

PROGRESS 
POWER

Design Principles Document
December 2014



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Summary

This Design Principles Statement has been prepared in support of the application for a Development Consent Order submitted by Progress Power Limited. It sets out Design Principles in accordance with which the Power Generation Plant, Above Ground Infrastructure and Electricity Connection Compound proposed by the Applicant will be constructed.

Purpose of this Statement

This statement supports the application for a Development Consent Order (DCO) submitted by Progress Power Limited for the development of a 299MW gas fired power station consisting of three main elements: the Power Generation Plant, Gas Connection (comprising a Gas Pipeline and Above Ground Installation) and Electrical Connection (comprising an underground Cable, Access Road and Electrical Connection Compound).

The purpose of this document is to facilitate early engagement with the parties involved in the detailed design process and in particular to describe a set of outline design principles in order to support the discharge of Requirement 3 of the DCO.

This Statement should be read alongside the Design and Access Statement (Document reference 10.2), and in the event of a conflict, this document should prevail.

Design Parameters

The Design and Access Statement (DAS) describes the factors that will influence the appearance of the Power Generation Plant and associated Electrical Connection Compound.

This document 'Design Principles Statement' is to be read in conjunction with the Design and Access Statement (Document reference 10.2), the Interim Landscape Mitigation Strategy (Document reference 10.6) (LMS) and the Outline Lighting Strategy (OLS) submitted to PINS for examination in order to demonstrate compliance with National Policy Statements (NPSs).

It provides design guidelines for the Power Generation Plant and Above Ground Installation (AGI) located on land within the former Eye airfield and Electrical Connection Compound proposed on farmland to the west of the A140. The principles contained in this document have been discussed with Suffolk County Council, Mid Suffolk District Council and the relevant Town and Parish Councils within the vicinity of the proposed development.

Guidance Documents

The DAS submitted with the DCO application in March 2014, has been informed by relevant guidance including CABE's guidelines 'A Design-led Approach to Infrastructure', and the findings of the Environmental Impact Assessment – in particular the landscape and visual impact assessment (refer to document 6.2, Environmental Statement section 11). This document takes into consideration all the documents noted above.

As stated in the National Policy Statement EN-1, 'good design is also a means by which impacts can be mitigated'. The proposed Gas Fired Power Station and associated development at Eye is likely to have some residual impact and therefore the design, materials and massing of the proposed buildings, as well as mitigation measures, must demonstrate good design in respect of landscape and visual amenity.

Additional Design Considerations

The Eye Airfield Development Framework approved by Mid Suffolk District Council in February 2013 contains planning design and access principles and makes recommendations in relation to the choice of building materials. In November 2013 Mid Suffolk District Council adopted the Eye Airfield Planning Position Statement (Non-Statutory Planning Guidance) which confirmed the Council's decision that the Eye Airfield Development Framework should guide future development on the airfield for both employment and housing on an interim basis.

The Position Statement explains the constraints in the centre of Eye Airfield related to the existing Gas Compressor Station. The Power Generation Plant Site is identified on Map 4 of the Position Statement as 'Potential Infill Area – 'safeguarded' for 'Energy Park that may include (a) Nationally Significant Infrastructure Project (NSIP) (Gas-fired Power Station and/or (b) SCC Waste Core Strategy EFW [Energy from Waste] site', the former in recognition of the emerging Progress Power proposals.

Public involvement and engagement

PPL is committed to engagement with the local councils and residents, Mid Suffolk District Council and Suffolk County Council on the detailed design and landscaping proposals. This engagement will take the form of at least two workshop sessions, jointly hosted by PPL and the District Council, and facilitated by an independent design professional.

The initial workshop, to be held on appointment of the preferred contractor, would develop the understanding of local expectations for the quality and character of the new development which would be taken forward to the subsequent workshop which would consider draft detailed designs for each of the component parts of the development. These workshops would be undertaken prior to the application to discharge the DCO Requirements for detailed design (Requirements 3 and 4). Annex 1 contains a diagram which sets out the stages involved in discharging these DCO requirements.

Design Review

In accordance with National Policy Statement EN-1 the detailed design of the development components will be subject to Design Review before any detailed submission is made to Mid Suffolk District Council. The submission will therefore be accompanied by evidence to show how having regard to any engineering/operational constraints, the design principles have been applied to the proposals, by an independent design review body with appropriate expertise.

Design Principles

The following design principles shall be applied, in addition to those set out in pages 39 – 43 of the DAS, to the detailed design of all aspects of the development. These principles should be read in conjunction with the LMS and the OLS in particular.

General Design Principles – these apply to all works	
1	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.
2	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.
3	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 through 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.
4	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.
5	A Lighting Scheme will be developed in accordance with DCO Requirement 18 relating to the control of artificial light emissions and the OLS.
Power Generation Plant and Above Ground Installation Design Principles – these apply to works No. 1A, 1B, 1C, 1D, 2A, 2B and 3A	
6	Structures within the PGP and AGI will be sited so as to minimise visual impacts from sensitive receptors. In the event that less than five stacks are proposed at the PGP, consideration will be given to the arrangement and/or grouping of stacks so as to minimise visual impact by taking advantage of existing landscape features wherever possible.
7	The use of a single large building to accommodate the gas turbines shall be avoided so as to minimise the overall mass of the Power Generation Plant.

8	The height of the exhaust stacks shall be kept to the absolute minimum required for operational purposes and shall not in any event exceed 30m height. The colour and finish of the stacks will be neutral to avoid glare. At no time shall the exhaust stacks be illuminated except for recognised safety purposes and at no time shall they display signage or other forms of advertisement.
9	The height of all buildings and structures shall be kept to a minimum and careful consideration will be given to roof lines and forms to minimise the visual impact of the upper elements of buildings and structures on the skyline.
10	All signage for the purposes of identification at the permanent access(es) will be designed and sited to avoid creating a distraction to users of the highway and to respect the amenities of the locality.
11	Vehicle parking and external storage areas shall be laid out and screened so as to minimise low level visual clutter and improve the outward appearance of the development.
12	Consideration will be given to the use of architectural details, curved forms and screening within the site to soften the appearance of buildings and structures.
Electrical Connection Compound Design Principles- these apply to works No 5 and 7	
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.
14	AIS Variant The design of the AIS compound will be such that it minimises visual impact by: <ul style="list-style-type: none"> • siting infrastructure as far as is operationally practicable to provide a silhouette within the landscape; • using non reflective insulators; and • setting security fencing behind the landscaping.
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 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.

ANNEXES

Annex 1	Process Diagram for the discharge of the DCO Requirements
Annex 2	A3 Design Sheet – Power Generation Plant
Annex 3	A3 Design Sheet – Electrical Connection Compound

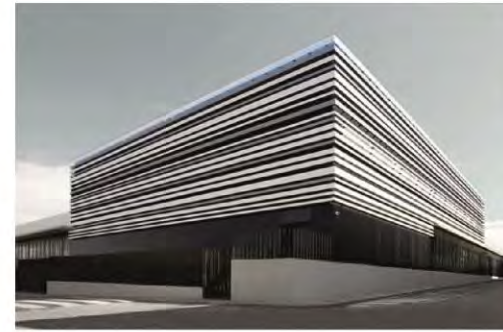
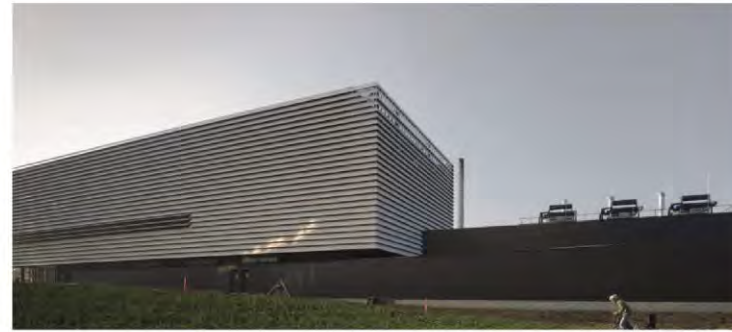
Annex 1

Process Diagram for the discharge of the DCO Requirements



Annex 2

Power Generation Plant Design Sheet



For illustrative purposes only, final layout of site subject to change following detailed design



- Breaking down the expanse of into smaller elements.
- The cladding scale and colour will be arranged to ensure the buildings are grounded into the surrounding landscape and at the same time minimise the long distance visual impact.
- The colour and profile of cladding will reflect the horizontal strata of the landscape.
- The colour and finish of the stacks will be neutral 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 and then above that the backdrop of the skyline.
- Breaking the site layout up into a series of smaller fragmented elements allow a more responsive approach in terms of site layout appreciate and respond to visual impact from various directions.
- This fragmented approach allows a common material and colour approach to each element maintaining and therefore avoiding any overall bulky building enclosure.
- This approach celebrates the mechanics & working elements of the building.
- 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.



Airfield Industrial Estate

Power Generation Plant Site

Annex 3

Electrical Connection Compound Design Sheet



For illustrative purposes only, final layout of site subject to change following detailed design



- 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.



