

# BESS is back...an update:

We started by questioning aspects of the electrical connection and operational aspects of the scheme. The majority of the c.3.5km cable route, connecting the substation of the proposed BESS to the Laleham National Grid sub-station near the Fordbridge roundabout, has now been excluded from the planning submission. The Applicant considers that the section of the route which involves land not owned by the site landowner or National Highways Limited (the portion under the M3) will be developed under different planning rules by an Independent Distribution Network Operator (IDNO). National Highways, which raised concerns first time around about the proposal to bore a tunnel for the cable under the M3 motorway, has apparently been sent technical details of the tunnelling method. Any response that NH may have made on these proposals has not yet been published on the planning portal.

We also discussed how the proposed scheme, which would be operated remotely with no personnel on-site, would respond to an outbreak of fire. The Applicant advised that the normal operation of the BESS would be managed by a sophisticated battery management system that would continuously monitor the state of the plant. In the event of any fire or potential fire being detected, the entire plant would immediately disconnect from the National Grid via breakers at both the BESS site and Laleham Sub-station ends of the 132kV cable.

Moving on, we were able to correct a couple of apparent anomalies in the applicant's revised **Very Special Circumstances Report** (published on the planning portal on 15 October):

- Despite other figures being mentioned in the VSC Report, the proposed storage capacity of the scheme is 400 MWh.
- The mention of 'a requirement for a solar farm in this location...' (para 2.23) is an error.

The Applicant also confirmed that the 'wider agricultural unit' - claimed in para 3.64 as potentially benefitting from income resulting from the Proposed Development Site - is in fact simply other land that is also owned by the owners of the Proposed Development Site.

Much of the remainder of the meeting focused on precautions and measures around the issue of fire safety related to BESS installations.

Noting that the (un-revised) **Framework/Outline Safety Management Plan** states (para 1.1.2) that a 'Rochdale Envelope' approach is being taken for the development of the scheme, we asked for details of the 'cautious worst-case scenario' being used to define the safety measures for the scheme, as recommended in **Planning Inspectorate NSIP Advice Note #9.** The Applicant undertook to get back to us with a response on this topic.

We next asked for confirmation on the total volume of storage being provided in the gravel layer beneath the BESS modules to contain fire-fighting water that would be used in the event of a fire and/or battery thermal runaway event. This water could well be contaminated by toxic chemicals generated by the burning battery modules and must not be allowed to flow out into the water table. The Applicant undertook to get back to us with the actual number, which would define the number of hours of firefighting that could be contained.

We also questioned where the firefighting water would come from, once the 225,000 litres of water stored in the nine on-site water tanks had been consumed over the specified period of two hours. The Applicant explained that, since no fire hydrants were being provided on the site, any water required for fire-fighting beyond the two hours would need to be recycled from that which had already been used from the on-site tanks. Presumably this would require some means of pumping the used water out of the porous gravel layer.

The fire-fighting discussion inevitably led to the wider consideration around the standards and regulation that should be being applied to a scheme such as this. A major issue is that there are currently no specific regulations for Battery Energy Storage System installations, as they are still being considered by various government bodies. There seems to be general agreement that the current **National Fire Chiefs Council Planning Guidance** (v1.0 November 2023) should be used, but with the active involvement of the local Fire and Rescue Service. For the Sunbury BESS application the **Surrey County Council Fire and Rescue Service** is not a statutory consultee, but it has nonetheless been consulted for both the original and revised submissions. Unfortunately the SCCF&RS does not appear to want to get involved at any detailed level, having provided a consultee response to the first application which started by saying that it was unable to access the scheme drawings on the website. For the re-submission it has provided what seems to be a standard response document stating that '...(the application) *appears to demonstrate compliance with the Fire Safety Order in respect of*

*means of warning and escape in case of fire.* This bland response is strangely at odds with the much more detailed involvement of other local authority Fire and Rescue Services in similar schemes elsewhere in the country, which appear to take the applications, and their undoubted dangers, considerably more seriously and provide specific, detailed advice based on the NFCC Guidance.

As part of the fire danger discussion, the Applicant pointed out that new types of high-capacity battery systems were being developed that would have significantly less chance of suffering from thermal runaway and thus be safer. Known as 'solid state' batteries, these involve a solid electrolyte that is more stable than the liquid electrolyte involved in the current types of Lithium-Ion batteries. They are however still in the development phase, with a number of raw material and production challenges still to be overcome; there is currently no certainty as to when they will be in a commercially viable position to replace the current technology for grid-scale storage. This BESS proposal is specified in the application as using a relatively new version of Lithium-Ion technology called Lithium-Iron or Lithium Ferro Phosphate (LFP) and we have therefore to assume that this is what would be used.

We also asked the Applicant to comment on the proximity of the proposed BESS to the Charlton Lane Eco Park, with its methane-producing bio-digester and waste gasifier. The recommendations of the document **Health and Safety in grid scale electrical energy storage systems** (Department for Energy Security and Net Zero – April 2024) are that such juxtapositions must be given due consideration relative to the local capacity to deal with multiple concurrent issues and the implications for emergency response. It seems however from the consultee responses on the planning portal that neither the Applicant, nor Surrey Fire and Rescue Service, nor indeed the Health and Safety Executive (HSE) as another consultee, have given this situation any consideration at all.

As a result of our meeting with the Applicant's representatives, we as LOSRA have reviewed our comments relative to this re-submitted application. We will be submitting the revised comments to the Spelthorne Planning Department in due course; in the meantime they can be accessed **here**.