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by email: john.legg@planninginspectorate.gov.uk

15 May 2025

Dear Mr Legg,

TOWN AND COUNTRY PLANNING ACT 1990 - SECTION 78
APPEAL BY: CULHAM STORAGE LIMITED
SITE ADDRESS: LAND TO THE NORTH OF THE CULHAM SCIENCE CENTRE, CULHAM
APPEAL REFERENCE: APP/Q3115/W/24/3358132

I write in my role as acting Chief Executive Officer of the United Kingdom Atomic Energy Authority ("UKAEA"), the owner and operator of the Culham Campus in Southern Oxfordshire, which is directly affected by the above listed appeal.

The appeal has been submitted by Culham Storage Limited ("the Appellant") and has been lodged following the decision of South Oxfordshire District Council to refuse the Appellant's planning application described as:

"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 National Grid substation."

The Culham JET National Grid substation is located on the Culham Campus.

UKAEA has engaged with the Appellant since the first iteration of a battery storage project adjacent to Culham Campus in 2016. UKAEA remains in support of the appeal project which would provide the Culham Campus with an enhanced connection to the UK National Grid that will give it greater power security, resilience, and stability. This will contribute significantly to one of the UK's goals for the Campus, which is to be a world leading fusion facility, driving growth and employment in the region.

Culham Campus

Culham Campus combines world-class publicly funded research into fusion power; commercial technology organisations and Culham Innovation Centre, to create a powerhouse of high technology innovation and enterprise in South Oxfordshire. The Campus has been home to fusion research since 1965 and has grown in scale and influence since then.

Culham Campus is 'inset' from the Oxford Green Belt and is allocated for significant growth in the extant South Oxfordshire Local Plan (2011-2034), under policy STRAT8. The Campus also forms a key part of two regional employment strategies: "Science Vale" and the "Knowledge Spine," and is one of the largest employment centres in Oxfordshire. Culham Campus currently supports around 3,000 jobs.

National Strategies and Investment

The BESS scheme will support the UK's Fusion Energy Strategy at Culham Campus. Towards Fusion Energy: the UK Government's fusion strategy was launched in October 2021 and placed the Campus (and its growth) at the centre of the UK's Fusion and sustainability ambitions. This was supported by the injection of c £184m of funding via the Fusion Foundations Programme (FFP). The next stage in that national strategy was announced in October 2023, when it was explained that:

"As part of Fusion Futures, the UK government plans to invest up to £50 million in addition to Fusion Foundations to transform the Culham campus. Part of which includes constructing new tenancy buildings to host fusion facilities for private companies."

In the wake of the Fusion Energy Strategy, and the afore-mentioned Government investment, UKAEA has updated its Framework Masterplan for the Campus, the first phases of which have delivered the Culham Commercial Development Project (CCDP), a new Main Gate, Visitor Centre and Nursery buildings, the Materials Research Facility (MRF) extension, UKAEA offices and new hub car parks and the National Fusion Technology Platform (NFTP) Capital Equipment. Moreover, Government's announcement and publication of the supporting AI Opportunities Action Plan on 13th January 2025 identified Culham Campus as the first AI Growth Zone. This will take advantage of Culham's high voltage infrastructure that provides connections to both the 132kV and 400kV electricity grids.

The Action Plan states that:

"Government should quickly nominate at least one AIGZ and work with local regions to secure buy-in for further AIGZs that contribute to local needs. Existing government sites could be prioritised as pilots, including Culham Science Centre [sic], the UK Atomic Energy Authority's headquarters, which has access to significant power and land. Alongside this, government should consider other measures to accelerate buildout of data centres, such as offering central guidance, creating a bespoke planning use-class and considering the case for AI data centres to be eligible for relevant relief schemes that incentivise private sector investment."

Support for BESS

In the light of the continued growth and investment at Culham Campus, UKAEA supports the Statera proposal, which gives specific benefits to UKAEA.

The proposed development by Statera Energy provides the Culham Campus with several direct and indirect benefits as follows:

1. Resilience

The Oxfordshire local distribution network is stable, but the introduction of datacentres, large scale electrification and the ongoing demand of UKAEA's MAST fusion experiment causes voltage dips that reduce the ability of UKAEA to use its pulsed connection. The Appeal Scheme will assist materially in preventing such 'dips' by increasing the power quality to the site, injecting power to the grid and giving the ability to pulse during periods of high demand (e.g., large sporting events, domestic meal times, during upstream network maintenance):

- a) The Appeal Scheme will make it possible for UKAEA's tenants to opt for a private wire connection to the substation, thereby providing a more resilient large supply in a power outage condition; and
- b) The siting of a large battery bank will attract more engineering talent to the area that is critically short in supply and conversely offer new potential to the existing engineers at Culham to become familiar in battery technologies.

2. National Grid

A second 400kV connection via underground cable provides a more resilient supply, as well as additional capacity and opportunities for alternate supply as explained below:

- a) 4th SGT Connection – the Appeal Scheme would open up the opportunity for a 4th Super Grid transformer to be installed on-site at Culham Campus. This unlocks potential for the Campus to reach 500MW under the AIGZ, which would alleviate UKAEA's risks around aging infrastructure on the existing transformers. It would also enable projects such as the proposed Flywheel repurposing to operate without restriction, as well as allowing Fusion and high-power facilities to operate independent of each other with no restriction on power consumption;
- b) Bus coupler – the inclusion of a bus-coupler at the national grid level would allow the site to no longer have outages for maintenance and have the ability to recover from a network level outage in a very short period of time; seconds rather than hours; and
- c) The associated works that the National Grid will be undertaking will provide an outage that UKAEA can utilise to upgrade its own infrastructure and the National Grid substation, which is associated with UKAEA. Individual circuit breakers are being installed to our Super Grid Transformers that alleviate issues with power security to the site - the existing single circuit breaker is past its expected life and has no spare availability. There are also issues with a lack of expertise remaining in National Grid to operate the asset effectively.

3. Financial benefits

Annual electrical connection costs that are currently met by UKAEA will be reduced on the basis that the costs for the reconfigured substation will be shared nationwide by National Grid as part of its transmission network costs.

4. Attractiveness

Culham Campus is a unique science and technology park with high-power National Grid connectivity. Increasing the resilience of this high-power connection will help Culham Campus attract new tenants and future fusion facilities and create the opportunity to locate facilities such as high-power advanced computing on the Campus.

Comments on the Council's Statement of Case

Under the heading "Other Matters" it states at page 39, paragraph 5.65 in the Council's Statement of Case ("SoC") that:

"5.65 The development would, the appellant advises. Directly support the CSC [Culham Campus] which has been a national centre for fusion research since 1965. [Culham Campus] is power hungry, and the BESS would provide an enhanced connection to the National Grid that will give greater power security, resilience and stability. The council would afford limited weight to this argued benefit, no evidence has been adduced to indicate that the success of [Culham Campus] has been limited by problems of power security or stability."

UKAEA acknowledges that, to date, the Campus has not been materially *"limited by problems of power security or stability."* However, as has been explained above, those problems **will** become manifest going forward as the robustness/resilience of the existing power supply infrastructure diminishes and without the attendant National Grid upgrades and **will** undoubtedly hamper UKAEA's ability to deliver on the Government's commitment to make Culham Campus its first AI Growth Zone and to deliver data centre development at Culham.

Under the heading, "Alternative sites" on page 40, paragraphs 5.70 – 5.75 in the Council's SoC the Council states that *"it will argue that a lack of alternative sites has not been demonstrated by the appellant"* (para 5.70) and references *"Site IS1"* which is located on Culham Campus and which had planning permission for the development of a 250MW BESS under permission reference P16/S2368FUL.

The first point is that that permission was not implemented and has now lapsed.

Second, the Council acknowledges that the 2016 permission was for a 250MW BESS i.e., half the capacity of the Appeal Scheme but suggests that *"the 2016 application site was smaller than the actual land parcel upon which the BESS was approved so a larger BESS might be achieved at the site."* (para 5.71). it then goes on to argue at paragraph 5.72 that:

"5.72 The land was in 2016 available for a 250MW BESS and remains undeveloped. The applicant at the time was the UK Atomic Energy Authority (UK AEA) and Capita Energy Services Limited, with UK AEA as owner of the site. It remains the

case that UKAEA [is] the [owner] of the site. UKAEA wrote in support of the appeal proposals (at application stage) and [is] intended to benefit from the operation of the BESS. It is unclear on this basis why the land would not be available for this alternative non-Green Belt site which is also outside the [Registered Park and Garden].”

It is correct that UKAEA would benefit from the proposed BESS. The issue is however that the particular facilities that would benefit are those associated with the AI Growth Zone, including the proposed data centre and the only site on which, in particular, the data centre can be located is the currently undeveloped land in the north-east quadrant of the site, which includes the land on which the previous BESS was to have been located.

Conclusion

Culham Campus is due to grow significantly in the coming years, and this is very much supported by the Local Plan for South Oxfordshire, and by Government strategy and investment. The BESS Appeal Scheme will help UKAEA to realise its ambitions for the Campus, and in turn the national ambition to further fusion research. Those ambitions can only be realised on the currently undeveloped north-east quadrant of the Campus, which is not big enough to accommodate that development and a 500MW BESS.

For the reasons set out above UKAEA supports the Appeal Scheme and respectfully requests that the appeal should be allowed.

This written response has been prepared with support from our retained planning advisor, Carter Jonas LLP. Carter Jonas LLP is instructed to attend the Public Inquiry on behalf of UKAEA and, once we have had sight of the Council's evidence in full, may be instructed to produce additional written evidence in our role as a third party and to talk to that evidence at the Inquiry.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Tim Bestwick', with a stylized, cursive script.

Tim Bestwick
Chief development Officer and Deputy CEO