

Chairman of Granborough Parish Council
Granborough Parish Council

By email

Copy Zenab Hearn, Principal Planner
Buckinghamshire Council

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16th January 2024

Dear sir,

Land at Rookery Farm, Granborough, Buckinghamshire MK18 3NJ
23/03875/APP: Development of a Battery Energy Storage System (BESS), connected directly to the national grid with associated infrastructure including access, drainage and landscaping.

I am writing in response to comments made by Granborough Parish Council at its open residents meeting on the 6th January 2024 about our proposed BESS scheme at Rookery Farm, addressing each matter in turn below:

Construction Traffic:

The nature of BESS facilities is such that there are few significant effects in transport and access terms during the scheme's operational phase. During this period, there are anticipated to be only a handful of visits to the site per month by vehicles accessing for maintenance, with only negligible impact.

During construction, Statera has prepared and submitted a Construction Traffic Management Plan and Abnormal Indivisible Load Report as part of the planning application.

To further minimise disturbance on the local road network, Statera is proposing a temporary haul road for the construction period across agricultural fields between the proposed site and the East Claydon Road. Statera is prepared to commit that all construction related HGV and LGV vehicles use the temporary construction haul route and will not use routes through Granborough even in the event the haul road is unusable.

A temporary compound area will also be established within to the site of a sufficient size to accommodate welfare facilities for the workforce, parking for workforce vehicles, secure storage of materials and the unloading requirements of the delivery vehicles. The area will also be of a size that will allow the largest delivery vehicles to turn such that they can both enter and depart the site in a forward gear. In this way there will be no queuing, parking or unloading on the public highway.

During construction, the only access to be taken from the Hogshaw Road and through the village of Granborough will be four individual AIL (Abnormal Indivisible Load) vehicle movements which are unable to use the temporary construction haul route.

Customer Substation Fire Walls

Our planning application plans include, as part of our typical layout design for a customer substation, fire walls between substation transformers. This is a standard design feature included at planning

stage and any specific need for these elements will be reconsidered at detailed design stage. If it is established that there is no need for fire walls in conversations with our designers and manufacturers, then these will not be included in the built scheme. These fire walls are not part of any overarching BESS fire mitigation strategy.

Fire Safety

Statera consider safety to be an important principle for any of our proposals and this has been discussed extensively with Buckinghamshire Fire and Rescue Services (BFRS). Through conversations with BFRS changes to scheme design were made in advance of the application submission to take account of operational access needs. A Fire Liaison Framework (FLF) between Statera and BFRS has also been developed and forms part of our planning application. The conclusions of that framework state that BFRS will benefit from detailed liaison which ensures the fire protection approach, operational training and operational response policies and procedures are specific to the site and 'best in class'. The BFRS representative welcomed our engagement with them pre-application and the proposed steps within the Fire Liaison Framework.

Design features and fire mitigations included within our BESS units reduce potential for fire spread. Statera adopts a minimum 3m spacing between BESS containers and between BESS containers and other plant with mitigating measures in place to prevent fire spread between containers. Such mitigating measures will be installed as part of our proposal and have been discussed with BFRS, in summary these include:

- Cooling systems to keep battery temperatures below 40 degrees C at all times.
- Controls to stop charging of batteries should a temperature of 60 degrees be reached.
- Heat and smoke detectors to initiate a fire suppression system should temperature of 65 degrees be reached.
- A fire suppression system, typically a pulsed aerosol system, per battery rack, initiated on sensing heat and smoke.
- BESS tested to UL9540A at a unit level. The UL9540A test forces a battery cell into thermal runaway by heating it to several hundred degrees C. The results of these tests for the technology Statera would expect to use as part of our proposal show:
 - a. Thermal runaway does not occur until 200+ degrees C
 - b. In the event that thermal runaway occurs in one cell, it does not spread to neighbouring battery racks.
- If all the above mitigation measures fail, Statera have commissioned modelling from DNV which shows that if all battery racks on one side of a battery container are on fire, then the heat flux generated on containers 3m away, in the worst-case wind conditions, are not sufficient to heat the neighbouring container to a level that might initiate thermal runaway. The DNV report forms part of our planning application, a copy of which is enclosed with this letter.
- The above fire suppression measures would be provided independently for each individual battery compartment, allowing fire suppression to act within each compartment separately, thus further reducing the possibility that thermal runaway could occur.

Once a battery manufacturer has been chosen, following any future grant of planning consent, a detailed Integrated Fire Risk Management Strategy (IFRMS) will be published. Through the FLF, the fire service will be able to engage on the IFRMS and, if necessary, suggest improvements.

Size and Scale

The presentation at the public meeting refers to the size and location of other BESS installations globally. Missing from this list is Statera's largest scheme currently under construction in Thurrock, Essex. This scheme is 600MWhs and Statera's largest so far. The BESS market in the UK is moving towards larger schemes strategically located next to NGET substations and is reflective of the requirement and the relaxation of planning rules enabling local authorities to consent schemes above 50MWs.

The Need Case

There will be many different, and often conflicting, data points predicting the amount of storage required as the UK transitions to Net Zero. Statera has set out these arguments and data point in its application (and provided them again below) but we'd urge the Parish Council to consider this application on its merits and the undeniable benefit of flexible storage connected to a major substation like East Claydon which sits at the heart of the UK electrical network. Whatever the number of BESS sites ultimately required, few sites would be able to connect sooner and be better placed than this application.

We should all accept Climate Change is driving the need for an urgent reduction in carbon emissions. As a result, the UK Government has committed to a decarbonised electricity network by 2035 and a Net Zero economy by 2050.

Renewable energy generation is low cost and carbon free, but its generation is intermittent and constantly fluctuating, making the job of balancing the electricity grid ever more challenging. Without balancing the grid the UK will not reach Net Zero or get close to it. BESS schemes can support this constant need for balancing.

Services that can be provided:

Frequency response – The balance between supply and demand of electricity is reflected in the grid frequency (50Hz in the UK), and it is National Grid's role as system operator to keep the system in balance. If supply exceeds demand, the frequency rises above 50Hz, if demand exceeds supply, frequency falls below 50Hz. Most electrical devices require frequency to be in a certain range – if frequency goes outside of this range for a prolonged period of time the UK can encounter black-outs or electrical devices, such as televisions or computers, will turn off to protect themselves. Our batteries can respond in sub second times to dynamically balance supply and demand on a second-by-second basis, providing a valuable tool to National Grid in helping to "keep the lights on".

Renewables integration – Due to their nature, batteries can both supply energy when demand outstrips supply, but also absorb energy when supply exceeds demand (such as excess wind or solar), meaning this energy is not wasted, but stored to release when required. This is very

important because it increases the amount of renewable power on our network and will lessen our dependence of fossil fuel power e.g. coal and gas.

Capacity Market – If a major power plant, such as a large nuclear reactor or large gas generator, fails during the depths of winter, this could potentially lead to blackouts across the country unless other generation can be brought on line to replace the power lost by the failed plant. Capacity Market participants provide these back-up services. All of Statera's assets are designed to deliver this reserve service to National Grid and have been designed to achieve longer durations and available for longer.

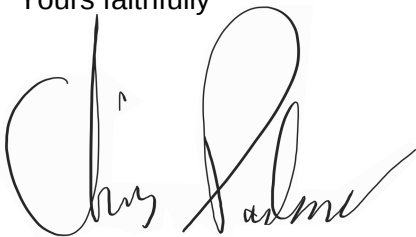
The International Energy Agency stated "Grid-scale battery storage needs to grow significantly to get on track with the Net Zero Scenario."¹ With the National Grid's Future Energy Scenarios 2023 (FES23) estimates that in 2030 we'll need over 20GW of battery storage, and in 2050 over 35GW.²

We note the references made to other BESS sites already consented or in planning within the slides presented at the meeting but for developers that have not had the experience of building and operating batteries (of which there are many) the evidence is that many of these sites are looking for finance and experienced operators to build them out. Further many solar schemes include batteries in their applications but these are not getting built out alongside the solar schemes and also many of the emerging consented sites have long dated connection dates beyond the 2030's which make the proposals speculative and obviously not able to address the need in the next 5 years. Further detail on the 'Need Case' can be found within the Planning Design and Access Statement, section 4 and the Site Selection Report Appendix.

Agricultural Land Quality

For the avoidance of doubt, the land quality survey which supports our planning application was undertaken by an independent surveyor and the results it draws upon are based on scientific analysis to be relied upon in the event of any further examination if required.

Yours faithfully



Chris Palmer BSc(Hons) MSc MRTPI

Planning Lead

Statera Energy Limited

¹ [Energy storage - IEA](#)

² <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nationalgrideso.com/document/283101/download>