CULHAM PARISH COUNCIL OBJECTS TO Planning Application Ref. P24/S1498/FUL

Proposal: The development of a Battery Energy Storage System (BESS) comprising a 500 megawatt (MW) battery storage facility with associated infrastructure, access and landscaping, with a connection into the Culham Jet (sic) National Grid substation.

Address: Land to the north of Culham Science Centre Thame Lane OX14 3GY

Applicant: CULHAM STORAGE LIMITED

Our understanding of the proposal:

1. A Battery Energy Storage System (BESS). BESS facilities are a key component of the National infrastructure required in the transition of the National Grid to net zero. They '*import electricity from the grid and store it in batteries at times of low demand / high generation, which can then be exported back into the grid at times of higher demand / system stress'* (as per the Green Belt Assessment that accompanies the application, para 3.3). These facilities are important with the increasing reliance on electricity generated from renewable (less predictable) sources (i.e. wind and solar electricity generation).

2. The proposed 500 MW capacity would be: *"one of the largest schemes coming forward since the storage order was enacted in 2020. This means the proposed capacity would be 10 times larger than the previous maximum 49.9 capacity limit to follow the Town and Country Planning Act 1990 process, which was the most common route"* (Green Belt Assessment 9.14). Typically, a BESS has a capacity in the range of 50-100MW.

3. As per paras 2.13, 2.15, 4.5 and 5.10 of the Design and Access Statement (DAS) supplied, the 500 MW facility would occupy 26.8 hectares and involve 296 shipping containers (6.3 m x 2.4 m x 2.8 m) to accommodate the batteries, 37 larger buildings (12 m x 9.5 m x 4.05 m) to accommodate the inverters and transformers, seven control rooms and three shipping containers for storage/welfare. Associated auxiliary works on the site include: access roads and parking areas including removal and upgrading of existing farm tracks; boundary fencing and associated CCTV cameras; three firewater storage tanks; an electricity substation compound protected by 2.5m high steel mesh fencing to the north and west and 4m high timber acoustic fence to the west and south; and one storm water lagoon. (Para 3.7 of the Green Belt Assessment also summarises the development).

5.Directly associated works undertaken by National Grid Electricity Transmission will include a new connection tower, to be built within the Grade 1 Registered Park and Garden in Nuneham Courteney; installation of a high voltage underground electricity cable and an extension to the existing substation within the Culham Science Centre.

6. As per paras 5.22 – 5.28 of the DAS, the construction phase would be over an 18-month period, The construction workforce will peak at 70 personnel. Construction traffic will include 50 Heavy Duty Vehicles per day.

7. As per DAS para 5.29, once installed there will be minimal on-site activity as it will be remotely controlled/monitored.

8. The BESS would be operational for 40 years (DAS 5.33) plus 12 months decommissioning.

Our reasons for objecting:

1. The proposed development is located within the Oxfordshire Green Belt. The main considerations for development in the Green Belt are set out in Section 13 of the National Planning Policy Framework Dec 2023 (NPPF) with substantial weight given to any harm to Green Belt (NPPF para 153). New buildings are considered inappropriate in the Green Belt and renewable energy generation, or storage is NOT one of the listed exceptions (NPPF para 154). The application would therefore need to demonstrate "Very Special Circumstances" to justify development. Para 153 also clarifies that "Very Special Circumstances" will not exist unless the potential harm to the Green Belt is clearly outweighed by other considerations.

The Environmental Impact Assessment (EIA) Scoping report already said that there was '*likely significant effects with regards to archaeology, heritage, landscape and visual impact, land take and soils (agriculture) and operation climate change effects'.* See DAS 4.8.

2.Harms:

a) Harm to the Openness of the Green Belt

The proposal comprises inappropriate development that would be harmful to the openness of the Green Belt and would conflict with the stated purposes of the Green Belt, particularly in respect of assisting in safeguarding the countryside from encroachment.

One of the purposes of Green Belt is to prevent urban sprawl. The land on which the BESS is proposed currently provides a green barrier between the proposed new town of 3500 houses in the adopted South Oxfordshire District Council Local Plan 2032 (SODC LP31) immediately to the west of the proposed BESS, and the 73 ha developed site of Culham Science Centre (now Culham Campus). The Green Belt Assessment (eg, para 6.19 and conclusion (10.6) suggests a 'beneficial effect' through reduced views of the existing large buildings on the Campus. This is considered to be inappropriate given that the battery storage containers would be numerous, large and unattractive and, together with the substation, would cover 6.9 ha adjacent to the proposed housing development. (see 3.8 of the Green Belt Assessment). Typically, BESS are sited in remote locations with infrastructure / connection to the National Grid (NG) already in place.

b) Permanent built development within a Grade 1 Registered Park & Garden and Conservation Area.

Part of the proposed development site is located within the boundary of the Grade I Nuneham Courtenay Registered Park and Garden and the Nuneham Courtenay Conservation Area. Notably, the proposed connection tower and compound are located within the Registered Park and Garden. The Green Belt Assessment attempts to propose that the proposed development would result in a '*neutral effect'* on visual impact on the basis that the 15-25 years that it will take for the mitigating landscaping to take effect is '*deemed acceptable'* because '*the creation of parkland landscapes has required patience throughout centuries'*. We find this argument inappropriate. It is considered that the harm should be assessed on the basis of the quality of the existing landscape, particularly given that the life of the development is 40 years. The mitigating effect of proposed landscaping is not expected to result in a significant ameliorating effect until the second half of the life of the BESS.

3. Loss of Best and Most Versatile agricultural land

The site area is 26.8 hectares. As per the Agricultural Land Classification (ALC) study carried out, 79% of the land is Grade 2; and 21% is Grade 3a. Grades 1, 2, and 3a are considered 'Best and Most Versatile' agricultural land which should be protected and preserved following NPPF guidance, paragraph 180 b. The Green Belt Assessment para 108 attempts to claim minor harm claiming that the land would be isolated and set adjacent to an urbanising context and less desirable for agricultural use than other BMV land. This is not considered an appropriate argument given that Government policy is to protect all BMV from significant, inappropriate or unsustainable development proposals. Poorer quality land should be used in preference to higher quality land. The loss of BMV land throughout the lifetime of the proposed development (40 years) has not been justified in the planning application documentation.

4. Significant Impacts to Landscape Character and Sensitive Receptors

Para 8.6 of the DAS states that significant adverse impacts to landscape character will arise as a result of the proposed development *: 'It is concluded that the proposed electrical infrastructure will significantly adversely affect the landscape character of the part of the site in which it lies, and initially and to a lesser extent the character of a small part of Nuneham Park. It is proposed to enhance this part of the parkland, restoring a historical tree belt along the parish boundary …. Although this will take many years to be effective'*. The site is visible from a stretch of the Oxford Green Belt Way and from other Public rights of way. The DAS (8.4) claims it will allow increased public access via permissive paths and new woodland planting, but the timescale is too far in the future and existing Rights of Way (ROW) will be closed and the Oxford Green Belt Way severely compromised by the visual impact of the BESS.

5. Inappropriate Capacity and Scale of the Proposed Development

The application is for a 500MW BESS, "*one of the largest schemes coming forward since the storage order was enacted in 2020. This means the proposed capacity would be 10 times larger than the previous maximum 49.9 capacity limit to follow the Town and Country Planning Act 1990 process, which was the most common route"* (Green Belt Assessment 9.14).

No justification has been provided for a development of this very large scale. Given that the proposed development is located within the Green Belt, and therefore contrary to planning policy, justification of this should be provided within the application.

Whilst Statera state that 'no fire events have been recorded at any of their sites', and the proposal includes 2 fire water storage tanks, the size of the proposed facility is 5-10 times the size of existing battery storage facilities and, with such a large facility there is a potential higher chance of fire risk.

6. Significant Impacts during the Construction Phase, including traffic

The local area will be severely affected by traffic, noise and carbon emissions during the construction which would occur over an 18-month period with 40-50 personnel – and up to c.70 at the busiest times – with construction traffic peaking at 50 Heavy Duty Vehicles per day (DAS 5.26**).** Furthermore this would occur over a relatively long working day. **Working hours are 7am-6pm in winter and 7am – 8pm in summer and include Saturday working hours 7am-1pm** (DAS 8.23. See also Construction Traffic Management Plan (CTMP)para 1.8). A temporary car parking area will also be provided (i.e constructed) for the cars, minibuses and vans.

Cranes will also be required to deliver transformer equipment (weighing 112t). (CTMP 5.7-5.9)

Earthworks for the access tracks and battery bases is the first construction activity, followed by stoning up of the access tracks and construction of the concrete bases. In parallel with the concrete works the electrical infrastructure is installed. Finally, the containers and batteries themselves are to be brought to site, installed and connected.

The construction traffic will access the site via an existing road to the west of the industrial estate (known as Culham No 1 site), currently used as an agricultural track off Abingdon Road, before joining Thame Lane. It will involve upgrading the farm track. Vehicles may also cross the Grade II listed Isambard Kingdom Brunel bridge over the railway cutting.

All construction vehicles – and workers cars/vans/minibuses will approach the site via the A415. This will have a major impact on existing traffic levels and affect road users travelling from/to Abingdon, Clifton Hampden, Culham and the other neighbouring villages, such as Appleford, Sutton Courtenay and Nuneham Courteney,

There are also 3 Public Rights of Way that abut the site that will be impacted by vehicle movements.

7. Cumulative impacts

As per the CTMP 7.1, there is every likelihood that construction traffic for a Fusion Demonstration Plant (P22/S1410/FUL) on land to the NE corner of Culham Campus, which is currently in the planning system, will '*follow the same general construction access routes and could therefore result in cumulative impacts if constructed at the same time'* .

No mention is made of the possibility of the massive infrastructure project, the 'HIF1' roads, bridges, viaduct, Clifton Hampden bypass and associated roundabouts on the A415 which, if approved by the Secretary of State following the recent Planning Inquiry, are due to be completed by 2028 and are therefore likely to be in construction at the same time.

The EIA omits a quantitative and systematic cumulative impact assessment. Given the natura and scale of planned and proposed development within the immediate locality of the proposed development site, such a study is considered essential.

7. Employment benefits negligible

The DAS para 8.4 claims employment benefits. Whilst 40-50 workers will be needed for the construction period DAS para 8.4 (70 at peak times (8.21), during long-term operation (40 years) employment opportunities will be limited to two part-time personnel for maintenance / security checks (DAS 8.4). Monitoring will be done remotely.

8. Omissions in the Environmental Impact Statement

As required an Environmental Impact assessment (EIA) has been prepared to accompany the application for planning permission. There are, however, two notable omissions.

a) The assessment and evaluation of potential cumulative environmental impacts to arise as a result of the planned development of the BESS in association with other planned and proposed developments in the area (e.g. the expansion of the Culham Campus Centre, the HIF scheme/river crossing and the construction of 3,500 new houses (STRAT 9 of SODC LP35) and associated infrastructure etc.) is inadequate. There is no systematic quantitative assessment and evaluation of cumulative impacts or the

consideration of the need for additional mitigation measures to avoid cumulative impacts arising or lessen their significance.

b) Despite the potential for the site to be of archaeological interest, no archaeological field surveys have been undertaken to support the planning application. Rather, these are proposed to be undertaken at a later date. The desk-based assessment undertaken as part of the EIA, concludes that the site is predicted to contain archaeological remains potentially dating to the prehistoric and Romano-British periods. The absence of site-specific survey results potentially undermines the assessment conclusions of the EIA and **the Harm to Heritage Assets cannot be assessed in the absence of this survey.**

8. Site Selection flaws / Alternatives

Whilst we do not disagree that BESS facilities are required nationally**, no justification has been provided of the need to locate a large capacity BESS on GREEN BELT land in CULHAM.**

Alternative sites discussed in the Site Selection document, IS2 and IS3, are both in Green Belt. However,

a) Alternative Site IS1:an area of approximately 5.5 ha and is located within the Culham Science Centre.

The cited local need '*to support the sustainable growth of Oxfordshire settlements and energy hungry science facilities, such as the UKAEA Nuclear Fusion research at Culham Science Centre adjacent to the Site'* (Green Belt Assessment 5.9) is flawed. In 2016 SODC approved a planning application (see planning reference and link below) for a 250MW BESS on land WITHIN Culham Science Centre, land owned by UKAEA. The facility has not been built despite the 2016 application stating '*National Grid requires the ESF facility to be operational by the start of 2018 because: (1) it has a pressing and urgent national requirement to receive tenders for frequency response services, such as from energy storage, to strengthen grid stability over the coming years and (2) its procurement policy constrains how far in the future it can contract for balancing services'*. Whilst the approval may possibly have expired (3 years), if Culham Campus claims a need, they could apply to build this smaller facility within their land which has since been removed from Green Belt.

Ref: P16/S2368/FUL)
https://data.southoxon.gov.uk/ccm/support/Main.jsp?MODULE=ApplicationDetails&REF=P16/S2368/FUL
"*Development of an Energy Storage Facility (Sui Generis) comprising: a battery building to house plant, an administrative building, security fencing and landscaping; the excavation of land for the installation of a 250MW High Voltage Transformer; extension to existing electricity substation to provide additional plant equipment and building; and the provision of underground cabling between the battery building, transformer and the substation extension. Location: UK A E A Culham Science Centre near Clifton Hampden OX14 3DB"*

Statera gives the 'reasons' for not using the site today (Site Selection 2.44) as its not being large enough for a 500MW facility; and that they were '*unable to contract with is landowners'* , and that it does not perform any better in heritage and ALC terms. The latter is untrue as the land in the Culham Science Centre was redesignated as a result of the SODC LP 35 and is no longer in Green Belt. As for an inability to negotiate with the landowners, this seems somewhat

unbelievable. The landowner must surely be UKAEA, as per the 2016 application form, and the land remains undeveloped. It seems Culham Science Centre's letter of support for the current application by Statera is a way for them to get HV power and resilience into their site without using their land, pushing a scheme outside their site whatever the harm to Green Belt or the local community, landscape and heritage. A 250MW facility could be built on the 2016 application site and/or

b) Alternative with no impact on Green Belt, open countryside or NC conservation area:

The proposal could be redirected to land adjacent to the Didcot C gas turbine substation where it can offer the same resilience and HV support to Milton Park business park and other industrial and commercial users of electricity, and where the electrical infrastructure is already in place.

Conclusions/summary

Inappropriate development that would be harmful to the openness of the Green Belt and would conflict with the stated purposes of the Green Belt, particularly in assisting in safeguarding the countryside from encroachment.

Significant adverse impact on the Grade 1 Nuneham Courtenay (NC) Registered Park and Garden and NC Conservation Area

Loss of BMV agricultural land throughout the lifetime of the proposed development (40 years) with no justification for this loss provided in the application.

Significant potential for adverse impacts on the existing road users of the A415 and the local town of Abingdon and villages of Culham, Clifton Hampden etc during the construction phase of the proposed development. Further, there is the potential that these impacts may overlap with the continued development/expansion at Culham Campus AND the proposed HIF1 road infrastructure project resulting in significant adverse cumulative impacts.

Need not justified: Culham Science Centre / Campus has an existing approval for a 250MW BESS within its boundaries.

Better alternative sites in other areas of "Science Vale", e.g. the site of Didcot B.

Omission in the EIA: archaeological survey and cumulative impact assessment.

Largest BESS in the country – a potential fire risk next to a site which breeds radioactive Tritium and adjacent to area for planned new homes.