

Staffordshire Moorlands District CouncilMoorlands House
Stockwell Street
Leek
ST13 6HQ

22nd November 2024

3306/EIABy email: Planning@staffsmoorlands.gov.uk

Dear Sir/Madam

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, Request for Screening Opinion (Regulation 6) for a proposed development of a battery storage facility and associated infrastructure, access and cable route on land at Tean Leys Farm, Tean, Stoke-on-Trent, Staffordshire, on behalf of Tean Leys Energy Storage Limited (the Applicant).

In accordance with Regulation 6(1) of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regs') this letter is a formal request for a Screening Opinion from Staffordshire Moorlands District Council (SMDC) as to whether an EIA is required for the proposed development referred to above. Regulation 6 advises that requests for a screening opinion should include the following:

- (a) a plan sufficient to identify the land;
- (b) a description of the development including:
 - a description of the physical characteristics of the development and, where relevant, any demolition works;
 - a description of the location of the development with particular regard to the environmental sensitivity nature and purpose of the development and its possible effects on the environment;
- (c) a description of the aspects of the environment likely to be significantly affected by the development;
- (d) to the extent the information is available, a description of any likely significant effects of the proposed development on the environment resulting from:
 - the expected residues and emissions and production of waste, where relevant; and
 - the use of natural resources, in particular soil, land, water and biodiversity; and

- other information or representations as the person making the request may wish to provide or make, including any features of the proposed development or any measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.

This request has been prepared by Lanpro on behalf of the applicant, Tean Leys Energy Storage (TLES) Limited who is promoting the site for the proposed development on behalf of the landowner. Our considerable experience in undertaking EIAs (including assessing the potential for proposals to result in significant environmental effects through screening developments for EIA), makes us 'competent experts' in this field.

The requirements of Regulation 6 are addressed below.

EIA Regulations

A project is considered EIA development if either it is listed in Schedule 1 of the Regs or is in Schedule 2 and exceeds one of the thresholds or criteria and is likely to have significant effects on the environment by virtue of factors such as its nature, size or location. The development described above does not fall into a project category under Schedule 1. Therefore, the development is considered to fall within the project definitions of Schedule 3, (a) of the Regs "*Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1)*".

Under this category, the threshold where EIA may be required is if the area of new floorspace exceeds 500 square metres.

The site is not within a Sensitive Area as defined in Regulation 2(1).

The Planning Practice Guidance provides further advice on determining whether or not significant effects are likely. Paragraph 057 and 058 include a table setting out indicative thresholds when significant effects are likely to occur, and key issues to consider for different development types.

For *Category 3 (a) Industrial installation for the production of electricity* (which is the most relevant category for this proposal), the table indicates that EIA is unlikely to be required for installations which have a thermal output of less than 50MW, key issues to consider are levels of emissions to air, arrangement for the transport of fuel and any visual impact.

Site Location

The site ('the Site') subject to this EIA screening request covers an area of 10.7ha including the proposed cable route corridor and accesses, and is located to the south of the village of Tean and

Upper Tean and to the north of the A50 (please see red line / site location plan enclosed at **Appendix 1**).

The proposed site is located on the larger part of an agricultural field and is bounded by further agricultural land to all site boundaries. It is located immediately to the west of Tean Leys Farm, a poultry and egg farm. The project comprises a northern access and a southern access. The northern access would be via an existing private road serving Tean Leys Farm, off Leigh Lane and the southern access would be from the east of the site via an existing private farm track serving both Lower and Upper Newton Farms, This track in itself is accessed via a private road off Draycott Road to the north of the site at Draycott in the Moors.

The cable route corridor runs north from the Site to the electricity distribution site on Cheadle Road in Upper Tean and south from the Site to a proposed electricity substation (approved under planning application ref SMD/2023/0594) located adjacent to the railway line to the south of the A50.

There are no Public Rights of Way (PRoW) either within or adjacent to the Site. The following are located at varying distances from the Site:

- PRoW Checkley 12, c.200m SE
- PRoW Checkley 42, c.350m NE
- PRoW Checkley 14, c. 415 SW
- PRoW Checkley 43, c.600m S
- PRoW Checkley 15, c.715m NW

The Site does not accommodate any listed buildings. There are a number located within 2km of the site. These are south of the site, with the closest being approximately 650m from the site's nearest boundary, within Northwold village. The majority of the village is designated as a Conservation Area. Oxborough Hall, a Grade I listed building is located 2.8km to the north of the site within a Grade II Registered Park and Garden, 1.3km north west of the site boundary at its closest point.

The site is not covered by any statutorily designated ecological sites, nor do any lie within 5km of the proposed development. "The Wing Drumble", an area of Ancient Semi-natural Woodland, lies approximately 0.6km east of the Site.

The Site is within flood zone 1 as identified on the Environment Agency's Flood Risk maps.

The Site is currently a green field under pasture and is classified as being Grade 3 agricultural land under Natural England's Agricultural Land Classification Map. On site testing has been undertaken and has confirmed the site to be Grade 4. A report will be submitted with the planning application confirming this.

Description of the Development

The proposed development is for an energy storage facility in the form of batteries and associated infrastructure. The development will consist of a number of different elements, the specific detailed design will be developed and adapted through the process to address any matters that are required as a result of technical surveys and assessment work that will be required to be undertaken.

A preliminary / indicative site layout plan is provided at **Appendix 2**. This shows the likely layout of the battery storage site, which may be subject to some further refinement throughout the design evolution stage.

Energy storage

The candidate technology for the energy storage which is being assessed in the EIA is battery storage. The design principles of the batteries are:

- The battery storage will have a capacity of 70MW.
- Maximum compound dimensions of approximately 120m x 170m.
- Battery containers would have a maximum length of 6m, maximum width of 3m and a maximum height of 4m each. The maximum storage capacity of a single battery container would be approximately 5MW.
- Battery inverter units would measure 5.4m in length x 2.2m width x 2.3m in height each.
- Palisade fencing around the compound with a maximum height of 3m.
- Internal access tracks with a width of 4m.
- The compound will have parking bays.
- CCTV will be installed.
- Lighting tbc.

Fencing and Security

The design principles of the fencing and security are:

- A deer type wire mesh and wooden post fencing with a maximum height of 2.5m.
- CCTV camera on poles with a maximum height of 3m.
- CCTV poles to be galvanized steel painted black or green.

Associated Infrastructure

The development will also require the installation of associated infrastructure required for the running of the battery storage site which comprises:

- 1no Substation and DNO substation – Maximum height of 3.95m.

Site Access

The BESS Site will be accessed from the existing access road to Tean Leys Farm to the east. A secondary access point to the BESS site is also proposed to provide an alternative access for emergency vehicles. A southern access point is also included for construction of the cable route and connection to the approved 132kv substation under application ref. SMD/2023/0594.

The main traffic generated by the development will be during the construction period which will be relatively short. A construction management plan can be prepared to provide routing and traffic generation details as part of any planning application.

At this stage, it is anticipated that deliveries into the site will be concentrated during construction which will cover an 18-24 month period.

Once operational, traffic movements to and from the site would be minimal, with only a maintenance team requiring access to the site periodically.

Construction Environmental Management Plan (CEMP)

To ensure the potential construction impacts are minimised, the preparation of a Construction Environmental Management Plan (CEMP) is proposed prior to construction to ensure any potential impacts are minimised. The CEMP will outline the allocated responsibilities, procedures and requirements for site environmental management. It will include relevant site-specific method statements, operating practices, and arrangements for monitoring and liaison with local authorities and stakeholders.

The main contractors undertaking the construction of the development will need to adopt and comply with the CEMP, allocate environmental management responsibilities to a site manager and ensure that all sub-contractors activities are effectively managed in accordance with the CEMP.

Operation & Maintenance

There will be no on-site staff required to operate the battery storage site and no staff offices or maintenance buildings will be needed within or near to the site. It is expected that some permanent equipment for monitoring the site will be held within one of grid connection cabinets. Whilst this would typically be accessed remotely, it would be available when physical access to the site is required during routine visits.

Decommissioning

The scheme has been designed to have the lightest possible impact on the land in terms of structural loading. At the end of its operational life, all equipment and cabling, would be carefully dismantled and removed from the site. Materials would be reused or taken to an appropriate location for recycling or disposal. The site would be reinstated for full agricultural use.

Grid Connection

There will be cables required for connection to the grid of the energy storage.

The cable trench width would measure approximately 0.6m.

In addition to the trenches, land will be required in the cable corridor for construction access and soil and cable 'lay down'.

Temporary construction compounds along this route will also be required.

The cable route corridor is shown on the site plan contained within Appendix 1. The corridor measures 9m in width and has been identified to enable the required trenches to be optimally located e.g. to avoid key trees etc within the corridor.

Representations Under Reg 6 (C): Potential Environmental Effects

The development has the potential to give rise to environmental effects. These are identified below:

1. Ecology

The site is not covered by any statutorily designated sites, nor do any lie within 5km of the proposed development. "The Wing Drumble", an area of Ancient Semi-natural Woodland, lies approximately 0.6km east of the Site.

With the exception of the hedgerows that bound the site, the site itself will occupy a single field, in a ley rotation at the time of the initial ecological survey. The development proposals will generally impact only agricultural land, comprising limited inherent ecological value.

Although none were on site, eleven ponds were identified within 500m of the site and additional ponds were sited within 500m of the cable route corridor. Initial eDNA survey for GCN identified the presence of this species within few of the surveyed ponds and a District Level Licence for GCN will be sought from Naturespace for the proposed development to ensure that works remain in line with relevant legislation. Impacts on other protected and notable species, which may be present in the area, will be avoided through the sensitive design of the development and through the implementation of appropriate mitigation measures.

Embedded mitigation provided as part of the proposed development would include the provision of green infrastructure through appropriate soft landscaping and ongoing management, which will be detailed within a LEMP. Tree planting will be included in line with the Staffs. Council Tree Strategy

(2016). Ecologically sensitive habitats, such as hedgerows and nearby woodland will be protected from impacts during the construction and operational phases through the implementation of a CEMP.

Overall, the development can be considered acceptable in terms of ecology and as such, will not give rise to significant environmental effects.

2. Landscape and Visual

Potential Landscape Effects

A Baseline Landscape and Visual Assessment (LVA) is contained at Appendix 3. The Site, and the wider countryside of which it is a part of, is typical of the character of the Settled plateau farmland slopes LCA, and is therefore considered to positively contribute to the rural character of this area. The Site is located in proximity to existing large scale farmsteads with large farm sheds and areas of hard standing.

The Site sits on the rolling plateau above the Rivers Tean and Blithe. Native woodland blocks within the surrounding farmland provide containment and enclosure across the countryside to the north of the A50. The A50 itself forms a well vegetated visual barrier across the landscape to the south that separates the countryside locally and screens views.

The existing enclosure provided by woodlands and the A50 allows for low level features to be absorbed into this landscape, with limited wider appreciation. The nature of battery development (BESS) is that it is low level and easily screened in a way that is consistent with the established pattern of boundary treatments within the landscape.

In the context of the identified characteristics of the landscape character and the associated planning guidance, the development could be easily absorbed into the landscape to the north of the A50. The proposal includes planting that would screen the batteries from view and it is envisioned that this screening would take the form of native planting and retention of existing boundary vegetation. In light of the above, no Significant Adverse landscape effects are anticipated.

Potential Visual Effects

Overall, the extent of views and visual influence of the proposed development are limited to the local area and mostly contained to locations immediately alongside the Site to the north of the A50, (see Figure 9 Augmented ZTV). The ZTV indicates limited potential visibility in limited zones on the edge of the Study Area, however it is unlikely that at this distance (circa 2km) that there would be any notable views of the proposals, with the layering of low-level vegetation across the countryside screening the development.

The proposals could be readily absorbed into the countryside to the north of the A50 with limited visual appreciation in the local or wider landscape. The proposed woodland and hedgerow planting on the edge of the Site would, once established, provide additional screening and absorption of the proposals, further limiting any opportunities for visibility of the proposals.

Given the enclosure to the Site, and contained potential visibility identified by the ZTV study, the visibility of the proposed development locally is not considered likely to result in any Significant Adverse visual effects over and above the presence of existing farm buildings locally.

Potential Cumulative Landscape Effects

Native woodland blocks and field boundary hedgerows within the surrounding farmland provide containment and enclosure across the countryside to the north of the A50. Proposals for a Solar Array at Highfields Farm (SMD/2023/0197) are located approximately 700m north west of the Site alongside the A50 and to the north of Highfields Farm. Field boundaries and woodland blocks within and alongside the solar scheme would help screen and absorb the proposed solar array locally and provide clear separation between the proposals and the solar infrastructure to the north west. This combined with the existing enclosure provided to the Site by woodlands and the A50 allows for low level features to be absorbed into this landscape, with limited wider appreciation. As such, no significant cumulative landscape effects are anticipated between the Scheme and the Solar Array at Highfields Farm, (SMD/2023/0197).

The A50 itself forms a well vegetated barrier across the landscape to the south that separates the countryside locally north and south of the highway. All remaining Cumulative Development schemes are located to the south of the A50, with all but SMD/2021/0662 (Screening request for proposed Solar Farm (sub 50MW)) being located between the A50 and the railway line. SMD/2021/0662 is located south of the railway line and adjacent to Dairy House Farm.

The A50 forms a well vegetated barrier across the landscape that separates the area of countryside within which the Scheme is located from that to the south within which the Cumulative Developments are located. Given this separation, development of the Scheme to the north of the A50 is not considered likely to lead to significant cumulative landscape effects with those Cumulative Developments to the South: SMD/2022/0160, SMD/2023/0197, SMD/2023/0594 and SMD/2021/0662.

No significant cumulative landscape effects are anticipated between the Scheme and the Cumulative Developments.

Potential Cumulative Visual Effects

Cumulative Developments SMD/2022/0160, SMD/2023/0197, SMD/2023/0594 and SMD/2021/0662 are all located to the south of the A50, with no intervisibility between the Site or any of these

Developments, as demonstrated on the Augmented ZTV (Figure 9). As such, there is not considered to be any 'Combined' visual effects associated with these Developments and the Scheme. PRoW Checkley 12 and 14 pass to the east of Cumulative Developments SMD/2022/0160, SMD/2023/0197, SMD/2023/0594, with PRoW Checkley 12 continuing north across the A50 and through Tean Leys farmstead. Depending on approach to mitigation, there would be an opportunity for users of these footpaths to experience some limited Sequential visibility of these Developments with the Scheme itself, however this would only be from views north of the A50 and with the Scheme seen at distance from the footpath. As such, effects would not be to a level at which they were considered Significant.

Proposals for the Solar Array (SMD/2023/0197) north of Highfields Farm are located approximately 700m north west of the Site. As demonstrated on the Augmented ZTV (Figure 9) there is not anticipated to be any intervisibility between the two schemes. As such, no significant cumulative visual effects are expected.

No significant cumulative visual effects are anticipated between the Scheme and the Cumulative Developments.

3. Flood Risk and Drainage

Flood risk baseline conditions have been established as part of a desk study using available online sources. The Environment Agency's (EA's) Flood Map for Planning shows that the majority of the Site is located within Flood Zone 1 (Low Risk of fluvial and tidal flooding). A very limited portion of the Site (comprising part of the cable route) in the north, along Riverside Road and High Street, is proposed adjacent to the River Tean and therefore located within Flood Zones 2 and 3 (Moderate and High risk respectively) as defined in the NPPF Planning Practice Guidance on flood risk and coastal change (2022). EA surface water flood risk maps show the proposed cable route passes through limited areas of High risk within Upper Tean. Areas of Low risk have been identified northeast of Benthouse Farm. However, the Site is almost entirely at a Very Low risk of surface water flooding.

At present, the majority of the Site is occupied by greenfield land in agricultural use. The cable routing area will largely remain permeable, with the potential increase in impermeable area occurring as a result of the battery storage and substation in the centre and south. To ensure there is no increase in off-Site flood risk as a result of the proposed development, surface water runoff generated by new hardstanding will be restricted to an appropriate runoff rate for all events up to and including the 1 in 100 year plus climate change event. The inclusion of Sustainable Drainage Systems (SuDS) within the development will be considered as they would provide an opportunity to attenuate flows and, depending upon the SuDS techniques used, may also provide water quality benefits. It is likely that runoff would then subsequently be discharged into a peripheral watercourse of which consent would need to be sought prior to discharge. The inclusion of SuDS within the development would have a beneficial impact.

Due to the size of the Site (i.e. greater than 1 hectare) and sections of it being located within Flood Zones 2 and 3, a Site-specific Flood Risk Assessment (FRA) will be undertaken to assess the risk of flooding from all sources (tidal, fluvial, surface water, groundwater and artificial sources). The Flood Risk Assessment and Drainage Strategy will provide details of any appropriate mitigation measures (if any) to be incorporated into the development to ensure that the requirements of NPPF are met. With these measures included in the design of the development, no adverse impacts and no significant effects are anticipated in relation to flood risk or drainage during its operation due to the majority of the proposed development been located underground and the battery storage and substation compounds located in areas of Low risk. Operational impacts on flood risk have therefore been scoped out and will not be considered further.

Standard best practice measures would be employed during construction to minimise the impact on flood risk, drainage and water resources during construction. These measures would be managed through a Construction Environmental Management Plan (CEMP).

On the basis of the above, the development is considered acceptable in terms of flood risk and drainage matters and as such, will not give rise to significant environmental effects.

4. Cultural Heritage and Archaeology

Scheduled Monuments

There are no Scheduled Monuments within or bounding the study site.

There are two Scheduled Monuments within 1km of the study site.

The Bowl Barrow 280m ESE of Hall Green House' Scheduled Monument (NHLE1008540) lies 650m to the west of the southern section of the proposed cable route and the medieval 'Paynsley Hall moated site and outer enclosure' (NHLE 1011050) lies 915m to the north-east of the proposed BESS site.

Listed Buildings

There are no Listed Buildings within or bounding the study site.

There are two Grade II* Listed Buildings and 19 Grade II Listed Buildings within 1km of the study site.

To the north of the study site, there are 12 Listed Buildings within the Upper Tean Conservation Area. The closest of which are the two Grade II* Listed Buildings, Tean Hall (NHLE 1280982) and New Tean Hall Mill (NHLE 1037964) and the Grade II Listed '14, 14a and 16 High Street' (NHLE 1204888), which lie c.150m to the north-east of the proposed cable route (c.1.13km to the north of the proposed BESS site).

The Grade II Listed Blythe House (NHLE 1374671) lies 180m to the south-east of the southern section of the cable route (c.830m to the south-west of the proposed BESS site). The asset was evaluated as part of an approved planning application for Lower Newton solar farm.

There are eight Listed Buildings adjacent to Uttoxeter Road, the nearest of which is located c.575m to the east of the proposed BESS site.

Conservation Areas

There are no Conservation Areas within the Site.

There is one Conservation Areas within a 1km of the study site.

The Upper Tean Conservation Area lies c.15m to the north-east of the northern extent of the cable route, to the north of the River Tean (c.960m to the north of the proposed BESS site). The Conservation Area focuses on the historic core of the village, its link to the Tean Hall Mill complex and the banks of the River Tean.

Potential for buried archaeological remains

There is one record held by the Staffordshire Historic Environment Record (HER) located within the study site; a post-medieval water meadow system (HER 53250) situated within the southernmost field of the proposed cable route.

The HER records 50 'monument' records within 1km of the study site

The HER records 25 archaeological investigations that have been carried out within 1km of the study site, five of which consisted of intrusive archaeological works (e.g. watching brief and evaluation), five comprised non-intrusive surveys (e.g. walkover survey and geophysical survey) and the remaining 15 consisted of desk-based studies (e.g. building recording, Heritage Impact Assessment and DBA).

Although there is evidence dating to the prehistoric and Roman period within 1km of the study site, it is limited and mainly located within the valley of the River Tean, away from the proposed BESS site to the north. There may be a potential for residual finds to be present within the northern extent of the cable route that lies close to the River Tean. Therefore, although there may be potential for the survival of prehistoric and Roman periods remains within the study site, there is no evidence to suggest that any such remains, if present, would be of greater than local significance.

The study site was located outside of the focus of any known medieval settlement and is likely to have remained in agricultural use throughout the period. Therefore, it is considered that any remains of a medieval date surviving in the study site are likely to relate to agricultural activity, and are unlikely to be of greater than negligible significance.

Historic mapping indicates that the study site continued to be in agricultural use during the 19th and 20th centuries. Therefore, the potential for significant archaeological, non-agricultural, remains of post-medieval to modern date is considered to be low.

Conclusions

There are no designated heritage assets within the study site and no non-designated heritage assets recorded by the HER.

Several Listed Buildings have been identified within the Upper Tean Conservation Area, the nearest of which are located c. 150m to the north-east and c. 180m to the south-east of the proposed cable route. It should be noted that any impacts to their setting as a result of the installation of the cable route would be considered to be temporary, only occurring during the construction phase of the development. The nearest Listed Buildings to the proposed BESS site are located adjacent to Uttoxeter Road, c. 575m to the east of the proposed BESS site.

An assessment of accessible information, including records on the Staffordshire HER and historical maps suggests that, although there could be some limited potential for the survival of unrecorded archaeological remains of a prehistoric, Roman and medieval period within the study site, there is no evidence to suggest that any such remains would be of greater than local significance, if present.

5. Traffic

The nature of Battery Energy Storage System (BESS) Developments is such that there are few significant effects in Transport and Access terms during the Development's operational phase. During this period, there are anticipated to be only a handful of visits to the site per month by vehicles for maintenance. Therefore, effects will be greater during the temporary construction phase. The effects of the temporary decommissioning phase will be equivalent to, or less than, the construction phase.

Overall, the level of traffic forecast during the temporary construction phase is low. This will be the same for the decommissioning phase. A Construction Traffic Management Plan (CTMP) will be prepared to accompany the planning submission. The aim of the CTMP is to minimise the effect of the construction phase on the local and strategic highway network. It will contain all of the required information for the construction phase, as well as a package of agreed mitigation measures. The use of any roads other than the designated and signposted route referred to above shall not be permitted, and this shall be enforced through the agreement of the CTMP.

The Site will be accessed from the existing access road to Tean Leys Farm to the east. The access will provide the necessary visibility splays and surfacing. It will be designed to accommodate HGVs that will access the Site for the delivery of equipment during the construction phase.

A secondary access point to the BESS site is also proposed within the field containing the battery storage. This will be used to serve as an alternative access for emergency vehicles during the construction and operational phases and is provided so that the Proposed Development is in accordance with the latest guidance published by the National Fire Chiefs Council (NFCC).

A southern access is also proposed for construction of the cable route and connection to the approved 132kv substation under application ref. SMD/2023/0594.

Once operational the Proposed Development would be unmanned and only require limited vehicle movements for routine maintenance by the Site operatives.

Therefore, it is not anticipated there will be any significant transport and accesses effects resulting from the construction, operation or decommissioning of the Proposed Development.

6. Noise

A noise assessment has been undertaken by Tetrattech for the battery energy storage system (BESS) development.

The assessment considers the potential noise generation from the plant associated with the proposed development, with respect to existing noise levels in the area.

Daytime and Night-time noise levels have been assessed using the assessment methodology contained in British Standard 4142:2014+A1:2019 *Method for rating and assessing industrial and commercial sound* and BS 8233:2014 *Guidance on sound insulation and noise reduction for buildings – Code of practice*.

The assessment identifies that the rating levels from the proposed operations are predicted to be below the existing daytime and night-time background noise levels at the closest sensitive receptors. Which is an indication of a low impact and falls within the No Observed Adverse Effect Level (NOAEL).

Operational noise levels during the daytime and night-time periods are below the WHO guideline for noise intrusion and therefore also fall within the No Observed Adverse Effect Level (NOAEL).

A change in noise level assessment has been undertaken which shows that noise levels are not expected to change significantly and therefore, fall within the NOAEL.

It should be noted that the assessment considers that all items of plant associated with the BESS are assumed to be always fully operational during the daytime and night-time periods. The development will not operate continuously, and similar developments tend to operate for short periods by National Grid, typically during the peak daytime periods and are rarely used during the night-time hours.

When assessed on a worst-case basis, noise from the proposed development is predicted to have a negligible impact and noise levels fall within the NOAEL. Therefore, the proposed development is not expected to have an adverse impact on health or quality of life.

No significant environmental effects in respect of noise are considered to have the potential to arise.

7. Air Quality

An air quality assessment report has been undertaken by Tetrattech. It assesses the potential impact on air quality that would result in the event of a battery energy storage system (BESS) fire. Potential battery fire pollutant impacts have been assessed using dispersion modelling tools for the protection of human health and the health of workers.

The predicted BESS fire pollutant concentrations at relevant sensitive receptor locations have been compared against relevant UK Air Quality Standards for the protection of human health, British occupational exposure limits for the protection of the health of works and or relevant impact assessment criteria (the Air Quality Category and the UK Daily Air Quality Index (DAQI)).

Baseline air quality conditions have been defined following reviews of Local Planning Authority air quality monitoring works, background concentrations published by DEFRA, as well as UK Defra monitoring networks.

The detailed modelling results have been presented in terms of the emitted pollutant Process Contribution (PC) and Predicted Environmental Concentration (PEC) ($PEC = PC + \text{Background Concentration}$). AERMOD modelling has been undertaken using the most representative meteorological dataset. The worst-case and highest predicted long-term and short-term PECs were compared to the appropriate Air Quality Objectives (AQOs) / Environmental Assessment Levels (EALs) or relevant impact assessment criteria.

As a BESS fire would be expected to last for a short period only, the fire incident would be unlikely to generate a long-term air pollutant exposure and therefore only short-term health impacts have been assessed.

Assessment Results

The short-term (1-hour mean) environmental concentration of Nitrogen Dioxide (NO₂) at one residential receptor location (Tea Leys Farm) is predicted to be above the relevant air quality objectives for the protection of human health. The predicted short-term environmental concentrations of NO₂ are below the relevant UK air quality objective at all remaining receptor locations for the protection of human health.

The predicted short-term environmental concentrations of Carbon Monoxide (CO) at all residential receptor locations from a BESS fire incident are below the relevant air quality objectives for the protection of human health.

The predicted ground level 8-Hour mean and 15-min mean of Hydrogen Chloride (HCl) and Hydrogen Fluoride (HF) concentrations at the receptor locations are all below the relevant British occupational exposure limits. The short-term HCL and HF impact of a BESS fire at the receptors is sufficiently 'small'. The effect of pollutant impacts of HCl and HF in the case of a BESS fire on the receptors is insignificant.

The predicted short-term (24-hour mean) environmental concentrations of PM10 at the residential receptor locations from a BESS fire incident are all below the relevant air quality objectives for the protection of human health.

The assessment identified that two close receptors (Tea Leys Farm and Lower Tea Leys Farm located approximately between 270 m and 350 m to the fire) will have 'Moderate' UK Daily Air Quality Index for NO2. Tea Leys Farm will have a "Very High" UK Daily Air Quality Index (DAQI) for PM₁₀ and Lower Tea Leys Farm will have a "Low" UK DAQI for PM₁₀. Tea Leys Farm will have a "Very High" UK DAQI for PM_{2.5} and Lower Tea Leys Farm will have a "moderate" UK DAQI for PM_{2.5}. The two close receptors also have 'Moderate/Unhealthy for Sensitive Groups' Air Quality Category for PM2.5 concentrations under a worst-case scenario of a BESS fire lasting for up to 24 hours. All other nearby sensitive receptors will have 'low' UK DAQI and will fall into a 'good' Air Quality Category.

It should be noted that whilst it is not expected that a BESS fire would last for a long period of time, the assessment has utilised a worst-case scenario of pollutant emissions to determine the potential impact by assuming that a BESS fire would last up to 24 hours, in connection with the air quality standard of short-term averaging period for PM10 being measured as 24-hour mean. Therefore, a fire which lasted for less than 24 hours, for example only lasting for 1 to 3-hours, would result in much lower concentration levels measured as the 24-hour averaging period at sensitive receptors than those presented. For example,

- (1) the short-Term (24-Hour Mean, 100th Percentile) Concentrations of PM₁₀ at Tea Leys Farm and Lower Tea Leys Farm receptor locations would reduce from 'High' PM₁₀ 24-Hour UK daily air quality index to 'Low' PM₁₀ 24-Hour UK daily air quality index ' considering a fire would last 1 to 3 hours in reality;
- (2) the short-Term (24-Hour Mean, 100th Percentile) Concentrations of PM_{2.5} at Tea Leys Farm and Lower Tea Leys Farm receptor locations would reduce from 'Moderate' PM_{2.5} Air Quality Category to 'Good' PM_{2.5} Air Quality Category considering a fire would last 1 to 3 hours in reality; and
- (3) the short-Term (24-Hour Mean, 100th Percentile) Concentrations of PM_{2.5} at Tea Leys Farm and Lower Tea Leys Farm receptor locations would reduce from 'Very High' PM_{2.5} 24-Hour UK daily air quality index to 'Low' PM_{2.5} 24-Hour UK daily air quality index ' considering a fire would last 1 to 3 hours in reality.

An action plan for the protection of human health will be developed following the assessment results for submission with the planning application and the plan will be implemented in case of a BESS fire.

BESS Fire Action Plan

In view of the fact that (1) the predicted short-term NO₂ pollutant concentration at one residential receptor location is above the relevant air quality objectives for the protection of human health and (2) two close receptors will have 'Very High' or 'High' UK Daily Air Quality Index and will fall into a 'Moderate/Unhealthy for Sensitive Groups' Air Quality Category by the PM_{2.5} concentrations based on a worst-case scenario assumption of a BESS fire being lasting up to 24 hours, the developed fire action plan and safety measures will be implemented in the case of a fire.

The safety measures of the fire action plan will include:

"The site manager/fire safety representative will need to assess the fire location(s), wind directions and surrounding receptors. The site manager/fire safety representative will take appropriate actions accordingly. The actions to be taken include:

- (1) to inform any potentially affected residents, especially those that are located at downwind locations to the BESS fire;*
- (2) to cancel outdoor events and keep windows closed for any potentially affected residents, especially those that are located at downwind locations to the BESS fire; and*
- (3) to stop any farming activities and to move any farmers/workers within 500 m of the BESS fire to a cleaner air location. A cleaner air location would preferably not be downwind, and be at a distance greater than 500 m from the BESS fire."*

Therefore, it is not anticipated there will be any significant effects on air quality resulting from the construction, operation or decommissioning of the Proposed Development following the implementation of the safety measures in the Fire Action Plan and the Battery Fire Safety Management Plan that will also be provided with the planning application.

8. Agricultural Land Quality

An agricultural land quality survey the Site (excluding cable route corridor) has been undertaken by Land Research Associates Ltd. All of the land comprises Grade 4 (poor quality) agricultural land with heavy topsoils over dense reddish clay. As a consequence, the land is limited by significant wetness/workability constraints in terms of its value for agricultural use.

It is anticipated that there will be limited impact of the cable route corridor works on soils, agricultural land and farming activity. This is as the duration of cable laying works will be brief, without the need to transfer all soil material to then recover from soil storage bunds. The cable laying work will be similar

to that for the existing routine practice of installing agricultural field drains, typically renewed after 40 years of operation.

It is not, therefore, anticipated there will be any significant effects in terms of soils and agriculture resulting from the construction, operation or decommissioning of the Proposed Development.

Consideration of Schedule 3 of the EIA Regs

Schedule 3 of the EIA Regs provides selection criteria which should be used when assessing Schedule 2 development, together with applicable thresholds to determine whether an EIA is required. The criteria are summarised as follows:

Characteristics of development

Size and design of development

The Battery Storage Site itself measures 4.1ha which is below the 5ha indicative threshold for EIA as set out in the Planning Practice Guidance. With the cable route corridor, which measures 5.1 ha, and the construction/maintenance accesses (1.5ha) the total site area of 10.7ha is above the indicative threshold whereby the need for Environmental Impact Assessment is considered more likely.

The description of the development is set out at Section 2 above including maximum parameters.

Cumulation with other development

Through a search of Staffordshire Moorlands District Council website, no proposed developments for Battery Storage (standalone or with solar farms) in the vicinity of the Site (5km) were identified as currently being in the planning process.

The following applications for solar farms, one of which contains battery storage have been approved within 5km of the Site.

Application Number	Site Location	Proposal	Decision
SMD/2014/0197	LOWER NEWTON FARM , DRAYCOTT ROAD , UPPER TEAN , STAFFORDSHIRE , ST10 4JN	The erection of a solar photovoltaic (PV) array (11.5MW) and ancillary development	Approved 26/08/2014
SMD/2022/0160	Upper Newton Farm , Draycott Road , Upper Tean , Staffordshire , ST10 4JN	Installation of solar farm (27.7MW) with battery storage (30MW) facility and associated works.	Approved 01/02/2023

SMD/2023/0197	Totmonslow Farm, Draycott Road, Totmonslow, Upper Teian ST10 4JJ	Temporary development of a solar farm (15MW) with ancillary infrastructure, security fence, access, landscaping and continued agriculture, to generate power to feed into the local distribution network.	Approved 17/08/2023
SMD/2023/0594	Land at Blythe House Farm, south of the A50 , Draycott in the Moors , ST10 4JN	Installation of a solar array (17.6MW), substation and associated works forming an extension to Blythe Solar Farm (ref: SMD/2022/0160)	Approved 22/07/2024

An EIA Screening Opinion that confirmed no EIA was required was issued for a further solar farm in 2021 but no subsequent planning application appears to have been submitted at this address:

SMD/2021/0662	Land North Of Willow Cottage , Sandon Road, Hilderstone , Staffordshire ,	Screening request for proposed Solar Farm (sub 50MW)	EIA not required 06/12/2021
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The above sites are shown on Figure 11.

The LVA(section 2 above) has considered the likelihood of significant cumulative landscape and visual impacts. Given that native woodland blocks and field boundary hedgerows within the surrounding farmland provide containment and enclosure across the countryside to the north of the A50 and the A50 itself forms a well vegetated barrier across the landscape to the south that separates the area of countryside within which the Scheme is located from that to the south, no significant cumulative landscape effects are anticipated between the Scheme and the other identified cumulative sites. No significant visual effects are anticipated either due to lack of inter visibility between the schemes.

Given the relatively small and contained nature of the scheme and the low level of anticipated traffic generation, there are no other significant cumulative effects expected to arise as a result of the proposed development.

There are no other existing developments and/or approved development in the area which have been identified as potentially giving rise to cumulative effects with the Proposed Development.

The use of natural resources

The Site area is relatively small at 10.7 ha, and the amount of below ground development will be very limited (typically in the region of 0.5-1% of the area). The development does not sterilise the land and once decommissioned, the development can be removed, and the land can be returned to its previous arable use.

The production of waste

Construction waste will be re-used and recycled wherever possible. Anything that can't be, will be disposed of in line with industry standards and best practice. There will be no waste produced by the operational phase of the development.

Upon decommissioning the batteries will be recovered and recycled by an authorised reprocessor as required by the Waste Electrical and Electronic Equipment WEEE Regulations 2013. Batteries are required to be separated from WEEE so that they can be recovered, recycled, or disposed of in accordance with the Waste Batteries and Accumulators Regulations 2009. This is most likely to be undertaken by the battery manufacturer or supplier.

Pollution and nuisances

There are no pollutants produced by the day to day operation of a battery storage facility. No adverse impacts on amenity from e.g. noise are anticipated.

Risk of accidents and or disasters

A Battery Safety Management Plan (BSMP) will be submitted with the Planning Application. As part of preparation of the BSMP, the Applicant will take into account the latest good practices for battery fire detection and prevention, along with the emergency response plan, as guidance continues to develop in the UK and around the world.

Risk to human health

The site will be secured and will be monitored remotely and via CCTV, therefore risk of accidents will be minimised.

Location of Development

Existing and approved land use

The site is within the countryside and is in use for pasture. The proposed use of the site is for battery storage which would be for a temporary time period (40 years). Following decommissioning, the land can be returned to its former use. Therefore, the development will not give rise to the permanent loss of agricultural land.

Relative abundance, availability, quality and regenerative capacity of natural resources

The site has been assessed by an ecologist who has identified the habitats and species present or potentially present and evaluated their importance. The application site will provide at least 10% biodiversity net gain in accordance with national planning requirements.

The site has been assessed to be grade 4 agricultural land and does not, therefore, comprise high quality agricultural land.

The absorption capacity of the natural environment

The structures associated with the development are all relatively low in height (maximum height of 4m). Hedge planting will be undertaken around the battery storage area to mitigate views where needed. This containment will ensure that the site's impact will not spread into the wider landscape character area.

Types and Characteristics of the potential impact

The spatial and geographical scale of the impact is very localised in nature. The Site area is 10.7 hectares including the Cable Route Corridor and accesses for construction and occasional maintenance which comprise existing farm roads. The nature of the impact is likely to be limited to landscape and visual impacts and these are not considered to be significant, either individually or cumulatively, as set out at section 2 above. These impacts are not transboundary and are of low intensity and complexity. They can be mitigated by best practice methods, which will be employed.

Conclusion

It is considered that the relatively small nature of the proposal together with its visual containment and distance from human, heritage and ecological receptors, mean that it is unlikely to have significant effects on the environment, either individually or cumulatively, and therefore an EIA is not required.

I hope that the information provided is sufficient to enable a prompt response to this screening opinion request within the statutory timeframe so that we may proceed with the submission of the full planning application as soon as possible.

Yours Sincerely



Beccy Rejzek

Associate Director

Encs:

Appendix 1 – Site Location Plan

Appendix 2 – Indicative Site Layout Plan and Indicative Scheme Details

Appendix 3 - Landscape and Visual Assessment

