Supporting Statement

Proposed STOR facility

Land at

Booths Farm

Cheadle

Stoke-on-Trent

Staffordshire

On the behalf of

Highview Consultants Limited

February 2015

Reference: 14273-R01v2 PS

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Contents

1. Introduction

1.1 This report has been prepared in support of a planning application seeking permission for the development of a Short Term Operating Reserve Facility (STOR) on land at Booths Farm, Cheadle, Staffordshire.

1.2 The report considers the planning merits of the scheme, including the design and access requirements and should be read in conjunction with the plans and other submitted material forming the complete application.

1.3 It provides an overview of the site location and discusses the background to the STOR facility, including an explanation of why such schemes are required. The details of the STOR are then discussed in detail, including the design and access requirements, traffic noise and decommissioning.

1.4 We have then considered relevant planning policies before assessing the STOR proposals against environmental and policy considerations to fully explore the benefits and potential impacts and required mitigation from the scheme.

1.5 The report then offers our conclusions.

2. Site location

2.1 The site is located to the north of Cheadle, off of the A521 approximately mid way towards the village of Kingsley Holt. Booth Farm Is on the western side of the road, and is accessed via a short drive further to the west from Clamgoose Lane. The application site is accessed from the east off Froghall Road via a gravel surfaced track.

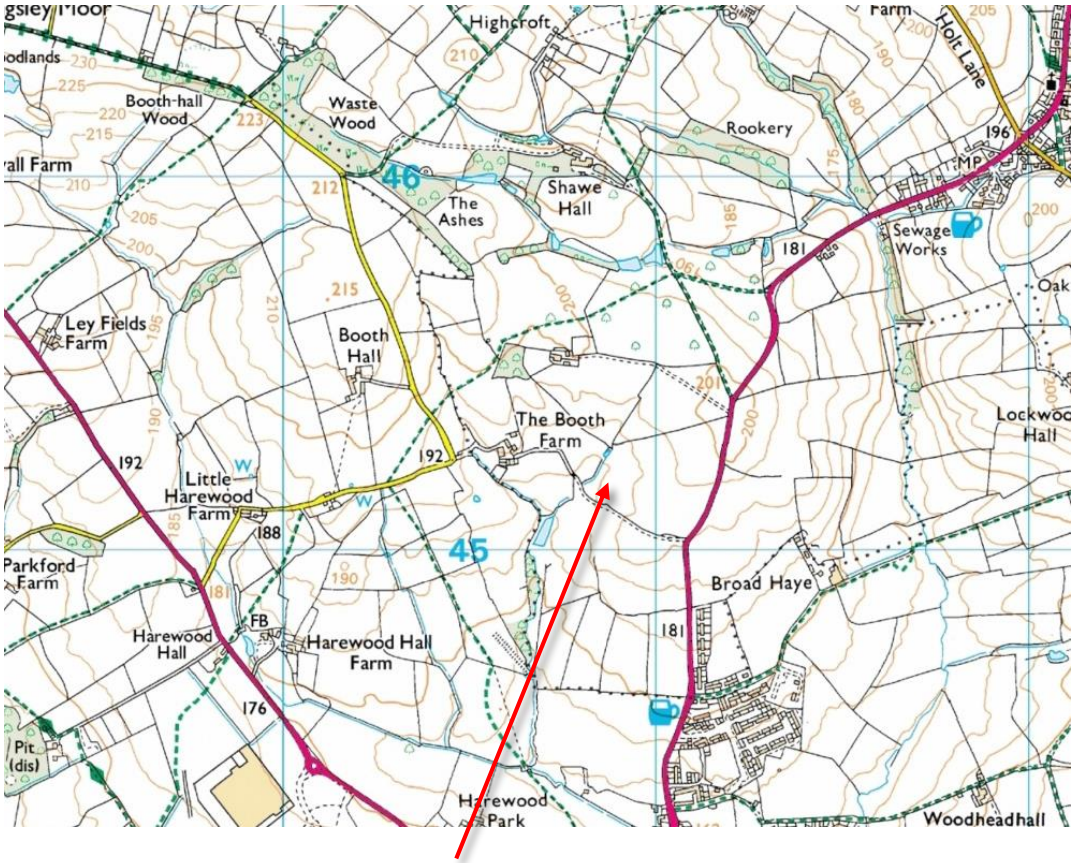

Figure 1: OS extract showing the location for the proposed STOR facility.

2.2 The site location can be seen highlighted above with the red arrow, which is on brownfield land forming part of the land fill site at Booths Farm. The site land fill is inert material that has been covered over in compliance with the conditions attached to the waste planning permission.

2.3 In terms of topography, the site is at approximately 185 metres AOD, with the land rising to the north, thereby offering topographic screening of the site, and remaining level before falling away to the south, thereby ensuring that the existing hedgerow and tree planting affording good levels of visual containment. The land rises to the east, screening any views of the site with the topography and is screened from the west of existing earthworks and the landform on Booths Farm itself.

2.4 Whilst the site is relatively elevated, its sits within an area of level ground that is visually well contained within the localised landscape. There are no public footpaths on the site, and the footpaths to the north would be screened from view by the intervening topography and planting.

2.5 The southern boundary of the site is well screened by a mature hedgerow. This will be allowed to grow taller and thicken should the development proceed. It is also proposed that the site would be surrounded by earth bunds and new hedgerows and landscaping, to enhance screening and visual containment. To the eastern boundary is a hedge, whilst further hedgerows and trees to the north and west.

Figure 2: Aerial view of the location of the proposed STOR facility.

3. Project background

3.1 The electricity network in the UK is based upon post war infrastructure, and consists of various coal, gas and nuclear power stations scattered around the Country that provide the bulk of the power generation, supported by smaller scale renewable technologies such as wind power, photovoltaics and anaerobic digestion.

3.2 The electricity is distributed through the national grid, or supergrid at either 400 kV (Kilovolt), 275 kV or 132 kV. This supply is then stepped down through transformers to 66 kV, before being stepped down again to customer supply levels at 33 kV or 11 kV. There is a general 'flow' of electricity from north to south, from where the greatest generation takes place to areas of greatest demand, amounting to approximately 12 GW (Gigawatts) per annum (expected figure for 2014).

3.3 The demand for power is constantly changing depending upon the time of day, localised events, weather conditions and numerous other factors. The power supply can vary as it reacts to the loads being placed upon it, often seen in the home as lights dim slightly or flare brighter for short periods. This is caused by the network adjusting to the load conditions and ensuring that the average power supply remains as constant as possible. In rural areas where the distances covered by individual power lines connecting villages are greater, compared to more densely populated cities, the effects of load fluctuations and supply outages can be more frequent.

3.4 This reinforcement of the power supply was historically done by holding large scale generators on standby at power stations, ready to start feeding extra power into the grid network when demand dictated. However, keeping these large generators in a state of readiness meant that the generator itself has to be kept spinning, comparable to an engine

permanently on tickover. As such, even in standby, these generators use power and fuel and therefore produce carbon emissions. The generators were also located in key positions at power plants, often at some distance from where the demand for power re-enforcement is required.

3.5 As the UK has moved towards greater use of low carbon and renewable generation technologies to supply the National Grid, greater variables have been introduced that can impact upon the supply of energy within the network. Renewable energy reliant upon the wind blowing or the sun shining is less constant and can vary throughout the day and night depending upon weather conditions. By comparison, carbon generation technologies such as burning coal to drive a steam turbine were relatively stable and the power generated could be predicted well in advance.

3.6 The UK has to become more reliant upon low carbon technologies, which are essential to address climate change and ensure that the Country has long term energy security. This transition has created a need for additional balancing capacity to provide short term electricity generation into the grid at times of peak demand and ensure that the supply is stable and constant.

3.7 This is where the Short Term Operational Reserve (STOR) comes in, which is a short term demand technology that compliments green energy technologies. The details of the STOR are explained in more detail overleaf.

4. Short term operating reserve (STOR)

Summary of the project

4.1 The STOR project consists of the installation of a number of energy generation units, which would respond to short term fluctuations in the electricity loading passing through the electricity grid network.

4.2 The equipment is held in standby and is only operational when a shortfall in the power supply is identified. The generators are then remotely turned on by a computer controlled system and quickly power up to meet the shortfall in the local grid network, in effect smoothing out fluctuations in the supply of power whilst the larger power station generators spool up to meet demand.

4.3 The STOR would only be operational at times of need, and then it could only be for short periods, often an hour or less. However, if the circumstances dictate that the STOR is required for longer periods then it must be able to meet that demand, and as such it cannot be prevented from operating to fulfil the demands placed on the electricity supply network, in much the same way that a power station is expected to operate on demand at any time.

4.4 The STOR scheme have environmental benefits associated with them for a number of reasons:

- Having smaller STOR generators distributed around the network is more efficient than having large centralised generators at the power stations.
- Firstly the STOR equipment is much smaller and takes less time to go from standby to fully operational compared to a much larger machine.
- Secondly, the STORs are located on the customer distribution network, rather than the high voltage transmission network, so the electricity is fed into the local system faster and without the transmission losses that are associated with centralised generation.
- Thirdly, the smaller generators can operate from a cold start and do not need to be kept in an operational state on tick over, as is the case with the larger centralised generators.

4.5 These factors all contribute to make the system more responsive, more resilient and more efficient.

Site requirements

4.6 In order to make the STOR operationally efficient it has to be within close proximately of the local electricity supply network, typically a 33 kV line with capacity to accept the electricity input.

4.7 Selecting a location for a STOR development involves the combination of a number of factors including:

- Close prominently to a suitable electricity line allowing access to the grid.
- An area of relatively level land.
- Ideally a remote location where there are no close neighbours.
- Existing natural screening or the ability to screen the site from view.
- Access to the road network to aid construction and decommissioning.
- An agreement with a landowner to lease the site and allow the installation of the equipment for the duration of the scheme.

4.8 All of these factors have been carefully considered when selected the location for the development at Booths Farm.

Scheme Duration

4.9 The STOR facility would be for a temporary period, typically 25 years is sought as an operational lifespan. Following this time, the equipment would be removed and the land restored (as described later in this report). A planning permission would therefore have to allow for the operational lifespan and then set a timeframe, usually 12 months for the site to be restored.

Description of works

4.10 The planning application seeks permission for a STOR development with an operational capacity of approximately 14 MW connected via 33 kV line directly to the local electricity grid.

4.11 The description of the development sought by this planning application is as follows:

"Temporary planning permission for the placement of a Short Term Operational Reserve, including ground works, placement of generating equipment and transformers, sub-station room and network room, laying of a hard core base and access tracks, bunded fuel storage, security fencing, gates and cameras and other associated works."

4.12 The scheme would include the following key elements:

Site Clearance

- Before commencing excavations, the site would be cleared to create a level area suitable for accepting a hardcore stone base. Any soil excavations would be redistributed across the remaining area of the field or formed into bunds around the edges of the scheme.

Roadways

- Excavate 300mm of topsoil and use material to create bunds around the perimeter of the site.
- Lay advanced geotextile matting.
- Supply and lay approximately 300mm of granite 6F5 in two (2) compacted layers.

Trenching

- Cables shall be buried at a sufficient depth to avoid being damaged by any disturbance of the ground reasonably likely to occur.
- On all cable routes excavate a 300mm x 600mm deep trench.
- Before the cables are laid the bottom of the trench shall be graded evenly, cleared of loose stones and then covered for the full width of the trench with a 75mm layer of compacted sieved sand. Where the level of the trench bottom has to change the rise or fall shall be no greater than 1 in 12.
- After the cables have been laid a further layer of sieved sand shall be added over the full width of the trench and tamped to provide finally not less than 50mm cover over the cable.
- Trenches shall be backfilled in layers and each layer rammed. The first two layers shall be rammed by hand.

Foundations

- Transformer and generator foundations to be a maximum of 500mm deep. Concrete bases will be laid to support the installed equipment.

Installed equipment

- The installation of a WPD sub-station complete with 33Kv/SF6 circuit breaker.
- The installation of 30 generators, comprising self-contained insulated units of approximately 4.90m L x 2.37m W x 1.62m H and weigh 2000kg. The exact details of the installed generators would need to be established at the time of installation.

Figure 3: Typical generator unit (Note: colour to be specified).

- Installation of 8 No transformers and 2 refuelling tanks.
- Installation of high voltage (HV) switch gear, transformers on concrete bases.
- Installation of electrical distribution cabling and associated control room including monitoring system.
- Commissioning of the Short Term Operating Reserve facility.

Security

- A 2.2 metre high dark green welded mesh fence shall be installed around the perimeter complete with security gates for vehicular access. There will be no public access to the scheme for safety and security reasons.

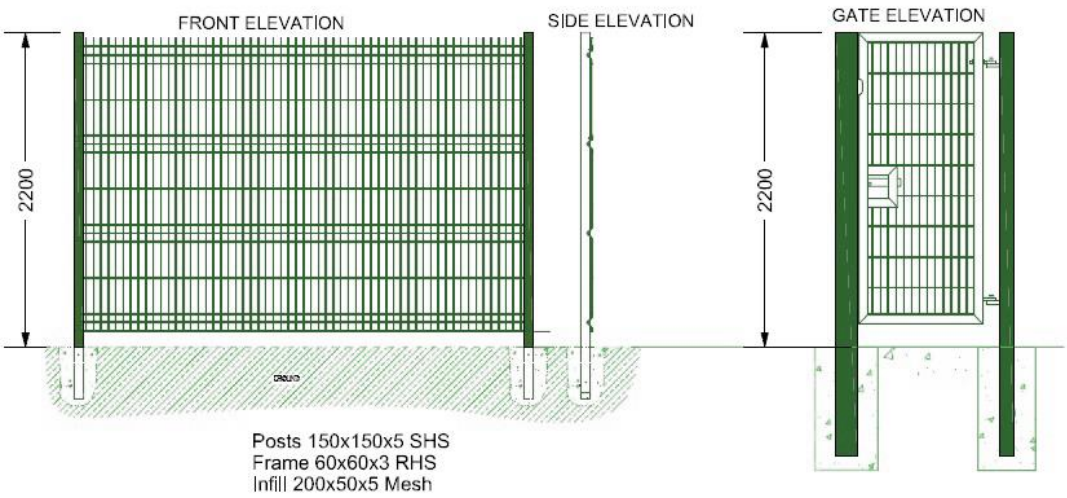

Figure 4: Typical fence elevation.

- Installation of CCTV system at key nodes around the perimeter of the scheme, complete with remote monitoring.

Design and access requirements

4.13 This section of the supporting statement covers the design and access aspects of the scheme, including the use, layout, scale. Traffic has been considered in terms of the construction traffic and that generated during normal operation.

Use

4.14 The site is brownfield land that was previously used for land fill purposes and has been restored. The land where the STOR would be located is set well within the land ownership away from Froghall Road to the east.

4.15 The site is not currently in active use for agricultural purposes and as restored land would be considered to be lower grade in terms of agricultural land classification in any event.

4.16 The rental that the landowner receives from having the STOR facility will help to support and improve his business, supporting rural enterprise and employment in accordance with paragraph 28 of the NPPF, which encourages the diversification of the rural economy.

Layout and scale

4.17 The layout of the scheme can be seen on the plans accompanying the planning application. Overall, the land area required for the scheme is relatively small at 0.178 ha or 0.44 acres. The built form on the site, including the installed equipment, switchgear room and distribution network room amounts to approximately 360 m^2 in total. The footprint of the installed equipment is therefore around 20% of the overall site area, and a very small percentage of the landowners overall holdings at Booth Farm.

4.18 The generator units within the STOR are approximately 2.37 metres high, and would be set at a level slightly below the existing ground level. The fencing around the perimeter of the site would be 2.2 metres high. The scheme is considered to be low lying, will not be intrusive within the landscape, and can easily be screened with low level bunding and hedgerow planting.

Figure 3: Layout of the proposed STOR facility.

4.19 In scale terms the development is considered to be suitable for the location, both when considering the footprint of the scheme and the overall height of the development.

4.20 The layout of the STOR has been designed so that the generator units run in regular rows, allowing access to maintenance vehicles for repair or replacements to be made. Bunded fuel tanks are located close to the site entrance, with a turning space for fuel vehicles to enter and exit the site in forward gear. The distribution network operators (DNO) building is outside of the secure fence adjacent to the access track, allowing them 24 hour access to their equipment.

Access

4.21 Access to the site is off the A521 immediately to the north of Cheadle. This road forms part of what is a significant level of transport infrastructure within the locality, connecting the A50 to the A52. The existing access road to Booths Farm from the A521 is already used by HGVs, lorries and farm machinery.

Figure 4: Access to the site from Froghall Road.

4.22 The junction is considered to be suitable to accommodate the construction traffic, allowing vehicles to enter and exit at the same time. An existing field access would be upgraded between the existing access track and the site itself.

4.23 To avoid any adverse impact on the local highway network all material deliveries will be scheduled to avoid peak times and managed so that delivery vehicles access the site during day light hours and avoiding Cheadle High Street and other local villages.

4.24 Delivery vehicles will be scheduled for set times of the day outside peak hours which would prevent waiting time on the site or local roads. However there is sufficient area at Booths

Farm for vehicles to park/wait. All trucks requiring overnight stops will be accommodated on site.

4.25 There would be no public access to the development for security and safety reasons.

4.26 There are no footpaths on the site or in the vicinity and no footpaths are affected by the development.

Construction traffic

4.27 All delivery traffic will be routed to and from the site via the A52, on to the A522 and then the A521 which leads directly to the Booths Farm HGV site entrance, as shown on the attached Routing Plan.

4.28 The Routing Plan clearly identifies the most logical route from the strategic road network and all HGV deliveries will be instructed to follow this route. It specifically identifies a north westerly approach avoiding Cheadle High Street

4.29 Construction staff will be provided with a designated car parking area within the site at Booths Farm and no construction vehicles will be allowed to park outside of this area.

4.30 To ensure that the identified route is adhered to by all vehicles accessing the short term operating reserve site, the attached routing plan will be provided to all contractors and maintenance personnel.

4.31 When the plan is provided to contractors/maintenance personnel, the importance of not using Cheadle High Street will be made clear.

4.32 All off site traffic to use existing stone roadways at Booths Farm preventing any mud being transferred onto the highways. In addition to this the highways will be monitored daily and swept clean when required.

4.33 A site drop down area will be prepared using clean locally produced stone.

4.34 All materials can be transported to the site in regular HGV Lorries with no special requirements or abnormal loads

4.35 In total up to 30 HGV movements will be required to deliver all equipment and materials to the site during the delivery stage of construction. This would be spread out over approximately 120 days in order to minimise the amount of equipment stored on site.

4.36 Booths Farm manufactures hardcore and road material on site. This material will be utilised on site, thus traffic movements for road material will be zero.

4.37 The frequency of the construction traffic and the chosen access route has been designed to limit any impacts on normal traffic. The largest HGV movements will be for the delivery of electrical equipment, before and after this delivery, HGV movement will be minimal.

Estimated Number of Construction Deliveries	
Nature of Deliveries	Number of Deliveries
Fencing	2
Electrical Equipment and substations	26
Roadway Material	0
Miscellaneous equipment	2
Total	30

Figure 5: Estimated construction traffic numbers.

Operational traffic

4.38 During the operation of the STOR, vehicle movements to the site would be limited to fuel and visits by maintenance staff. Both would be made on an as needed basis, but would not generate significant traffic as the scheme is designed to be autonomous and be controlled remotely.

Noise

4.39 The generator units are contained within insulated sound attenuated enclosures. These reduce any noise emissions to the surrounding area, minimising the potential for disturbance to occur. We have assessed the noise levels at various distances to consider the effect the scheme may have ono surrounding receptors.

Noise levels

4.40 The manufactures figures indicate that at full load the generator would give a sound pressure reading of:

- 85.5 dBA at 1 metre
- 73.6 dBA at 7 metres, and

- 67.6 dBA at 15 metres.

4.41 We have converted the sound pressure readings into an average noise levels over time, and have assumed a scenario where the generators are operational for 4 hours during a 24 hour period. This is a worst case scenario, and in reality the generators would run for much shorter periods than this and on an infrequent basis.

4.42 Converting the sound pressure readings to LAeq noise levels gives us the following figures:

- 68 dBA LAeq at 1 metre
- 50 dBA LAeq at 7 metres, and
- 42 dBA LAeq at 15 metres.

4.43 The conversion sets the height of the noise source and the receptor at 1.5 metres and assumes that the sound will be passing over an absorbing surface such as farmland.

4.44 It should be noted that these figures also assumed a line of sight to between the noise source and the receptor, and do not take into account the mitigating effects of topography, landscaping and vegetation and any bunding installed around the scheme. These factors would effectively reduce the audible noise levels even further.

Receptors

4.45 As highlighted above, the site has been carefully selected for its lack of immediate neighbours, amongst other reasons. Having considered the aerial mapping, the nearest receptor to the site is the landowner, with the corner of the house at Booths Farm being 320 metres from the closest edge of the STOR. Swallows Barn has been measured at a similar distance away adjacent to Booths Farm house.

4.46 To the north is a property, which is approximately 370 metres distant and separated from the site by existing trees and hedgerows, as well as rising topography.

4.47 To the south west of the site are houses on the opposite side of Froghall Road on the northern edge of Broad Haye. The closest house to the scheme is some 350 metres away, but again separated from the STOR by rising ground, hedgerows and trees.

Noise levels at receptors

4.48 Using the same conversion calculator to convert the sound pressure into average noise equivalents, (and assuming the same height above ground and noise absorption), we can calculate the noise from the scheme at the receptors using the distances we have identified above. At full generation load, the following figures can be seen:

- 9 dBA LAeq at 320 metres
- 8 dBA LAeq at 350 metres, and
- 7 dBA LAeq at 370 metres.

4.49 To put these figures into context, a steady noise level during the day of 50 dBA Leq would have to be achieved over a 16 hour period before being considered to be annoying. At night-time the corresponding noise level is generally taken as 30 dBA Leq over 8 hours. (Figures sourced from www.engineeringtoolbox.com/decibel-dba-levels). By way of comparison, 50 decibels is around 10 decibels quieter than a normal conversation, whilst 30 decibels is the equivalent of a whispered conversation or a quiet library.

4.50 It should be noted that these noise levels would only be heard at 7 metres and 45 metres from the site respectively. It can therefore be demonstrated that the scheme will not have an adverse noise impact on the identified receptors, and will be inaudible at that the receptor's properties.

Potential for further mitigation

4.51 As part of the construction works to level the site and prepare the sub base for the STOR development, it is intended to use the landowner's equipment to remove the top layer of soil from the site. It is intended that this material will be deposited around the perimeter of the STOR to create a series of bunds along each side of the scheme.

4.52 The new bunds and landscaping would create an acoustic barrier to further prevent sound from escaping the site, thereby enhancing the acoustic mitigation of the scheme, but creating them would also reduce the height of the scheme compared to the surrounding land and create a visual barrier that would completely hide the STOR from view.

Decommissioning

4.53 This section sets out the details and different steps of decommissioning the Short Term Operating Reserve (STOR) facility at Booth's Farm.

Overview

4.54 The decommissioning and removal of the STORs facility is a straightforward activity due to the way the equipment is installed. The generators will be removed and used elsewhere if still of functional use or alternatively recycled. The substations will be removed by the District Network Operator (DNO) if no longer of functional use.

4.55 Decommissioning and removal will take 8-12 weeks.

Scope of works

- *Decommissioning:* the system will be de-energised with all electrical equipment being isolated and then disconnected. Grid connections will be isolated and separated from the DNO network.
- *Generator removal:* the generators will be lifted off the supporting foundations by crane and loaded onto trucks and removed from site to a recycling facility or for reuse.
- *Transformers and Fuel Tanks:* the transformers and fuel tanks will be lifted off the supporting foundations and loaded onto trucks and removed from site to a recycling facility or for reuse.
- *Generator / Transformer Wiring:* any wiring will be stripped from the back of the units and bundled. The wiring bundles will be loaded onto trucks and removed from site to a recycling facility.
- *Switch rooms:* these are GRP Housings and will be recycled
- *Substations:* the equipment within the substation enclosure will be disconnected and removed for disposal or reuse.
- *Base Pads:* these concrete pads will be broken up and removed for recycling.
- *Underground cabling:* subterranean will be exposed at key points and drawn using winch gear. The wiring will be bundled and loaded onto trucks and removed from site to a recycling facility.
- *Security systems:* CCTV cameras and associated supports and wiring will be removed and sent for recycling.
- *Security fencing:* The fencing may remain if of agricultural use to the land owner. Any metal posts and wire mesh will otherwise be removed and the metals recycled.
- *Access tracks:* any stone tracks will remain where appropriate to the land owner's management of the facility. Those tracks not required will be removed or tiled to allow the ground to recover and re-grow. Where tracks that are removed, the stone will be reused elsewhere or recycled.

4.56 Following the removal of the equipment and other elements highlighted above, the ground will be re-levelled and left to grow over. Once the decommissioning process has been completed, there will be no lasting effect on the land or surrounding landscape.

5. Planning policy

National Planning Policy Framework, March 2012

5.1 The National Planning Policy Framework was adopted in March 2012 and consolidated a large number of planning policy statements into one much shorter document expressing the Government's intention to simplify and speed up planning decision making.

5.2 Paragraph 6 confirms the role of the planning system is to contribute towards the achievement of sustainable development, which is defined as having three dimensions, namely economic, social and environmental. In the later sense, this includes responding to climate change and moving towards a low carbon economy.

5.3 Paragraph 14 In such circumstances there is a presumption in favour of granting permission, which is expanded in Paragraph 14 of the NPPF to say that:

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

5.4 As highlighted in Section 4 of this report the STOR installation will have environmental and energy security benefits, and will become increasingly important as the UK shifts towards renewable and low carbon energy. Indeed the STOR is a complimentary technology to the renewable energy generation, and is needed to ensure that the local electricity network has continuity and can function with a high degree of resilience to power supply demands. For these reasons, it is relevant to consider renewable energy policies, as the STOR development is part of that overall sustainable development delivery.

5.5 The need to meet the challenge of climate change is covered at paragraph 93, which highlights the key role that planning plays in helping shape places and secure radical reductions in greenhouse gases, minimising vulnerability and providing resilience to the effects of climate change, and supporting the delivery of renewable and low carbon energy, and associated infrastructure.

5.6 Paragraph 94 indicates that:

> *"Local Planning Authorities should adopt proactive strategies to mitigate and adapt to climate change, taking account of flood risk, coastal change, and water supply and demand considerations."*

5.7 Paragraph 98 goes on to highlight that when determining planning applications, Local Planning Authorities should:

> *"Not require applicants for energy development to demonstrate a need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contributions to cutting greenhouse gas emissions; and*
>
> *Approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should also expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposal location meets the criteria used in identifying suitable areas."*

5.8 The site is located on the edge of the Green Belt and therefore paragraph 80 is relevant which confirms the purposes of including land within the Green Belt. It specifies that:

> *"Green Belt serves five purposes:*
>
> - *to check the unrestricted sprawl of large built-up areas;*
> - *to prevent neighbouring towns merging into one another;*
> - *to assist in safeguarding the countryside from encroachment;*
> - *to preserve the setting and special character of historic towns; and*
> - *to assist in urban regeneration, by encouraging the recycling of derelict and other urban land."*

5.9 Paragraph 87 highlights that development within the Green Belt should be considered carefully:

> *"As with previous Green Belt policy, inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances."*

5.10 The potential for harm to the Green Belt should be considered against other considerations and that special circumstances should exist in order to support development. It states at Paragraph 88 that:

> *"When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations."*

5.11 Paragraph 89 highlights the circumstances where a building may be appropriate within the Green Belt, and included the following regarding brownfield land:

> *"Limited infilling or the partial or complete redevelopment of previously developed sites (brownfield land), whether redundant or in continuing use (excluding temporary buildings), which would not have a greater impact on the openness of the Green Belt and the purpose of including land within it than the existing development."*

5.12 Engineering operations are permissible under Paragraph 90, and paragraph 91 in relation to renewable energy indicates that:

> *"When located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources."*

Staffordshire Moorlands Core Strategy, Adopted March 2014

5.13 The Council have started to work on a new local plan for the District, however this is in the early stages. The Core Strategy, adopted in March 2014 provides the local level planning policy framework and should be read in conjunction with the NPPF.

5.14 Policy SS1a sets out the presumption in favour of sustainable development. It states that:

> *"When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the national Planning Policy Framework. It will always work pro-actively with applicants jointly to find solutions which means that proposals can be approved wherever possible, and to secure development that improves economic, social and environmental conditions in the area.*
>
> *Planning applications that accord with this Core Strategy (and where relevant with policies in neighbourhood plans), will be approved without delay unless material considerations indicate otherwise. Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether:*
>
> - *Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework are taken as a whole; or*
> - *Specific policies in that framework indicate that development should be restricted."*

5.15 Policy SS6c presents the strategy for other rural areas and indicates that support will be offered for development that meets local needs or supports the rural diversification and sustainability of rural areas. This will be achieved by enabling the limited expansion or redevelopment of an existing authorized business for employment purposes and supporting the diversification of farm enterprises rural businesses. Priority will be given to protecting the quality and character of the area, requiring all development proposals to respect and respond sensitively to the distinctive qualities of the surrounding landscape.

5.16 Policy SS6c continues to highlight that the purpose of maintaining the Green Belt within Staffordshire Moorlands is to maintain the separation of the urban areas and maintain their

identity. The boundaries of the Green Belt will be reviewed to ensure they are consistent with the need to promote sustainable patterns of development.

5.17 Policy SD1 requires all development to make sustainable use of resources and adapt to climate change. Encouragement will be given to development on previously developed land in sustainable locations. Whilst the location of the proposed STOR is governed by the point of connection to the grid network, the site is brownfield land, and will generate little traffic once developed to ensure that it would be sustainable.

5.18 As the balance of energy generation becomes more reliant upon the variables introduced by renewable energy such as wind and solar power, it will be more and more important to ensure that gaps in supply are smoothed over with facilities such as the STOR proposed here to ensure that the local gird network remains stable and reliable. Policy SD2 refers to renewable and low carbon energy development and indicates that support will be given to small and large scale stand alone renewable and low-carbon energy schemes subject to conditions. The STOR development is a complimentary technology that helps the local electricity network cope with and deliver renewable energy. Furthermore, the local generation of electrify has in itself environmental benefits as explained in Section 4 of this report.

5.19 Rural diversification is covered by Policy R1, which highlights that all development in rural areas outside development boundaries will be assessed according to the extent that it enhances the character, appearance and biodiversity of the countryside. Appropriate development should not harm the rural character and environmental quality of the area. Within the Green Belt inappropriate development which is otherwise acceptable within the terms of this policy, will still need to be justified by very special circumstances.

6. Assessment

6.1 In this section of the assessment we have considered the environmental effects associated with the development, followed by the planning merits of the scheme and compare these to the planning policy constraints evident from the Green Belt designation. It is our belief that very special circumstances exist that demonstrate that the proposed STOR facility is acceptable in this location and would not conflict with the purposes of including land within the Green Belt.

6.2 We have reached this conclusion for the following reasons:

Landuse and agriculture

6.3 The development is located on brown field land, which forms part of a wider area of land currently and historically used for land fill and recycling purposes. This is not productive agricultural land and has not been for many years. Being a former landfill site, the agricultural land classification would be low, certainly lower than the land in the surrounding area, which is classified as Grade 3 on the Natural England ALC Maps, so not classed as high grade land in any event.

6.4 In searching for a suitable location for the STOR development, the starting point has been identifying capacity in the local grid network to allow the electricity to be fed into the system. This was identified at the Kingsley Holt substation, and the 33 kV line was traced from there looking at locations that could be suitable nearby.

6.5 An approach was made to the owners of the brownfield land in Froghall, the former industrial land north of the A52. However, they were not interested in locating a STOR on part of the land as they have their own development aspirations, so an agreement could not be reached. We then considered other locations along the 33 kV line, a number of which were discounted for being too close to housing or too exposed in the surrounding landscape.

6.6 The search led to the application site, where an agreement was made with the landowner for use of part of his brownfield land. The proposed STOR development uses only a small part of the landowners holding, and its use can be compensated for elsewhere on the site. The development will help to support the landowners business, which would continue on the remainder of the land holding.

Landscape

6.7 The location of the proposed STOR facility has been carefully selected to minimise effects on the surrounding landscape. The site has a hedgerow to the south and there are further hedgerows and trees to the north which screen views of the site, whilst the topography prevents views from the east and west.

6.8 When this is coupled with the proposed bunding and hedgerow planting around the perimeter of the site, it will ensure that the effect of the scheme on the surrounding landscape is very low and that that there will not be any significant adverse visual effects on the wider landscape.

6.9 The site itself is low quality in visual terms, having been reclaimed land. There are not considered to be any on site features that would prevent the development in landscape terms.

Ecology

6.10 The site has low ecological potential. The hedgerow to the southern boundary will be retained and allowed to grow as part of the scheme, with further planting around the perimeter of the site. As a result of this additional planting the localised ecology will be enhanced by the scheme. It should be noted that the landowner has already planted a considerable number of trees to the south of the application site that will mature over time to form a thick visual barrier and enhanced habitat.

Archaeology

6.11 The site has been selected as it is brownfield land. It has in the past been backfilled with inert material, and therefore is considered to have very low archaeological potential. In any event, the STOR development is temporary in nature and fully removable, allowing the site to be restored back to its current state. The development also has a limited impact on ground levels with minimal excavation necessary, so there would be little impact on any unknown archaeology in any event.

Flood risk and drainage

6.12 The application site is located within Flood Zone 1 and is not at risk from flooding. Surface water run-off from the development will be minimal, as much of the surface area is covered with permeable gravel, which will allow rainwater running off the equipment and onsite structures to soak away into the ground at the same rate as it does at present. There is not considered to be any risk of surface water runoff causing flooding elsewhere.

Noise

6.13 The noise from the generators has been considered in some detail within this report, and it has been found that there would no disturbance caused to neighbouring receptors, even if a line of sight straight line assessment issued. In reality there are existing trees, hedgerows and topography that would prevent sound carrying to the receptors and causing a disturbance.

6.14 In addition, it is proposed to install bunding around the scheme that will form a further acoustic and visual barrier.

6.15 The scheme is considered to be acceptable in noise terms.

Air quality

6.16 The generators operate on a low frequency basis and only for as long as the demand on the grid network requires them to boost the supply of available electricity to meet a localised shortfall. They would only be operational during emergency or peak demand use, and are not intended to be operational for long periods of time. Longer periods of operation would only be necessary in the event of a massive failure on the electrical grid network, such as the failure of a power station (albeit such a scenario is rare and unlikely), however the fire at Didcot B power station in October 2014 does indicate that large scale failures can occur.

6.17 The generators are supplied with integrated exhausts and meet all current emissions requirements. The site is not within an urban built up area where pollution is a concern, and any exhaust fumes will dissipate so as to not cause a nuisance.

Planning policy

6.18 The site is located on brownfield land that has been reclaimed from landfill. The site is not overlooked and the development will not have an adverse impact on any neighbours. With the proposed screening and additional landscaping, the STOR will not be visible and will not have an impact on the landscape setting.

6.19 Having the STOR in this location will add localised reinforcement to the electricity supply, ensuing that the local power network is more resilient and reducing the potential for power cuts to occur due to voltage drops within the network. Generating short term power locally will be more efficient compared to having a large generator on standby in a remote location, more responsive and better for the environment as standby energy use and emissions are reduced. The STOR can therefore be seen to have environmental benefits and be considered as sustainable development fulfilling a local energy requirement.

6.20 The site is located within the Green Belt, where development is restricted unless very special circumstances exist. However, the site is towards the very edge of the Green Belt, the boundary of which runs along Froghall Lane 200 metres approximately to the east.

6.21 For the reasons highlighted above, it is argued that special circumstances exist to justify the proposed development in this location. The development is for a temporary period and the site can be fully restored, so will not cause long term harm to the Green Belt. Furthermore, the containment offered by the visual screening that can be achieved will result in the development not being visually intrusive to the landscape.

6.22 By way of comparison, if the facility was moved to a site to the east of Froghall Lane in order to remain on the same electricity line with the identify grid capacity, whilst the location would be outside of the Green Belt, it would be in a location far more visible that the site at Booths Farm due to the sloping topography. Arguably this would have a greater impact upon the surrounding landscape, and would not be making best use of brownfield reclaimed land.

6.23 We are therefore of the view that special circumstances exist to support the development on the edge of the Green Belt, and that the development can be accommodated into the landscape without significant harm to the character of visual amenity of the area.

7. Conclusions

7.1 The proposed STOR development has to be located on an electricity grid line with identified capacity. It also must be within close proximity of the line to ensure that the scheme can quickly respond to identified localised power shortages. This places constraints on potential locations, and directs the search for suitable sites along the route of power lines.

7.2 The proposed application site has been selected for a number of reasons, including the fact that the land is brownfield, reclaimed land not in active agricultural use. The proposed STOR facility would be well screened within the landscape and further visual mitigation would be provided to plant new hedgerows and create bunds around the development that would render it effectively invisible within the surrounding landscape.

7.3 There are no neighbours close to the scheme, and it has been demonstrated that the noise generated by the equipment when it is operational would not have any significant or adverse impact on the amenity of any receptors. Indeed, the sound levels from the scheme at the receptors properties would be so quiet as to be masked by background noise levels. The bunding and additional landscaping will also help to contain and deflect any noise, reducing any potential for disturbance even further.

7.4 Other locations have been assessed to determine if they could accommodate the proposed STOR facility, and it was found that the land to the east of Froghall Road opens up and there are more properties that would overlook a potential site. So whilst this area was outside of the Green Belt, it was felt that the development here would have a greater level of potential visual impact and a greater impact on the surrounding landscape and amenity of the neighbours. A brownfield site to the north of the application site was also considered, however, the owners were not willing to house the STOR on the site in case it prejudiced their future development plans.

7.5 As such, the location at Booths Farm was selected. Whilst the site is located within the Green Belt, it is very close to the boundary, which runs a few hundred metres to the east along Froghall Road. There are special circumstances that would in our view allow the development to be located within the Green Belt, as we have highlighted above, which when coupled with the need to provide localised reinforcement to the electricity network and the sustainability benefits that that would bring, lead us to conclude that the special circumstances outweigh the limited harm that arise to the Green Belt.