Kent Fire & Rescue Service | together

To
Thanet District Council Planning
P O Box 9
Cecil Street
Margate
Kent
CT9 1XZ

FAO: Planning

Contact
Jon Tuttlebury
Direct line
01622 212421
Email
FET@kent.fire-uk.org

Our ref
CAS-068849
Your ref
F/TH/24/0575
Date
5 July 2024

Dear Sir/Madam,

Planning consultation

Re: Land North of Sacketts Hill Farm, Sacketts Hill, Broadstairs, Kent, CT10 2QS.

Please be aware that the principles discussed within this planning advice letter should not be used as a precedent for justification for future developments. Each Battery Energy Storage Site (BESS) is unique and should be evaluated on its own merit.

Kent Fire Rescue Service (KFRS) has no authority to approve or decline planning permission for Solar Arrays or Battery Energy Storage Systems (BESS) sites. This decision, in the majority of cases, lies with the Local Authority or National Infrastructure Planning. KFRS will endeavour to provide consultation during this process, however there is no statutory requirement to do so. Information requested and received will be able to support our observations during the planning process, but also provide a basis for design/build stage.

Where the proposed renewable energy facility is being designed with permanent buildings the consultation would be reviewed in the normal manner against Approved Document B: Volume 2: Buildings other than dwellings 2019 edition which includes vehicle access and facilities for firefighters. If this is the case, KFRS would expect to receive plans and documentation including fire risk assessments via FET@kent.fire-uk.org in the normal manner from a Building Control body or via an Approved Inspector.

Where the facility is being designed with BESS, additional information is requested.

Confidential Information

Information requested by KFRS will be used to both aid in the design process and influence the emergency response at an emergency incident. It is acknowledged that some specific details may be commercially sensitive, however we would request this information is provided in confidence at your early convenience via FET@kent.fire-uk.org

Additional Information Requested

The following information would be requested to be provided to KFRS during the planning process.

1. The battery chemistries being proposed (e.g. Lithium-ion Phosphate (LFP), Lithium Nickel Manganese Cobalt Oxide (NMC)). Because:
   a. Battery chemistries will directly affect the heat released when a cell goes into thermal runaway
   b. Battery chemistries will influence vapour cloud formation.
   c. An understanding of the battery chemistry is useful when requesting scientific advice during an incident
2. The battery form factor (e.g. cylindrical, pouch, prismatic)
3. Type of BESS e.g. container or cabinet
4. Number of BESS containers/cabinets
5. Size/capacity of each BESS unit (typically in MWh)
6. How the BESS units will be laid out relative to one another.
7. A detailed diagram / plan of the site.
8. Evidence that site geography has been considered (e.g. prevailing wind conditions).
9. Access to, and within, the site for FRS assets
10. Details of any fire-resisting design features
11. Details of any:
    a) Fire suppression systems
    b) On site water supplies (e.g. hydrants, EWS etc)
    c) Smoke or fire detection systems (including how these are communicated)
    d) Gas and/or specific electrolyte vapour detection systems
    e) Temperature management systems
    f) Ventilation systems
    g) Exhaust systems
    h) Deflagration venting systems.
12. Identification of any surrounding communities, sites, and infrastructure that may be impacted as a result of an incident.

Specific Planning Observations

BESS Consultation Overview

Due to the potential hazards of BESS; careful consideration to the design, layout and management is required. Past BESS incidents, both within the UK and abroad, must be considered and all efforts made to ensure safe practices both during daily use and emergency response, for workers, emergency service personnel and the public alike.

Environment

Any potential environmental damage must be mitigated against in the event of an emergency response and be supported with a robust emergency response plan. The onus of environmental containment lies solely with the site operator/owner.

Site Access

I note two alternative access points provided to the site, to account for opposite wind conditions. Roads/hard standing should be provided to allow access for fire service vehicles in all weather conditions with no extremes of gradient. This should meet the typical fire service vehicle access route specifications given in Section 15 and table 15.2 of ADB Vol 2.

Access between BESS units

I note there is little to no separation between the proposed BESS containers. Current guidance from the NFCC requests that an initial minimum of 6m separation is needed between BESS units. To reduce this distance, competent fire engineering justification is required through clear, evidence-based analysis. No justification has been provided to mitigate the risk of fire propagation between containers. Safe and suitable access will be needed around the containers to meet our operational fire-fighting requirements.

Distance from Occupied Buildings and Site Boundaries

It is requested that an initial minimum of 25m is maintained between BESS containers and buildings/site boundaries. To reduce this distance, mitigation is required such as blast walls or similar. There does not appear to be occupied buildings on the site plan provided.

Site conditions

Around the perimeter of each BESS container, vegetation should be kept to a state that would not a contribute to the fire risk of the site.

Building Safety, Fire Engineering Team, Canterbury Fire Station, Upper Bridge Street, Canterbury, Kent, Ct1 2NH. FET@kent.fire-uk.org 01622 212421

Water supplies

I note the fire water storage house and pumphouse. Please confirm that the volume of water meets the requirements given in the NFCC Grid scale guidance document which specifies 1,900 litres per min for a duration of 2 hours.

Fire Management Plan (FMP) and Emergency Response Plan (ERP)

I note there is no FMP or ERP provided with this planning application. FMP sets out and supports the client intent of designing and installing the site in line with the NFCC Grid Scale BESS guidance and other international design codes and industry best practise. I am cognisant that some key features of the design may not be finalised due to evolving technology and/or procurement of equipment. We also acknowledge that KFRS are also learning and developing along with this evolving technology & approaches to mitigating risk at BESS sites. An outline FMP and ERP would be expected at this stage, as an evolving document, to assist KFRS in helping the clients design team in developing a finalised FMP and robust ERP.

Important points about this consultation

Currently, no British Standard (BS) or Approved Document (AD) specifically addresses the installation of BESS. Importance is therefore placed on evidence-based justification to support the design. In lieu of this the following guidance has been adopted to provide the basis for our observations.

- **National Fire Chiefs Council (NFCC) published guidance: Grid Scale Battery Energy System Planning, Guidance for FRS – published April 2023***

- **Department for Energy Security & Net Zero: Health and Safety Guidance for Gid Scale Electrical Energy Storage Systems- Published March 2024***

*Please note that this detailed document should not be considered as a fully comprehensive specification; but should be used to provide a framework for consultation. Each BESS site should be assessed individually and addressed on a case-by-case basis.

The contents of this guidance utilise academic study, international standards, case studies and industry guidance to support professional judgement.

I would like to thank you again for the continued engagement throughout the planning process. KFRS advice is non-statutory but given in good will to protect the lives and safety of the public and emergency responders.

If you require any further advice, please contact this office using the details above. Please be aware that the Building Safety office hours are 09:00-17:00 Monday to Friday

Building Safety, Fire Engineering Team, Canterbury Fire Station, Upper Bridge Street, Canterbury, Kent, Ct1 2NH. FET@kent.fire-uk.org 01622 212421

Yours sincerely,

Jon Tuttlebury

Jon Tuttlebury BSc (Hons) AIFireE
Trainee Fire Engineer

Building Safety, Fire Engineering Team, Canterbury Fire Station, Upper Bridge Street, Canterbury, Kent, Ct1 2NH. FET@kent.fire-uk.org 01622 212421