



Planning, Design and Access Statement

Site: Land off Harts Farm Way
Havant
Hampshire
PO9 1HS

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Executive Summary

Green frog Power seeks planning permission to develop a small-scale power plant of 19MW to support the National Grid with electricity during peak demand. The application site comprises approximately 0.33 Ha of land off Harts farm Way, Havant.

The proposed development is set behind a 2.4m security fence and a 4m high inner acoustic barrier. The generators are housed within soundproof containers. The containers are 12m x 3m x 4m high and are based on standard shipping containers. Each container has an exhaust, coolers and radiators on top.

The plant will run on average for 2,000 hours a year based on historical data and as projected by DECC (now DBEIS - Department of Business, Energy and Industrial Strategy). It is designed to cover peak periods of demand and is thereby known as a 'peaking station'. National Grid estimates that the network needs to double its standby peaking capacity by 2020 to avoid rolling blackouts. This application is made in response to that requirement.

The plant will not be used for base load operation. It will typically remain switched off, waiting for an instruction from the National Grid to power-up. The generators are connected in series and they start and synchronise with the local grid in around 30 seconds and then ramp up to full power in a further 2 minutes when called upon to do so.

This planning, Design and Access Statement assesses the application against the policies contained within the development plan and provides a summary of the detailed environmental and technical assessments undertaken to support the application.

The site for proposed development finds the site suitable at this location because of the following:

- It is the only location in this area that an electrical and gas connection is viable.
- It is located over 350m from the nearest residential receptor, thereby reducing its potential for adverse impacts on amenity.
- The site is located within an established industrial area opposite the main primary substation.
- The environmental and technical assessments establish that the site is capable of accommodating the proposed development and will not result in any unacceptable impacts.

It therefore concludes that the proposed development is acceptable in planning terms and meets the Governments objectives to ensure that the UK continues to support the transition to a low carbon future with a secure and reliable supply of electricity.

It also delivers a significant local benefit in that it supports local communities and businesses, enhancing their energy security through the way the plant is connected. As an "embedded" or locally connected plant, within the local electrical grid network, the power is used locally first whenever there is demand for it. At times of strain in the grid, areas benefitting from local backup plants will generally be at the lowest risk of power outages and blackouts.

1. Introduction

- 1.1 Green Frog Power (GFP) is seeking to develop a small-scale power plant on land off Harts Farm Way, Havant PO9 1HS. This plant is proposed to be contracted to National Grid under Capacity Mechanism legislation. Such power plants form the central column of HM Government Energy Policy.
- 1.2 The aim of the Legislation is to encourage the building of power stations that can provide electricity at the times it is most required, in the face of closure of most of the nation's coal-fired plant and increasing quantities of intermittent renewable generation.
- 1.3 The plant will be gas powered, which is very clean and over 40% efficient. This type of embedded generation serves to support the local power network. It is the most flexible type of generation as it can be turned on in 30 seconds exactly when needed and where required, which very few other forms of power generation can do.
- 1.4 Indeed, the only types of existing generating equipment that can provide this quick-start standby generation are old heavy-fuel-oil or diesel generators that are less efficient and have worse emissions profiles, or open cycle gas turbines that are again much less efficient (27-35%) and produce power in much larger blocks of 100MW or more. Neither of these options offers the distributed power solution that is the backbone of central-government policy in this area.
- 1.5 The applicant will be contracted to the system operator National Grid for a minimum of 15 years. The plant is designed to form part of the new generating capacity that will be needed to replace the old coal and nuclear plants as they come to the end of their operational lives. This requirement for new plant is now at a critical point, the following chart shows just how quickly the current capacity falls away. See Figure 1 overleaf.
- 1.6 The proposed plant will run on average for 2,000 hours a year based on historical data and as projected by DECC (now DBEIS - Department of Business, Energy and Industrial Strategy). It is designed to cover peak periods of demand and is thereby known as a 'peaking station'. National Grid estimates that the network needs to double its standby peaking capacity by 2020 to avoid rolling blackouts. This application is made in response to that requirement.
- 1.7 Embedded Distributed Power (EDP) generation supplies power to the local distribution network at or near the point of use, i.e. where power is to be used and helps to support the network at times of peak demand, thus avoiding power fluctuations and blackouts. It does not waste the generated power in transmission losses that occur when power is transmitted over long distances. Nationally, transmission losses amount to between 8% and 14% depending on the region.

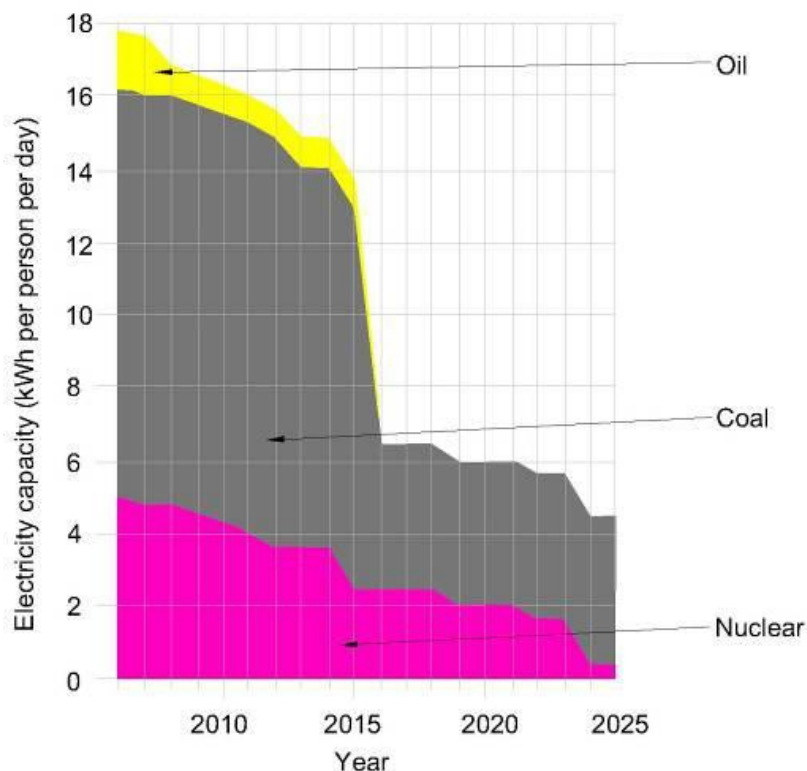


Figure 1 UK power station closures, as projected by energy company EDF

- 1.8 It is an important local advantage of this application that in the event of power shortages in the future anyone whose power is supplied locally will not suffer from blackouts experienced elsewhere as the proposed power plant will always be turned on to cover these shortages.

Background and Overview

- 1.9 In November 2012, the Secretary of State for Energy and Climate Change confirmed the Introduction of the Energy Bill to the House of Commons alongside the Annual Energy Statement.
- 1.10 The resulting Energy Act 2013 Bill contains the legislation that underpins H M Governments policy in the Energy and Climate Change arenas. The sections of this legislation relevant to this application are presented below:-

Electricity Market Reform (EMR)

- 1.11 The Act puts in place measures to attract the £110billion investment which is needed to replace current generating capacity and upgrade the grid by 2020, and to cope with a rising demand for electricity these measures includes provisions for:
- 1.12 Contracts for Difference (CFD): long-term contracts to provide stable and predictable incentives for companies to invest in low-carbon generation;

- 1.13 Capacity Market: to ensure the security of electricity supply including provisions to allow Electricity Demand Reduction to be delivered;
- 1.14 Conflicts of Interest and Contingency Arrangements: to ensure the institution which will deliver these schemes is fit for purpose;
- 1.15 Investment Contracts: long-term contracts to enable early investment in advance of the CFD regime coming into force in 2014;
- 1.16 Access to Markets: This includes Power Purchase Agreements (PPAs), to ensure the availability of long-term contracts for independent renewable generators, and liquidity measures to enable the Government to take action to improve the liquidity of the electricity market, should it prove necessary;
- 1.17 Renewables Transitional: transition arrangements for investments under the Renewables Obligation scheme; and
- 1.18 Emissions Performance Standard (EPS): to limit carbon dioxide emissions from new fossil fuel power stations.

Decarbonisation

- 1.19 These provisions enable the Secretary of State to set a 2030 decarbonisation target range for the electricity sector in secondary legislation.

Capacity Shortfall

- 1.20 As set out above the UK power network is currently facing enormous issues with regards to power supply. Both Ofgem¹ and National Grid² have been predicting power cuts from as early as 2014 with a real crisis point being reached in 2015 onwards. Whilst during the winters of 2015/16 and 2016/17, power cuts were avoided, this was in no small part due to the use of demand side measures whereby the National Grid arranged for energy intensive businesses to reduce their demand during peak times. As reported by the Centre for Policy Studies³, 12 GW of baseload capacity has closed since 2012 and UK winter margins are now at just 0.1% without emergency measures such as those referred to above. How has this situation occurred?
- 1.21 In 2001 the EU issued the Large Combustion Plant Directive (LCPD) which was designed to dramatically reduce our carbon output. Under the LCPD most of the older polluting coal power stations are now scheduled to close in the next few years. This, coupled with the planned closure of the existing nuclear fleet of power stations, as they reach the end of their active life, has created this very difficult scenario⁴.
- 1.22 Wind power is set to provide a substantial element of our future power needs – however this type of power, by its very nature, is intermittent and needs to be supported when the

¹ Ofgem Project Discovery: Energy markets scenario update. February 2010

² National Grid: Operating the Electricity Transmission Systems in 2020. June 2009

³ Centre For Policy Studies: Economic Bulletin 84: Are We Heading For Blackout Britain, September 2016

⁴ The Large Combustion Plants Directive 2001/80/EC. October 2001

wind fails to blow. Wind turbines also do not work when the wind is too strong. The replacement nuclear power stations are already well behind schedule.

- 1.23 To overcome these issues and to stimulate investment in the Energy Market the Energy Act 2013 sets out to establish a Capacity Market. Since 2014, the Capacity Auction has taken place once a year, each December. However, exceptionally this year, there has been an additional January auction as the predicted capacity shortfall has been underestimated. There will be a further auction in December 2017. In this auction DBEIS will determine the capacity of power generation the country will require. There will be a considerable shortfall between the projected demand and current supply. This new capacity will be filled by new power plants such as the one proposed by the applicant in this proposal.
- 1.24 It is proposed by DBEIS that this shortfall will be made up by gas fired generating plant with a substantial part of that plant being 'peaking plant' utilising the technology mix proposed in this application.

Local power where it is needed

- 1.25 If the blackouts that energy regulator Ofgem predicts do occur, then local communities and businesses will be able to make use of the applicant's power to keep going whilst others may be forced to shut down. This is because the applicant's plant is an 'embedded' power station on the local network. The power is used closest to the demand source first which means the closest neighbourhoods to the proposal benefit from improved energy security by being located near to such a facility.
- 1.26 Unlike most of the UK's Essential Infrastructure, the applicant's project does not involve huge smoke stacks, industrial sized plant and overhead cables on pylons. This is because the applicant provides small-scale back-up power where it is needed. All such new Capacity Mechanism power plants have already been designated as Essential Infrastructure by DBEIS and the National Grid.

2. The Proposed Development

- 2.1 The application site is shown edged red and the landowner's demise shown edged in blue on the site location plan (4000_GF_DR_LP_101)
- 2.2 The development occupies 0.33 hectares of a compound that has been empty for many years. The proposed site is in the southwest corner of the compound where any suitable developments have been considered not viable due to the presence of existing utilities cutting across the site. Currently the compound is laid to hardstanding and the remainder of the site is being developed as Hermitage Park – blocks of industrial and commercial units.
- 2.3 The site is located within Flood Zone 1 as defined by the Environment Agency Flood Map.
- 2.4 Access to the site is off Harts Farm Way, Havant, it can be easily accessed off the A27 which has good network links via the M27 and the M3.



Figure 2 – Site location (Google image)

3. Site Selection

Why here?

- 3.1 As a group of companies, Green Frog has a national remit to find, build and operate sites for power generation. Finding the sites in the first instance is one of the greatest challenges we face. To date, Green Frog has 230MW of projects built or in construction, spread over 28 sites. To put this in perspective, the capacity market auction generally seeks approximately 1GW (1,000MW) of additional power provision, year on year. This is a considerable target and as of one of the largest developers of backup power provision, Green Frog's contribution is still somewhat short of satisfying the significant demand that the country requires.
- 3.2 Since January 2016 Green Frog has identified in excess of 1000 prospective sites nationally. After applying an initial planning filter for top-level planning constraints such as National Parks and AONBs, Conservation Areas and SSSIs/SPAs/SACs/Ramsars, around 700 sites were left. Of those, a little over 500 had a potentially interested landowner and grid applications were submitted. After 3 months of waiting (under the statutory maximum limits to provide a grid offer) less than 100 were identified as having a viable grid connection. The main reason for this is the scarcity of grid availability due to the number of connected renewable projects nationally and years of significant underinvestment as will be covered in greater details in the forthcoming sections.
- 3.3 Assessing the remaining sites further, approximately half have insufficient gas connectivity, of those remaining, a further half are unsuitable, technically / logistically / legally e.g. legal title restrictions. This leaves a portfolio of between 20 and 25 sites nationally and represents a return rate, prior to any planning submissions of approximately 2 – 2.5% that can be progressed.
- 3.4 The above process shows two things, firstly; that the approach to finding sites requires a significant volume of sites to consider as a starting point and, secondly; the site finding process is a lengthy, complicated and largely fruitless endeavor. As the need for new generation is so great, the sites that are left must be pursued as the only viable options.

What alternative form of energy provision is there to meet National Grid's specific needs?

- 3.5 As set out earlier in this statement, the technology proposed is the best available technology for the purpose of rapid start standby generation and, being connected to the electrical network at the point of use i.e. near to Havant and surrounding settlements such as Hayling Island, Emsworth and Purbrook, it offers demonstrable efficiency improvements of 25% to 35% over non-distributed current standby generation. The technology proposed is identical in character to that being proposed by DECC as new build capacity plant. It is also considered by DECC to be a form of low carbon energy provision.

- 3.6 The other advantage to this plant is that it can be constructed and start generating power by approximately the end of 2018, unlike a conventional, large-scale power station. These types of projects therefore can help to avert the impending energy crisis referred to earlier.
- 3.7 Without plants like this being built over the coming years, there will gradually be a series of power outages due to the inability to meet spikes in demand.

Technical considerations

- 3.8 There are many technical limitations to the availability of sites that have the ability to connect to the electrical grid network, more so additionally to the gas network which is even more fragile and underinvested in than the electrical networks. Finding a point where both networks intersect is challenging and both are ultimately essential to a project of this nature; to ensure fuel and ability to export the power into the network. The specific grid and gas connections in the local area are considered in more detail below.

Electrical Constraints

- 3.9 Power transmission in the UK since privatisation has become somewhat fragmented. Each region is operated by a different DNO. In the Havant area it is SSE.
- 3.10 From a power station electricity is transmitted at very high voltage 275kV and 400kV around the country by National Grid. From National Grid it is fed into the distribution networks at Grid Connection Points GCPs. These GCPs are major substations.
- 3.11 From the GCPs the power is then initially transmitted at 132kV around the district network on the large pylons with which we are all familiar. At various points the power is 'tapped off' at 'Primary Substations' and from these primary substations it is distributed more locally - say to a city or large town.
- 3.12 Embedded generation is so called when the generator feeds its power into the network, not directly into the National Grid but at some point within the distribution network. This is where the difficulties lay for embedded generation. The distribution networks are old and underinvested. Industry experts have estimated that 100s of billions of pounds will be needed across the country to update and upgrade the power transmission system in the UK.
- 3.13 The issues that arise when seeking to establish a Point of Connection (POC) for any potential embedded generator are manifold and include but are not restricted to:

Fault Levels

- 3.14** The DNO has a statutory requirement to keep the fault levels on any transmission line below predetermined levels. Fault levels are affected by the number of users connect to the line, the type of user e.g. industrial, residential etc., the equipment faults inherent in the transformers and other transmission equipment, and, of course, the faults caused by any other embedded generator. It is fair to say that the whole of the UK's DNO network is 'stressed' in this regard and it is unusual to find a vacant power line with plenty of 'fault headroom'. The higher the voltage at which connection to the network can be made the less of an influence these inherent faults have for embedded generators. For this reason all of the potential points of connection identified by the applicant are located at or as close as possible to the primary substations.

Capacity

- 3.15 The district network, as any electrical circuit, has a fixed and limited capacity at any point. That is, the current that can flow through the cables, switches and transformers has a maximum threshold. Switches and busbars located mainly at substations act in the same way as circuit breakers in a domestic home. They have a 'rating', say 400MVA (400 Mega Volt Amps). Many substations have older switches and equipment with ratings far below those of modern equipment and were designed on a power demand estimate of 30 years ago. All of the DNOs have embarked on a programme of upgrading this equipment but at present this issue of capacity for embedded generators is a major problem. Furthermore, DNOs like to have 'headroom capacity' for new customers to connect to the system; this further restricts the potential points of connection.

Voltage Drop

- 3.16 The Distribution Code in the UK allows a 4% maximum voltage drop on any branched line. Voltage drop is a product of the current and the impedance of the circuit in an alternating current arrangement. In layman's terms - increasing the current by installing an embedded station can cause the voltage drop on a line to fall beyond allowable limits. This once again is a major issue for DNOs and embedded generators alike. Fortunately, as the voltage increases the current drops and so the effects of voltage drop reduce, hence the reason why National Grid transmit at such high voltages and why the embedded generation stations proposed by the applicant are all located at or as close as possible to the primary substations.
- 3.17 The applicant has analysed fully, all the DNO's across England and Wales and spoken to all of the DNO's to identify where their networks can accept embedded generation. This has been done in consultation with the local DNO's and National Grid's engineers and their asset management teams.

- 3.18 The choice of the proposed site is as a result of some of the issues given above – it is one of the very few places that a large connection of an embedded power plant is practical and where the site has sufficient fault level head room and gas capacity to accept this generation.

Gas Constraints

- 3.19 This type of embedded generation schemes cannot connect to the low pressure network due to its high gas usage. If we were to connect to the low pressure the gas supply to the customers would be taken up by us.
- 3.20 The preferred connection is the Medium Pressure network whilst connection can sometimes be made to Intermediate Pressure and High Pressure networks. Nevertheless, the gas network is very complex and due to variable tier pressure it is impossible to create a simplified formula to identify a suitable point of connection. Each network has a variable tier pressure and this is dependent on what is feeding off the pipe at particular locations.
- 3.21 Gas connections can only be made on a section of pipe which has sufficient capacity for the loads we require. As a general guide in terms of financial viability connection for a project of this scale onto medium pressure pipe must be secured within 2km of the development site for it to be financially viable to us and to avoid any pressure drop.

Are there any alternative sites?

- 3.22 A connection for a project of this scale to both networks means that the area of search is severely restricted, particularly as the electrical connection is to a 33kv circuit and a Local Medium Pressure gas main. In this case whilst 2km from either connection on its own would potentially be possible (outer red circle in Fig 3, overleaf), the reality is that to be viable, the site would need to be located within approximately 1km of the gas and electric connections (inner red circle). However in this location the connections are within 300m of the development site. This would avoid digging up long stretches of public highway.

3.23 For the purposes of completeness, this section will consider sites within full 2km radius.

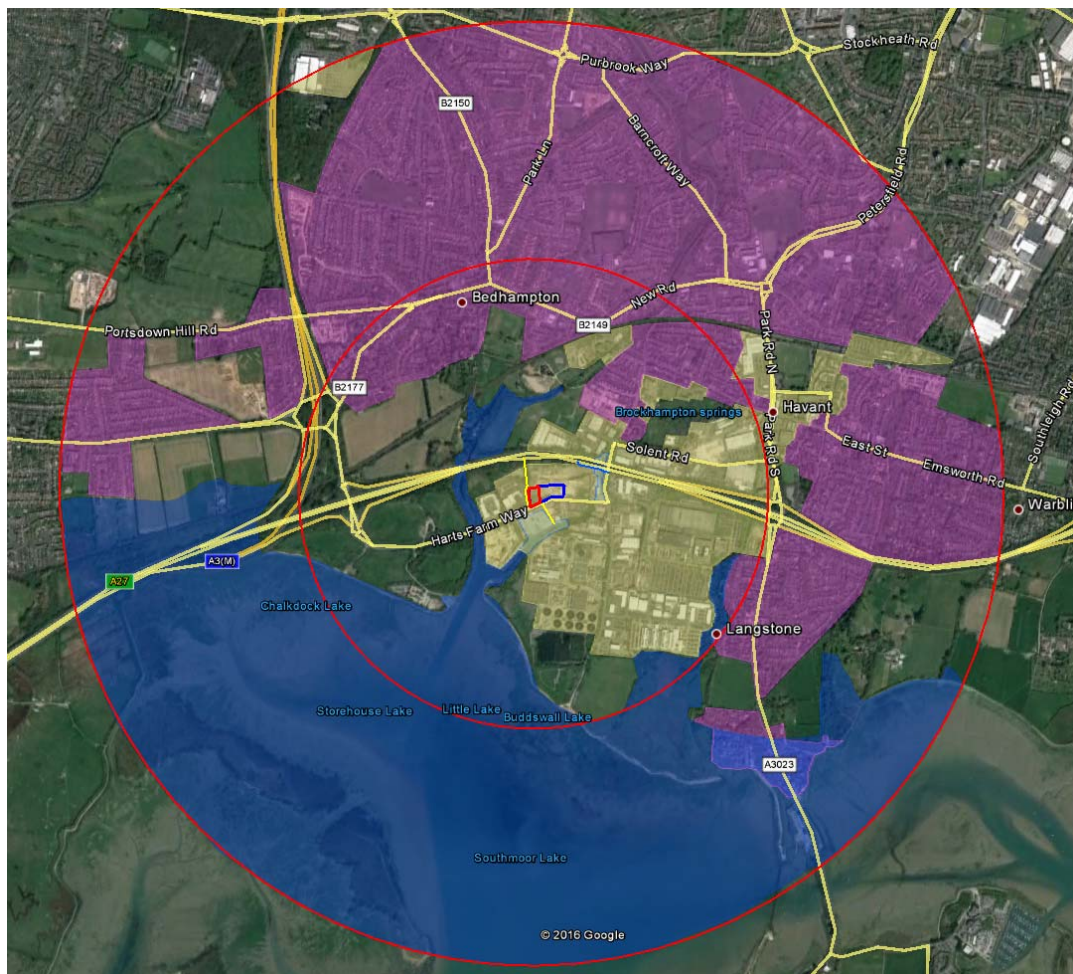


Figure 3 Site constraints map

3.24 Firstly, a significant proportion of the search area is situated within the Estuary, flood zone 2 and 3 and therefore in sequential test terms is inferior (shaded blue on the above plan).

3.25 The second issue to consider is the proximity to sensitive receptors, particularly nearby housing areas (shaded pink on the above plan) that could experience perceived or real “bad neighbor issues” associated with the emissions and noise, albeit, at relatively low levels. It is very difficult to find such a site greater than 100m from the nearest residence. By contrast, the site in question is one of few which is nearly 350m from the nearest residence. It is sited in a large well established industrial area with the busy elevated A27 screening the industrial area. (shaded beige on the above plan) The proposal would not have an impact on these receptors.

3.26 Accordingly, it is concluded that the chosen site is the best option for development.

4. Design and Access

Access

- 4.1 Access to the site is off Harts Farm Way, Havant, it can be easily accessed off the A27 which has good network links via the M27 and the M3.
- 4.2 The site has been designed with a central access road to allow for cranes (on occasion) and other maintenance transit vans.
- 4.3 Once operational the number of vehicle movements to and from the site is restricted to the visiting engineers and service contractors. The site would be visited daily by the engineers.

Access and Circulation

Construction Phase

- 4.4 The construction period is split into three areas, civils, delivery of equipment and electrical works. The overall construction period will take anywhere from 8 to 10 months.
- 4.5 The civils element will take approximately 6 months with daily deliveries of material and plant.
- 4.6 The delivery of the equipment will take approximately 2 weeks. This will involve delivering the generators, transformers and electrical switchgear cabins. To put these into position will require a large crane. This will be carefully planned with a haulage company to ensure that it does not affect the local road network.
- 4.7 The remaining 8 weeks will require all the equipment to be electrically connected together and for the gas supply to be fed to each generator. Once the contractors are on site in the morning, they tend not to leave until the end of the day. Traffic movement is normally quite low.
- 4.8 All construction personnel and deliveries will park on site and leave the site in a forward gear.

Operational Phase

- 4.9 The generation compound is largely unmanned and will be operated remotely from the operators' (Green Frog Power) national headquarters in the Midlands.
- 4.10 The site engineers will be recruited locally as it is a requirement that the plant can be attended within 20 minutes 24 hours a day. These four site engineers will operate on a rota and will therefore need to be located in close proximity to the proposed development.

- 4.11 Under normal operations the numbers of vehicle movements to and from the site are restricted to the visiting engineer on a daily basis and service contractors during maintenance periods.
- 4.12 The additional traffic movements associated with the site will be negligible and impacts on the local road network will be kept to a minimum.

Amount

- 4.13 The development occupies 0.33 hectares of a compound that has been empty for many years. The compound is in the southwest corner of the compound that is unsuitable for other uses due to the existing utilities that cross the site. Currently the compound is laid to hardstanding. Currently the remainder of the site is being developed as Hermitage Park.
- 4.14 The nearest housing is in excess of 350m in all directions. Consequently, the site is relatively remote.
- 4.15 The compound is set behind a 2.4m security fence. The generators are housed within soundproof containers. The containers are 12m x 3m x 4m high and are based on standard shipping containers. Each container has an exhaust, coolers and radiators on top.

Layout

- 4.16 The proposal is to construct a generating compound within a secure 2.4m wire mesh security fence. See figure 4 overleaf. Within this fence are 14 containerised generation units, each unit contains one generator. These containers are designed to house the units securely and to protect them from the elements. They are purpose built and have been designed to minimise any noise from the plant when operational. The noise impact of the plant when generating is very low. At Figure 5 is an example of the type of generator that is used.
- 4.17 The layout of the development has been dictated by the existing utilities crossing the site. The overhead electrical line is in the process of being diverted by SSE and the sewer is proposed to be diverted through the site to enable us to achieve the best layout for the generators. The proposed utility routes are indicated on Figure 4.

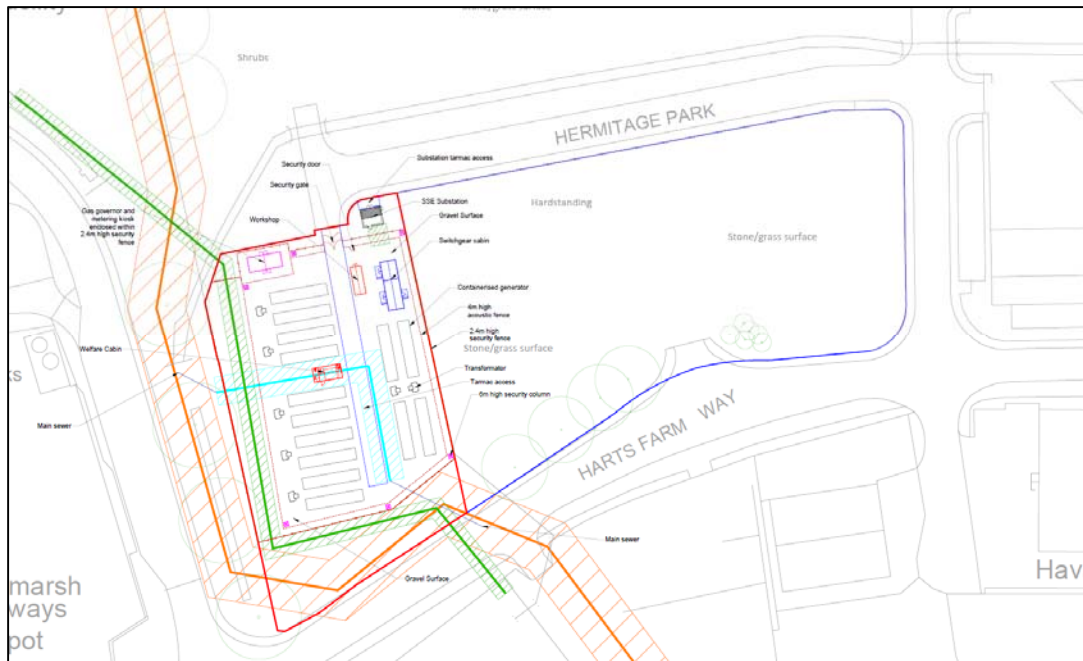


Figure 4 Site layout



Figure 5 Typical Containerized generator

- 4.18 The compound is designed with an internal drive. This allows for service engines to get near to the containers. There is a wider access immediately parallel to the site continuing down the existing access to the south. This access can be used by a crane to lift the containers in to the site.
- 4.19 The engines are spaced out equally to allow for maintenance access and for airflow circulation to allow the generators to operate efficiently.

Landscaping

- 4.20 No planting is proposed as we cannot have any landscaping within 1m of our fence as it will interfere with our security systems.
- 4.21 The internal compound will have an internal tarmac drive, concrete slabs for the generators and the rest will be laid to gravel. This will create a blanket soakaway which will avoid any run-off.

Security

- 4.22 Due to the nature of this type of development, community safety is of utmost importance. Consequently, embedded generation plants tend to be in areas that are not immediately adjacent to residential properties.
- 4.23 The development is sited behind a 2.4m high metal security fence with the appropriate signage to adhere to HSE regulations.
- 4.24 An Alarm Receiving Company (ARC) is appointed to ensure that no one enters the site and to ensure community safety is maintained. They will monitor the site 24/7 and raise any necessary alarms with the local police.

Scale

- 4.25 The layout of the compound is shown on 4000_GF_DR_SP_103 and the dimensions of each element of indicated on the standard detail drawings that are contained within the application documents.
- 4.26 The perimeter security fence is 2.4m and is galvanised wire mesh to conform to the security specification.
- 4.27 An inner acoustic barrier of 4m in height is constructed to screen the equipment inside and also to provide an additional acoustic barrier. The acoustic barriers give an additional 9dbA reduction.

Appearance

- 4.28 As described above the application site is enclosed by a 2.4m security fence and additional a 4m high acoustic barrier. The picture below gives you an illustration of how it will look.

- 4.29 The generators are painted in a cream colour, the transformers are in a dark grey finish and the welfare and switchgear cabins are finished in green. The illustrations below give you an example of this.



Figure 6 Switchroom



Figure 7 Fencing illustration



Figure 8 Transformer

Noise and Air Quality

- 4.30 A standard 20MW electrical generation gas peaking plant similar to this, based on say a typical spark ignition reciprocating gas engine would need to comply with the emission limit values given within the Medium Combustion Plant Directive (EU2015/2193). These emission limit values are 95 mg/Nm³ for oxides of nitrogen (NO_x). Emissions of carbon monoxide (CO), particulate matter (PM₁₀ and PM_{2.5}) and sulphur dioxide will be low, if present at all. The emissions of NO_x, based on the limit value given above, from a typical 1.3MW electrical export engine would be 0.29 g/s. The annual emission of NO_x will be around 1.6 tonnes of NO_x per year per engine. For a 20MW electrical generation power station, this is equivalent to ~0.004% of the total NO_x emitted from the UK power sector.
- 4.31 Ultimately, under the terms of the Capacity Market, which these plants are designed for, each plant is contracted and obliged to be available to operate and provide power at any time that National Grid may call for it. The operational hours per year will vary as the engines may operate for a few minutes only in some cases up to a few hours depending on the requirements from the National Grid in each instance. Therefore, the plant may only operate for very short periods at times. Furthermore, the majority of the operation is over the winter and between the morning and evening peak hours.
- 4.32 The generator sets are housed within bespoke acoustic containers. The containers are louvered enclosures which maintain the air flow needed by the equipment by way of directly mounted fans that draw air through the containers. The air intake and outflow is through a sound baffle which reduces the sound of the engines. The sound pressure level at 1m from all surfaces of the container is 75dB(A). A 4m high inner acoustic fence absorbs the noise and helps reduce the sound by a further 9dB(A). Barriers such as vegetation/trees, buildings and the elevated A27 can further reduce the noise pressure levels.

5. Planning Policy

National Policy

Planning Act 2008 Part 3 Section 15

- 5.1 This section of the Act sets the application outside that Act as the proposed application of approximately 20MW is below the 50MW threshold.
- 5.2 Section 15 of the 2008 Act - Generating Stations - states:-
- (1) The construction or extension of a generating station is within section 14(1) (a) only if the generating station is or (when constructed or extended) is expected to be within subsection (2) or (3). A generating station is within this subsection if—
- (a) It is in England or Wales,
- (b) It is not an offshore generating station, and
- (c) **Its capacity is more than 50 megawatts.**

National Planning Policy Framework – Department for Communities and Local Government – March 2012

- 5.3 The National Planning Policy Framework (NPPF) sets out H M Governments macro planning strategy for England. In this document there are set out a number of overarching policies at paragraph 17 - the core planning principles - within which, a number are relevant to this application and are restated below.

Core planning principles

Within the overarching roles that the planning system ought to play, a set of core land-use planning principles should underpin both plan-making and decision-taking. These 12 principles are that planning should:

(Relevant extracts of the 12 principles are given below)

- Pro-actively drive and support sustainable economic development to deliver the homes, business and industrial units, **infrastructure** and thriving local places that the country needs.*
- encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value;*

*To help achieve economic growth, local planning authorities should plan proactively to meet the development needs of business and support an economy fit for the 21st century. Investment in business should not be over-burdened by the combined requirements of planning policy expectations. Planning policies should recognise and seek to address potential barriers to investment, including a poor environment or any **lack of infrastructure**, services or housing. **(our emphasis)***

Meeting the challenge of climate change, flooding and coastal change

- 5.4 Paragraph 97 of the NPPF promotes the use of decentralised energy:

To help increase the use and supply of renewable and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. They should:

- *Identify opportunities where **development can draw its energy supply from decentralised**, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.*

- 5.5 Paragraph 98 adds:

When determining planning applications, local planning authorities should:

- ***not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions;***

- 5.6 As set out above, this proposal is helping to deliver on the stated aims of an increasingly decentralised national energy supply whilst helping to reduce emissions from dirtier forms of energy that it is replacing such as coal.

Overarching National Policy Statement for Energy (EN-1)

- 5.7 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.
- 5.8 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.”
- 5.9 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 microgeneration 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.”
- 5.10 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."

- 5.11 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."*
- 5.12 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."*

Ministerial Statement

- 5.13 On 18 November 2015, the Secretary of State for Energy and Climate set out a new direction for UK energy policy. Within this the need for energy security was emphasised and in particular relation to these proposals the Government's approach to innovation was set out; *"Government's first job is to create the environment for new ideas to flourish by getting rid of the barriers that in the way. Some argue we should adapt our traditional model dominated by large power stations and go for a new, decentralised, flexible approach"*.
- 5.14 *"Locally-generated energy supported by storage, interconnection and demand response, offers the possibility of a radically different model."*
- 5.15 On 1 March 2016 a further announcement was made by the Secretary of State for Energy and Climate Change, which set out a series of changes to the Capacity Market to improve energy security for families and businesses. This statement made clear that through; *"buying more capacity earlier we will protect consumers and businesses from avoidable spikes in energy costs."* Within the statement it was also made clear that; *"We're also sending a clear signal to investors that will encourage the secure and clean energy sources we need to come forward – such as gas and interconnectors – as part of our long-term plan to build a system of energy infrastructure fit for the 21st century."*⁵
- 5.16 On 3 March 2016, the Energy and Climate Change Committee published a report on investor confidence. This sets out the Government's plans to secure investment in clean, secure and affordable energy. This again highlights the clear policy direction to deliver a long-term plan which includes an emphasis on gas and interconnectors playing a key role in the energy infrastructure mix.⁶

⁵ <https://www.gov.uk/government/news/reforms-to-capacity-market-to-improve-energy-security-for-familiesand-Businesses>

⁶ <https://www.gov.uk/government/news/what-the-government-is-doing-to-secure-investment-in-clean-secureand-affordable-energy--2>

Local Planning Policy

Havant Borough core strategy

- 5.17 The Havant Borough Core Strategy sets out the planning framework for the borough until 2026, the core strategy has been prepared closely with Havant Local Strategic Partnership, the partnership for Urban South Hampshire, local communities and agencies. The Core Strategy was then adopted in March 2011.

The core Strategy vision will be delivered through the core strategy policies that are set out under the themes listed below.

- Health and wellbeing
- **Promoting Havant Boroughs economy**
- Regeneration and community support
- **Community safety**
- Housing
- Caring for our borough
- Infrastructure, implementation and monitoring

The following policies have been assessed and applied to the application site, we look at these in more details as follows.

CS2 Employment

- 5.18 The council will to seek to accommodate flexibly a net total of 162,000 square metres of new employment floor space between 2006 and 2026 as follows:

- 75,000 square metres of B1 offices
- 45,500 square metres of B2 manufacturing
- 41,500 square metres of B8 warehousing

Planning permission will be granted for development proposals that:

1. Prioritise the use of previously developed land for the provision of new employment floor space.
2. Favour town centre locations for the provision of B1a offices and other town centre uses.
3. Promote local employment and training initiatives on new employment sites particularly with regard to construction skills.
4. Promote existing and potential business clusters and sectors particularly advanced manufacturing and marine businesses.

5. **Safeguard existing employment sites and allocations that are fit for purpose from development proposals for non-employment uses.**
 6. Provide jobs, generate wealth or produce an economic output on existing employment sites that are not fit for current purpose.
 7. Protect marine businesses located on waterfront locations from non-marine related employment and other uses.
 8. Encourage smart economic growth and promote advances in information and communications technologies.
- 5.19 *The main aim of the proposal is to support a secure provision of electricity across the region to support among other important sectors - the economy - and by extension employment and land development opportunities. The proposed site is a vacant site unsuitable for any development due to utilities cutting across. Our proposal will bring this site to an optimum gainful usage.*

CS8 Community safety

- 5.20 Planning permission will be granted for development proposals that:
1. **Engrain community safety into the development process from the beginning**
 2. Provide well-lit footpaths, cycle ways and roads providing that this does not adversely affect designated habitats or the landscape.
 3. Maximise opportunities for natural surveillance through good design
 4. Maximise the amount of 'defensible space' that is controlled or perceived to be controlled by residents.
- 5.21 *Due to the nature of this type of development, community safety is of utmost importance. Consequently, embedded generation plants tend to be in areas that are away from residential properties. As the plant will supply the local power grid, the plant will be generating at high voltage and public safety and security is paramount. The compound can only be accessed by highly trained engineers, qualified in the operation of high-voltage installations. The development is sited behind a 2.4m high metal security fence and a 4m high acoustic fence with appropriate signage in place to adhere to HSE regulations. An Alarm Receiving Company (ARC) is appointed to ensure that no one enters the site and to ensure community safety is maintained. They will monitor the site 24/7 and raise any necessary alarms with the local police.*

CS11 Protecting and enhancing the special environment and heritage of Havant borough

5.22 Planning permission will be granted for development that:

1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.
2. Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.
3. Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map):
 - (i) Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International].
 - (ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves
 - (iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].
4. Protects and where appropriate enhances the borough's statutory and non-statutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.
5. Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.
6. Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.
7. Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.
8. Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.

9. Maintains undeveloped gaps between the settlements of Emsworth/Havant; Havant/Waterlooville; Havant/Portsmouth; Emsworth/Westbourne and Leigh Park/Rowlands Castle as shown on the Proposals Map.
 10. Protects the best and most versatile agricultural land that has the greatest potential for local food security.
 11. Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research.
- 5.23 *The proposal falls outside of the settlement boundary covered under policy CS11 and cited within the proposals map as relevant to this area. The proposal is not sited within existing areas of special environmental, ecological or heritage interests. When selecting a site, remote locations or established industrial areas are preferable, the latter being the case for our proposal. Additional factors constitute the prerequisite for both an electrical and gas connection capable of providing and taking the power requirements means that technically suitable locations are sparse.*

Policy CS14 Efficient Use of Resources

At 7.29 it states:

- 5.24 Renewable energy technology is a rapidly developing market where new products and improved efficiency and reliability are continuously emerging, together with changing public perceptions. Technologies that are currently not considered viable, or are only emerging such as tidal power, biomass, energy and heat from waste and ground source heat will become more viable. The use of renewable technologies will have an increasing role to play in energy production in the borough over the plan period. In any new development the priority is on reducing the amount of energy we use, following the principles of – Lean – reduce energy consumption; Clean – generate energy using low carbon technologies and Green – generate energy using renewable sources. The council will require all major areas of development to produce on-site renewable energy as there are economies of scale that mean the technologies will be more effective. Major Development Areas are defined as 250 dwellings or more and 5,000 square metres of non-residential floor space. Further information on the technologies that could be appropriate in the borough can be found in the Havant Energy Study (Savills 2005) and the PUSH Energy Study (Atkins 2009).
- 5.25 *Although our proposal does not feature under the renewable energy sector it provides an essential service aimed to help to deliver on the stated aims of an increasingly decentralised national energy supply by efficiently using gas resources and generators equipped with best technology whilst helping to reduce emissions from dirtier forms of energy that it is replacing such as coal. Furthermore the proposed generation plant aims to provide a supporting back-up power to the National Grid when renewables are not able to generate. Accordingly, the proposal provides a complimentary role to achieving the aims set out on policy CS14.*

CS15 Flood and Coastal Erosion Risk

- 5.26 Development in areas at risk of flooding now and in the future as identified on the latest Environment Agency flood risk maps and Strategic Flood Risk Assessment climate change maps will only be permitted where: 15 Flood and coastal erosion risk
1. It meets the sequential and exception test (where required) in relation to PPS25
 2. **The site is located in a low hazard area as defined in the Strategic Flood Risk Assessment.**
 3. A site-specific flood risk assessment demonstrates that the development will be safe, including the access, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
 4. The scheme incorporates flood protection, flood resilience and resistance measures appropriate to the character and biodiversity of the area and the specific requirements of the site.
 5. Appropriate flood warning and evacuation plans are in place
 6. New site drainage systems are designed taking account of events which exceed the normal design standard.

All development will be required to ensure that there is no net increase in surface water run-off. Priority should be given to incorporating Sustainable Drainage Systems (SuDS) to manage surface water drainage, unless it is proven that SuDS are not appropriate. Where SuDS are provided arrangements must be put in place for their whole life management and maintenance.

- 5.27 *The site is located within Flood Zone 1. As the development is below 1 hectare, no further Flood Risk Assessment is required. The proposal will follow the principles of SUDS by incorporating free-draining gravel areas. The site is currently laid on hardstanding. Our proposal will replace this with surface laid in permeable stone blankets to enable easy system of soakaway drainage of surface run-off.*

CS16 High quality design

- 5.28 Planning permission will be granted for development that is designed to a high standard, which helps to create places where people want to live, work and relax. All development should demonstrate that its design:
1. Responds to, draws inspiration from and respects local context and:
 - a. Identifies and responds positively to existing features of natural, historic or local character within or close to the proposed development site;
 - b. Integrates with existing local landscape features, promotes wildlife and biodiversity and/or applies characteristics of the local area into the design of a scheme wherever possible to create variety and interest;

- c. Uses the characteristics of the locality to help inform the design of the new development including heights, massing, existing buildings lines, plot widths and depths, materials and proportions of windows and doors;
 - d. Is well connected to and integrates with the immediate local area and the wider area by linking to existing pedestrian and cycle routes and encouraging people to use public transport where possible; and
 - e. **The development does not cause unacceptable harm to the amenity of neighbours through smell, the loss of privacy, outlook, noise and overlooking**
2. Produces a positive relationship between buildings, street and spaces both existing and proposed, where:
- a. The layout of the development reduces opportunities for crime and antisocial behaviour; contributes to improving community safety; and makes provision for the management and maintenance of the development;
 - b. **New streets are not dominated by vehicular traffic;**
 - c. **The layout of the development is legible, meaning it is easy to orientate oneself and move through.**
3. Contributes to the improvement of the public realm close to the development, particularly sites close to town, district and local centres and other priority regeneration areas by using high quality hard and soft landscape material and street furniture; and where development is of a significant scale or prominence makes provision for public art.
4. Is inclusive by considering the needs of those with disabilities, ensuring safe and convenient access for all; and integrating affordable and supported housing with market housing through tenure blind design to minimise social exclusion and promote social integration.
5. Maximises opportunities for mixed use developments, particularly in town and district centres; and encourage higher densities (50+ dwellings per hectare) where appropriate.
6. Mitigates negative environmental impacts through sustainable design and construction methods, resource efficiencies, particularly water and the provision of facilities for waste recycling.
7. Adapts to the changing needs of the users and the changing climate over the lifespan of the building.
- 5.29 *The proposed site is located within an established industrial area close to the A27 and over 350m away from the closest residential receptor. Drawing from the issues to be covered under policy CS16, there will be no adverse impact on any residential amenity in the form loss of privacy and noise given its' location and proximity to the A27. The proposed generation plant will be made operational from a remote location. Vehicular use will limited to short periodic visit by assigned engineers. Traffic to and from the proposed site will be at most limited to two vehicles movement per day. The proposed layout has been designed taking into consideration the provision easy movement of personnel and goods. Access to the site is*

not suitable for people with physical or sensory disabilities for when operational the site will contain high-voltage equipment – transformers, capacitors, switchgear etc., which could result in serious injury or death if handled incorrectly.

CS19 Effective provision of infrastructure

5.30 Development will be permitted where:

1. It ensures that it makes the most effective use of existing infrastructure, including opportunities for co-location of facilities.
2. It ensures that if there is a proven need for additional infrastructure, a programme of delivery has been agreed with the relevant infrastructure provider that coordinates contributions from the development with other investment streams before development begins.
3. A programme of delivery of improved or new infrastructure needs to be agreed; the nature, scale and phasing of any infrastructure will be commensurate with the form of the development and its potential impact upon the surrounding area.
4. A programme of delivery of improved or new infrastructure is agreed so that the facilities being provided are accessible by a range of transport modes and meet the needs of the borough's community.
5. It promotes the creative multifunctional use of existing and proposed facilities
- 6. It ensures that new infrastructure supports the local economy**
7. It ensures that decisions on the provision of infrastructure are taken on the basis of whole-life costing.
8. It does not result in the loss of flood protection, education, health, social and other publicly-provided community buildings, structures or services, except where it is part of a service provider's plans to provide improved local services in equally accessible locations.

5.31 *Energy provision in the form of electricity is a vital infrastructure. As stated the main aim of the proposal is to support the secure provision of electricity across the region to support among other important sectors - the economy - and by extension employment and land development opportunities.*

DM10 pollution

5.32 Development that may cause pollution of water, air or soil or pollution through noise, smell, smoke, fumes, gases, steam, dust, vibration, light, heat, electromagnetic radiation and other pollutants will only be permitted where all of the following relevant criteria can be met:

1. The health and safety of existing and future users of the site, or nearby occupiers and residents is not put at risk.
- 2. National air quality standards or objectives would not be breached**

3. The water environment would not be detrimentally affected
 4. It would not lead to an unacceptable deterioration in the quality or potential yield of coastal, surface and ground water resources.
 5. External lighting is of the minimum level of illumination and duration required for security and operational purposes.
 6. External lighting would not interfere with safe navigation in either Chichester or Langstone Harbours and other coastal locations.
- 5.32 *The development site has been chosen to have minimal impact on the environment and local receptors. We use the best available technology to minimise noise and air pollution. As mentioned earlier the light pollution is very low as the lights are located near to the ground and only on when needed. The network connections are nearby and will not affect the local highway network. The proposals can achieve this through planning conditions.*

DM14 car and cycle parking on development (excl residential)

- 5.33 Development will only be permitted where it provides parking for cars, motor cycles and cycles in accordance with the relevant standards. Such parking provision must be appropriately located in relation to the development and be practical for its intended use.
- 5.34 *Once completed the proposed power generation plant will run essentially unmanned on site except for daily short periodic visits for inspecting engineers. All monitoring will be done from a remote location. Parking spaces – maximum for two – are accommodated within the proposed compound on the internal drive way.*

6. Conclusion

- 6.1 The applicant is proposing to develop a gas-fuelled embedded power plant at a site located on land off Harts Farm Way, Havant, Hampshire PO9 1HS
- 6.2 The proposal will generate four new full time jobs based in the region and will produce electricity which will help support the local grid in the area.
- 6.3 The proposal is critically important national energy infrastructure and ensures that the local community and local businesses have energy security at times of short supply.
- 6.4 The location has been chosen as it is one of very few locations with the ability to connect to both the gas and electrical networks, in a location which has as low an impact possible in planning terms and has a willing landowner.
- 6.5 The proposal, by way of its scale and location does not alter the character of the area. All car parking and deliveries will be on site using the existing access.
- 6.6 During normal operation there will be no permanent staff or parking although the site will be manned and maintained on a daily basis.
- 6.7 The applicant has spent considerable resource in developing the sound-proof generator housings. These housings have been designed for this specific purpose it reduces any potential impact to well below permitted levels.
- 6.8 The technology proposed is the Best Available Technology for the purpose of rapid start standby generation and being connected to the network at the point of use offers demonstrable efficiency improvements 25% to 35% over non distributed current standby generation. The technology proposed is identical in character to that being proposed by DBEIS as new build capacity plant.
- 6.9 The technology is considered by DBEIS and the government to be a form of low carbon energy provision and is the cleanest form of fossil fuel production available. In any event the site shall not operate continuously as it is providing a form of back-up power.
- 6.10 The project has been approved by Ofgem, DBEIS, SSE and the National Grid and is in complete alignment with HM Government policy and the Energy Market Reform legislation.
- 6.11 Accordingly and respectfully, we ask that planning permission is granted.