

Bagnall Parish Council OBJECTS to the application SMD/2022/0574

We note that the documentation submitted by the applicant is extremely light on site safety and references to fire precautions is limited to the provision of a fire hydrant.

Bagnall Parish Council are thus extremely concerned regarding the safety aspects of the proposed Battery Energy Storage Site (BESS) adjacent to Armshead Farm, Armshead Road, Werrington, Stoke-on-Trent.

We note that UK fire chiefs are publicly stating their concerns regarding Lithium-Ion fires. Once taken hold (thermal runaway) it is observed that they are extremely difficult to put out. The current consensus appears to be to either let them burn-out over a 24 hour period, giving off deadly toxic fumes such as Lithium hexa-fluoro-phosphate / hydrogen fluoride / phosphoryl fluoride plus combustible gasses hydrogen / methane / ethylene / carbon monoxide & propylene, or to cool them down with water; current suggestion being to fully submerge the batteries for a period of 24 hours with an estimated 5.5 million litres of water required.

Due to the risk of water course & land contamination the first option **"let them burn"** appears to be the preferred course of action.

Norfolk County Council's chief fire officer, Ceri Sumner, has gone on record stating **"the risks posed by Lithium-Ion batteries are giving me sleepless nights. Lithium-Ion batteries are extremely difficult to put out once they catch fire"**.

The National Fire Chiefs Council are still learning about the potential impact of the exponential introduction of Li BESS. **"Without an understanding of the risks and appropriate control measures required, we risk as a society creating the next legacy fire safety issue"**

Ex Cabinet minister Maria Miller placed a bill in Parliament proposing that Li BESS sites are designated as **"hazardous"** — and should be subject to tough new fire safety and planning controls. She quoted, "We need lithium iron battery storage facilities, but they must be seen correctly for what they are: highly complex, with the potential to create dangerous events and hazardous substances."

She urged the government to announce an immediate review of the BESS projects granted, along with existing plants to ensure they do not pose a threat to residents or the local environment. **"We cannot allow lithium ion battery storage facilities to continue as they are and become another legacy fire issue, with all the risks that entails to the lives of the people we represent, and the environment we want to protect"**.

Against the above background Bagnall Parish Council note that the plans submitted with the current application do not follow the recommendations contained in the National Fire Chiefs Council briefing paper dated November 2022.

Phil Clark, the emerging energy technologies lead at the National Fire Chiefs Council, has called for "developers to engage at the earliest opportunity with the local Fire and Rescue Services." **Bagnall Parish Council** has seen no evidence to suggest that there has been any consultation between the applicant and Staffordshire Fire and Rescue Service. (SFRS)

Phil Clark went on to explain that "the National Fire Chiefs Council are still learning about the potential impact of the exponential introduction of lithium batteries. Without an

understanding of the risks and appropriate control measures required, we risk as a society creating the next legacy fire safety issue”

National Fire Chiefs Council produced a paper as mentioned above in November 2022. The document is lengthy however if we just focus on one aspect here for an example of non compliance, regarding access arrangements, it states:-

Site access

Suitable facilities for safely accessing and egressing the site should be provided. Designs should be developed in close liaison with the local FRS as specific requirements may apply due to variations in vehicles and equipment.

This should include:

- *At least 2 separate access points to the site to account for opposite wind conditions/direction.*
- *Roads/hard standing capable of accommodating fire service vehicles in all weather conditions. As such there should be no extremes of grade.*
- *A perimeter road or roads with passing places suitable for fire service vehicles.*
- *Road networks on sites must enable unobstructed access to all areas of the facility.*
- *Turning circles, passing places etc size to be advised by FRS depending on fleet.*

Bagnall PC observation:- At Armshead the site has just one access not two, there is certainly no clear movement around the site and the layout of the compound shown on the site drawings show no perimeter road, passing places or a significant internal road network.

The Fire Chiefs document goes on to state:-

Access between BESS units and unit spacing

In the event of a fire involving a BESS unit, one of the primary tactics employed will be to prevent further unit to unit fire spread. Suitable access for firefighters to operate unimpeded between units will therefore be required. This should allow for the laying and movement of hose lines and, as such, access should be free of restrictions and obstacles. The presence of High Voltage DC Electrical Systems is a risk and their location should be identified. Exclusion zones should be identified.

A standard minimum spacing between units of 6 metres is suggested unless suitable design features can be introduced to reduce that spacing. If reducing distances, a clear evidence based, case for the reduction should be shown.

Any reduction in this separation distance should be design based by a competent fire engineer. There should be consideration for the fire separation internally and the total realistic load of fire. Proposed distances should be based on radiant heat flux (output) as an ignition source.

The NFCC does not support the stacking of containers/units on top of one another on the basis of the level of risk in relation to fire loading, potential fire spread, and restrictions on access.

Bagnall PC observation :- The plans submitted with the application SMD 2022/0574 appear to have a separation of around 2.4 metres between adjacent battery units and we consequently question if fire fighters will have free access between.

As stated above there is a reference in the application to the provision of a fire hydrant at the site. **Bagnall PC observation-** We note that the volume of available water and pressure at the hydrant supply is not stated. Fire service requirements when dealing with battery fires is for a source of water able to deliver no less than 1,900 litres per minute for at least 2 hours.

Bagnall Parish Council notes that an Emergency Response Plan is missing from the submitted documentation.

Bagnall Parish Council further notes that in the event of a fire there is inadequate provision for the storage of fire suppression water which is likely to be contaminated.

Bagnall Parish Council notes the content of recent correspondence from the RT Hon Karen Bradley MP who states “....*only last week I joined Sir Gavin Williamson Staffordshire Fire and Rescue Service HQ in order to discuss applications in South Staffordshire with the Chief Fire Officer.*

At that meeting the Chief Fire Officer, Rob Barber, provided me with considerable reassurance that Fire and Rescue Services across the country feel that they can manage fires, should they rise, on these sites providing the sites are appropriately designed to permit access from a suitable number of points by the service and there is hard standing for the appliances to work from and appropriate means for controlling water run of amongst other requirements.”

Bagnall Parish Council particularly notes the observation that where the design of the battery installation complies with the guidance note the fire service is confident that they can manage a fire. It must therefore be the case that where the installation does not adhere to the guidance contained in the NFCC November 2022 document, such as at the BESS site adjacent to Armshead Farm, the fire service is consequently unable to manage a fire with any degree of certainty.

From the documentation attached to the application it would appear that a detailed review of the submission by Staffordshire Fire and Rescue has not taken place. In view of the clear deviation of the submitted application from the NFCC guidelines Bagnall Parish Council consider that it would be inappropriate for the appeal to be granted.

The National Fire Chiefs Document is reproduced as Appendix 1 attached to this submission.

The RT Hon Karen Bradley MP letter is reproduced as Appendix 2 attached to this submission