

Design and Access Statement for the Construction and Operation of a 20MWe Peaking Power Generation Plant, Ancillary Equipment and an Track on Land at Blendworth, adjacent to Havant Thicket, Hampshire, PO7 8RL.

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Design and Access Statement

1.1 Introduction

- 1.1.1 This Design and Access Statement (DAS) has been prepared in support of planning applications that have been submitted to Havant Borough Council (HBC) and East Hampshire District Council (EHDC) for the construction and operation of a 20MWe Peaking Power Generation Plant, ancillary equipment and access track ('The Development') on Land at Blendworth, adjacent to Havant Thicket, Hampshire, PO7 8RL, ('The Site'). The Site is at National Grid Reference SU709103.
- 1.1.2 The purpose of this DAS is to explain the process that has led to the Development being brought forward and to explain the design issues and how these have been addressed as part of the project.
- 1.1.3 Section 62 of the Town and Country Planning Act as amended by the Planning & Compulsory Purchase Act 2004 requires the submission of a DAS with various types of planning application.
- 1.1.4 The essential objective of a DAS is to promote good design in the widest sense of the term. The National Planning Policy Framework (NPPF) in Paragraph 56 advises that:
'The Government attaches great importance to the design of the built environment. Good design is indivisible from good planning, and should contribute positively to making places better for people.'
- 1.1.5 A DAS is intended to make the applicant think more about design of their proposal in relation to the Site and its surroundings. The environmental impacts of the development have been assessed through a number of technical assessments which are included as Appendices to the Planning Application Statement (PAS) submitted with the application. It is therefore not proposed to repeat the information contained in those documents in this Statement other than by cross referencing the relevant sections from them.

1.2 The Design and Access Statement

- 1.2.1 This DAS will follow the four stage process advocated by the Design Council (formerly the Commission for Architecture and the former Built Environment (CABE)) which suggests the Site and the proposed development be considered in the context of four headings:
- Assessment;
 - Involvement;
 - Evaluation; and
 - Design.
- 1.2.2 The design of the Development has been considered with these objectives in mind, although it must be acknowledged from the outset that the ability to amend the detailed design is limited because of the nature of the Development is such that it largely uses prefabricated components of plant and equipment, in which functional design efficiency is the dominant theme. As such the focus of the design considerations has largely been limited to the design of the layout and the extent to which the site

specific environmental features are maintained, enhanced or otherwise altered to address particular concerns, issues or opportunities.

1.3 Assessment

- 1.3.1 This section of the DAS requires an assessment of the ‘surroundings’ of the site and seeks to establish that the character and amenity of the area has been taken into account. It considers the physical context of the site, if there are heritage assets in and around the Site and the social and economic characteristics of the area.

Physical Context

- 1.3.2 Physical context is concerned with what a place looks like, and what its characteristics are in terms of the existing buildings, landscape and movement routes.
- 1.3.3 The key factor that has led to the selection of this site for a Peaking Power Generation Plant is its proximity to a suitable National Grid connection with both a ready and viable source of natural gas and electricity. There are significant technical benefits to the security and efficiency of the energy system by locating such plants as close as possible to areas of high electricity demand. This sort of generation is known as “Embedded Generation”.
- 1.3.4 This means that the Plant will be connected to the Local Distribution Network not to the National Grid Transmission Network. If Distributed Generation is connected close to the point of use, there is a reduced need for distribution and transmission infrastructure. This results in reduced transmission losses which has a direct benefit to the environment as energy is not wasted in feeding these losses compared with centralised power stations and the bulk transmission of electricity. Another significant benefit is with respect to improvements to local security of supply. Generating close to the electricity load can reduce the stress on the electricity transmission and local distribution infrastructure and improves the security of supply to the local community and potentially avoid the need for reinforcement works to this infrastructure.
- 1.3.5 The Site which has an area of 2.34 hectares as shown on Drawing No. ENQ 6540-05-1001-D-D, and is located on land to the north of Bells Copse between the A3(M) and the B2149 (Manor Lodge Road) and will be accessed via a new track that will partly be constructed adjacent to the west side of the existing Forestry Commission track situated to the west and north of Havant Thicket with the access on to the B2149 approximately 400m north of Havant Thicket.
- 1.3.6 The plant compound has an area of 3272m² as shown in Drawing No. ENQ 6540-05-1003-D-E and comprises a wooded and scrubland area to the east of the A3(M).
- 1.3.7 The Site comprises a wooded and scrubland area to the east of the A3(M).
- 1.3.8 The surrounding area is mostly scrub land and woodland. The Site lies to the immediate west of Havant Thicket and to the north of Bells Copse which are areas of ancient replanted woodland. There are traditional orchards, upland calcareous grassland, upland fen flushes and swamp, upland heath and wood pasture and parkland all within 2 km of the Site. The Site is identified as Grade 4 Agricultural Land on the Agricultural Land Classification Map for England.
- 1.3.9 The Site is approximately 1.5km north west of Staunton Country Park. Waterlooville Golf Course is located 550m west of the Site on the west side of the A3(M), and the

nearest residential area consisting of Cornbrook Grove, Acre Lane and Farrier's Way lies approximately 650m south west of the Site. Blendworth Common and the Motor Racing Track are located approximately 1km north of the plant compound.

- 1.3.10 The boundary of the South Downs National Park is located approximately 1.1km north east of the Site.
- 1.3.11 The Site itself is located within the Blendworth Common Site of Importance for Nature Conservation (SINC) but is not located within any statutory ecological designations and there are no such designations in the immediate vicinity. There are however a number of designations in the wider surrounding area. These include Hazleton Common Local Nature Reserve (1.3km north east); Chichester and Langstone Harbours Ramsar Site (5.1km south); Chichester and Langstone Harbours Special Protection Area (5.1km south); Solent Maritime Special Area of Conservation (5.1km south); Langstone Harbour SSSI (5.1km south); and Catherington Down SSSI (4.2km north west).
- 1.3.12 There are a substantial number of Listed Buildings and Scheduled Monuments in the surrounding area and the Leigh Park Grade II* Registered Park and Garden is located 700m south east of the plant compound and the Stanstead Park Grade II Registered Park and Garden, 2.7km east of the Site.
- 1.3.13 Whilst the setting has not directly influenced the detailed design of the Development it has had a significant role in the choice of the availability of a grid connection. Full details of the rationale in terms of location and the site selection process is provided in Chapter 3 of the accompanying Planning Application Statement.
- 1.3.14 This stage of the DAS would normally include an assessment of the planning policy context within which the design of the Development has been brought forward. This is set out in some detail in the accompanying Planning Application Statement which contains a detailed analysis of the Development in the context of the Development Plan and the National Planning Policy Framework (NPPF). The key determining issues, which are particularly relevant in the context of the design of the Development, are its environmental impacts and particularly its landscape visual, and ecological effects, on the one hand, and that also with an increasing proportion of electricity being sourced from renewable energy sources, the National Grid predicts a much greater dependence on sources of reserve power, from multiple small generation plants, will be required in the future.
- 1.3.15 Consequently, any shortfalls in future electricity generation from certain renewable sources, or short term increases in demand upon the electricity grid, need to be met by alternative means at relatively short notice. A deal with the Government through the National Grid is currently seeking to procure additional capacity throughout the UK.
- 1.3.16 Given the proximity of the Site to the neighbouring local habitats and species and the more distant designated sites the planning application is supported by a Preliminary Ecological Appraisal (Planning Application Statement - Appendix 2).
- 1.3.17 Similarly, a Heritage Desk Based Assessment is provided in Appendix 3 accompanying Planning Application Statement which includes an evaluation of the potential impacts on the historic environment.

Social Context

- 1.3.18 Social context is concerned with how people in the locality are affected by the proposed development.
- 1.3.19 Siting has been an important consideration in that it has ensured that there limited impacts from the Development, insofar as there are no immediately adjacent neighbours with the nearest residential properties being located at Cornbrook Grove, Acre Lane and Farrier's Way approximately 650m south west of the Site. The surrounding area is mostly scrub land and forest.
- 1.3.20 There are no Public Rights of Way or public roads that run either through or adjacent the Site from which it would be visible. There are therefore no transient receptors and road users that would be affected by the development.
- 1.3.21 The assessment of social context must also include a recognition of the contribution the proposal will make to the provision of electricity at short notice to meet peaks in demand within the local electricity network. This plant will be activated at short notice to manage such fluctuation in demand and supply. Flexible Peaking Power Generation capacity forms a particularly important part of renewable energy infrastructure, because renewable sources, notably wind and solar PV, are supplies that are dependent on the time of day and weather conditions.

Economic Context

- 1.3.22 The economic context is concerned with the contribution the Development will make to the local economy.
- 1.3.23 The National Grid owns and operates the national electricity network. They are obliged to ensure that the electricity supply system runs within specified limits and in particular to manage fluctuations in short term operating conditions when there is potential imbalance between demand and supply.
- 1.3.24 The National Grid has estimated that for every 8kW of wind power added to the grid, 1kW of reserve, or back-up energy, generated by facilities such as this type of plant is required. Traditional power stations are generally not designed or able to meet short term demand and fail to deliver the flexibility that is needed. With an increasing proportion of electricity being sourced from renewable energy sources, the National Grid predicts a much greater dependence on sources of reserve power, from multiple small generation plants, will be required in the future.
- 1.3.25 The provision of flexible peaking power will therefore support the future development of new businesses and the employment that this generates and will provide benefits both to the local workforce and the local economy arising from inward investment to the area.

1.4 Involvement

- 1.4.1 Involvement is concerned with who has been consulted in developing the scheme, the feedback received and how this has been taken into account.
- 1.4.2 As a commercial venture there has been no general pre-application publicity with the public for the proposal as there are sensitivities in terms of contracts and tenure

agreements. However, in preparing the supporting technical assessment, the relevant agencies have been consulted in consideration of the impacts on landscape, ecology, cultural heritage, flood risk transport, air quality and noise.

- 1.4.3 Technical assessments have been undertaken in relation to each of these issues, the reports of which are included with the planning application. These have fed back into the design process throughout the design stage of the project.
- 1.4.4 Rydberg Development Company Limited, as the applicant, will also participate in and review the responses to the consultation exercise to be undertaken as part of the planning application process by HBD and EHDC and will ensure that any additional information required is made available as and when it is requested or considered necessary.

1.5 Evaluation

- 1.5.1 Evaluation is the part of the process in which decisions on the design are considered taking into account information that has been received during the design stage and the implications that these have for the project.
- 1.5.2 The provision of flexible power generation to support low carbon energy sources has become an important part of the climate change agenda at all levels from international down to local and is driven by a raft of legal obligations and policy objectives.
- 1.5.3 There are clear benefits in the provision of flexible peaking power generation to support renewable energy technology in reducing CO₂ emissions both as part of the response to climate change and as a means of providing a clean cost effective and secure energy supply. The benefits are therefore economic, social and environmental.
- 1.5.4 As part of the evaluation of the Site, regard has been had to a number of locational factors. These most importantly include the suitability of the Site for the siting of a flexible Peaking Power Generation Plant which has been identified through a site selection process according to a number of technical, environmental and planning criteria. Some of these factors present clear constraints with defined limitations, such as the distance to grid connection or potential users.
- 1.5.5 Once a decision is made on the location, then the design team have to consider the Site itself in the context of the available information and to commission the necessary surveys and reports where there are gaps in that information.
- 1.5.6 This process can be articulated in terms of identifying the opportunities and the constraints of the Site as follows (in the case of the Blendworth Flexible Peaking Power Generation Plant):

Opportunities

- Suitability of the site for flexible peaking power generation;
- Topography;
- Site availability;
- Proximity to grid connection;
- Local economic development objectives (and strategy);
- Contribution to national energy targets;
- Landscape in terms of the Site being well screened;
- No development constraints; and

- Accessibility.

Constraints

- The area of plant equipment required;
- Access to the site;
- Potential ecological impacts;
- Potential landscape and visual impacts;
- Air quality and noise impacts; and
- Flood risk;
- Relationship to the Leigh Park Grade II* Registered Park and Garden and the Stanstead Park Grade II Registered Park and Garden and views of the Site from the south.

1.5.7 The planning balance requires assessment of the opportunities and constraints and a weighing of these. The design process in combination with the environmental assessment process has identified a number of key issues that have been addressed through the evolution of the design. As a result, the constraints have been addressed with a view to ensuring that the balance favours considerable support for the scheme on the basis of realising the overall objectives of the two Council's, both in terms of reducing CO₂ emissions and in supporting its economic development strategy.

1.6 Design

1.6.1 Design considers what the proposal looks like and how the local context has influenced the design. In terms of design a key feature of flexible Peaking Power Generation Plants is that they are largely made up of prefabricated functionally design components, so that the scope to vary the detailed design is limited. This is not however to say that function is not an essential part of good design and should not be ignored.

1.6.2 A key factor in the location and design of the plant compound has been the proximity of ancient woodland to the east and south. Accordingly, a 15m buffer has been retained between the plant compound at the adjacent areas of ancient woodland and the access track to the site is to be constructed using a no-dig construction method. This would use a geotextile membrane to spread the weight of vehicles using the track and to avoid damage to the roots of adjacent existing trees. This method would be adopted on the length of the track which lies adjacent to the ancient woodland designation, and then intermittently depending on the occurrence of mature field trees in the adjacent hedgerow to the proposed track.

1.6.3 The main components are relatively inflexible in terms of the extent to which their design can be changed; they consist of a Switchgear Container, a Gas Kiosk, Generators, DNO Enclosures and Metering, Lube Oil Tanks and a Transformer. These are all contained within a secured compound bounded by acoustic fencing.

1.6.4 The details of the siting of this necessary equipment within the compound is shown on drawing nos. ENQ 6540-05-1003-D-E and ENQ 6540-05-1004-D-E included as part of the submitted Planning Application. The height of the structures is determined by their function and as there is limited opportunity to further minimise the visual impact of the proposed development in this regard. However, significant attention has therefore been paid to the screening of the site to minimise its impact when viewed from the

surrounding area. The site is to be bounded by acoustic fencing and boundary screen planting around the perimeter.

- 1.6.5 The final layout is shown on Drawing No. ENQ 6540-05-1003-D-E. The Development will comprise ten gas fired engine-driven electricity generation sets that provide a total of up to 20MWe generating capacity, which will be housed in acoustically insulated weather proof steel containers. The engine-generator sets will sit side-by-side in two blocks, one of four engines and the other of six engines.

1.6.6 In addition to the generator sets and gas kiosk, a switchgear container, shown on Drawing No. ENQ 6540-05-1005-D-A will be located within the plant compound together with five transformers, shown on Drawing No. ENQ 6540-05-1012-D-A, and four lube oil tanks, which are shown on Drawing No. ENQ 6540-05-1010-D-A.

1.6.7 The plant compound will be enclosed by a 4.5m high acoustic fence as shown on Drawing No. ENQ 6540-05-1011-D-B with a combined DNO Substation and metering enclosure located outside the compound adjacent to the Site access, as shown on Drawing No. ENQ 6540-05-1009-D-A.

1.6.8 Site Elevations are included on Drawing No. ENQ 6540-05-1004-D-E.

1.6.9 The overall approach of the scheme has been to minimise any changes to existing landscape features and protect and encourage diversity of species.

1.7 Additional Summary Information

- 1.7.1 This then completes the four stage process as originally established by the Design Council. The Design Council has also suggested that additional information in response to a set of prescribed questions in relation to detailed aspects that can help to explain the proposed development and the works involved in the scheme should also be addressed. Accordingly, the following provides a summary on key aspects of the design of the Blendworth flexible power generation plant:

- **Use:** The application relates to the construction, operation and decommissioning a 20MWe flexible power generation plant and includes the necessary infrastructure, control plant and equipment and new access;
- **Amount:** There will be 10 gas fired engine-driven electricity generation sets that provide a total of up to 20MWe generating capacity, which will be housed in acoustically insulated weather proof steel containers. Other structures located in the plant compound include a switchgear container, five transformers and four lube oil tanks.
- **Historic environment:** There are no historic assets on or immediately adjacent the Site that will be affected by the physical construction of the power generation plant. There are however assets, notably the Leigh Park Grade II* Registered Park and Garden and the Stanstead Park Grade II Registered Park and Garden, although the Heritage Desk Based Assessment does not anticipate any significant impacts on their setting.
- **Layout:** The layout shown on the accompanying drawings shows the plant compound will have a minimal land take and provides sufficient turning area and parking for vehicles and has been designed to respect key landscape features adjacent to the Site.

- **Scale:** The site compound itself includes 3272m² which houses all of the equipment within the delineated site boundary. The remainder of the application site is comprised of the vehicular access to the site, which is located partly with the area of HBC and partly within the area of EHDC. Any existing hedgerows or planting adjacent to the site will be retained and enhanced to screen the Development.
- **Landscaping:** The existing hedges along the access track will be retained and additional screen planting will be provided around the plant compound.
- **Appearance:** The appearance of the completed development will as would be expected be subjective to some degree and like any perception of design will be different based on individual preference. The overall height is determined by the design and construction of the generation equipment required by this development and provides little scope for alteration. The compound will be bounded by 4.5m high acoustic fencing which will screen the equipment from external views and additional boundary planting will soften the impact of the fencing.
- **Access:** Permanent access to the plant compound will be via a new track that will partly be constructed adjacent to the west side of the existing Forestry Commission track situated to the west and north of Havant Thicket with the access on to the B2149 approximately 400m north of Havant Thicket.

1.8 Summary

- 1.8.1 The purpose of this DAS is to explain the decisions taken by the design team in the course of developing the design of the Blendworth flexible Power Generation Plant. The Site has been identified as meeting the technical, environmental and planning criteria for the scheme. In order to provide the level of installed capacity required for the potential industrial end users, a relatively large site is required.
- 1.8.2 A total land take of 2.34 ha will accommodate 3272m² of the power generation plant compound with the remainder comprising the access track leading to the plant compound.
- 1.8.3 The design process is led by the form and structure of the flexible power generation plant.
- 1.8.4 In terms of the key design decisions these are limited to the location and layout of the Site, and its infrastructure. There are sound economic, technical and environmental reasons to locate the flexible power generation plant at Blendworth and these are discussed in more detail in the accompanying Planning Application Statement.
- 1.8.5 The Site is sustainable, and due primarily to the effectiveness of the proposed boundary screening fencing and vegetation around the perimeter of the site will not be generally visible over a wider area.
- 1.8.6 In design terms the proposal is considered to respond to the objectives of national and development plan policy in securing the best opportunity for the location of infrastructure that will make a contribution to the sustainability of the region and the National Grid objective to manage fluctuations in short term operating conditions when there is potential imbalance between demand to support continued economic growth in the area.

