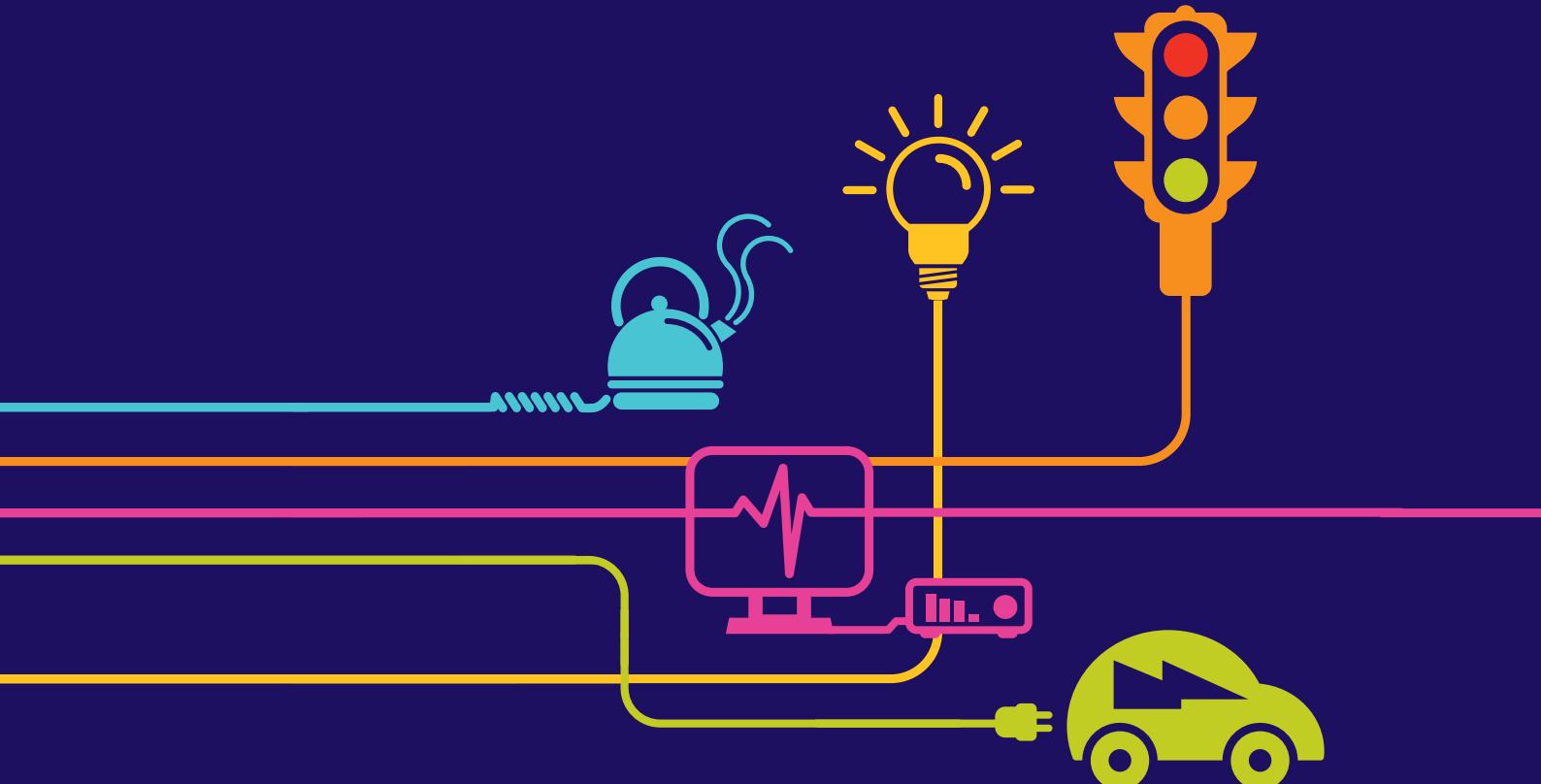


Environmental Statement Note on Increased Pylon Height within Bristol Port, Avonmouth

Hinkley Point C Connection Project

*Regulation 5(2)(q) of the Infrastructure Planning
(Applications: Prescribed Forms and Procedure)
Regulations 2009*





Hinkley Point C Connection Project

JUNE 2015

VOLUME 5.34.1 – INCREASED PYLON HEIGHT WITHIN BRISTOL PORT, AVONMOUTH

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Figure 1 Site Location Plan of Pylons LD109 to LD113

Figure 2 Comparison Profiles of DCO and Revised Pylons

1 INTRODUCTION

1.1 Introduction

1.1.1 This document has been produced in response to the issues raised during the Issue Specific Hearing on Avonmouth Sevenside Enterprise Area (ASEA) and Bristol Port held on 19 May 2015 and to support an application by National Grid to permit an amendment to the Development Consent Order (DCO). Its purpose is to set out the findings of an assessment as to whether the proposed change in height of pylons LD109 to LD113 would give rise to any new or materially different likely significant environmental effects to assessed and reported in the submitted Environmental Statement (ES).

1.2 Background

1.2.1 National Grid Electricity Transmission plc (National Grid) has submitted a DCO application under the Planning Act 2008 to seek powers to construct, operate and maintain a new 400,000 volt (400kV) connection between Bridgewater, Somerset and Seabank Substation, north of Avonmouth, together with various associated development and other works ('the Proposed Development'). The application was submitted to the Planning Inspectorate (PINS) on 28 May 2014 (reference number: EN020001). The examination commenced with the Preliminary Meeting on 19 January 2015.

1.2.2 The ES submitted as part of the DCO application was prepared in accordance with the Planning Act 2008, The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2009/2263) ('the 2009 Regulations') and The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009. The submitted ES comprises **Volumes 5.1 to 5.27** of the DCO application submission. On 01 October 2014 National Grid submitted errata and supplementary information to PINS in response to advice given pursuant to Section 51 of the Planning Act 2008. This included the Ecology Survey Update Report (ES **Volume 5.28**) and at this time National Grid also submitted the ES Sensitivity Test (ES **Volume 5.29**). A document was submitted to PINS on 26 February 2015 at Deadline 2, which assessed a proposed realignment at the Wessex Water Sewage Treatment Works site, Kings Weston Lane, Avonmouth (ES **Volume 5.31**).

1.2.3 During the examination further environmental information has been submitted to PINS for the various Deadlines. This has included updates to existing documents, such as the Construction Environmental Management Plan (CEMP) (ES **Volume 5.26**) together with the production of new documents, including the Overarching Mitigation Annex (ES **Volume 5.32**).

1.2.4 Following the submission of the DCO application and supplementary environmental information, discussions have continued with those persons with an interest in land affected by the Proposed Development. This has included Bristol Port Company (BPC) (a statutory undertaker) and the owner and operator of the Port. During these discussions BPC highlighted that the proposed above-ground conductor clearances of the proposed pylons LD109 to LD113 would not accommodate the

potential future development of certain types of possible transit warehousing in this location in connection with the operation of the Port.

1.2.5 In their Written Representation, submitted to PINS at Deadline 2, the BPC state that:

"To avoid the new OHL restricting BPC's use of the dock estate, and thereby causing serious detriment to the carrying on of BPC's statutory undertaking, the conductor clearances must be designed so that BPC is able to construct suitable structures wherever the needs of port operations demand it, including, if necessary mid-way between pylons and the lowest point of conductor sag.

Transit warehousing within the Port is typically constructed with structural steelwork and profiled steel sheeting meeting the Port's specification. Portal frames are utilised for the main structure and internal columns avoided where practical. Building sizes vary to suit the use, particular customer requirements and location but typically, transit sheds need a ridge height of approximately 15 metres. Roofs are usually shallow pitched in order to provide the maximum storage space in the shed and eaves heights are therefore often not significantly lower than ridge heights."

1.2.6 In May 2015, BPC provided PINS with a series of proposed site plans, identifying the potential to construct two warehouse sheds on land at the former rail sidings, Gloucester Road, Avonmouth between pylon spans LD109 and LD111, along with an additional shed at Avonmouth Dock, between pylon spans LD112 and LD113. The proposed elevation plans show potential buildings with a maximum ridge height of 15.4m (drawing numbers: 41807B & 41809A).

1.2.7 To achieve the clearance requested by BPC to accommodate the potential for buildings of this height would require an increase in the height and base size of five pylons within Bristol Port's estate in Avonmouth. An increase in the height of the pylons would enable the height of the conductors above ground to increase to provide a minimum 20.7m vertical ground clearance for the spans between pylons LD109 and LD113.

1.3 Proposed Development

1.3.1 To achieve the required ground clearances within Bristol Port, pylons LD109 to LD113 are proposed to change in structure type and increase in height between 3m and 15m above what is currently proposed in the DCO and assessed in the ES. The location of pylons LD109 to LD113 is shown at **Figure 1**; the proposed pylon changes are shown in **Table 1** below.

Table 1 Proposed Pylon Changes within Bristol Port, Avonmouth

As Proposed in the DCO			Proposed Changes in this Document			
Pylon Number	Overall Height (m)*	Base Size (m)	Overall Height (m)	Height Increase over DCO (m)	Base Size (m)	Base Size Increase Over DCO (m)
LD109	52	15.92	61	9	20.3	4.38
LD110	46.5	7.05	61.5	15	10.51	3.46
LD111	51.3	9.06	60.3	9	11.37	2.31
LD112	52	15.92	61	9	20.3	4.38
LD113	51.85	13.32	54.85	3	14.52	1.2

* Height stated does not include the vertical Limit of Deviation (LoD) – see paragraph 1.3.2 below.

1.3.2 The ES assessed pylon heights between 46.5m to 52m (detailed at **Table 1**), plus a vertical Limit of Deviation (LoD) of +/-4m (see **ES Volume 5.5, paragraphs 5.6.37-5.6.47**). **Figure 2** of this document provides a comparison of the profiles of the DCO and revised pylon types.

1.3.3 The increases in base size (the distance between each leg of the pylon) range from 1.2m to 4.38m. This revised base is referred to above in **Table 1**.

1.3.4 This document assesses the potential environmental effects of the proposed pylon changes on the basis of the information provided in the application by National Grid to permit an amendment to the Development Consent Order (DCO).

1.4 Review of the Environmental Statement

1.4.1 In light of the proposed changes to pylons LD109–LD113, the assessments reported in the ES have been reviewed to ensure any potential effects of the proposed pylon changes are identified.

1.4.2 Following the review of the ES, it was identified that there is potential for the proposed pylon changes to change the following assessments:

- Landscape (**ES Volume 5.6**);
- Visual Effects (**ES Volume 5.7**);
- Historic Environment (**ES Volume 5.11**);
- Socio-economics and Land Use (**ES Volume 5.15**); and
- Arboricultural Impact Assessment (**ES Volume 5.21**).

1.4.3 The review found that the proposed pylon changes have no potential to alter the following assessments presented in the ES:

Biodiversity and Nature Conservation (ES Volume 5.8)

1.4.4 The ES assessment states that pylons LD109, LD110, LD112 and LD113 are within areas of hardstanding. Pylon LD111 is within an area of dense scrub and grassland. Extant planning conditions at the site (Reference: 11/02773/F) require BPC to replace scrub habitat with tree planting. Should BPC go ahead with their tree planting plans at the site, the increase in area where trees would be removed is considered to be negligible.

1.4.5 The proposed increase in pylon base size and height is not predicted to change any of the assessments presented in the ES.

Ground Environment (ES Volume 5.9)

1.4.6 The proposed changes to the pylons are unlikely to have a significant effect to the ground environment despite a slightly greater land take. Potential impacts to the ground environment arising as a result of these changes will not be significantly different to those assessed within the ES.

Hydrology and Water Resources (ES Volume 5.10)

1.4.7 The increased height of the pylons will not impact upon the water quality of watercourses in the vicinity of the pylons. Any increased land take by the pylons will not impact upon the quality of the water due to the standoff distances between the working area and the watercourses (minimum of 9m), with only a negligible change noticeable encompassed within the working area. As such, there will be no change in significance from the original assessment in the ES.

1.4.8 Overall, the proposed changes to the pylons are not considered to have any greater adverse hydrological and water quality effects than were originally assessed.

Traffic and Transport (ES Volume 5.12)

1.4.9 The proposed changes to pylons would not result in any changes to the significance of the effects presented in the ES, which included an additional 20% in the volume of vehicle movements required (**Volume 5.12.1, paragraph 12.5.6**).

Air Quality and Emissions (ES Volume 5.13)

1.4.10 The proposed changes to the height of the pylons will not result in any air quality impacts. The proposed increase in base size is marginal and would not result in a change to the Dust Emissions Magnitude Class for earthworks, construction or trackout, so will not affect the significance of effect, as presented in the ES.

1.4.11 Operational air quality effects were scoped out of the ES; this remains as such for the proposed pylon changes.

Noise and Vibration (ES Volume 5.14)

1.4.12 The assessment of construction noise, as presented in the ES, already assumes a worst case scenario of up to four weeks for piling foundations. It is not envisaged that the proposed pylon changes will increase the time required for foundation piling beyond what has already been assessed.

1.4.13 An operational noise assessment was scoped out of the ES between pylons LD108 to LD113 (**Volume 5.14.2, Appendix 14G, paragraph 3.1**); increasing the height of the pylons would further reduce operational noise by a small amount as distance to receptors would be increased.

Electric and Magnetic Fields (ES Volume 5.16)

1.4.14 The proposed changes to the pylons are not anticipated to change the Electric and Magnetic Fields (EMF) assessment as presented in the ES, with the design remaining compliant with the requirement of National Policy Statement EN-5.

Cumulative Effects (ES Volume 5.17)

1.4.15 Whilst the proposed changes to the pylons have the potential to change some of the some environmental effects stated in the ES (see **Sections 2, 3, 4 and 5** of this document), none of the changes are significant enough to tip the balance into the next significance category.

Flood Risk (ES Volume 5.23.5)

1.4.16 The proposed changes to the pylons would not result in any material differences to the findings in the Hinkley Point C Connection Route Flood Risk Assessment.

2 LANDSCAPE AND VIEWS

2.1 Review of Environmental Statement

Landscape

2.1.1 The ES landscape assessment (**Volume 5.6.1, paragraph 6.5.363-364**) considers that this landscape has a low sensitivity to the proposed change and predicts a low adverse magnitude of effect on Avonmouth resulting in a **minor adverse** significance of effect.

2.1.2 The landscape is heavily influenced by dockland cranes, 132kV overhead lines and wind turbines, as well as tall large scale industrial buildings. The effect of higher pylons to meet the Port's request would be greater near properties on the western edge of Avonmouth village but would remain of **minor adverse** significance due to the industrial character and partial screening and filtering by tall industrial buildings and mature trees.

Visual Effects

2.1.3 The ES visual assessment (**Volume 5.7.1.2, paragraph 7.5.487-488**) predicts a **moderate adverse** magnitude and significance of effect on views during operation, experienced by residential receptors of medium sensitivity in Avonmouth village near Portview Road and to the northwest near St Andrew's Road and Clayton Street (visual receptor references G1.H43 to G1.H4646, G1.H50 to G1.H52 and G1.M12). Other receptors in Section G would experience visual effects of minor adverse or negligible significance during operation. The assessment of effects for these receptors are detailed in the Visual Receptor Tables at **Volume 5.7.2.2, Appendix 7G** and on the visual effects plans at **Volume 5.7.3.11, Figure 7.28.18** during construction and **Volume 5.7.3.13, Figure 7.30.18** during operation.

2.1.4 The greater height of the pylons would be likely to result in greater adverse effects on views. However, the proposed 400kV overhead line would be introduced into a moderate or low proportion of views, visible above built structures along the settlement edge which screen the lower elevations and minimise the scale of change. There would be a partial or low alteration to existing views and views beyond the proposed 400kV overhead line would remain. The significance of visual effects from the higher pylons would remain as assessed in the ES.

2.1.5 The proposals to screen and soften views in Avonmouth village primarily are street trees provided under the OSPES (ES **Volume 5.25**). It is difficult to screen and soften views of tall structures and there is limited space in which street trees can be accommodated, restricting flexibility in siting to screen views. The OSPES proposals will remain similarly effective for the proposed changes to the pylons.

2.1.6 Overall the increase in height and base size is not considered great enough to result in a variation to the magnitude or significance of effects on landscape character and views as the increase is not sufficient to tip the balance into the next category.

3 HISTORIC ENVIRONMENT

3.1 Review of Environmental Statement

3.1.1 The Historic Environment assessment presented in the ES (**Volume 5.11**) stated that the Proposed Development (pylons LD109 – LD113) would have effects at the following historic environment receptors:

- **LB1191**, Grade II listed Numbers 7 to 26 and The Royal Hotel, Gloucester Rd, Avonmouth;
- **BH61**, non-designated heritage asset No.1 Granary and CWS Mill wheat silo, Avonmouth; and
- **LB134** and **RPG8**, (Grade I listed building and Grade II registered park and garden) Kings Weston House.

3.1.2 In relation to asset **LB1191**, modern development within the setting of the building significantly reduces the contribution made by setting to the significance of the asset. The ES assessment recognises that there would be a negligible magnitude of change as a result of the Proposed Development in relation to appreciating the contribution made by setting to the heritage significance of the asset. The significance of affect would be **minor adverse**. The proposed increased pylon heights would not alter the assessment in the ES.

3.1.3 In relation to asset **BH61**, the asset was extant at the time of site survey undertaken for the ES assessment; the ES concluded that the Proposed Development would result in a **minor adverse** significance of effect. The asset has since been demolished.

3.1.4 Asset **LB134**, Kings Weston House, is a Grade I Listed Building with an associated Grade II registered park and garden. It is on the top of a ridge approximately 75m above Ordnance Datum (AOD) and approximately 1.5km from the Order Limits of the Proposed Development, with views across Bristol to the east and Avonmouth to the west.

3.1.5 The ES concluded that the heritage significance of Kings Weston House would not be affected by the Proposed Development (ES **Volume 5.11.2, Appendix 11B**). This is because the Proposed Development would be viewed over a distance of 1.5km and in combination with the modern development at Avonmouth (which includes modern housing in the foreground, and cranes, wind turbines and existing pylons). The Proposed Development would therefore be an additional modern element within an already altered setting, without representing a 'tipping point' of urbanisation or industrialisation. The assessed pylon heights, including the (LoD), would not create any additional modern infrastructure into views from Kings Weston House that would be greater in vertical scale than a number of other elements of modern infrastructure within these views. The ES assessment therefore concluded that the Proposed Development would result in a **neutral** effect on this asset.

3.1.6 The proposed increase in the height of pylons LD109 – LD113 would alter the assessment presented in the ES for this receptor. This is because of the slighter greater visibility of the taller pylons in views from Kings Weston House towards the

river estuary. These views are an important aspect of the original design intention of the house and parkland and make a positive contribution to the heritage significance of the asset.

3.1.7 The assessed magnitude of change still takes into account that this aspect of the asset's setting is already industrial in character. Also that the ability to appreciate the view towards the 'eye-catcher' of The Tump and past that to river estuary would be largely unaltered from existing baseline conditions. The increased pylons heights would result in a change of assessed effect from **neutral**, as stated in the ES, to a negligible magnitude of change to the heritage significance of the asset. The significance of effect would be **minor adverse**.

3.1.8 In relation to heritage assets with archaeological interest, the ES concluded that there would be no predicted construction phase effects for pylons LD109 – LD113 (**Volume 5.11**). The proposed pylon changes would not alter the assessment in the ES.

4 SOCIO-ECONOMICS AND LAND USE

4.1 Review of Environmental Statement

4.1.1 The oversailing that would occur as a result of the Proposed Development, as presented within the ES, is not considered materially to affect developability of the Gloucester Road site and compensation would be provided, as appropriate, for the disruption experienced during construction, operation and decommissioning.

4.1.2 Increasing the height of the pylons is not anticipated to result in any material additional positive or negative socio-economic effects to the Port as whole, but would allow for the future potential development of certain types of transit warehousing in connection with the operation of the Port on these sites. This would result in a beneficial effect for the landowner (BPC).

4.1.3 Increasing the base size of the pylons would result in small increases in permanent land take. This greater land take will increase the magnitude of negative impacts experienced at the parcels in which the pylons are located. However, this increased land take is not anticipated to affect the socio-economic viability of the affected land parcels and, as the increased pylon base size is directly related to the increased pylon height, the change in pylon base size would enable the land to be developed to greater heights. This would result in a beneficial effect for the landowner (BPC).

4.1.4 The proposed pylon changes would not result in any amendments to the amenity assessment (as presented at **ES Volume 5.15.2, Appendix 15J**) as there would be no changes to the significance of effect for any of the individual environmental topics (visual, traffic and transport, air quality and emissions and noise and vibration) considered in the amenity assessment.

5 ARBORICULTURAL IMPACT ASSESSMENT

5.1 Review of Environmental Statement

- 5.1.1 The proposed changes to the base size of the pylons would not affect the findings of the ES.
- 5.1.2 The proposed change in the height of pylons LD110 and LD111 will result in five trees (ID 443, 446, 450, 456 & 475) no longer requiring felling, instead being managed by pruning. This would be a beneficial effect.

6 SUMMARY

- 6.1.1 Following discussions between National Grid and BPC since submission of the DCO application, changes to pylons LD109 and LD113 are proposed at Bristol Port, Avonmouth to further mitigate the potential effects of the proposed development on BPC's operational flexibility.
- 6.1.2 The amendment to the pylon height in this location is to allow for a 20.7m vertical ground clearance within Bristol Port, which would enable the potential development of certain types of warehouse sheds which are taller than could be accommodated in this location with the currently proposed development in place.
- 6.1.3 The assessments reported in the ES have been reviewed to ensure any potential effects of the proposed pylon changes have been identified and assessed.
- 6.1.4 The greater height of the pylons would be likely to result in greater adverse effects on views. However, the proposed 400kV overhead line would be introduced into a moderate or low proportion of views, visible above built structures along the settlement edge which screen the lower elevations and minimise the scale of change. There would be a partial or low alteration to existing views and views beyond the proposed 400kV overhead line would remain. The significance of visual effects from the higher pylons would remain as assessed in the ES.
- 6.1.5 The historic environment assessment reported change in the assessment at Asset **LB134**, Kings Weston House, a Grade I Listed Building with an associated Grade II registered park and garden. This is because of the slightly greater visibility of the taller pylons in views from Kings Weston House towards the river estuary. This would result in a change of assessed effect from **neutral**, as stated in the ES, to a negligible magnitude of change to the heritage significance of the asset. The significance of effect would be **minor adverse**.
- 6.1.6 Increasing the height of the pylons is not anticipated to result in any material additional positive or negative socio-economic effects and would allow for the future development of certain types of transit warehousing in connection with the operation of the Port. This would result in a beneficial effect for the landowner (BPC).
- 6.1.7 Increasing the base size of the pylons would result in small increases in permanent land take. This greater land take will increase the magnitude of negative impacts experienced at the parcels in which the pylons are located. However, this increased land take is not anticipated to affect the socio-economic viability of the affected land parcels and, as the increased pylon base size is directly related to the increased pylon height, the change in pylon base size would enable the land to be developed to a greater height. This would result in a beneficial effect for the landowner (BPC).
- 6.1.8 The proposed change in the height of pylons LD110 and LD111 will result in five trees (ID 443, 446, 450, 456 & 475) no longer requiring felling, instead being managed by pruning. This would be a beneficial effect.
- 6.1.9 The proposed pylon changes would not alter the assessment findings of the remaining ES chapters and the conclusions remain as stated in the submitted ES

documents (**Volume 5.1 – 5.29**), with the exception of Historic Environment (**Volume 5.11**).

Figure 1 – Site Location Plan of Pylons LD109 to LD113

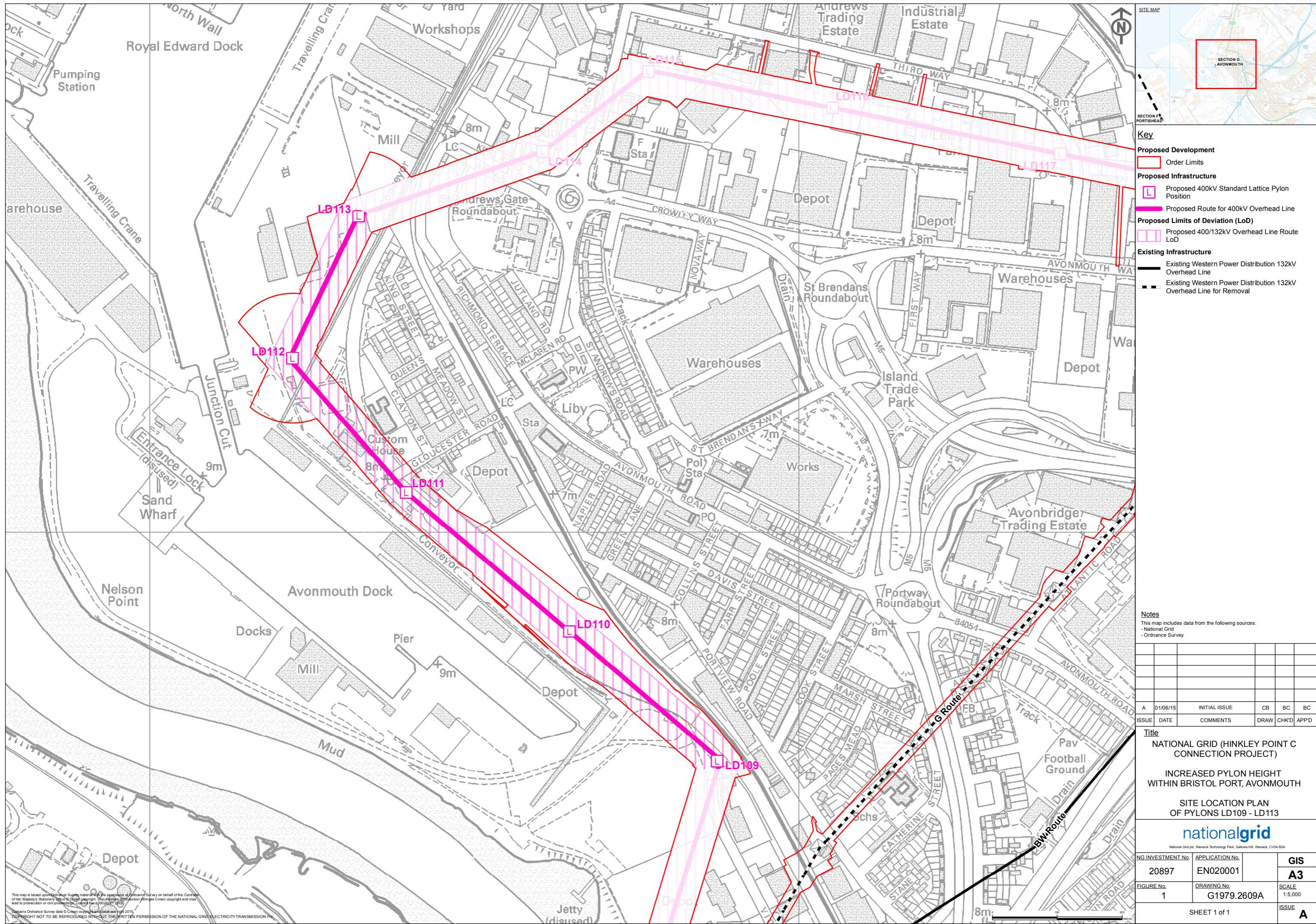
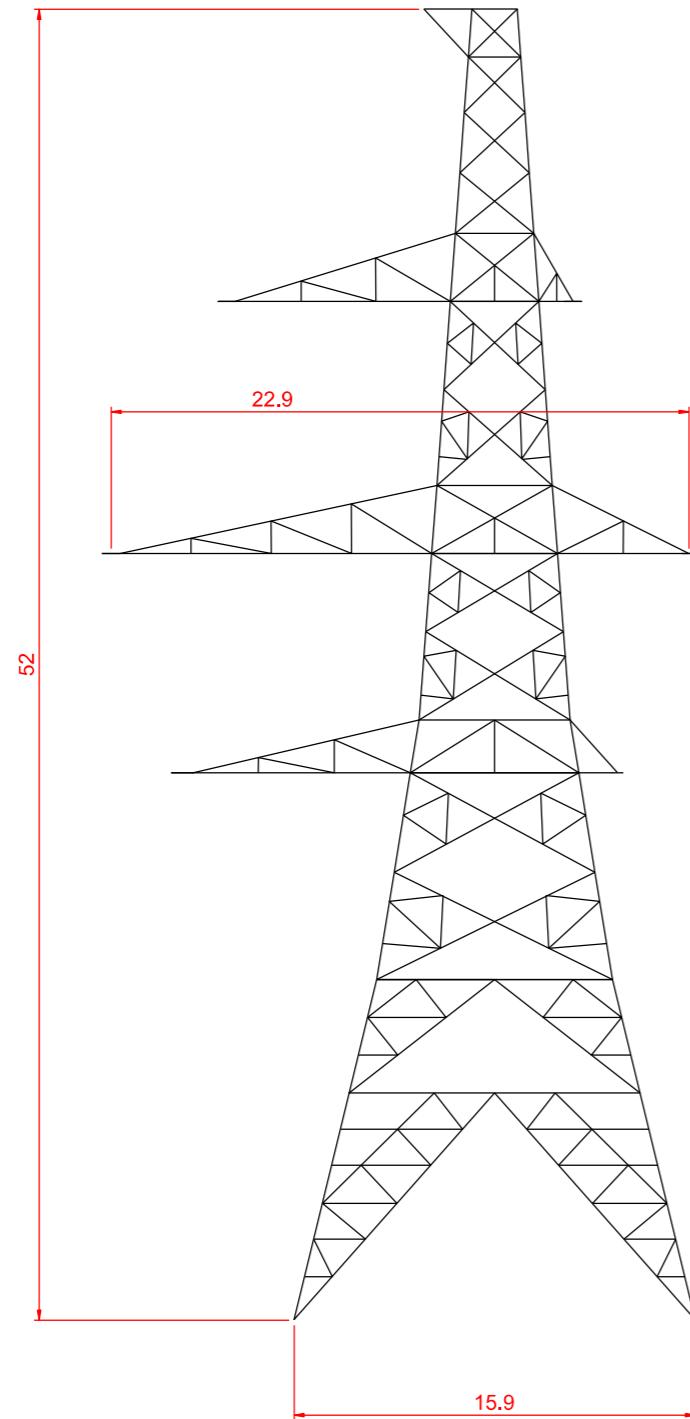
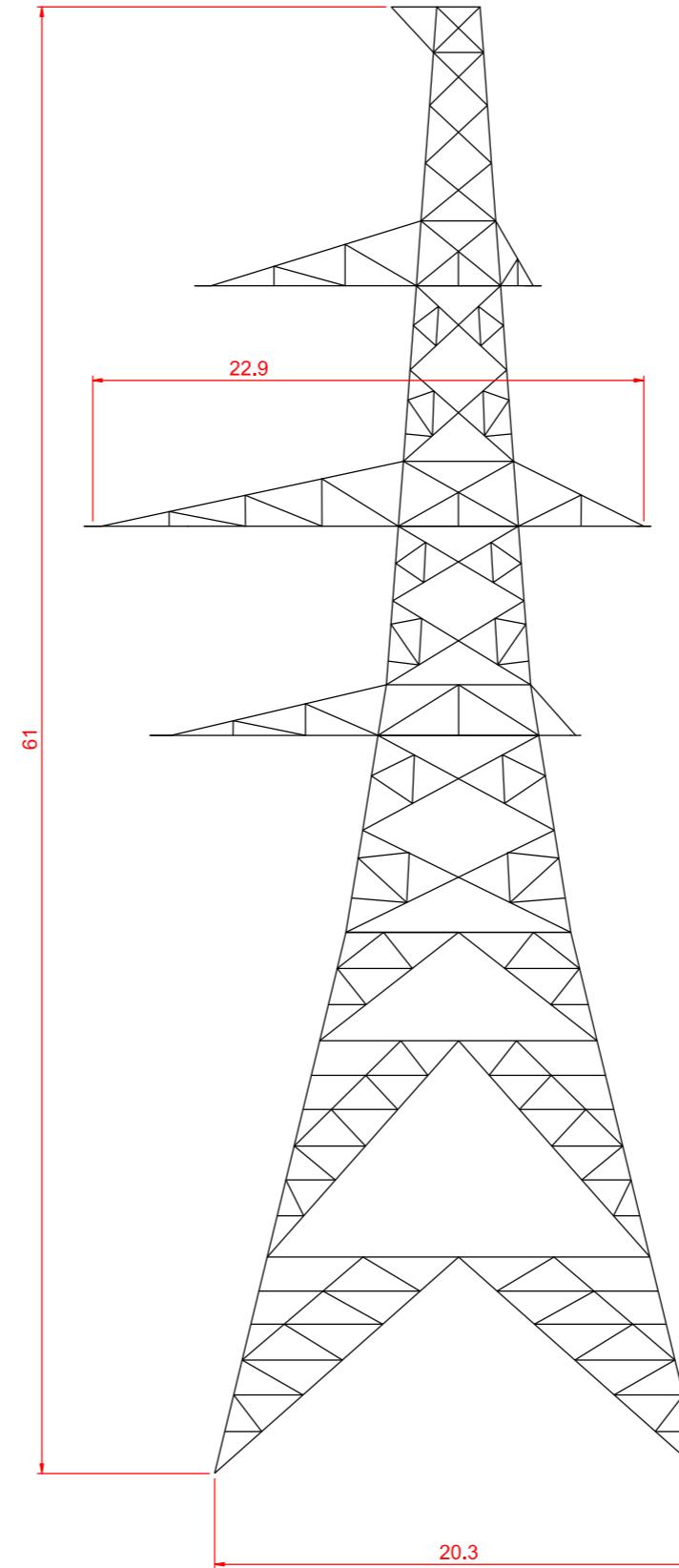


Figure 2 – Comparison Profiles of DCO and Revised Pylons



L12 D90 E3 400kV
LATTICE PYLON
TENSION
EXISTING PROPOSAL



L12 D90 E12 400kV
LATTICE PYLON
TENSION
ALTERNATIVE PROPOSAL

Notes
ALL DIMENSIONS IN METRES

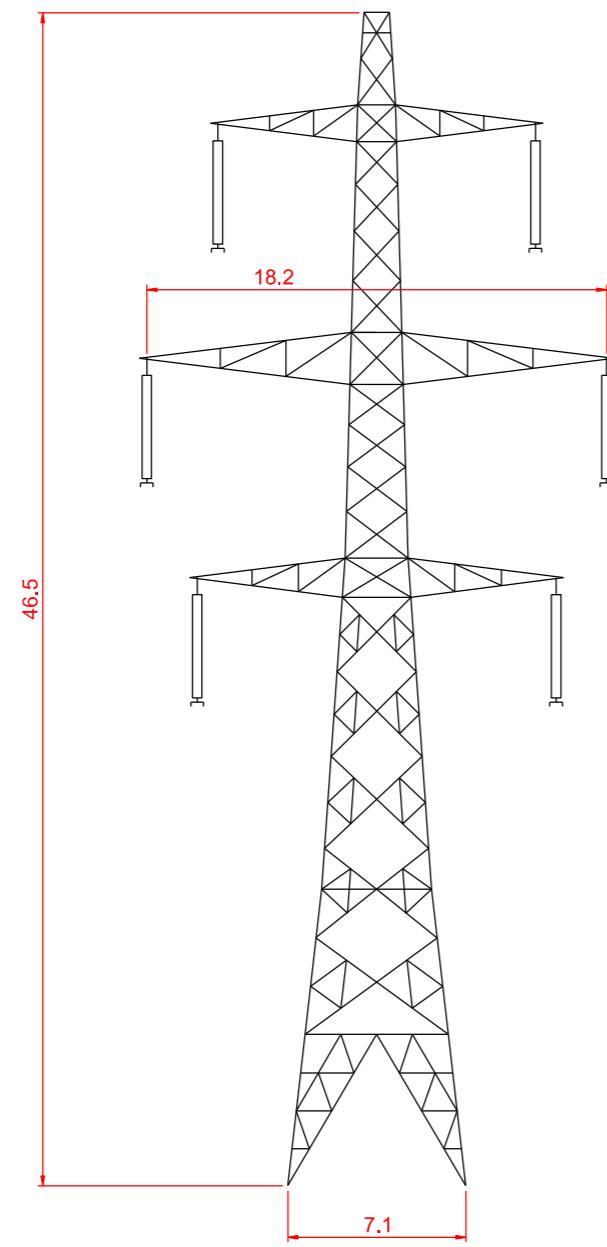
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COMPARATIVE OUTLINES

nationalgrid

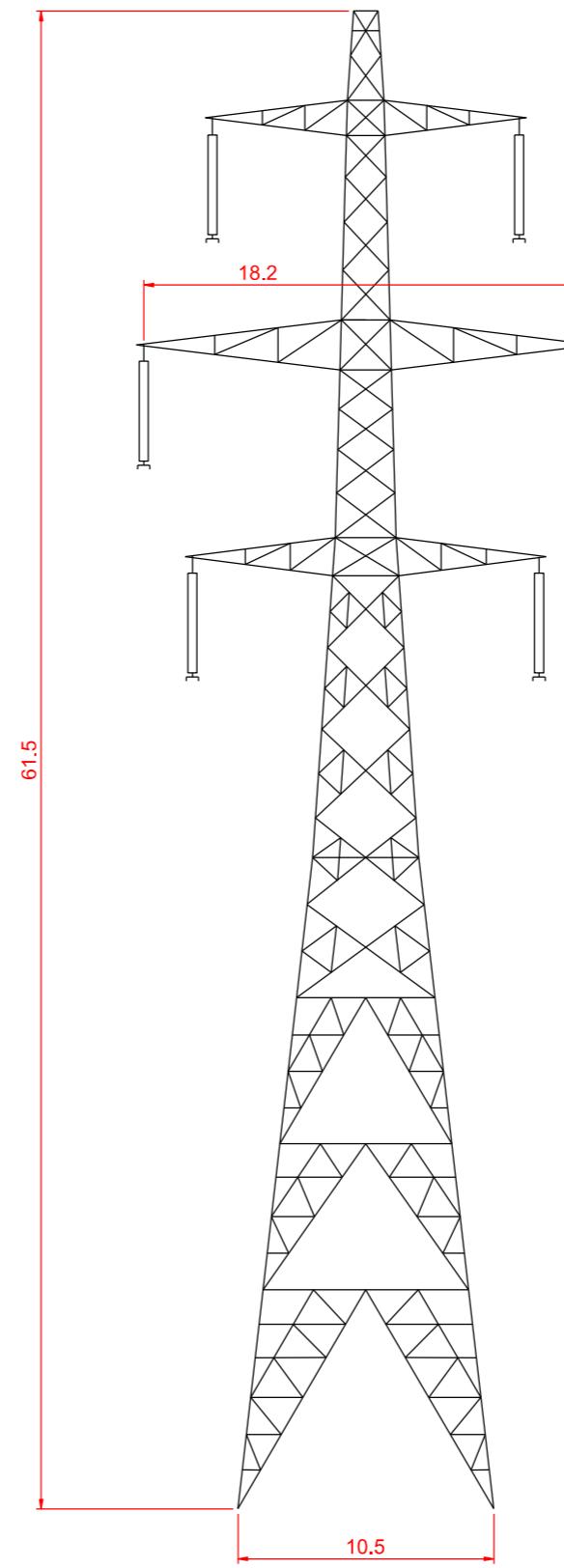
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L12 D STD 400kV
LATTICE PYLON
SUSPENSION

EXISTING PROPOSAL



L12 D E15 400kV
LATTICE PYLON
SUSPENSION

ALTERNATIVE PROPOSAL

Notes

ALL DIMENSIONS IN METRES

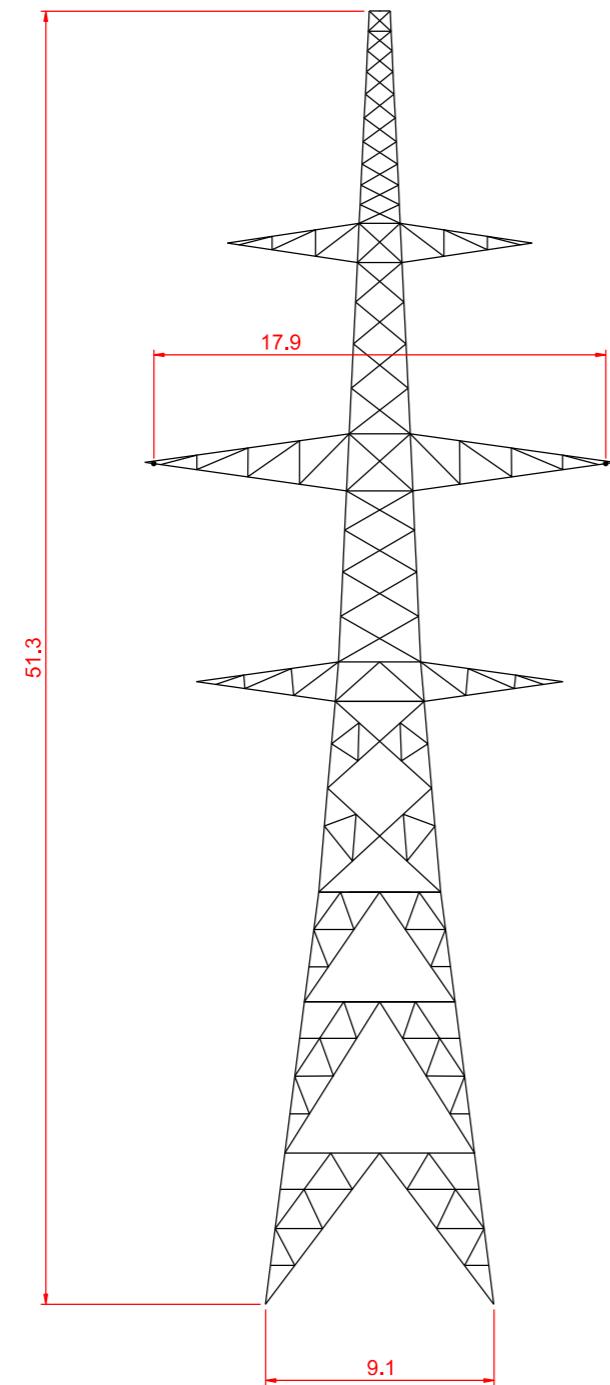
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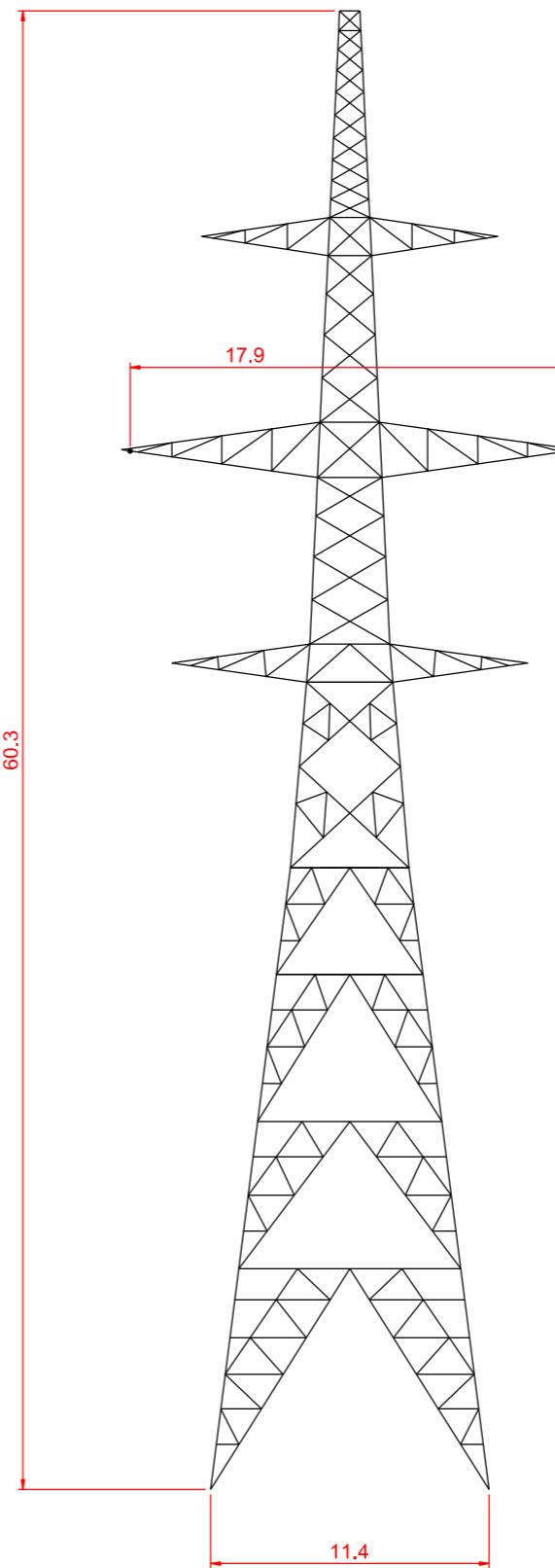
HINKLEY C CONNECTION PROJECT
TOWER LD110
COMPARATIVE OUTLINES

nationalgrid

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L12 D10 E6 400kV
LATTICE PYLON
TENSION
EXISTING PROPOSAL



L12 D10 E15 400kV
LATTICE PYLON
TENSION
ALTERNATIVE PROPOSAL

ALL DIMENSIONS IN METRES

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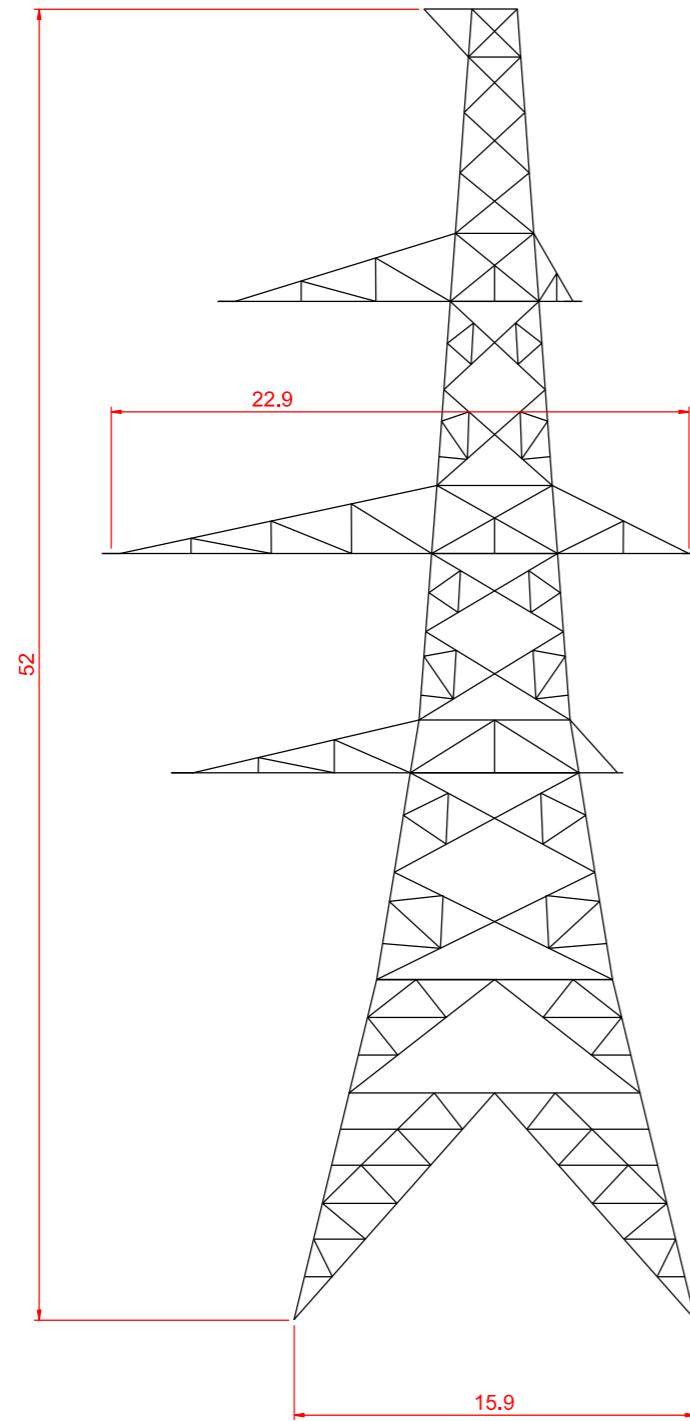
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HINKLEY C CONNECTION PROJECT
TOWER LD111
COMPARATIVE OUTLINES

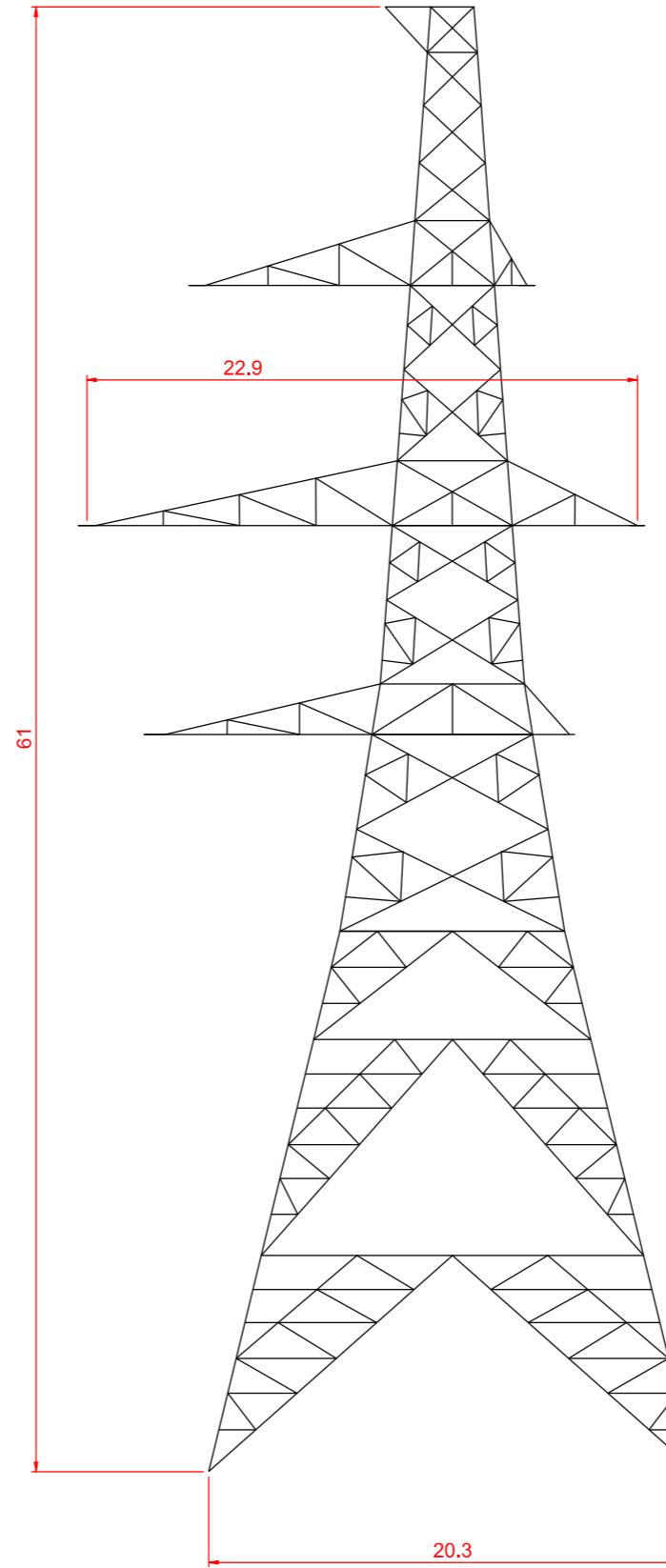
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L12 D90 E3 400kV
LATTICE PYLON
TENSION

EXISTING PROPOSALS



L12 D90 E12 400kV
LATTICE PYLON
TENSION

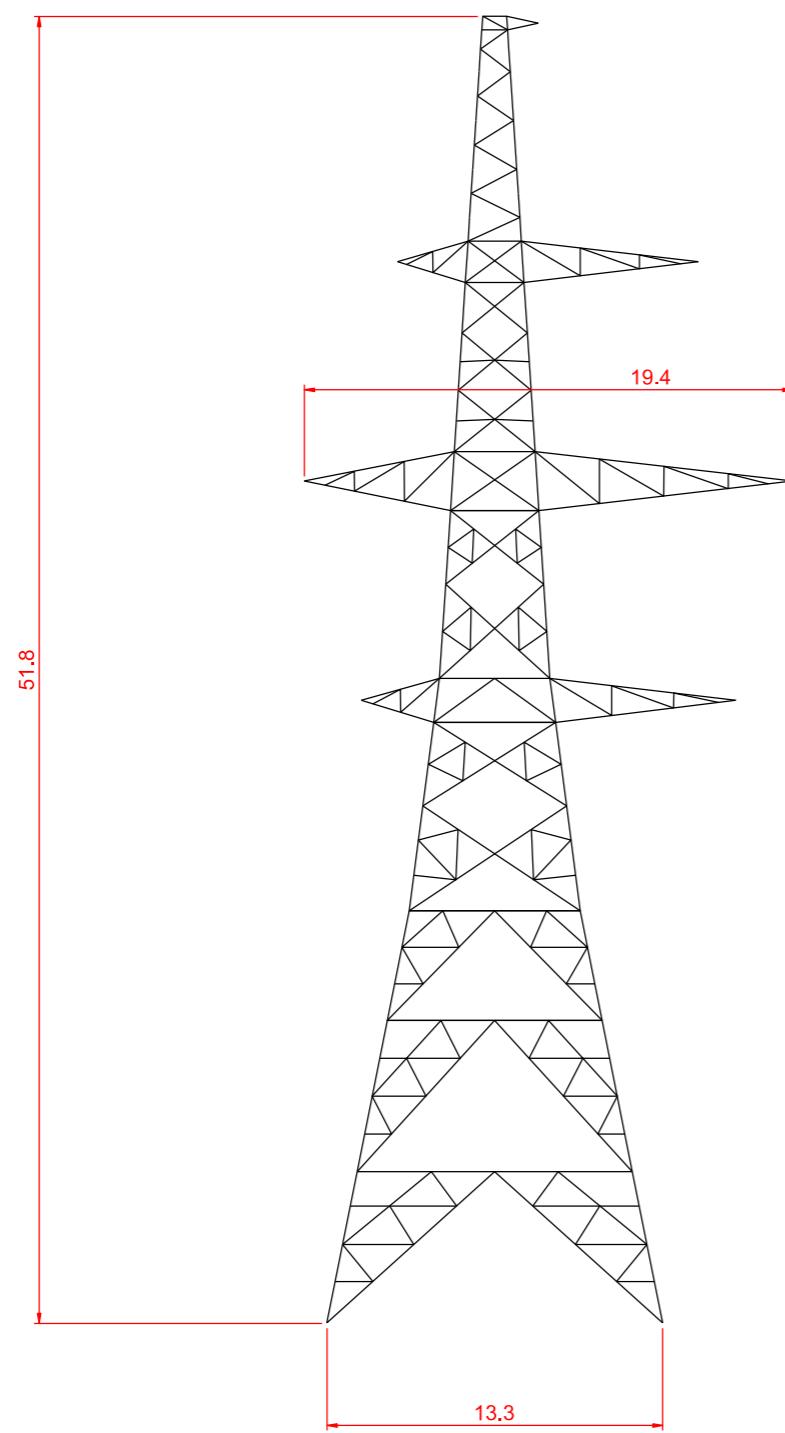
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HINKLEY C CONNECTION PROJECT
TOWER LD112
COMPARATIVE OUTLINES

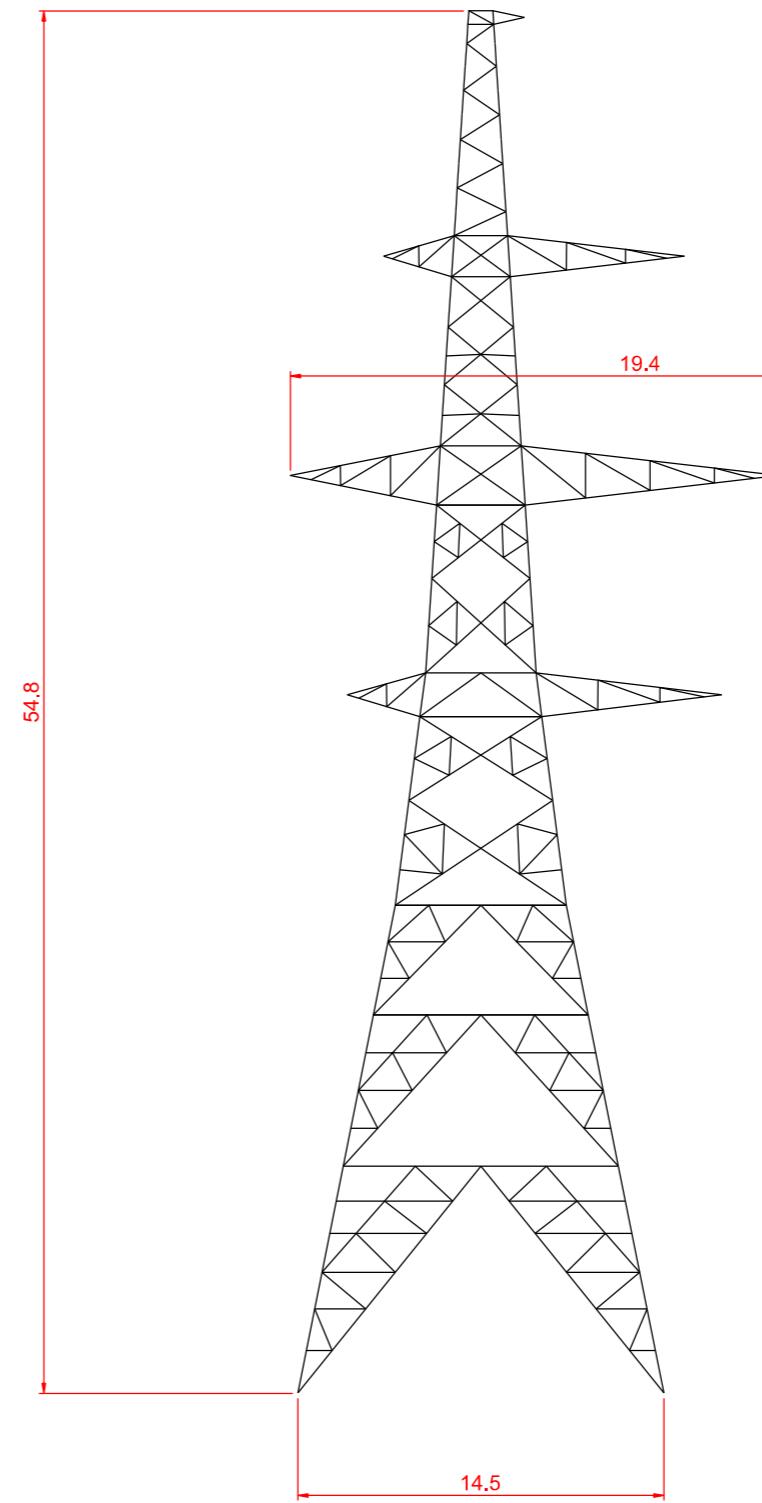
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L12 D55 E6 400kV
LATTICE PYLON
TENSION

EXISTING PROPOSAL



L12 D55 E9 400kV
LATTICE PYLON
TENSION

ALTERNATIVE PROPOSAL

Notes

HINKLEY C CONNECTION PROJECT
TOWER LD113
COMPARATIVE OUTLINES

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