Planning, Design and Access Statement

Site: Land to the rear of Federal Mogul
Hayfield Road
Chapel en le Frith
SK23 0HT

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Executive Summary

Green frog Power seeks planning permission to develop a small-scale power plant of 20MW to support the National Grid with electricity during peak demand. The application site comprises approximately 0.47 Ha of land off Federal Mogul, Chapel en le Frith.

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 195m from the nearest residential receptor. The Federal Mogul Factory is located in the middle thereby reducing its potential for adverse impacts on amenity.
- The site is screened by the factory and cannot be seen from public view.

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 Federal Mogul, Hayfield Road, Chapel en le Frith. 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.

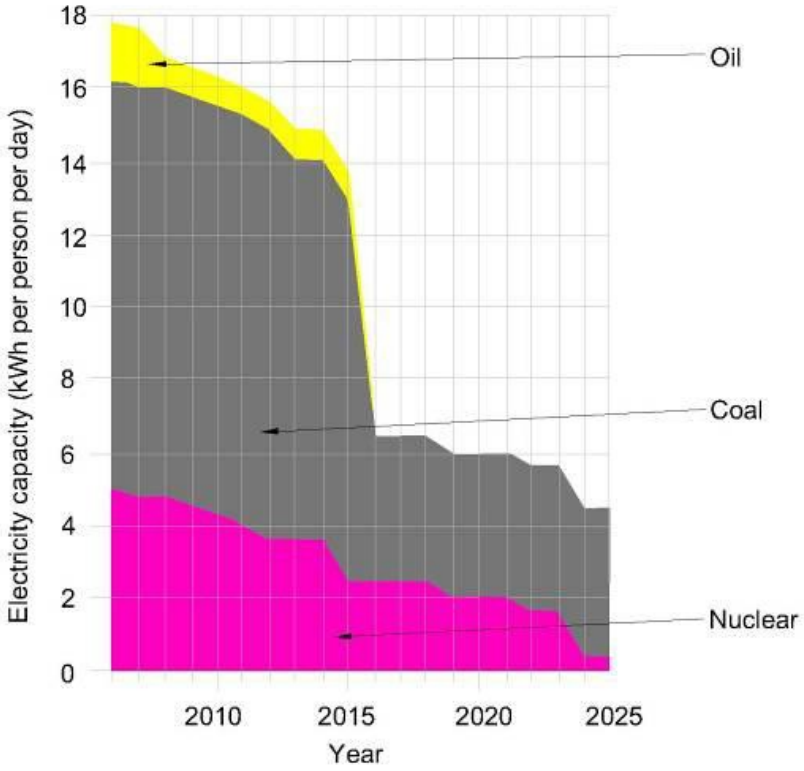

Figure 1 UK power station closures, as projected by energy company EDF

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 Ofgem[1] and National Grid[2] 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 Studies[3], 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 scenario[4].

[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

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 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 (860_GF_DR_LP_101)

2.2 The development occupies 0.47 hectares of unused employment site to the rear of the Federal Mogul Factory. The land is sometimes rented to the adjacent farmer for grazing. The land is steep and rises in height towards the railway. The area of land is well screened by the factory complex.

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 Hayfield Road, north of Chapel within the complex of the Federal Mogul factory. Chapel en la Frith can be easily accessed off the A6, which has good network links via the A6 and the M60

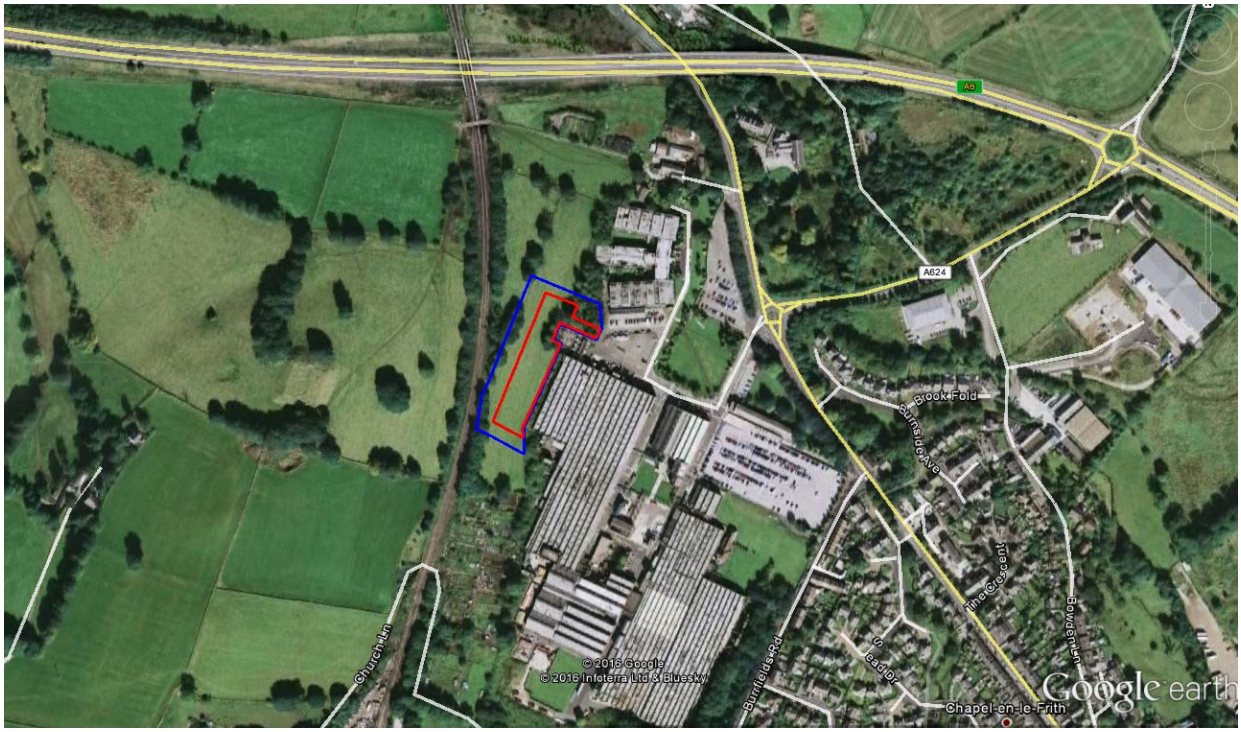

Figure 2 – Site location (Google image)

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 someway 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 Chapel and surrounding settlements such as Buxton, Macclesfield and Stockport, 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 Derbyshire area it is WPD.

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 the area is rural in nature and the options of finding a suitable network is very difficult. To enable the electrical network to accept our type of generation there needs to be a lot of properties feeding off it (inner 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).

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

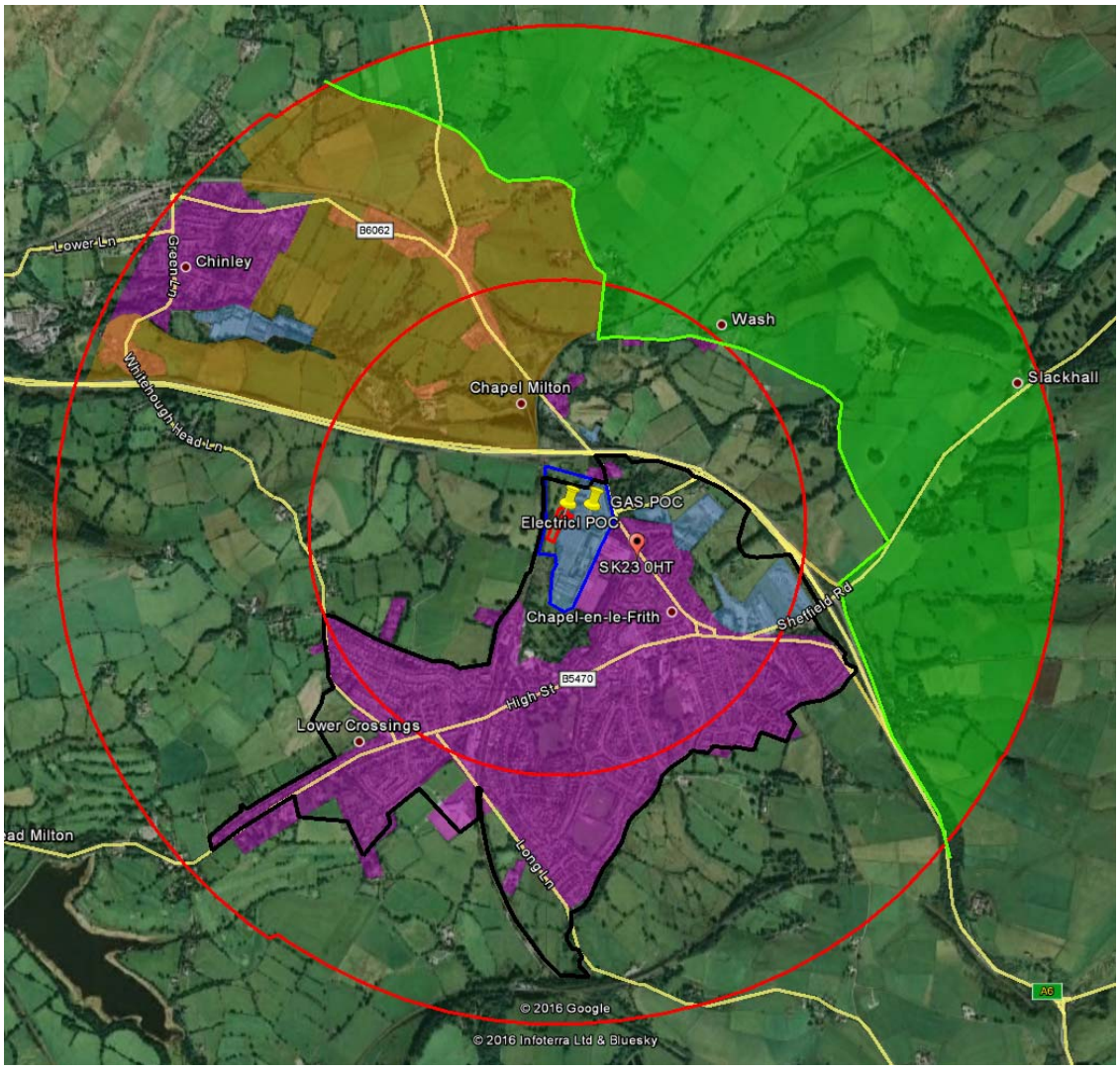

Figure 3 Site constraints map

3.24 Firstly, the majority of the search area is designated Green Belt (shown by the orange shaded polygon) and the Peak District National Park (shown by the green shaded polygon) and the rest of the unshaded area is designated countryside.

3.25 Secondly, the application site must be close to the gas and electrical network to make this site viable. The connections are within 100m of the site and can be connected without affecting the local road network.

3.26 The third issue to consider is proximity to sensitive receptors, particularly nearby areas of housing (shown by the pink shaded polygon) that could experience perceived or real "bad neighbour issues" associated with the emissions and noise, albeit, at relatively low levels. The search area is almost entirely agricultural, punctuated by occasional hamlets, farmsteads and key pieces of infrastructure which is more urban in form. Existing brownfield areas are thin on the ground. Where they exist, they are generally in very close proximity to residential receptors. The site in question is one of few

which is nearly 200m from the nearest residence and is on the edge of an established industrial site. As the noise and air quality reports, which are due to follow shortly after submission, show, at this distance, the proposal would not have an impact on these receptors.

3.27 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 will be gained via the entrance through the Federal Mogul complex. The existing drive access will be upgraded to the site area. The Federal Mogul complex can be easily accessed off Hayfield Road in Chapel en le Frith, Chapel en le Frith can be easily accessed off the A6, which has good network links via the A6 and the M60

4.2 The site has been designed with an internal 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 0.47 hectares of unused employment site to the rear of the Federal Mogul Factory. The land is sometimes rented to the adjacent farmer for grazing. The land is steep and rises in height towards the railway. The area of land is well screened by the factory complex.

4.14 The nearest housing is approximately 195m to the west. Consequently, the site is screen by the existing factory. A noise report has been undertaken and will support this application.

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 16 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.

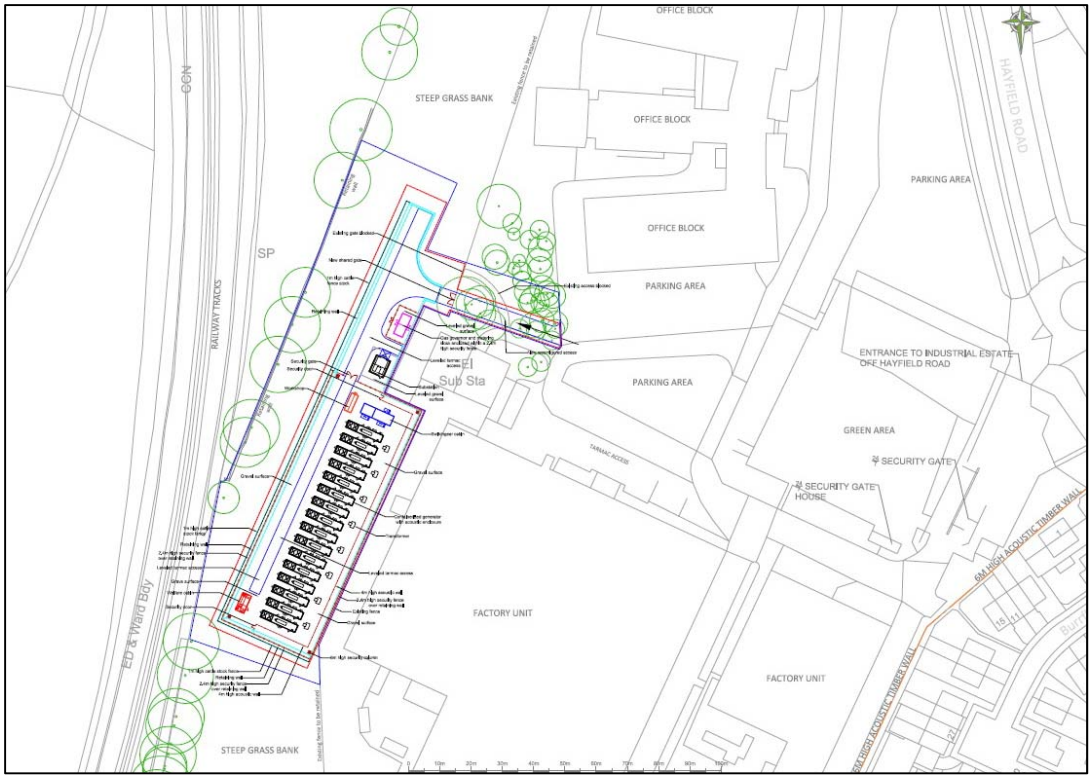

Figure 4 Site layout

Figure 5 Typical Containerized generator

4.17 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.

4.18 The engines are spaced out equally to allow for maintenance access and for airflow circulation to allow the generators to operate efficiently.

Landscaping

4.19 The site sits within a banked area of grassland to the rear of the Federal Mogul factory unit. The land will be re-profiled to enable us to achieve a level compound to work off. This will involve retaining the existing bank. This will sit our compound into the existing landscape to further screen our development from view. Details of the retaining wall are unknown until further investigations are made on the structural stability of the ground. The adjacent land will still be grassed to enable the farmer to graze.

4.20 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

4.21 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 not immediately adjacent to residential properties.

4.22 The development is sited behind a 2.4m high metal security fence with the appropriate signage to adhere to HSE regulations.

4.23 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

4.24 The layout of the compound is shown on 860_GF_DR_SP_103 and the dimensions of each element of indicated on the standard detail drawings that are contained within the application documents.

4.25 The perimeter security fence is 2.4m and is galvanised wire mesh to confirm with the security specification.

4.26 An inner acoustic barrier of 4m in height will be constructed on the North, East and Southern boundaries to screen the equipment inside and also to provide an additional acoustic barrier. The acoustic barriers give an additional 9dbA reduction.

Appearance

4.27 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.

4.28 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

4.29 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 (NOx). Emissions of carbon monoxide (CO), particulate matter (PM10 and PM2.5) and sulphur dioxide will be low, if present at all. The emissions of NOx, 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 NOx will be around 1.6 tonnes of NOx per year per engine. For a 20MW electrical generation power station, this is equivalent to ~0.004% of the total NOx emitted from the UK power sector.

4.30 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.

4.31 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 9dbA. Barriers such as vegetation/trees and buildings 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 Governments 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

5.17 **High Peak adopted Plan April 2016**

The High Peak Local Plan was produced by the Borough Council, it is consistent with the Governments planning principles and policies as set out in the National Planning Policy Framework. The Local Plan covers the period 2011 to 2031 and was adopted in April 2016.

The High Peak Local Plan covers a wide range of planning issues including, the environment, health and well-being, infrastructure and design.

Set out below are the policies that relate to our application

5.18 **Neighbourhood plans**

Neighbourhood Plans have been produced by the local community to enable them to take forward planning proposals within their area. These plans are voluntary local planning policy documents that are written and developed by a community, usually the local parish council. Once adopted it forms part of the Development Plan for High Peak and will become a major consideration during the determination of planning applications.

At 1.22 it states:

In the Parish of Chapel-en-le-Frith, a Neighbourhood Plan has been made. The Chapel-en-le-Frith Neighbourhood Development Plan identifies sites for development and addresses other issues including countryside, infrastructure and transport. As a result, this High Peak Local Plan document does not include development site allocations in Chapel-en-le-Frith Parish.

Development sites identified in the Neighbourhood Plan are consistent with the development approach and strategy in the High Peak Local Plan and in particular with the strategy for the Central Area - of which Chapel-en-le-Frith Parish is a part. This requirement for strategic conformity will apply to any future Neighbourhood Plans prepared in the High Peak.

5.19 **K13 – Addressing the challenges of Climate Change**

Given that the area has high levels of per capita carbon emissions and national targets are seeking an 80% reduction on 1990 levels by 2050 it is necessary to ensure that this issue is addressed.

5.20 As explained earlier within the design and access statement the generation compound covers peak demand or stress events on the system while supporting renewables when they are not generating. We are therefore helping to reduce National Emission Targets by taking away the reliance on dirty fuels such as coal and diesel.

5.21 **Policy S1 – Sustainable Development Principles**.

The Borough Council will expect that all new development makes a positive contribution towards the sustainability of communities and to protecting, and where possible enhancing, the environment; and mitigating the process of climate change, within the Plan Area.

This will be achieved by:

- *Meeting most development needs within or adjacent to existing communities;*
- ***Making effective use of land (including the remediation of contaminated land and reuse of brownfield land), buildings and existing infrastructure;***
- ***Making efficient use of land by ensuring that the density of proposals is appropriate (and informed by the surrounding built environment);***
- *Taking account of the distinct Peak District character, landscape, townscape, roles and setting of different areas and settlements in the High Peak;*
- *Protecting and enhancing the natural and historic environment of the High Peak and its surrounding areas including the Peak District National Park;*
- *Providing for a mix of types and tenures of quality homes to meet the needs and aspirations of existing and future residents in sustainable locations;*
- *Supporting the local economy and businesses by providing for a range of economic development that provide employment opportunities suitable for local people in sustainable locations, and generally encourage larger developments to incorporate mixed uses where possible so as to reduce the need to travel;*
- ***Minimising the need to travel by promoting development in locations where there is access to a broad range of jobs, services and facilities which are accessible by foot, cycle or public transport with minimal reliance on the private car;***
- *Minimising the risk of damage to areas of importance for nature conservation and/or landscape value, both directly and indirectly and ensuring that there is suitable mitigation for a net gain in biodiversity and the creation of ecological networks;*
- *Minimising carbon or energy impacts associated with development according to the principles of the 'energy hierarchy' by minimising the need for energy through the appropriate siting, orientation and design of new buildings; the use of renewable energy sources and ensuring building construction and other forms of development address the challenge of climate change by meeting high environmental standards with particular regard to energy efficiency, water efficiency, use of sustainable materials, encouraging*

waste reduction, recycling, including where appropriate the local- or on site-sourcing of building materials;

- ***Further mitigating the impacts of climate change by seeking reductions in greenhouse gas emissions across the High Peak; in particular through supporting the delivery of renewable and low-carbon forms of energy (either via stand-alone installations, or installations integrated within new/existing developments), where this is considered acceptable against all other Development Plan Policies as a whole;***

- ***Requiring that all new development addresses flood risk mitigation/adaptation, ensuring for example that sustainable drainage systems are considered at the outset within proposals (and to comply with legislative requirements);***

- *Seeking to secure high quality, locally distinctive and inclusive design in all development that can be accessed and used by everyone including disabled people;*

- *Seeking to secure developments provide a high standard of amenity for all existing and future occupants of land and buildings, ensuring communities have a healthy, safe and attractive living and working environment and the risks from potential hazards are minimised*

- *Maintaining and where possible enhancing accessibility to a good range of services and facilities, and ensuring existing infrastructure and services have the capacity to support development when required.*

5.22 This site was chosen for many reasons as explained above. It is within the built-up boundary of Chapel en le Frith and is close to the electrical and gas networks to avoid digging up highways. It supports the local as well the wider communities by providing secure electricity supply when the system is under stress. Due to the site being operated remotely, the need for onsite operatives is kept to a minimum and avoids unnecessary traffic on the local highway network. Subject to further investigations all drainage systems will be sustainable to avoid putting unnecessary surface water into the local drainage system.

5.23 **<u>Policy EQ 1 – Climate Change</u>**

The Council will adopt strategies to mitigate and adapt to climate change. In addressing the move to a low carbon future for High Peak, the Council will plan for new development in locations and ways that reduce greenhouse gas emissions and adopt the principles set out in the energy hierarchy.

The Council intends to meet part of its future energy needs through renewable or low carbon energy sources and will therefore encourage and support the provision of renewable and low carbon technologies, including both stand-alone installations, and micro-renewables integrated within new or existing development.

A low carbon future for High Peak will be achieved by:

- ***Requiring new development to be designed to contribute to achieving national targets to reduce greenhouse gas emissions by using land-form, layout, building orientation, tree planting, massing and landscaping to reduce likely energy consumption and resilience to increased temperatures***
- *Ensuring that renewable energy installations do not have an adverse impact on the integrity of any European sites, (including by project- level HRA where appropriate), wildlife sites, protected species or habitats, or the landscape and landscape setting of the Peak District National Park*
- *Supporting opportunities to deliver decentralised energy systems, particularly those which are powered by a renewable or low carbon source*
- *Supporting connection to an existing decentralised energy supply system where there is capacity to supply the proposed development, or design for a future connection where there a firm proposals for such a system*
- ***Ensuring that renewable / low carbon energy generation developments and associated infrastructure are supported by requiring Design Statements to include an assessment of how any impacts on the environment and heritage assets, including cumulative landscape, noise and visual impacts, can be avoided and/or mitigated through careful consideration of location, scale, design and other measures***
- *Applications for new build residential development in the Buxton Sub-Area should meet the optional national technical requirement for water efficiency of 110 litres per person per day to minimise the phosphate load to the River Wye via discharges from the Buxton Sewage Treatment Works, unless it can be demonstrated that doing so would adversely impact on a scheme's viability.*
- *Unless it can be demonstrated that it would not be technically feasible or financially viable, requiring that commercial developments over 1,000m2 the Building Research Establishment Environmental Assessment Method (BREEAM) good standard as a minimum*
- *Promoting energy efficiency and the use of renewable / low carbon energy in new development and through retro-fitting of existing buildings*
- ***Supporting sustainable waste management by provision of space for recycling and composting.***
- *Supporting the use of sustainable design and construction techniques including the use of recycled materials in construction, including where appropriate the local or on-site sourcing of these building materials*
- *Supporting high water efficiency standards and measures to recycle and minimise water consumption*

5.24 Using best available technology and gas to fuel the generators we are helping the environment by reducing national emissions as well as providing back-up generation for Chapel en le Frith as well the wider community. In 2009, High Peak, Derbyshire Dales District Council and the Peak District National Park concluded that there was potential for a range of low carbon technologies including micro generation which could be used across the area. Using small scale (micro generation) like ours ensures that any backup electricity produce does not suffer from any transmission losses and makes this type of development very efficient.

5.25 **Policy EQ 2 – Landscape Character**

The Council will seek to protect, enhance and restore the landscape character of the Plan Area for its own intrinsic beauty and for its benefit to the economic, environmental and social well-being of the Plan Area.

This will be achieved by:

- *Requiring that development has particular regard to maintaining the aesthetic and biodiversity qualities of natural and man-made features within the landscape, such as trees and woodlands, hedgerows, walls, streams, ponds, rivers, ecological networks or other topographical features*
- *Requiring that development proposals are informed by, and are sympathetic to the distinctive landscape character areas as identified in the Landscape Character Supplementary Planning Document and also take into account other evidence of historic landscape characterisation, landscape sensitivity, landscape impact and the setting of the Peak District National Park and where appropriate incorporate landscape mitigation measures.*
- *Requiring that development proposals protect and/or enhance the character, appearance and local distinctiveness of the landscape and landscape setting of the Peak District National Park*
- Resisting development which would harm or be detrimental to the character of the local and wider landscape or the setting of a settlement as identified in the Landscape Impact Assessment.

5.26 As explained earlier in the design and access statement our development is set within the built up boundary of Chapel en le Frith. From the planning drawings we demonstrate that the development is set behind the existing employment site of Federal Mogul. The development terrain will be re-profiled to a level surface to enable it to be developed. As it is set into the landscape there will minimal impact on the views. The development is therefore appropriate development in this location.

5.27 **Policy EQ 6 – Design and Place making**

All development should be well designed and of a high quality that responds positively to both its environment and the challenge of climate change, whilst also contributing to local distinctiveness and sense of place.

This will be achieved by:

- *Requiring development to be well designed to respect the character, identity and context of High Peak's townscapes and landscapes*
- *Requiring that development on the edge of settlement is of high quality design that protects, enhances and / or restores landscape character, particularly in relation to the setting and character of the Peak District National Park*
- ***Requiring that development contributes positively to an area's character, history and identity in terms of scale, height, density, layout, appearance, materials, and the relationship to adjacent buildings and landscape features***
- ***Requiring that development achieves a satisfactory relationship to adjacent development and does not cause unacceptable effects by reason of visual intrusion, overlooking, shadowing, overbearing effect, noise, light pollution or other adverse impacts on local character and amenity***
- *Requiring that public and private spaces are well-designed, safe, attractive, complement the built form and provide for the retention of significant landscape features such as mature trees*
- *Requiring that developments are easy to move through and around, incorporating well integrated car parking, pedestrian routes and, where appropriate, cycle routes and facilities*
- *Requiring that developments are designed to minimise opportunities for anti-social or criminal behaviour and promote safe living environments*
- *Requiring the inclusive design of development, including buildings and the surrounding spaces, to ensure development can be accessed and used by everyone, including disabled people*
- *Requiring new homes in residential developments meet environmental performance standards in accordance with Local Plan Policy EQ1;*
- *Requiring that commercial developments, meet environmental performance standards in accordance with Local Plan Policy EQ1*
- *Ensuring that development takes account of national design guidance and Supplementary Planning Documents*

5.28 As described earlier the development has been designed to have minimal impact on the local character. It is set in the built form of Chapel en le Frith and is set in the boundaries of the adjacent employment site of Fedeal Mogul. As the development is set behind the existing factory units the visual impact is minimised. Light pollution is kept to a minimum as the task lighting is only switched on when require and the lighting is located about 3m from floor level. The security light is only activated under an alarm scenario. The generators are designed to achieve 75dBA @ 1m and the screening of the factory helps reduce the noise further. Adjacent to the houses is a 6m high acoustic wall which will aid the reduction of noise. We are therefore in compliance of EQ 6.

5.29 **Policy EQ 10 – Pollution Control and Unstable Land.**

The Council will protect people and the environment from unsafe, unhealthy and polluted environments.

This will be achieved by:

- ***Ensuring developments avoid potential adverse effects and only permitting developments that are deemed (individually or cumulatively) to result in the following types of pollution if any remaining potential adverse effects are mitigated to an acceptable level by other environmental controls or measures included in the proposals . This may be achieved by the imposition of planning conditions or through a planning obligation. The Council will not permit any proposal that has an adverse effect on a European site:***
  - ***Air pollution (including odours or particulate emissions);***
  - ***Pollution of watercourses (rivers, canals reservoirs, streams, ditches, ponds and wetland areas) or groundwater;***
  - ***Noise or vibration;***
  - ***Light intrusion;***
  - ***Land contamination; or***
  - ***Other nuisance, environmental pollution or harm to amenity, health or safety***
- *Ensuring all new developments have regard to the actions and objectives of the Humber and North West River Basin Management Plans in striving to protect and improve the quality of water bodies in and adjacent to the Borough, including the Rivers Etherow, Sett, Goyt and Wye, Glossop, Black and Randal Carr Brooks and their tributaries.*
- *Ensuring that sites are suitable for their proposed use taking account of ground conditions and land instability, including from natural hazards such as radon gas, former activities such as mining, or pollution arising from previous uses.*

5.30 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.

5.31 **Policy EQ 11 – Flood risk management.**

The Council will support development proposals that avoid areas of current or future flood risk and which do not increase the risk of flooding elsewhere, *where this is viable and compatible with other polices aimed at achieving a sustainable pattern of development. When considering planning applications the Council will also have regard to all relevant Catchment Flood Management Plans and the Local Flood Risk Management Strategy.*

5.32 The proposals are set within Flood Zone 1 and will not displace water in times of flood. The site will drain to a soakaway and will be fully compliant to SUDs. All effluent is collected in a tank and will be collected by a waste collection company annually. We are fully compliant with EQ 11.

5.33 **Policy CF 3 – Local Infrastructure Provision**

This will be achieved by:

- *Providing for health and social care facilities, in particular supporting the proposals that help to deliver the Derbyshire Health and Wellbeing Strategy and other improvements to support local Clinical Commissioning Groups.*
- *Requiring that new development is suitably located and supported by appropriate complementary measures to ensure accessibility to services and jobs and the health and well-being of local communities*
- *Facilitating enhancements to the capacity of education, training and learning establishments throughout the Plan Area*
- *Securing new transport infrastructure, including for walking and cycling that help to address traffic congestion issues and support growth identified in the Local Plan. Improvements should encourage modal shift from the private car where possible*
- ***Providing for strategic enhancement of the energy and utilities networks***
- *Supporting improvements to telecommunications and high speed broadband infrastructure that does not have an inappropriate impact on the landscape or townscape*
- *Ensuring the availability of water and wastewater infrastructure by working with utility providers to promote a coordinated approach to the delivery of development and future infrastructure works*

- *Supporting the provision of sports related infrastructure in accordance with Policy CF4 Supporting improvements to or the provision of new waste management infrastructure required to support development.*

5.34 Within Chapel en le Frith the Local Plan has earmarked future development for both housing and employment. Having a small generation plant providing back-up power during times of stress on the system will help support the local infrastructure by putting the electricity into the network where it is needed. We are therefore compliant to Policy CF 3.

6. Conclusion

6.1 The applicant is proposing to develop a gas-fuelled embedded power plant at a site located on land off Federal Mogul, Hayfield Road, Chapel en le Frith, SK23 0HT.

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.