STATERA ENERGY

PLANNING, DESIGN AND ACCESS STATEMENT

DEVELOPMENT OF A 49.99MW GAS PEAKING PLANT ON LAND ADJACENT TO RAYLEIGH SUBSTATION

STATERA ENERGY LIMITED

Date: September 2017

Project Ref: Dollymans Power Limited, Rochford

CONTENTS

APPENDICES

1 Introduction

Background

1.1 The UK electricity network faces tough challenges to deliver the Government's target of reducing carbon emissions. Much of this is being achieved through decommissioning carbon intensive plants and concentrating on the delivery of low carbon generation such as wind and solar. The subsequent integration of significant renewables and nuclear energy supplies places an increasing demand for additional flexibility and reserve supply to be provided within the energy generation mix.

1.2 In response to the requirement for increased flexibility for local demand, the Application proposes to develop a gas-fired electricity peaking plant on land near Rayleigh substation.

1.3 The Site comprises approximately 2.22 hectares of farmland. The proposed development will generate up to 49.99 megawatts (MW) of electricity to provide power and ancillary services to the local network during times of peak demand.

1.4 A site selection exercise assessing over 300 substations in England identified the subject site as one of 10 that are suitable for this use and where land is available. Accordingly, a planning application is submitted for the development of a peaking plant to generate up to 49.99 MW.

1.5 The purpose of this Planning Statement is to provide an assessment of the proposed development in relation to development plan policy and other relevant material considerations, as well as providing a Design and Access Statement. It also considers the policy of the UK Government towards the importance of lower carbon energy, reliable energy supplies and the benefits that will arise from the construction and operation of the Proposed Development.

1.6 The site location is shown on accompanying site location plan and is supported by the following details;

- SL151_502_Location Plan_Engine.pdf
- 170922_SL151_102_Masterplan_Engine Layout.pdf
- 205_CS_02 Rayleigh Gas Cross Section .pdf
- 9821r_AQ_Planning_Report_Rayleigh_Rev0_20170921.pdf
- Rayleigh Gas Fired Power Plant Report lr.pdf
- PEA Rayleigh Substation Cherryfield Ecology 2017 update.pdf
- Construction Traffic Management Plan Power.pdf
- DIA08.pdf
- 170914 R JER1294 AK Gas Engine Facility Rayleigh FRA v1.pdf

1.7 The purpose of this Planning Statement is to provide an assessment of the Proposed Development in relation to development plan policy and other relevant material considerations, as well as providing a Design and Access Statement. It also considers the policy of the UK Government towards the importance of lower carbon energy, reliable energy supplies and the benefits that will arise from the construction and operation of the Proposed Development.

The Applicant

1.8 Statera Energy is a developer and owner of flexible generation and storage capacity. The company secured 200 MW of new build contracts across 4 projects in the UK Capacity Market in 2016. Two of these; one being identical this proposed plant will be built this year. The company has a pipeline of sites allocated for future development that cover the 10 GSP substations identified for this service to National Grid.

The Application

1.9 The Application is a full planning application to construct a peaking plant and ancillary components, with the ability to generate up to 49.99 MW of electricity.

2 The Site & Its Surroundings

The Application Site

2.1 The Application Site comprises approximately 2.22 ha of farmland used primarily for cereal production.

2.2 The Application Site is currently farmed, for cereal crops.

2.3 There are no public rights of way across the field. A footpath runs north-south directly to the west of the A130.

2.4 The land is unallocated in the Local Plan and not subject to any designations. However, like the majority of greenfield areas in Rochford the proposed site has a Green Belt policy associated with it.

2.5 Access to the Site will be via one of the existing farm access tracks.

3 The Proposed Development

Summary of Development

General Layout

3.1 The total application area is approximately 2.22ha.

3.2 The site layout is shown on the accompanying Masterplan. This layout and the accompanying elevation details set the design parameters for the proposal. An appropriately worded planning condition can be applied to secure the final finished detail prior to commencement.

3.3 The Application seeks planning permission to provide a peaking plant to deliver electricity during time of peak demand of up to 49.99 MW. The facility will comprise of 11x 4.5MW gas engine units in a broadly linear configuration. Each gas engine is housed in a container, in a concrete compound. The compound will have a maximum footprint of 60m x 22m, with a maximum height of 8.9m. Protruding from the engines will be 11 stacks of up to 15m in height.

3.4 Other ancillary plant and infrastructure to be located on the Application Site are identified in the table below. This ancillary plant and equipment will be situated on hard standings enclosed by a 2.5m high security fence and 4-5m high acoustic fence.

Operation

3.5 The peaking plant facility will cover periods when there is a shortage of generation and peaks in demand and provide ancillary services to National Grid to help it manage both frequency and voltage on the Grid system. The gas engines would be one of a total extra capacity of approximately 1.5GW (1500MW) that National Grid and DECC are looking to be deployed over the next 4 years. The facility is designed to provide back-up power at very short notice. The facility would not operate continuously, but would run as a flexible back up supply to meet periods of peak demand up to 2750 hours a year.

3.6 The plant will be able to reach full load in less than three minutes from cold.

3.7 For the majority of the time the station would be switched off, waiting for an instruction from National Grid to generate. These instructions would typically require generation support from the facility for no more than a couple of hours between 7am-11pm, generally on weekdays.

3.8 Outside of these hours, it is only likely to be required during a major power shortage or system stress event, where National Grid may require the facility to step-in and support in an emergency situation.

3.9 As a gas powered facility the development will not require the delivery of fuel to the site, nor will it require fuel storage, unlike diesel powered generators. The site will generally be unmanned but will undergo routine maintenance on a weekly basis. As such the facility will have very limited traffic movements associated with the operational period.

Construction

3.10 The construction period is anticipated to last 6 months with a workforce of up to 20 personnel, although this may peak initially at up to 40 personnel during the early ground works phases.

3.11 The maximum number of outwards movements of construction vehicles in any one day will be approximately 10 HGVs, however, this is the peak and will probably be confined to the early earthworks / civils phase of the project.

3.12 Construction work and construction traffic movements shall not take place on Sundays, bank holidays or after 13.00 on a Saturday unless such work is associated with an emergency or with the prior written consent of the local authority.

3.13 A waste and recycling scheme will be implemented on site so that there is no damage to the environment.

Lighting

3.14 As the facility will be unmanned, permanent operational lighting is not required, other than some lighting for security and maintenance purposes when engineers are working on site in low light.

Security

3.15 In addition to the 2.5m high security fence, a closed-circuit television (CCTV) system shall be provided to monitor the perimeter fence for intruders and also provide coverage within the main plant areas.

The Need for Development

3.16 The UK generates electricity in several ways including coal, gas, nuclear, and renewable resources. The electricity system is balanced in real-time and this demand is led by consumer behaviour which can have a significant impact on this demand balance.

3.17 The UK electricity generation mix is going through a time of reform. The energy balance is becoming increasingly reliant on renewable energy sources (such as wind and solar) which being weather dependent are intermittent and unpredictable. In tandem with this, the phasing out of coal power stations has created a growing need for new smaller and more flexible plants that can respond quickly to local demands and provide a secure supply of energy.

3.18 A report commissioned by the National Infrastructure Commission in February 2016 to support the report on 'Smart Power' states;

> *"There is significant evidence that operational flexibility will be a key driver for the efficient integration of low-carbon technologies. Flexibility can be provided by different sources. One such source is flexible generation; plants that have low minimum stable generation levels, high ramping rates and increased capability for ancillary service provision."*[1]

[1] Imperial College London and Energy Policy Research Group (University of Cambridge), Delivering Future-Proof Energy Infrastructure, 2016

3.19 An article written in the Times on Tuesday the 12th of September titled 'Winds of Change' looks at how the price of renewable energy is falling faster than anyone dared hope.

> *"It is true that the country needs a guaranteed 'base load' capacity but at this price the case for such an unwieldly and unproven design is hard to sustain. In the future, non-renewable power sources will need to be turned up and down to complement renewable ones. This is possible with small gas-powered plants but not with nuclear plants."*[2]

3.20 The Department of Energy and Climate Change (DECC) Policy Paper titled "2010 to 2015 government policy: UK energy security" sets out the Government's strategy for Electricity Market Reform (EMR)[3]. It states that the reformed energy market will deliver:

- low carbon energy;
- reliable energy supplies; and
- minimised costs to consumers.

3.21 The Proposed Development is therefore required to compliment the mix of electricity generation and to meet the Government's objective of maintaining a reliable electricity supply. Once operational, the new flexible and reliable facility will have the ability to respond rapidly to the short-term variations related to local demand and fluctuations in the output from renewable energy sources.

3.22 Statera Energy Limited has identified that the Application Site is located within an area that requires additional backup capabilities to meet peak demand. Through discussions with the local Distribution Network Operator (DNO) a firm offer for capacity within the local distribution network has been received for this facility, when it is required.

Strategic Overview

3.23 The deployment of renewables over the last 15 years has created levels of instability in the Grid and the need to manage various aspects of its function namely; frequency, voltage and reactive power. The intermittency of renewables and the fact that no new generating stations have been built in the last 5 years, while many coal fired and gas stations have closed, has also narrowed the generating margin at times of peak demand. New build nuclear power stations, for example Hinckley C and Moorside are 10-15 years away from completion.

3.24 Batteries and fast reaction gas fired generators can provide National Grid (NG) with services that assist in the management of the Grid (enabling better optimisation of renewables) and meeting demand when the country is short of generating capacity.

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[2]https://www.thetimes.co.uk/article/winds-of-change-hsjn9sj7p

[3] Imperial College London and Energy Policy Research Group (University of Cambridge), Delivering Future-Proof Energy Infrastructure, 2016

[4] https://www.gov.uk/government/policies/maintaining-uk-energy-security-2/supportingpages/electricity-market-reform

3.25 NG is mandated to manage the system and meet this peak demand at the lowest cost possible and in the most efficient way it can, while remaining technology agnostic and unable to develop assets itself.

3.26 Developing facilities with 49.99MW capacity provides economy of scale, keeps the development within LPA jurisdiction and ultimately provides consumers with a lower cost of energy. Larger generating plant can be more competitive in NG tenders and achieve a lower price than smaller schemes. A hybrid plant would not be able to connect at a voltage lower than 132kV.

3.27 The combination of a battery and gas engine facility, at this size and scale, provides the maximum flexibility and range of services that NG could require. The most efficient and effective deployment for these types of facility is to be located as close to a GSP as possible. This minimises transmission losses, cable runs and means that NG would have access to the full range of services.

Sequential Test

3.28 Over a year ago the applicant embarked on an exercise to investigate the largest substations (GSP's and BSP's) for spare capacity in central England. The exercise did not include large parts of the western half of the country where there are significant grid constraints because of the relatively high deployment of renewables and modest demand. Nor did the search include certain eastern regions, for example Kent where there are equivalent constraints. Further north and particularly in Scotland the grid constraints are severe because of the relatively low demand and high levels of wind and hydro deployment.

3.29 At a macro level there are a number of criteria that need to be met before candidate substations can be considered to have potential to work for this intermediate scale of generation (45-49.9MW). These include available land which critically is close to the substation, electrical capacity at the substation where the cost of making a grid connection is affordable, a location where there are embedded benefits (i.e high demand) and the substation is within close proximity to a usable gas supply.

3.30 A large proportion of these large substations are necessarily close to conurbations if not in urban locations. It is no coincidence that approximately 20-30% of the substations are therefore located in Green Belt. In the case of Rochford Council one such candidate substation is located at Rayleigh. The site of this proposed application.

3.31 The case for very special circumstances is based on the essential need and demonstrating, through the sequential approach, the difficulty in finding sites that can work. A starting position for the sequential test is taken as the region managed by the district network operator (DNO) UKPN (Eastern Region). This region encompasses some 15,000 square kilometres. The region runs from The Wash in the north to London in the south and includes the counties of Norfolk, Suffolk, Cambridgeshire, Essex and parts of Bedfordshire, Buckinghamshire, Hertfordshire and Oxfordshire. In this region there are 166 major substations.

3.32 Applying the stated criteria to the list of substations in this region 160 have been rejected leaving a list of 6 candidates; 3 of these are in Green Belt. Realistically it is unlikely all 6 schemes would come forward in time for this December Auction and the 1GW requirement. The applicant might therefore develop say 1 Gas Peaking Plant and 2 Battery Storage Facilities for this Auction period in the UKPN region. Taking the other DNO regions into account the applicant considers that this strategy might provide as much as 1GW of flexible power though this could only be developed over next 2-4 years. Nevertheless, the strategy would make a material contribution to meeting the supply gap.

3.33 The site at Rayleigh fulfils most, if not all, the criteria that can make a 49. 99MW scheme viable. The grid connection offer matches the generation profile perfectly. There is negligible traffic during operation of the plant which might operate between 500 and 4500 hours a year.

3.34 There are a number of secondary factors that would help an application meet the test in what is otherwise recognised as an important area of green belt in Rochford Council protecting as it does the gap between Wickford and Rayleigh. These are:-

- The site is sandwiched between existing Rayleigh substation and the A130. The site itself does not therefore contribute to any sense of openness.
- The only views towards the site are from sections of the A130.
- The application would be for a temporary consent of no more than 20 years duration.
- The proposal creates little traffic movement and noise and emissions would be strictly controlled by the Environment Agency as the site would need to be permitted; and
- Compared to wind and solar the facility uses very little land for its output. A solar farm of equivalent installed capacity would need 83 times the land area and in terms of power generated would require 356 times the land area.

3.1 It is for these reasons that the scheme at Rayleigh presents a unique opportunity to meet an important service provision for the Grid with a willing land owner, a confirmed Grid connection agreement and a Local Policy context that at least in principle would not preclude development.

3.2 For the reasons set out above such a facility, while clearly industrial in nature, functionally would not work in an urban location or an industrial area even assuming there was a major substation close by.

3.3 The proposed development at Rayleigh is in the countryside but views of the site are dominated by the substation infrastructure. All 4 schemes that the applicant is developing at present, while single gas or battery schemes of 49.99MW are in countryside with very similar circumstances where there is a dominant substation and countryside which in all cases is more exposed than at Rayleigh. We refer you to Creyke Beck - East Riding of Yorkshire Council (16/02345/STPLF), Wolverhampton - South Staffordshire Council - Green Belt - (16/00747/FUL), Pelham - Uttlesford District Council - UTT/16/2316/FUL and Norton - Stockton Borough Council - (16/1978/FUL).

4 Environmental Impact Assessment Screening

4.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the EIA Regulations) set out in Schedule 1 those developments for which an Environmental Impact Assessment (EIA) is mandatory and, in Schedule 2, those where an EIA may be required.

Schedule 1

4.2 The Proposed Development does not fall within Schedule 1 of the EIA Regulations. So, the requirement for EIA is not mandatory.

Schedule 2

4.3 It is considered that the Proposed Development falls under the following development type in paragraph 3(a) of Column 1 of Schedule 2:

> *"Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1)."*

4.4 Where development is listed under Schedule 2, the need for EIA is dependent on the likelihood of significant environmental effects arising from factors including the nature, size and location of the development. This is established through successive tests, sequentially applied, based on:

- location within a sensitive area, or
- specified thresholds and criteria on the scale of development; and
- consideration of likely significant effects.

4.5 These tests are considered below in relation to the Proposed Development.

Sensitive Area

4.6 Sensitive areas are defined in the EIA Regulations as follows:

- Sites of Special Scientific Interest;
- National Park;
- The Broads;
- A UNESCO World Heritage Site;
- Scheduled Monuments;
- An Area of Outstanding Natural Beauty;
- Land to which Nature Conservation Orders apply.

4.7 The Application Site is not located in, or partly in a sensitive area as defined in the EIA Regulations. It is outside any of the Essex Biodiversity areas.

Applicable Thresholds

4.8 The thresholds and criteria applicable to Category 3(a) are stated in Colum 2 of Schedule 2 as:

> *"The area of the development exceeds 0.5 hectares."*

4.9 The proposed development covers approximately 2.22 ha.

Significant Environmental Effects

4.10 In determining whether EIA is necessary for an individual project, Schedule 3 of the EIA Regulations set out the criteria to assess the significance of effects. In summary, the criteria fall under three broad headings:

- Characteristics of development – taking into account aspects such as size, raw material usage, emissions and risk of accidents;
- Location of development – the environmental sensitivity of the areas likely to be affected including existing land uses and the capacity of the existing environment to 'absorb' the new development;
- Characteristics of the potential impact – in particular with regard to its extent, complexity, probability, duration and frequency, in relation to the characteristics and location of the development.

4.11 This Planning Statement (Chapter 8) and the accompanying detailed environmental reports which accompany this planning application provide information on the key environmental issues associated with the Proposed Development. These assessments include:

- Air Quality Impact Assessment;
- Noise Impact Assessment;
- Preliminary Ecology Assessment;
- Landscape and Visual Impact Assessment; and
- Flood Risk Assessment/Drainage Plan.

4.12 On the basis of this information it has been established that there would not be any significant environmental effects arising from the Proposed Development.

Conclusion

4.13 Although the Proposed Development falls within a type of development listed within Schedule 2 and meets the applicable thresholds for this development type, it is not considered that the nature, scale or location of the Proposed Development is such that it is likely to give rise to significant environment effects. This conclusion has been confirmed by the environmental reports undertaken in support of the application. On this basis, it is concluded that the Proposed Development does not constitute an 'EIA Development'.

5 Statement of Community Engagement

5.1 The National Planning Policy Framework identifies at Paragraph 188 that *'Early engagement has significant potential to improve the efficiency and effectiveness of the planning application system for all parties. Good quality pre-application discussion enables better coordination between public and private resources and improved outcomes for the community'.*

5.2 The applicant undertook a public exhibition on the basis of developing the proposed site with two separate battery facilities. Since the public exhibition the applicant has managed to secure a gas connection and is looking to promote a gas peaking plant facility in place of the second battery facility. There area of land shown for potential development at the public exhibition has not change.

5.3 The Public Exhibition was held on Tuesday the 20th of June between 5-8pm at Wickford Community Centre, Wickford, SN12 0AG. Posters were displayed in the local area and the 20 closest houses on London Road were letter dropped to ensure local residents were aware. A total of 7 local residents turned up to the event, an attendee list and evidence of the displayed posters can be found in the appendix.

6 Design and Access

Introduction

6.1 This section comprises the Design and Access Statement (DAS) and has been written to meet the requirements of Section 42 of the Planning and Compulsory Purchase Act 2004 as well as the Government's National Planning Practice Guidance.

6.2 This section describes the physical characteristics of the scheme and the assessment process that has led to the design of the layout. This document also contains an access statement which considers the suitability of the proposed access for its users, both vehicular and pedestrian.

Planning Application Documentation

6.3 This DAS should be read in conjunction with the details contained within this Planning Statement and the associated submitted material to gain a full understanding of the proposed development. Together these documents provide a comprehensive assessment of the proposed development and its impact on the local environment.

6.4 In March 2014, the Government published online National Planning Practice Guidance (PPG) which, amongst other things, provides guidance on the content of Design and Access Statements. The PPG explains that a DAS must:

- Explain the design principles and concepts that have been applied to the proposed development; and,
- Demonstrate the steps taken to appraise the context of the proposed development, and how the design of the development takes context into account (Paragraph: 031 Reference ID: 14-031-20140306).

6.5 In order to assess the design principles and concepts of the proposed development, the following criteria have been used:

- Use and Function;
- Amount;
- Layout;
- Scale;
- Landscaping; and,
- Appearance.

Use and Function

6.6 In order to progress a development's design, it is important to understand its use and function i.e. the purpose of the development.

6.7 As discussed in detail within Section 3 of this Planning Statement the development comprises the provision of a gas-fired electricity facility that will deliver up to 49.99 MW of electricity, enough energy to power the equivalent of 50,000 homes.

6.8 The facility is designed to provide flexible back-up power at very short notice. Unlike a traditional power station, the engines would be operated as a flexible peaking plant meaning that they can respond rapidly to peaks in energy demand. The plant will be limited to just 2750 hours running per year.

Amount

6.9 The Development covers a total site area of approximately 2.22 ha

6.10 The Development will be predominantly within the engine compound which has a maximum footprint of 60m x 22m. The engine compound would house 11 gas engines. Attached to each engine will be a stack (11 in total) of up to 15m in height. Details of the ancillary components and equipment are set out within the table in section 3 of this Planning Statement.

Layout

6.11 The layout of the proposed facility has been led primarily by functional requirements and specifications of the infrastructure. This is to locate the engine hall and ancillary components within as small a footprint as possible, whilst enabling the safe access and movement within the site.

6.12 The proposed layout is set out within the master plan.

Landscape

6.13 Th There are no existing trees or hedgerows within the Application Site itself. However, established vegetation to the north will screen the houses on London Road. Prominent views of the site will be from the A130 and the footbridge over the A130. The facility will be seen against the backdrop of the existing Rayleigh substation. Additional planting will be proposed.

6.14 Site security will be afforded by fencing and CCTV (including infrared CCTV), as detailed in Section 3, rather than through the use of floodlighting in order to minimise potential landscape and visual impacts.

Crime

6.15 The facility will be enclosed by new 2.5m high fencing to offer site security and ensure that the equipment is protected from vandalism.

6.16 The CCTV units will include infrared capability for use at night-time. As the facility is unmanned only limited lighting is required.

Scale

6.17 The master plan sets out the dimensions of the Proposed Development and associated equipment respectively.

6.18 The equipment within the compound could have a maximum height of 8.9m with stacks of up to 15m in height.

6.19 The scale of the ancillary infrastructure and switchgear is dictated by their function.

Appearance

6.20 The external appearance of the proposed compound will look industrial, however, housing the gas engines in containers within a concrete compound reduces the height of the scheme, therefore reducing the visual impact. The colour of the containers will be agreed with the council.

6.21 The grey colour of the stacks is considered to be the most visually recessive colour solution in terms of minimising their landscape and visual impact.

6.22 Boundary Screening using vegetation will also be used to minimise the visual impact on the landscape.

Access and Circulation

Construction Phase

6.23 Construction of the facility is anticipated to take 6 months.

6.24 The maximum number of outward movements of construction vehicles in any one day will be circa 10 Heavy Duty Vehicles (HDVs) however this is the peak and will be confined to the early earthworks / civils phase of the project.

6.25 The deliveries (and staff) will be directed to the construction compound. Equipment will be stored in the construction laydown area until it is required within the construction site, however much of the equipment will arrive pre-assembled and be installed directly on arrival.

6.26 Construction traffic will access the Site is via one of the existing farm access tracks.

6.27 There is sufficient space within the adjacent land to achieve acceptable vehicular movements and turning within the established internal roads.

Operational Phase

6.28 Due to the nature of the facility, once installed, there is minimal on-site activity required during the plant life-cycle. The facility will be remotely controlled / monitored and operatives will visit the site on an ad hoc basis.

6.29 Parking during the operational phase of the development has been accommodated within the Application Site.

Access

6.30 During the life time of this development access to the facility will be via the existing farm access road. Considering the limited operational traffic movements and the previous use of the Application Site no upgrades to this access are required.

6.31 Provision has been made for both pedestrian and vehicular access when required.

7 Planning policy context

Introduction

7.1 Section 38 (6) of The Planning and Compulsory Purchase Act 2004 states that planning decisions should be made in accordance with the development plan unless material considerations indicate otherwise.

7.2 The following section identifies the Development Plan policies and other material considerations relevant to this Application. An assessment of the Proposed Development against the determining issues from these policies is undertaken in Section 8.

Development Plan Context

7.3 The Development Plan for this area currently comprises the Rochford District Council Local Development Framework, Core Strategy Adopted Version (December 2011).

7.4 The saved policies within the Local Development Framework that are considered to be of relevance to the Proposed Development are identified below.

7.5 **Policy GB1** – Green Belt Protection. The Council will allocate the minimum amount of Green Belt land necessary to meet the District's housing and employment needs. In doing so, particular consideration will be given to the need to prevent the coalescence of individual settlements, in order to help preserve their identities.

The Council will direct development away from the Green Belt as far as practicable and will prioritise the protection of Green Belt land based on how well the land helps achieve the purposes of the Green Belt. Rural diversification and the continuation of existing rural businesses will be encouraged, as appropriate, so long as such activities do not significantly undermine the objectives or character of the Green Belt.

This development is seen as a 'very special circumstance' because of its need to be situated within close proximity to Rayleigh Substation and with the increasing need for balancing forms of generation within the UK. Please refer to the Sequential Test, which has been submitted along with this application for further information.

7.6 **Policy ENV1** – Protection and Enhancement of the Natural Landscape and Habitats and the Protection of Historical and Archaeological Sites. The Council will maintain, restore and enhance sites of international, national and local nature conservation importance. These will include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar Sites, Sites of Special Scientific Interest (SSSIs), Ancient Woodlands, Local Nature Reserves (LNRs) and Local Wildlife Sites (LoWSs). In particular, the Council will support the implementation of the Crouch and Roach Management Plan.

The Council will also protect landscapes of historical and archaeological interest.

There are no designations, like the majority of Rochford Council the proposed site has a Green Belt policy associated with it. A Geophysical and Ecological survey accompany this Planning Application.

7.7 **Policy ENV3** – Flood Risk. The Council will direct development away from areas at risk of flooding by applying the sequential test and, where necessary, the exceptions test, as per PPS25. The vast majority of development will be accommodated within Flood Zone 1. However, considering the very limited supply of previously developed land in the District, proposed development on previously developed land within Flood Zone 3 will be permitted if it enables a contribution towards the District's housing requirement that would otherwise require the reallocation of Green Belt land, providing that it passes the exceptions tests and is able to accommodate the necessary flood defence infrastructure.

The Council will continue to work with the Environment Agency to manage flood risk in a sustainable manner through capitalising on opportunities to make space for water wherever possible and through the continued provision of flood defences where necessary.

A site-specific FRA in accordance with the NPPF and PPG 6.1.1 ID7 has been undertaken for the construction of a Gas Fired Electricity Generating Facility. The site is in flood zone 1. Swales will be used to store surface water runoff, which can then be discharged at the normal rate, reducing the impact of flooding.

7.8 **Policy ENV4** – Sustainable Drainage Systems (SUDS). All residential development over 10 units will be required to incorporate runoff control via SUDS to ensure runoff and infiltration rates do not increase the likelihood of flooding.

The requirement for SUDs will only be relaxed where there is conclusive evidence demonstrating that the system is not viable on a particular site.

Swales have been viewed as the most sustainable drainage solution, surface water will be stored in the swales and then be discharged at the normal rate. A full DIA report has been submitted with the Planning Application.

7.9 **Policy ENV6** – Large Scale Renewable Energy Projects. Planning permission for large-scale renewable energy projects will be granted if:

- the development is not within, or adjacent to, an area designated for its ecological or landscape value, such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar Sites, Sites of Special Scientific Interest (SSSI's), Ancient Woodlands, Local Nature Reserves (LNRs) or Local Wildlife Sites (LoWSs); or if it can be shown that the integrity of the sites would not be adversely affected;

- there are no significant adverse visual impacts.

The Plant will provide extra resilience to the Grid network in times of system stress event. Rayleigh GSP substation which is strategically very important to National Grid. The need for this type of hybrid Plant is a direct consequence of the amount of renewable and intermittent generation that is now installed in the UK. The proposal supports renewable planning policy in the National Planning Policy Framework as well as a number of agreements, Acts and strategies such as the;

- *Kyoto Protocol;*
- *Climate Change Act (2008);*
- *UK Low Carbon Transition Plan (2009);*
- *National Renewable Energy Strategy (2009),*

- *Renewable Energy Review (2011); and*
- *DECC's UK Solar PV Strategy Part 2 (April 2014)*

Relevant Material Considerations

National Planning Policy Framework

7.10 NPPF represents the Government's planning policies for England, and sets out how they are to be applied (paragraph 1).

7.11 Paragraph 6 of the NPPF highlights that the purpose of the planning system is to contribute to the achievement of sustainable development. The policies in paragraphs 18 to 219 of NPPF, taken as a whole, constitute the Government's view of what sustainable development in England means in practice for the planning system.

7.12 Central to the NPPF is the presumption in favour of sustainable development and the need for the planning system to support economic growth. Paragraph 14 sets out the presumption in favour of sustainable development and the application of the policy for decision making states:

> 'At *the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking'.*
>
> *For decision taking this means:*
>
> - *Approving development proposals that accord with the development plan without delay; and*
> - ***Where the development plan is absent, silent or relevant policies are out of date, granting planning permission unless:***
>
> ***- any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole****; or*
>
> *- specific policies in this Framework indicate development should be restricted.'*

7.13 Paragraph 17 of the NPPF Paragraph 17 identifies a set of 12 core land-use planning principles that should underpin both plan-making and decision-taking. These twelve core principles include the need for planning decisions to '*support the transition to a low carbon future in a changing climate...'*

7.14 Paragraph 19 highlights the Government's commitment to ensuring that the planning system actively supports sustainable economic growth and that it does not act as an impediment to sustainable growth. The NPPF places significant weight on the need to support economic growth.

7.15 Paragraph 20 of the NPPF states that *'local planning authorities should plan proactively to meet the development needs of business and support an economy fit for the 21st century'.*

7.16 Paragraph 93 emphasises the key role that the planning system has in helping places to; '*secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated*

infrastructure. This is central to the economic, social and environmental dimensions of sustainable development'.'

7.17 Paragraph 97 emphasises that local planning authorities must help increase the use and supply of renewable and low carbon energy, accepting the *'responsibility on all communities to contribute to energy generation from renewable or low carbon sources'.'*

7.18 Paragraph 122 of the NPPF states that *'local planning authorities should focus on whether the development itself is an acceptable use of the land, and the impact of the use, rather than the control of processes or emissions themselves where these are subject to approval under pollution control regimes. Local planning authorities should assume that these regimes will operate effectively'.'*

7.19 Paragraph 123 of the NPPF requires decision making to *'avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development."*

Overarching National Policy Statement for Energy (EN-1)

7.20 Paragraph 3 of the NPPF states that *'National policy statements form part of the overall framework of national planning policy, and are a material consideration in decisions on planning applications.'* As such the Overarching National Policy Statement for Energy (EN-1) is a material consideration which must be taken into account in the determination of this planning application.

7.21 Paragraph 2.2.20 of EN-1 states; *"It is critical that the UK continues to have secure and reliable supplies of electricity as we make the transition to a low carbon economy. To manage the risks to achieving security of supply we need sufficient electricity capacity (including a greater proportion of low carbon generation) to meet demand at all times. Electricity cannot be stored so demand for it must be simultaneously and continuously met by its supply. This requires a safety margin of spare capacity to accommodate unforeseen fluctuations in supply or demand."*

7.22 Paragraph 3.3.29 of EN-1 supports the development of decentralised electricity generation facilities: *"The Government would like to see decentralised and community energy systems such as micro-generation make a much greater contribution to our targets on reducing carbon emissions and increasing energy security from current levels of these systems. These technologies could lead to some reduction in demand on the main generation and transmission system."*

7.23 EN-1 recognises that a flexible approach to energy generation is required to provide backup supply for intermittent renewable energy. Paragraph 3.3.11 states; *"...the more renewable generating capacity we have the more generation capacity we will require overall, to provide back-up at times when the availability of intermittent renewable sources is low. If fossil fuel plant remains the most cost-effective means of providing such back-up, particularly at short notice, it is possible that even when the UK's electricity supply is almost entirely decarbonised we may still need fossil fuel power stations for short periods when renewable output is too low to meet demand, for example when there is little wind."*

7.24 Paragraph 3.6.1 continues to state that; *'Fossil fuel power stations play a vital role in providing reliable electricity supplies: they can be operated flexibly in response to changes in supply and demand, and provide diversity in our energy mix. They will continue to play an important role in our energy mix as the UK makes the transition to a low carbon economy, and Government policy is that they must be constructed, and operated, in line with increasingly demanding climate change goals.'*

7.25 EN-1 recognises that the increasing reliance on renewable energy sources with Paragraph 3.3.12 stating that *'we need more total electricity capacity than we have now, with a larger proportion being built only or mainly to perform back-up functions.'*

8 determining issues and assessment

Introduction

8.1 This section outlines the determining issues identified from the planning policies in the preceding section and assesses the Proposed Development against these issues in order to determine whether it complies with the Development Plan and other relevant policy guidance.

8.2 The acceptability of the principle of development is assessed as well as a detailed assessment of the main policy considerations pertinent to the proposal. These specifically cover design, landscape and visual, highways, water management, heritage, ecology, noise and air quality. Detailed considerations of these elements are also provided in the assessments supporting this Application.

Sustainable Development

8.3 Among the key changes introduced by The National Planning Policy Framework (NPPF) was a new policy presumption in favour of development that contributes to sustainable development. This is reflected within Chapter 4 of the Strategy Document. As the Proposed Development is to support the consistent delivery of renewable energy it is considered by its very nature to be a sustainable development. Notwithstanding this, this section demonstrates the compliance with the three strands of sustainable development set out within the NPPF which comprise of social, economic and environmental benefits.

Benefits of the Proposed Development

The Proposed Development will provide the following benefits:

Supporting the transition to a lower carbon economy

The Policies within the Strategy Document, NPPF and EN-1 support the shift towards the delivery of low carbon energy generation. The Proposed Development will help to achieve this by providing a supporting role to renewable energy generation at times when they are not operating and/or unable to generate sufficient energy to meet demand.

Maintaining energy security

The need for flexible and decentralised energy generating facilities is well established within the national planning policy context. The NPPF sets out at paragraph 93 the importance of the planning system in minimising vulnerability and providing resilience in energy generation and supply. The Proposed Development is therefore required to compliment the mix of electricity generation and to meet the Government's objective of maintaining a reliable electricity supply. The new flexible and reliable facility has the ability to respond rapidly to the short-term variations related to local demand and fluctuations in the output from renewable energy sources.

Employment Benefits

The construction of the Proposed Development will directly support approximately 20 workers for 6 months. Indirectly, the construction of the facility could potentially also generate employment opportunities within the local supply chain for those companies providing services to the Proposed Development, for example engineering and maintenance services, plant and equipment supply and haulage. Once operational the Proposed Development, in conjunction with other similar developments, will provide two-part time jobs for operation and maintenance of the facility.

The Principle of the Development

8.4 The site lies within local countryside, north of the existing electricity substation at Rayleigh. There are no landscape or ecology designations on or in close proximity to the site. The site is greenfield, currently comprising open Grade 3 farmland.

Landscape and Visual Impact

8.5 A landscape and visual impact assessment (LVIA) has been submitted in support of this application. The Landscape Assessment identifies and assesses the proposals against the key characteristics of the National and County Landscape Character Areas relevant to the Proposed Development.

8.6 The existing Rayleigh sub-station dominates the immediate landscape around it, not only by virtue of the sub-station itself but because of the large number of overhead transmission lines which radiate from it. It lies, however, within a small area of farmland, ringed by major trunk roads and within which there are very few sensitive receptors.

8.7 The Site is afforded a high level of visual enclosure from the sub-station, the embankment of the A130 and a railway embankment. Tree cover associated with the highway network and screen planting to the sub-station provide further screening, the effectiveness of which will increase over time.

8.8 There are no dwellings nearby and no significant views from the sparse public right of way network in the area. A few long distant views are possible from the high ground on the edge of Rayleigh but the proposed development will be hard to see through the foreground clutter of the sub-station and pylons.

8.9 It is concluded that the proposed development will have no significant adverse effects on the landscape character of the surrounding area or on visual amenity.

Air Quality

8.10 The potential air quality impacts of the Proposed Development have been assessed in detail in the Air Quality Assessment (AQA) which is submitted in support of this application. The AQA includes the result of the stack height determination exercise which was undertaken, in accordance with guidance from the Environment Agency, to establish the height at which there is minimal additional environmental benefit associated with the cost of further increasing the stack height. The AQA and detailed modelling undertaken conclude that a stack height between 12.5 and 15m would be appropriate, based on a worst-case scenario.

8.11 The AQA considered the air quality impacts during the operational phase of the proposed installation of a peaking plant at Rayleigh substation. The operational effects of NO2 emissions from the facility's stacks have been predicted using best practice approaches. The assessment has been undertaken based

on a number of worst-case assumptions, including using the worst-case meteorological conditions and modelling the stack emissions for 2,750 hours. The results show that with the gas engines operational, the predicted concentrations are below the relevant air quality standards and the impacts are 'negligible' to 'slight adverse'. Using professional judgement and experience of similar projects, the resulting air quality effect of the proposed development is considered to be 'not significant' overall.

8.12 On the basis of the above assessment, it is concluded that the proposed development does not, in air quality terms, conflict with national or local policies. There are no constraints to the development in the context of air quality.

Flood Risk and Drainage

8.13 A site-specific FRA in accordance with the NPPF and PPG 6.1.1 ID7 has been undertaken for the construction of a Gas Fired Electricity Generating Facility east of Kendal and north of the existing electrical substation.

8.14 EA mapping shows that the proposed development is located within an area designated as Flood Zone 1 (FZ1), classified as at low risk of flooding from fluvial sources.

8.15 The site is at very low to low susceptibility to surface water flooding.

8.16 The site susceptibility to groundwater flooding has been assessed as low.

8.17 The site is not at risk of flooding from reservoir infrastructure failure.

8.18 The proposed development type is defined as 'Essential Infrastructure' in the NPPF and PPG and appropriate for the present flood zone (FZ1) and the zone including climate change.

8.19 There will be an increase in low permeability cover; and surface runoff will need to be controlled at an agreed runoff rate. The gas engines and substation will sit on a porous gravel surface, an attenuation pond will ensure that there will be no increase in the amount of water that flows into the surrounding ditches.

8.20 This FRA and supporting documentation illustrates that the application area is at low risk of flooding from all sources and meets the requirements of the NPPF and Planning Practice Guidance.

Traffic and Highway Safety

8.21 The construction period is anticipated to last 6 months with an average workforce of up to 20 personnel, although this may peak briefly at 40 personnel for particular milestones during the construction period.

8.22 The maximum number of outwards movements of construction vehicles in any one day will be circa 10 Heavy Goods Vehicles (HGVs) however this is the peak and will be confined to the earthworks / civils phase of the project.

8.23 For the majority of the works duration the number of outwards movements of construction vehicles in any one day will be between 4 and 6 HGVs. The number of abnormal loads will ultimately depend on the final configuration of the gas engines and compound layout.

8.24 Construction work and construction traffic movements will not take place on Sundays, bank holidays or after 13.00 on a Saturday unless such work is associated with an emergency or with the prior written consent of the local authority

8.25 For the majority of the construction period construction vehicles in any one day will be limited to between 4 and 6 HGVs. These movements will also most likely be during weekdays outside of peak times and not on Saturday or Sundays.

8.26 It should be noted that apart from the construction phase of the development where there would be an increase in traffic movements, once installed, the development will be unmanned and a passive installation with very minimal extra traffic movement. Once operational, the Proposed Development will be unmanned and would be operated remotely, although access would be needed for occasional maintenance inspections and an annual service to ensure continued efficient operation. Traffic generated during operation would therefore be negligible. 1 parking space is proposed. Given that the Proposed Development will be unmanned it is considered that this level of parking is appropriate.

8.27 Overall, it is therefore concluded that the Proposed Development would not have any unacceptable adverse impacts on the function, safety and character of the local or strategic highway network and that adequate parking provision is provided.

Cultural Heritage and Archaeology

8.28 Paragraph 128 of the NPPF requires applicants to describe the significance of any heritage assets affected by the Proposed Development, including any contribution made by their setting.

8.29 The nearest listed building (Beke Hall) is over 600 m to the east of the site and is not visible from the site or vice versa.

8.30 Given the distance and separation it is not considered that the Proposed Development would have a significant adverse effect upon the setting of these designated heritage assets.

8.31 The Proposed Development is therefore in accordance with the guidance contained within the NPPF and PPG in relation to Heritage and Archaeology.

Biodiversity

8.32 Chery Field Ecology were instructed to undertake a preliminary ecological assessment, including a protected species risk assessment, at Dollymans Farm, Rochford. The survey area comprised the site and surrounding fields.

8.33 The preliminary ecological assessment comprised two parts: a desktop study and a site visit. The desktop search collates all available public information regarding the biodiversity of the area, the habitat structure of the surrounding area and statutory designations. Biological records within 1 km of the development site were requested from Essex Wildlife Trust Biodiversity Records Centre.

8.34 As there could be impacts on the habitat of breeding birds, reptiles and Water Voles the following further surveys/recommendations will be required to ensure protection of protected species:

- All works affecting any nesting habitat will occur outside the nesting season, usually accepted as March to August. If this is not possible a check of the affected areas for nesting birds will need to be undertaken. If an in-use nest is found a buffer of no less than 5m will be installed until the young have fledged and the nest is no longer in use.

- Suitable reptile habitat is present within the poor semi-improved grassland in the north-east of the site and along the site boundaries. The arable land that makes up the vast majority of the site is not suitable for reptiles. Contractors are to be made aware of the potential for reptiles to be present. If reptiles are encountered, allow them to escape unharmed. Do not deliberately harm any reptiles and if those encountered are slow to moving or unwilling to move do not disturb or move them.

- If works are kept within the arable field within the barbed wire fence and do not encroach upon the habitat surrounding the stream to the east of the site no mitigation for water voles will be required. No heavy machinery or plant should be stored or parked along the stream edge. A working buffer zone of 5m from the stream edge should be maintained at all times. No effluent from construction works should be allowed to enter the stream. A non-licensed method statement may be required.

- When working close to trees, standard best practice should be followed to avoid damage to root systems. Guidelines outlined in BS 5837: 2012 'Trees in relation to design, demolition and construction should be followed.

8.35 Having regard to the above it is considered that with the inclusion of appropriate mitigation, to be agreed with the Local Authority, there will not be a significant impact to protected species or habitats as a result of development.

9 Conclusion

9.1 The Proposed Development seeks planning permission for the construction of a gas-fired electricity facility of up to 49.99 MW to meet peak supply demands on the local distributed power network.

9.2 The Proposed Development accords with the Government's national planning policy including the NPPF and EN-1 with respect to providing reliable electricity generation capacity to support the shift towards a low carbon, reliable electricity supply and the relevant saved policies of The Rochford Local Plan (September 2007). The facility will provide for the need for efficient and flexible supply to meet peak energy demands within the local power network. This should be afforded significant weight in the assessment and determination of this Application.

9.3 For the reasons demonstrated in Section 8 of this report and the supporting statements, there are no significant adverse impacts associated with the Proposed Development.

9.4 In the balance of considerations, therefore, the presumption in favour of sustainable development is confirmed, as the benefits identified significantly and demonstrably outweigh any potential adverse impacts.

9.5 There are no other material considerations that indicate that planning approval should not be granted. Instead it is concluded that the proposed facility draws considerable support from these material considerations.

Appendix 1 – POSTER FOR PUBLIC EXHIBITION

Public Exhibition Event

Plans will be shown for two proposed energy storage facilities using batteries with a combined capacity of 100MW, to meet peak supply demands on the local distribution power network.

Wickford Community Centre (Lounge Room), Market Road, Wickford, Essex, SN12 0AG. Tuesday 20th of June. Between 5pm and 8pm.

All welcome to attend.

Appendix 2 – ATTENDEE LIST OF PUBLIC EXHIBTION

ATTENDEE LIST

Public Exhibition Event – Proposed development of two 49.99MW Enhanced Frequency Response Services using batteries. Wickford Community Centre, Market Rd, Wickford, Essex, SN12 0AG. Tuesday 20th June 2017.

	London Rd
	St Clears Cres.
	5 St Clears Crescent
JOHN PHILPOT	2 HEATHFIELD RAYLEIGH SS6 7QQ