## General Design Principles – these apply to all works

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PPL is committed to undertaking a Design Review and to actively engaging with the local councils and residents, Mid Suffolk District Council and Suffolk County Council on the detailed design and landscaping proposals.</td>
</tr>
<tr>
<td>2</td>
<td>The detailed siting, design and layout of the proposed buildings and structures shall be undertaken in such a manner as to respond positively to the receiving environment.</td>
</tr>
<tr>
<td>3</td>
<td>The resultant buildings, structures and means of enclosure shall be sensitive to place and involve the use of appropriate recessive materials to minimise the visual impacts as far as possible though the careful use of colour and finishes. All materials to be used shall be durable and functional for the 25 year operational period of the power station / electrical substation.</td>
</tr>
<tr>
<td>4</td>
<td>A Sustainable Drainage Strategy (SuDS) will be developed in accordance with DCO Requirement 8 relating to surface and foul water drainage and section 5 of the flood risk assessment.</td>
</tr>
<tr>
<td>5</td>
<td>A Lighting Scheme will be developed in accordance with DCO Requirement 18 relating to the control of artificial light emissions and the OLS.</td>
</tr>
</tbody>
</table>
13  The electricity sub-station and its associated buildings, structures and means of enclosure shall be sensitive to place and the receiving landscape to minimise its visual impact. It shall be designed so as to minimise its impact upon agricultural activities, heritage assets, and ecological interests.

15  **GIS Switchgear and Administration Buildings**
    In order to reduce the impact of the overall building composition consideration will be given to breaking up the facades and roof profiles into vertical sections through the use of materials and design details.

16  **GIS Switchgear and Administration Buildings**
    The external materials and shall be recessive in colour in order to assimilate the buildings into the surrounding landscape. The roof material should be non-reflective and the colour and finish should minimise glare.

17  **GIS Switchgear and Administration Buildings**
    Consideration will be given to the incorporation of architectural features to add visual interest while acknowledging the need for simplicity in the form and design of the buildings to respect the surrounding landscape.

18  **Access Road**
    The access road will be designed according to National Grid’s standards and laid out in such a manner so as not to prejudice on-going farming operations. Reasonable effort shall be made to ensure that the surfacing treatment responds to the local context to minimise landscape and visual effects.
Substation Design Principles

- The colour tones and profile orientation of the cladding will assist in blending the building into the surrounding landscape.
- The Cladding scale and colour will be arranged vertically to ensure the buildings are grounded into the surrounding landscape and particularly against dense tree cover around the site boundary. This will also assist in minimise the long distant visual impact.
- The colour and profile of cladding will reflect the agricultural and rural nature of the surrounding landscape setting. The use of more earthy colours.
- The colour and finish will be neutral in finish and avoid glare.
- Recognition of the horizontal strata of existing landscape foreground and up to a raised platform which incorporates mature tree lines and hedgerows in the far distance.
- The visual reference for this design mitigation approach is that of agricultural farm building structures in the wider landscape.
- Hard wearing robust materials recognise the hardworking industrial nature of the site to utilising colours particularly at the lower levels reflecting the mature landscape backdrop.
- Perimeter landscaping and land modelling around the perimeter assist in the visual mitigation particularly from mid and long distances.
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Hard wearing robust materials reflect the hardworking industrial nature of the site to utilising colours particularly at the lower levels reflecting the mature landscape backdrop.

Perimeter landscaping and land modelling around the perimeter assist in the visual mitigation particularly from mid and long distances.
National Grid Programme

- Jan 18 Tender
- June 18 Contract Award
- Late summer final detailed design.
Substation Engineering Design

- Fences – meet required security specification for HV electrical compounds.
- Building cladding – low maintenance, fire resistant.
- Layout – promotes safe working.
- Economic and efficient – consumers pay.
<table>
<thead>
<tr>
<th>Design Element</th>
<th>DCO</th>
<th>Current Design</th>
<th>Scope for Change on DC0 scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS Substation footprint</td>
<td>80mX100m (8,000sqm)</td>
<td>80m x 100m (8,000qm)</td>
<td>Up to 15% reduction in footprint by final design stage.</td>
</tr>
<tr>
<td>Substation Equipment max height</td>
<td>12.5m</td>
<td>12.2m</td>
<td>Little - safety clearance dictates height</td>
</tr>
<tr>
<td>GIS Hall</td>
<td>21m X 62m (1,302sqm)</td>
<td>16m X 18m (288sqm) 9.65m X 39m (377sqm)</td>
<td>Up to 50% reduction in building footprint by final design stage.</td>
</tr>
<tr>
<td>GIS Annex Combined</td>
<td>n/a</td>
<td>9.65m X 39m (377sqm) 665sqm</td>
<td></td>
</tr>
<tr>
<td>Cable Sealing End Footprint</td>
<td>22mX45m (990sqm)</td>
<td>28m X 35m (980sqm)</td>
<td>Little – safety clearances dictates size.</td>
</tr>
<tr>
<td>CSE Equipment max height</td>
<td>12.5m</td>
<td>12.2m</td>
<td>Little – safety clearances dictates size.</td>
</tr>
<tr>
<td>Pylon Height</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4YM 100 (Removed)</td>
<td>48.2m</td>
<td>n/a</td>
<td>New tower position reduces height by 3.5m.</td>
</tr>
<tr>
<td>4YM 100R (New)</td>
<td>58.5m (indicative location on DCO drawings)</td>
<td>55m (position on current design drawings)</td>
<td></td>
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</tbody>
</table>
Aspects of Design for Consideration

- Building Cladding – Horizontal / vertical / mixture –
- Building Colour – single, mixed.
- Roof Pitch – Flat, Shallow, Steep, Offset.
- Building massing – One structure / separate annex / amenity.
- Fencing
Option 1

Shallow pitch roof GIS Hall
Single annex (control and amenity function)
Option 1 – Birds Eye
Option 2

Steep pitch roof GIS Hall
Single annex with control and amenity function
Option 2 – Birds Eye
Option 3

Shallow pitch roof GIS Hall
Separate annex buildings:
• Control/ workshops
• amenity
Option 3 Birds Eye