

PLANNING, DESIGN AND ACCESS STATEMENT

**DEVELOPMENT OF A 49.99 MW GAS FIRED ELECTRICITY
GENERATING FACILITY
ON LAND ADJACENT TO SALTHOLME SUBSTATION, BILLINGHAM**

***SALTHOLME NORTH POWER LTD,
A STATERA ENERGY GROUP COMPANY***



Date: September 2018

Project Ref: Saltholme North Power PDAS

CONTENTS

INTRODUCTION.....	3
THE SITE AND ITS SURROUNDINGS	5
THE PROPOSED DEVELOPMENT	6
THE NEED FOR DEVELOPMENT	8
ENVIRONMENTAL IMPACT ASSESSMENT SCREENING	11
DESIGN AND ACCESS.....	13
PLANNING POLICY CONTEXT.....	18
DETERMINING ISSUES AND ASSESSMENT	23
CONCLUSION	27

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 Generating Facility (GFEGF) on land next to Saltholme substation.
- 1.3 The Site comprises approximately 4 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 500 substations in England identified the subject site as one of very few that are suitable for this use and where land is available with the appropriate gas and electrical connections. Accordingly, a planning application is submitted for the development of a GFEGF with the capacity 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.

The Applicant

- 1.6 Statera Energy was founded in 2015 with the aim of delivering increased flexibility for the UK electricity system to assist in the transition to a low carbon economy in the belief that renewable energy sources, such as solar and wind, will become the dominant form of generation of the future.
- 1.7 We are a fully integrated developer, owner and operator of flexible infrastructure which includes both energy storage and high efficiency gas reciprocating engines.
- 1.8 All projects are developed in-house, managed through their construction and on to operation, where they are overseen by a dedicated asset management team which includes its own industry leading technical expertise.
- 1.9 Statera now has a growing portfolio of assets under management which are capable of providing multiple services to National Grid, Distribution Network Operators (DNOs), as well as those operating in the wholesale energy markets.

The electricity market outlook

- 1.10 As we continue the transition towards a low carbon economy, renewable energy is ever more prominent as the lowest cost form of electricity generation for consumers. At the same time renewable energy is helping to ensure security of electricity supply for the United Kingdom while providing a cleaner, greener outlook for future generations.
- 1.11 With a higher proportion of our energy sourced from renewables, it is becoming increasingly challenging to balance the UK electricity system because of the intermittency of wind and solar output. For example, in summer months on bright, windy days it is not uncommon for too much electricity to be generated, whereas on cloudy wind-less days in winter months there may be a shortfall. In each case, National Grid, acting as the System Operator, will need to take balancing actions to ensure that supply meets demand.
- 1.12 Supporting this constant balancing is why we at Statera are building a portfolio of battery storage and flexible generation assets. The projects we develop and operate are designed to cost effectively balance the renewable energy generation on the network on a second-by-second basis and for sustained periods. The combination of fast responding electricity storage and generation will help manage the system and provide power at times of peak demand to help provide stability, resilience and energy security to the UK's electricity system.
- 1.13 Statera's flexible assets open the door for more solar and wind power to be added to the grid while maintaining grid stability, enabling our green low carbon future.

The Application

- 1.14 The Application is a full planning application to construct a GFEGF with the ability to generate up to 49.99 MW of electricity.

THE SITE AND ITS SURROUNDINGS

The Application Site

- 2.1 The Application Site comprises approximately 4 hectares of farmland used primarily for arable farming.
- 2.2 The proposed site at Saltholme is part of a larger 50-acre field which is currently arable farmed as part of a wider 1000-acre land holding leased to the RSPB. This 1000-acre Estate is owned by Teesside Environmental Trust (TET) which was established in April 1998 with the aim of providing a nature reserve of international importance at Saltholme. TET agreed to partner with the RSPB in early 2000 and in August 2007 the whole of the 1000-acre Estate was leased to the RSPB.
- 2.3 The Applicant has been working in partnership with both TET and the RSPB to agree an Option to Lease for the application site. If the project received planning approval, and was to go ahead, the Applicant would enter a lease with TET and the RSPB with the monies received, invested principally in the RSPB Saltholme Reserve. This would provide a significant boost in revenue for the site and enable the RSPB to continue to preserve this important wildlife hub, its Visitors Centre and café.
- 2.4 There are no Public Rights of Ways across the site.
- 2.5 The land is unallocated in the Local Plan and not subject to any designations.
- 2.6 Access to the Site will use the existing farm entrance off the A1185.

THE PROPOSED DEVELOPMENT

General Layout

- 3.1 The site layout is shown on the accompanying Masterplan. This layout and the accompanying elevation details set the design parameters for the proposal.
- 3.2 The proposed development comprises a GFEGF made up of five 10 MW engines enclosed in a sound insulated encasement or building. Compared to a traditional power station it is very small, compact design. From ground level to roof is 7.45 m for the encasement and 9.5m for a building, similar to a two-storey house. The exhaust gases are vented out the side and are processed to meet stringent environmental standards before being vented out of five flues which will be up to 15 m high.
- 3.3 When the engines are running they are cooled by an array of external fans. The fans are mounted on a metal frame which allows cool air to be drawn up into the fans. Electrical switchgear and controls are enclosed in the building.
- 3.4 Each engines block feeds electricity to a small substation from where an underground electrical connection will be made into the existing substation.
- 3.5 There will be a simple low-level pipe connection into the existing high-pressure gas main, enclosed within a compound. The gas will be fed to a second compound which houses a small out of equipment to reduce the pressure of the gas and meter its use.
- 3.6 The GFEGF 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 4GW (4000MW) that need to be deployed over the next 4 years (Aurora Energy Research – sept 2017). 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.
- 3.7 The plant will be able to reach full load in less than two minutes from cold.
- 3.8 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 mainly between 4pm-7pm on weekdays in the winter.
- 3.9 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.
- 3.10 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

Construction

- 3.11 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.

- 3.12 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.
- 3.13 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.
- 3.14 It is proposed that the remaining field not proposed for development will be used as a temporary construction compound.
- 3.15 A waste and recycling scheme will be implemented on site so that there is no damage to the environment.

Lighting

- 3.16 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

- 3.17 In addition to the 2.5m high mesh 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

THE NEED FOR DEVELOPMENT

Need Case

- 4.1 The UK electricity generation sector is going through a time of reform. The energy balance is becoming increasingly reliant on renewable energy sources which being weather dependent are intermittent and unpredictable. In tandem with this Older nuclear and gas fired power plants have closed. Currently 9% of our electricity is generated from coal but these coal fired stations will have all closed in the next 7 years. The equivalent figure for our nuclear plant is a drop from 8.5% to 5% over the next 11 years before Hinkley is completed. The oil-fired power stations have closed.
- 4.2 These older power stations that have been lost have been replaced with offshore and onshore wind and 4 interconnectors from France, Holland, Republic of Ireland and Northern Ireland. Ground and roof mounted solar has helped reduce demand during the day. To 'fill the gap' the Government has an ambitious target to triple generation from offshore wind and increase generation from interconnectors.
- 4.3 Against this backdrop the demand for electricity has remained fairly constant though National Grid predict in all future scenarios demand will grow principally with population growth, electrification of cars and electrification of heating.
- 4.4 Because this demand has to be met increasingly with intermittent (and less reliable) wind, solar and interconnectors (that are not entirely in the UK's control) there will be more times now and in the future when National Grid (NG) has to call on the older power stations and new flexible generators to respond quickly when generation is insufficient to meet demand.
- 4.5 Thus far, this need for flexible generation has largely been provided by diesel peakers (which are expensive to run and polluting), smaller less-efficient gas peakers (though less polluting) and keeping older CCGT's on standby (which is expensive). Gas turbines, the technology used for the big gas plant (such as CCGTs and OCGTs), is not well suited to this flexible, stop/start generation. By contrast gas reciprocating engines are highly suited to this pattern of use are becoming more efficient and can potentially match the bigger plant on lower emissions.
- 4.6 National Grid's Future Energy Scenarios Report released in July 2018 estimates a need for 1.5-7GW's of gas reciprocating engines in the next 11 or so years - the equivalent of between 30 and 140 additional (50MW) plant like the one proposed at Saltholme. The range is dependent mostly on the different levels of deployment of renewables and predictions on future electrical demand like EV charging.
- 4.7 The Government's position on energy generation is established within the NPS EN-1, and this is considered to represent a material consideration in the assessment of this application. Relevant extracts from the NPS confirming support for this type of development include:

"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" (Paragraph 3.6.1).

“Some of new conventional generating capacity needed is likely to come from new fossil fuel generating capacity in order to maintain security of supply, and to provide flexible back-up for intermittent renewable energy from wind” (Paragraph 3.6.3)

“A number of fossil fuel generating stations will have to close by the end of 2015. Although this capacity may be replaced by new nuclear development and renewable generating capacity in due course, it is clear that there must be some fossil fuel generating capacity to provide backup for when generating capacity is low and to help with the transition to low carbon electricity generation” (Paragraph 3.6.8); and

“Although our reliance on fossil fuels will fall, the transition will take some time, and gas will continue to play an important part of the UK’s fuel mix for many years to come” (Paragraph 3.8.1).

4.8 The NPPF is equally supportive, establishing as a core principle the need to promote development that assists the transition to a low carbon future and encouraging the use of renewable resources (Paragraph 151). The role of the flexible power plant in facilitating energy generated by renewable sources is key to effectively and successfully implementing this transition.

4.9 Flexible power facilities also contribute to the security of the UK’s electricity supplies. Given that a quarter (22GW) of the existing electricity generation fleet in the UK is scheduled to cease operations by 2020, and approximately 10GW of nuclear generating capacity is expected to close over the next 20 years, flexible power plants have an important role in providing greater resilience to the national energy network. Given this supportive national policy context, and the role that flexible power facilities perform in enhancing the security of electricity supply to the local and national network, it is considered that there is a strong need for this form of development.

4.10 The role of flexible power generating plants in meeting the UK’s energy requirements was recognised recently by an Inspector in an appeal decision at Hilcote in Bolsover District Council. This appeal considered proposals for a 14 MW flexible power generation plant outside of a settlement boundary in the open countryside.

4.11 In particular the Inspector noted that the plant:

‘forms part of the renewable energy infrastructure being developed to meet the UK’s obligations under the EU Renewable Energy Directive, because renewable sources are supplies that are dependent on the time of day and weather conditions’. (Para. 8, Appeal Ref. APP/R1010/W/17/3172633)

4.12 In addition, with relevance to the role of flexible power generation plants for supporting renewable energy and low carbon energy networks, the Inspector states:

4.13 *‘[the appeal proposal] is required to provide greater capacity and flexibility in the energy generation network [and] the proposed generators could be described as ‘associated infrastructure’ that would support the move towards low carbon energy supplied increasingly by renewable energy developments.’ (Para. 8, Appeal Ref. APP/R1010/W/17/3172633)*

- 4.14 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)¹. It states that the reformed energy market will deliver:
- low carbon energy;
 - reliable energy supplies; and
 - minimised costs to consumers
- 4.15 This facility is therefore required to compliment the mix of electricity generation, frequency support and to meet the Government’s objective of maintaining a reliable electricity supply. Once operational, the new flexible and reliable Project 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.
- 4.16 Statera Energy Limited has identified that the Application Site is located within an area that requires additional backup capabilities to meet peak demand and can provide critical ancillary services at a strategic substation and important area of the grid network. 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.
- 4.17 The location at Saltholme presents the opportunity to secure precisely the right sort of grid connection offer and to connect directly on to the NTS Gas Pipe. The need for this type of fast flexible scheme 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 and requirements for services from National Grid.

Site Selection

- 4.18 The key selection criteria applied to this type of project, which needs to be close to GSP or BSP substations, are;
- Viable gas connection on to the National Transmission System (NTS) pipe
 - Electrical capacity to export electricity without creating large voltage swings
 - Land that is both suitable and available to be developed with a willing landowner.
-

ENVIRONMENTAL IMPACT ASSESSMENT SCREENING

5.1 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

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

Schedule 2

5.3 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).”

5.4 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.

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

Sensitive Area

5.6 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.

5.7 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 Stockton Borough Council Biodiversity areas.

Applicable Thresholds

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

“The area of the development exceeds 0.5 hectares.”

5.9 The proposed development covers approximately 4 hectares.

Significant Environmental Effects

5.10 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.

5.11 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:

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

5.12 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

5.13 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’. At the time of writing no opinion has been given.

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;
 - Innovation and Design;
 - 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. Although its function is to balance the system and meet demand it would be capable of supplying 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 may need to run up to 2750 hours per year in the future although current EA permitting guidelines limit the hours of operation to 1500-2250 hours.

Services Include

- 6.9 **Electricity generation** – Providing short term electricity supply to the grid due to the fluctuations in output of both renewables and traditional forms of generation, as well as the variability of electricity demand. Gas reciprocating plants are ideally placed to provide this flexible generation as they can come online for short periods of time to fill the gaps in supply. Large generators such as coal, combined cycle gas turbines or nuclear power plants are less well suited for this application as they require much longer periods of stable operation to be effective and take a significant amount of time to get up to full generating power.
- 6.10 **Capacity Market** – If a major power plant, such as a large nuclear reactor or large gas generator, fails during the depths of winter, this could potentially lead to blackouts across the country unless other generation can be brought on line to replace the power lost by the failed plant. Capacity Market participants provide these back-up services. All of Statera's assets are designed to deliver this reserve service to National Grid.
- 6.11 **Ancillary Services** – The facility can provide both frequency services and black start to National Grid.

Innovation and Design

- 6.12 The design of the GFEGF being promoted at this location represents advancement in large engine design, stack design and configuration and air modelling to enable the stacks to be lowered to reduce visual impact while at the same time being able to meet the stringent air emissions standards required by the Environment Agency for a Part A Permit. Considerable work has also been put into the design of the engine encasements to limit noise from the facility.

Amount of Development

- 6.13 The Development covers a total site area of approximately 4 hectares.
- 6.14 The GFEGF will comprise of five x 10 MW gas engine units in a broadly linear configuration enclosed in a sound insulated encasement or building. Compared to a traditional power station it is very small, compact design. From ground level to roof is 7.45 m for the encasement and 9.5m for the building, similar to a two-storey house. The exhaust gases are vented out the side and are processed to meet stringent environmental standards before being vented out of five flues which will be up to 15 m high.

- 6.15 When the engines are running they are cooled by an array of external fans. The fans are mounted on a metal frame which allows cool air to be drawn up into the fans. Electrical switchgear and controls are enclosed in the building.
- 6.16 Each engines block feeds electricity to a small substation from where an overhead electrical connection will be made into the existing transmission line. This connection may require the construction of a new tower.
- 6.17 There will be a simple low-level pipe connection into the existing high-pressure gas main, enclosed within a compound. The gas will be fed to a second compound which houses a small out of equipment to reduce the pressure of the gas and meter its use.
- 6.18 The Compound is protected with a 2.5 m high steel mesh fence.
- 6.19 The facility will run automatically and staff are only required routine maintenance.

Layout

- 6.20 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.

Landscape

- 6.21 The Site and adjacent fields comprise arable land that is managed for a combination of low intensity agricultural production and habitat aimed at primarily encouraging an increase in bird population and species of diversity. Hedges in the area have been poorly managed in the past and typically are uncut and gappy with growth restricted by coastal exposure. The work by the RSB to enhance the land is evidence in the form of new wetlands and hedgerow restoration, including planting to infill gaps. There are few high-quality specimen trees within this part of the lowlands. Enclosure is limited, allowing long distance views across the landscape, although views are terminated by either industry or man-made earthworks. The landscape is crisscrossed by transmission lines and pipelines.
- 6.22 The green areas are open and expansive buy the majority has been heavily modified by man and it is surrounded by industry. Tall structures are evident in all directions from flaming stacks, to turbines, transmission towers and oil rig construction.

Heritage

- 6.23 The proposed development will be visible from the southern edge of the Cowpen Bewley Conservation Area but at distance of 1.1km and will be seen in the context of the existing industrial landscape. The Conservation Area and the listed buildings within it are the best appreciated from Cowpen Lane and the central green area within it. From here it will not be possible to see the proposed development. The proposed development will not block any public views of the Conservation Area and at that distance it is not possible to appreciate any of the architecture form the vicinity of the site.

Crime

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

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

Scale

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

6.27 The equipment within the compound could have a maximum height of 9.5m with stacks of up to 15m in height.

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

Appearance

6.29 The engines will be housed in insulated cells five flues will protrude from the engines, 15m from ground level.

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

6.31 Boundary screening using existing vegetation along with proposed new planting and landscaping will be used to minimise the visual impact on the landscape.



A photograph of Statera's operational 49.99MW facility in East Riding of Yorkshire which has eleven 15m high flues.

Access and Circulation

Construction Phase

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

- 6.33 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.
- 6.34 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.
- 6.35 Construction traffic will access the site via the existing farm entrance using a private access road. There is sufficient space within the adjacent land to achieve acceptable vehicular movements and turning within the established internal roads.

Operational Phase

- 6.36 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.
- 6.37 Parking during the operational phase of the development has been accommodated within the Application Site.

Access

- 6.38 During the life time of this development access to the facility will be via a privately-owned road, from the existing farm entrance.
- 6.39 Provision has been made for both pedestrian and vehicular access when required.

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 9.

Development Plan Context

- 7.3 For the purposes of the application for planning permission, the development plan comprises:
- Saved policies of the Stockton-on-Tees Local Plan (1997)
 - Saved policies of the Local Plan Alteration Number One (2006)
 - Stockton-on-Tees Core Strategy Local Development Document (March 2010)
 - Tees Valley Joint Minerals and Waste Local Development Document (September 2011).
- 7.4 **Relevant Saved Policies of the Stockton-on-Tees Local Plan (1997) and Alteration Number One (2006).**

The Stockton-on-Tees Local Plan (1997) adopted the limits to development that the earlier, now-cancelled, Cleveland Structure Plan had defined around settlements within the Teesside conurbation. In general, new development was to be permitted within the limits to development.

- 7.5 **Saved Policy EN13** aims to restrict development outside development limits to that needed to support farming or forestry, tourism, the diversification of the rural economy, sport or recreation. In Section 3 the applicant has explained why the proposal has to be in close proximity to the substation.

- 7.6 **Relevant Policies in the Stockton-on-Tees Core Strategy Local Development Document (March 2010)**

Objective 10: *To ensure better use of resources ... In helping to meet the Government's carbon reduction targets, energy efficiency will be at the heart of all new development. More renewable energy will be generated whilst reducing energy consumption, as the technology has become integral to all development. This proposal helps meet this objective as it is critical infrastructure required to support the intermittency of renewables.*

Currently, the main method for balancing the UK power market is to bring online a new power station at half capacity, back another power station down to half capacity and to then use the upside available margin created at the two power stations to fill any requirements for increased generation in the market if required during the peak period.

This can work successfully as a means for balancing in the market but incurs increased levels of carbon emissions on start-up and by not generating at the optimal output and incurs these higher emission rates even when no additional balancing is required.

The proposed development uses reciprocating gas engines which are highly efficient and flexible. The design of the GFEGF being promoted at this location represents advancement in large engine design,

stack design and configuration and air modelling to enable the stacks to be lowered to reduce visual impact while at the same time being able to meet the stringent air emissions standards required by the Environment Agency for a Part A Permit. Considerable work has also been put into the design of the engine encasements to limit noise from the facility.

The facility would be able to turn on, reaching its full output capacity in less than 10 minutes, and provide a sustained delivery of electricity to the grid according to system needs, whether that be due to a shortage in network connected generation or an increase in overall UK demand. The gas generators are chosen for maximum efficiency and designed for minimum cost per unit of energy produced, reducing the cost of electricity to all consumers, whilst also meeting all current emissions legislation.

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, help lower carbon emissions, minimise cost to the UK electricity consumer

Objective 11: *To provide a safe, healthy and attractive environment ... [and] helping to mitigate the effects of climate change, will continue to be integral considerations*

Currently, the main method for balancing the UK power market is to bring online a new power station at half capacity, back another power station down to half capacity and to then use the upside available margin created at the two power stations to fill any requirements for increased generation in the market if required during the peak period.

This can work successfully as a means for balancing in the market but incurs increased levels of carbon emissions on start-up and by not generating at the optimal output and incurs these higher emission rates even when no additional balancing is required.

The proposed development uses reciprocating gas engines which are highly efficient and flexible. The design of the GFEGF being promoted at this location represents advancement in large engine design, stack design and configuration and air modelling to enable the stacks to be lowered to reduce visual impact while at the same time being able to meet the stringent air emissions standards required by the Environment Agency for a Part A Permit. Considerable work has also been put into the design of the engine encasements to limit noise from the facility.

The facility would be able to turn on, reaching its full output capacity in less than 5 minutes, and provide a sustained delivery of electricity to the grid according to system needs, whether that be due to a shortage in network connected generation or an increase in overall UK demand. The gas generators are chosen for maximum efficiency and designed for minimum cost per unit of energy produced, reducing the cost of electricity to all consumers, whilst also meeting all current emissions legislation.

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, help lower carbon emissions, minimise cost to the UK electricity consumer and safeguard the National Interest. The proposal therefore complies with Objective 11.

7.7 **Core Strategy Policy 3 (CS3) - Sustainable Living and Climate Change** *aims to ensure that energy efficiency measures are embedded in all new buildings and that opportunities are taken to employ on-site district renewable and low energy schemes, to use micro renewable and micro carbon energy technologies, and to make use of renewable and local carbon decentralised energy systems to support*

sustainable development. Suitable proposals for medium to small scale renewable energy generation will be supported in appropriate locations. As with policy EN13 this facility is critical back-up to support renewables.

The GFEGF is designed to cost effectively balance the renewable energy generation on the network. This fast, flexible responding electricity generation will help manage the system and provide power at times of peak demand to help provide stability, resilience and energy security to the UK's electricity system.

These types of facilities provide direct support to the deployment of solar and wind power to be added to the grid while maintaining grid stability, enabling the UK's transition to a low carbon future. This facility in combination with other assets on the grid would help to facilitate 100's of MW of additional renewable power generators and therefore complies with CS3.

Relevant Material Considerations

National Planning Policy Framework

- 7.8 The National planning Policy Framework provides the overarching national framework of policy in which to base decisions. The NPPF places the presumption in favour of sustainable development. Paragraph 213 of the NPPF makes it clear that due weight should be given to the relevant policies in existing plans according to their degree of consistency with the framework (the closer policies in the plan to the policies in the Framework, the greater the weight that may be given).
- 7.9 Paragraph 7 of the NPPF highlights that the purpose of the planning system is to contribute to the achievement of sustainable development '*At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.*'
- 7.10 Central to the NPPF is the presumption in favour of sustainable development and the need for the planning system to support economic growth. Paragraph 11 sets out the presumption in favour of sustainable development '*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 an up-to-date the development plan without delay; or*
- *Where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:*
 - *the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or*

Any adverse impact of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

- 7.11 Paragraph 80 highlights the Government's commitment to ensure the planning system supports economic growth and productivity *'This is particularly important where Britain can be a global leader in driving innovation⁴⁰, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential.'*
- 7.12 Paragraph 148 emphasises the key role that the planning system in taking a proactive approach to ensure local planning authorities help increase and *'support the transition to a low carbon energy future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.*
- 7.13 Paragraph 180 states *'Planning policies and decisions should also ensure that new development is appropriate for its location considering the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*
- *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life⁶⁰;*
 - *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
 - *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'*

Overarching National Policy Statement for Energy (EN-1)

- 7.14 Paragraph 3 of the 2008 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 considered in the determination of this planning application.
- 7.15 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."*
- 7.16 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."*
- 7.17 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."

- 7.18 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.'*
- 7.19 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.'*
- 7.20 *'We are rebuilding an archaic energy system, bringing forward brand new gas power and innovative low-carbon capacity like battery storage to upgrade our energy mix. "This is about more than just keeping the lights on. A modern, reliable and flexible electricity system powers the economy and Britain's future success."* Greg Clark post CMA 9th Dec 2016.

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 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, hazards and human health impacts, 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 points in The National Planning Policy Framework (NPPF) was a continued presumption in favour of development that contributes to sustainable development. This is reflected within the Stockton Borough Local Plan. 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

- 8.4 The proposed development will provide the following benefits:

- **Supporting the transition to a lower carbon economy**

The Policies within the Development Plan, 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 critical supporting role to renewable energy generation at times either when it is not operating and/or unable to generate sufficient energy to meet demand or when the frequency of the grid is imbalanced.

- **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 148 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 ancillary services are able to balance supply and demand, and are able to respond rapidly to the short-term variations in 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 a number of part-time jobs for operation and maintenance of the facility.

The Principle of the Development

8.5 The site lies within the industrial landscape of Saltholme, directly north west of the existing electricity substation at Saltholme. There are no landscape or ecology designations which this proposal will impact, on or in close proximity to the site. The site is green field currently comprising open arable farmland, which although grade 3, good to moderate, is a very small acreage in the overall block of land.

Landscape and Visual Impact

8.6 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.

8.7 The landscape is not protected by any designations specific to landscape, nor is it within Green Belt.

8.8 It is considered that the proposed development can be adsorbed into the local landscape without any material effects on landscape character or visual amenity which might otherwise cause concern.

Air Quality

8.1 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.

8.2 The assessment has considered the air quality impact during the operational phase of the proposed Saltholme North gas-fired electricity generating facility on land to the north of the railway west of the existing Saltholme substation.

8.3 The operational levels of NO₂ emissions from the facility's stacks have been predicted using good practice approaches. The assessment has been undertaken based on a number of conservative assumptions, including using the worst-case meteorological conditions for the three years modelled and modelling stack emissions for at least 2750 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'.

8.4 Using professional judgement and experience of similar projects, the resulting air quality effect of the proposed development is considered to be 'no significant' overall.

8.5 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

- 8.6 The site is in Flood Zone 1 and therefore not at risk from flooding.
- 8.7 An FRA has been submitted as part of this application where the main issue is the management of surface water runoff; as the site is greenfield.
- 8.8 The engine casements and substation will sit on a porous gravel surface and swales will ensure that there will be no increase in the amount of water that flows into the surrounding ditches.
- 8.9 It can be concluded therefore that the proposed development is at low risk of flooding from fluvial and tidal sources and surface water from the site can be adequately dealt with.

Traffic and Highway Safety

- 8.10 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.
- 8.11 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.
- 8.12 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 engines and compound layout.
- 8.13 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
- 8.14 The site access will be from the existing Farm Entrance off the A1185. 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.
- 8.15 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.
- 8.16 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

- 8.17 Paragraph 189 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.
- 8.18 SUMO Services Limited were instructed to undertake a geophysical survey of the development site, with the aim to locate and characterise any anomalies of possible archaeological interest within the site area.
- 8.19 Durham University has also been instructed to undertake an Archaeological Desk Based Assessment which accompanies this application.
- 8.20 The Proposed Development is therefore in accordance with the guidance contained within the NPPF and PPG in relation to Heritage and Archaeology.

Biodiversity

- 8.21 Naturally Wild were instructed to undertake a preliminary ecological assessment, including a protected species risk assessment, at Saltholme in August 2018.
- 8.22 The site visit consisted of an assessment of all habitats on site and in the surrounding area to determine their ecological importance to protected species and was conducted on 31/07/2018 by ecologists Elliot Stockill MSc, BSc (Hons) and Sarah Woods BSc (Hons), MBNA.
- 8.23 The surveyed area was found to be of low - moderate ecological value. The areas of arable field were considered to be of negligible ecological value, whilst the unimproved grassland, hedgerow and under-scrub is considered to be suitable habitat for reptiles. Hedgerows were considered to be of moderate value for nesting birds, foraging bats and other wildlife in general. A single semi-mature ash tree was considered to hold low bat roost potential but high value for nesting birds, with nests visible from the ground. There is a low-moderate risk to great crested newts on site due to sections of standing water considered "good" by the Habitat Suitability Index (HSI) undertaken, and newt species were recorded on site. Sections of verge suitable for badger setts are precluded by the high-water levels.
- 8.24 The closest statutory protected site is the Teesmouth and Cleveland Coast which is a Special Protection Area (SPA Ref. No. 9006061) and Ramsar site (Ref. No. 11068) located roughly 500m south of the proposed development, along with the Tees and Hartlepool Foreshore and Wetlands site which is a Site of Special Scientific Interest (SSSI Ref No. 1006651) 1.5km south-east. Collectively this area is part of a larger site called Saltholme RSPB reserve, which is the nearest non-statutory protected site, an area of wetland south of the site extending northwards (omitting pre-existing industrial complexes). These protected sites have also been considered in the noise and emissions reports with both concluding negligible impacts.
- 8.25 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.

CONCLUSION

- 9.1 The Proposed Development seeks planning permission for the construction of a GFEGF of up to 49.99MW the facility would generate electricity principally for the regional distribution network in times of generation shortfall and/or high demand to provide ancillary services and cover 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 Stockton Borough Plan. The Project 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.