasing with distance from the site).

5.27 In terms of effects on views, the poles would be lower than the proposed 15m tall communications tower that would be located in the substation complex. Therefore, the highest level of visual effect would remain **Major Negative**.

5.28 Even if the wooden pole was 17m tall, as indicated in the Appellant's *Grid Connection Feasibility* report, it would only be marginally higher than the communications tower, so in the context of the whole development, my conclusions about levels of both landscape and visual effects would remain the same.

6. Conclusions

6.1 There is some uncertainty about the height and design of the structure/s that would be required to connect the proposed substation to the Grid.

6.2 However, for the purposes of this exercise, I have assumed that the height and design are as shown / scaled off the Appellant's Options Plans, and where provided, as shown on the ZTV plans.

6.3 In terms of the effects on landscape character arising from **Option 1**, I concluded that in the context of the industrial nature and scale of the scheme as a whole, the addition of the proposed single c. 24m tall pylon at the eastern end of the proposed substation complex would not alter my conclusions about levels of effects on the character of the site and its contextual landscapes.

6.4 Thus, levels remain as set out in my evidence, ie the overall level of direct effect on the character of the site would be **Major to Moderate Negative** for the duration of the operation, and the overall level of indirect effect on the character of the site's contextual landscapes would gradually decrease with distance from the site (ie from **between Major to Moderate and Moderate Negative**, to **None**), and would also endure for the duration of the operation.

6.5 Regarding the effects of Option 1 on views, different factors apply at different viewpoints.

6.6 At each viewpoint, consideration must be given to matters such as variations in height and design between the existing and the proposed pylons; distance of viewer from target; elevation and angle of view; visual background context; light / weather conditions; the amount and nature of the existing and proposed screening vegetation; and how the amount and nature of this vegetation is likely to change over time.

6.7 I based my visual assessment on the assumptions that the planting proposed on the Appeal site would achieve the required level of screening, and that existing vegetation in the wider landscape which currently screens / filters views would continue to perform that function for the 40-year operational period (although I consider both scenarios unlikely).

6.8 I concluded that at longer-distance viewpoints, where visible, the proposed pylon would not result in an increase in levels of visual effects.

6.9 At viewpoints closer to the site, where visible, and with consideration given to the factors outlined above, overall, the proposed pylon would marginally increase levels of visual effects. However, the increase is not large enough to alter my overall conclusions about levels of visual effects, so they would remain as set out in my evidence and summarised in the Scott schedule (but note comments

about Pegasus's Table 11 matrix), the highest level being **Major Negative**, which would endure for the duration of the operation.

6.10 **Option 2** comprises a single wooden pole at the eastern end of the proposed substation complex, and a single connection pole / post / tower in the substation complex, with connecting overhead cables. Scaled off the option plan, the wooden pole would be c. 9m tall, and the connection pole c. 12m tall.

6.11 In terms of effects on character, I concluded that in the context of the industrial nature and scale of the scheme as a whole, the addition of the proposed poles would not make any difference to my original conclusions about levels of effects on the character of the site and its contextual landscapes, so they would remain **Major to Moderate Negative** for the site, and **between Major to Moderate and Moderate Negative**, to **None** for the site's contextual landscapes (levels gradually decreasing with distance from the site).

6.12 In terms of effects on views, the poles would be lower than the proposed 15m tall communications tower that would be located in the substation complex. Therefore, the highest level of visual effect would remain **Major Negative**.

Carly Tinkler BA CMLI FRSA MIALE 12th July 2024