

**Objections submitted in response to East Pye Solar**  
**PINS Reference: EN0110014**

**BATTERY ENERGY STORAGE SYSTEM**  
**TIVETSHALL/GREAT MOULTON BORDERS**

This document should be read in conjunction with the Village Documents:

Land Parcel 1 and Landparcel 2B Great Moulton  
Land Parcel The BESS and Sites 2A and 2BTivetshall  
Land Parcel 2- Wacton Land Parcel 2C  
National Grid Substation

Submitted by:

[REDACTED]



## DISCLAIMERS

### Research Method and Use of AI

This document has been prepared from research undertaken by multiple human researchers using information available at the date of preparation. Sources include East Pye Solar application documents, Planning Inspectorate material, National Grid/NGET information, statutory consultee

evidence, relevant government and regulatory material, guidance, best practice and, where relevant, peer-reviewed research.

Given the scale and complexity of the documentary record, BEPS Great Moulton also uses a closed-project bespoke GPT as a research and analytical aid. It assists with organising, cross-referencing and comparing material, identifying links between documents and topics, and supporting analysis of evidence already gathered by the research team.

The GPT is not treated as an independent source of evidence or as a substitute for human judgement. All submissions are reviewed, edited and checked by human members of BEPS Great Moulton. Material sources and significant factual propositions are checked against the underlying documents before reliance is placed upon them, and the authors determine the arguments and conclusions advanced.

This document is therefore a human-reviewed submission, not an independent expert report. Responsibility for its contents, accuracy and arguments remains with the authors. AI has been used only as an analytical, cross-referencing and document-management tool within a human-led research and review process.

Where this draft refers to National Grid Electricity Transmission plc (NGET) representations, it relies on the wording quoted in the source document unless the final submission team has separately checked the published Examination Library version.

The Ofgem material is used for a narrow purpose: it supports the proposition that BESS connection deliverability, queue credibility, battery oversupply and network-capacity allocation are live regulatory matters. It is not used to assert that East Pye has lost its connection or that the BESS cannot connect.

It is understood that East Pye Solar has continued to amend, supplement and update material submitted to the Planning Inspectorate during the examination process.

Accordingly, we respectfully ask the Examining Authority to read this submission in the context of the information reasonably available to us at the time it was prepared. Where subsequent Applicant submissions clarify, amend or supersede earlier information, any resulting discrepancy within this document is unintentional and should not be interpreted as an attempt to misrepresent the Applicant's case or evidence.

On behalf of the Village of Great Moulton we have sought throughout to present the Applicant's evidence accurately and fairly, while identifying those matters on which we consider further clarification, evidence or examination is required.

## **Initial comments on submission by East Pye (Island Green)**

This objection is submitted as a challenge to the siting, design envelope and secured mitigation for the East Pye BESS and adjoining grid infrastructure,

The Applicant has submitted a substantial Environmental Statement, topic appendices, management plans, a Site Selection Assessment, Design Approach Document and an Outline Battery Safety Management Plan. The examination issue is whether those documents, taken together, provide sufficiently site-specific and enforceable evidence for this particular BESS/Site 1 infrastructure cluster. [APP/6.1.2 –6.1.20; APP/7.1–7.5; APP/7.17; APP/7.18; APP/7.20]

A recurring difficulty is documentary clarity. For example, ES Chapter 3 identifies a separate BESS Site of approximately 22.90 ha, while ES Chapter 4 describes Work No. 2, the energy storage facility, as the BESS compound 'contained within Sub-Site 1B'. BEPS does not assume that this changes the physical proposal, but asks the Examining Authority to require a definitive plan and reconciliation schedule so that the BESS Site, Work No. 2, Sub-Site 1B, Project Substation, National Grid Substation, access, drainage and mitigation land are understood consistently across the Works Plan, Land Plan, draft DCO and ES. [APP/6.1.3; APP/6.1.4; APP/2.2; APP/2.3; APP/3.1]

## **Oxford EN010147 Secretary of State Request**

The Secretary of State request for further information in Botley West Solar Farm, EN010147, is not relied upon as a binding precedent. It is relied upon only as a recent comparator showing that, in a large solar NSIP, unresolved issues about alternatives, site selection, grid connection, design evolution, cumulative effects and mitigation can justify further information before determination.

The same type of scrutiny is appropriate here because Land Parcel 1 / Site 1 combines the National Grid Substation, 400 kV Project Substation, overhead-line works, cable routes, pylon works, access requirements, PRow interactions, Grade 2 BMV land, private-water-supply risk, landscape harm and the functional relationship with the BESS.

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# EXECUTIVE SUMMARY

This submission therefore asks the Examining Authority to test the Scheme as it will be experienced locally: as a concentrated western grid infrastructure hub on and around Site 1 and the BESS, not as a set of isolated technical components.

## 1. No Need

Regional oversupply and the Applicant's own pipeline concessions

The Statement of Need does not merely say that East Pye lies in a generally high-demand part of the network; it acknowledges that the Scheme sits at the boundary of the "Central England" and "E. Anglia" transmission network regions and that NESO's Connections Reform process has already "prioritised sufficient solar schemes to meet the Clean Power 2030 regional capacity ranges for 2035" in both regions. That is a significant admission.

It means the Applicant's own evidence shows that the relevant regional solar requirement is already met by other prioritised schemes. In those circumstances, East Pye cannot be justified simply by reciting the national need for renewable generation or by saying that the Clean Power 2030 and 2035 pathways are not a cap. The issue is not whether solar is needed somewhere in the national system; it is whether this additional 500MW solar NSIP, with its disputed ecological, landscape, heritage, water, agricultural, transport and BESS-related impacts, is necessary and proportionate in this particular region when the regional pipeline is already sufficient on the Applicant's own case. The Applicant's reliance on pipeline attrition and "optionality" is too general to answer that point. It amounts to an argument that any further project should be consented because some other projects might fail. That is not a site-specific need case.

Where the relevant East Anglia and Central England ranges are already satisfied by prioritised schemes, the Applicant must explain why East Pye is still required in preference to less harmful, more advanced, or more strategically located alternatives. It has not done so. The Planning Inspectorate should therefore give materially reduced weight to the asserted need for East Pye Solar, and should not allow generalised national policy support for renewable energy to obscure the Applicant's own concession that the relevant regional solar pipeline is already sufficient.

The applicant's own ES Chapter 5 confirms that the alternatives exercise is framed from the outset by an asserted "clear and urgent need" for the Scheme at the proposed scale, and that even a smaller development was not taken forward as a reasonable alternative. In BEPS's submission, that approach begs the very question that should be answered. Once the relevant regional capacity ranges are already said to be met by other prioritised projects, the applicant must show why this highly constrained 500MW scheme, with major and disputed effects across ecology, water, heritage, agricultural land, transport and human health, is nevertheless necessary and proportionate here.

BEPS further objects that the claimed solar-plus-storage justification is itself contingent, because the Statement of Need is said to admit that the BESS has only Gate 1 prioritisation and no confirmed indicative connection date, while still relying on storage-led benefits of flexibility, affordability and resilience.

1. BESS Site: Unlawful/ inadequate site selection and alternatives weak deliverability and limited weight due to Gate 1 status

The Applicant's justification for the BESS Site is materially weakened by its own concession that the BESS does not have the same connection certainty as the solar element.

The Applicant is seeking consent for a substantial BESS compound and relies on co-located storage as part of the Scheme's claimed operational and public benefits, but the material available records that the solar component has secured Gate 2 whereas the BESS element has secured only Gate 1 prioritisation, with no confirmed indicative connection date.

That distinction is critical. Gate 1 status is not a planning need case, not a finding of environmental acceptability, and not evidence that this BESS Site is necessary in this location. It indicates a materially more contingent storage element being presented within the same DCO envelope as if it were an established and deliverable part of the Scheme. In those circumstances, the Applicant should not be permitted to rely on the benefits of the BESS to strengthen the planning balance while avoiding a proper site-specific justification for the BESS Site itself.

The absence of a confirmed BESS connection date also reinforces the inadequacy of the alternatives appraisal: a solar-only option, reduced-BESS option, alternative BESS location, or off-site/network-level storage solution should have been assessed.

Until the Applicant demonstrates that the BESS is deliverable, required and proportionate, the BESS Site should attract little positive weight, and its land take, industrialising effects, drainage, safety, carbon and replacement impacts should weigh separately against the Order.

The Applicant has not shown that the BESS has been located in the least harmful, safest or most environmentally appropriate place within the wider scheme, nor is that the point is that the BESS is being treated as though its location is fixed, all the while the Applicant has not provided a robust alternatives appraisal explaining why a high-risk lithium-ion installation must be placed close to homes, rural lanes, PRowS, private water supplies, sensitive ecology and heritage assets.

The Guide to the Application states that the Site Selection Assessment evaluates locations for the Scheme, the new National Grid Substation and solar development, but this has not assured a proper BESS-specific alternatives assessment for the highest-risk element of the project.

The Planning Inspectorate should require the Applicant to demonstrate, with evidence, why the BESS cannot be relocated to a less sensitive parcel, further from residential receptors, private water supplies, heritage assets and constrained emergency-access routes. Without that evidence, the site-selection exercise is inadequate and the EIA cannot lawfully support the chosen location.

## 2. Cumulative impact choke-point

The BESS Site should be treated as a cumulative impact choke-point, not as an isolated storage compound.

The Applicant's own Scheme description places the BESS compound within Sub-Site 1B and locates it in the same functional grid cluster as the 400kV Project Substation, the new National Grid Substation, grid connection infrastructure, access works and temporary construction compounds.

That concentration matters because it brings multiple infrastructure burdens into one locality: construction traffic from Hundred Lane and Station Road, PRow disruption, hedgerow and tree-belt loss, temporary lighting, operational noise, drainage and firewater controls, and the long-term visual and experiential effects of BESS and substation infrastructure in an open agricultural landscape.

The Applicant's own landscape tables identify the BESS Site, 400kV substation, CRC1 and CRC2 together, and record significant adverse construction effects arising from the combined presence of the BESS, substation infrastructure, construction vehicles, task lighting, temporary fencing, noise, PRow closures and vegetation loss. The cumulative concern is therefore not theoretical: the BESS Site is where several of the Scheme's most intrusive elements converge. That is also why consultee concerns about cumulative effects are directly relevant.

Historic England asked for adjacent and overlapping solar/BESS projects to be included; Hempnall Parish Council objected that the Applicant had failed to assess the combined impacts of the Scheme's own constituent parts; Norfolk County Council raised serious concerns about cumulative impacts from East Pye alongside other NSIPs and energy-related development; and South Norfolk Council raised a strong formal objection because the significant cumulative impact of solar, BESS, grid and related projects had not been adequately explored. In those circumstances, the BESS Site cannot be justified by treating each impact topic separately and then describing effects as "localised." The point is that the locality is the choke-point.

The Planning Inspectorate should require a specific cumulative assessment of the BESS Site as a combined grid, storage, substation, access, drainage, landscape and noise receptor area. In the absence of that assessment, the BESS Site should attract little positive weight and its cumulative burdens should weigh against the Order.

### 3. European Protected Species and licensing deliverability & Ground-Nesting Bird Constraint

The BESS Site should be treated as a protected-species and licensing-deliverability constraint, not as a neutral area for storage infrastructure. The Applicant's own Order Limits chapter identifies a single BESS Site for the "storage, import, and export of energy to the National Grid", with a project substation also located in the BESS Site and the new National Grid Substation nearby in Sub-Site 1B.

This concentration of permanent infrastructure is proposed in a wider ecological baseline where great crested newt is expressly treated as a relevant receptor: the ES records that ponds within 250m of the Site parcels and CRC were assessed for GCN suitability and eDNA, and that accessible ponds within the Sites/CRC and within 250m were surveyed in 2024 and 2025.

South Norfolk Council specifically warned that District Level Licensing availability in Norfolk was limited and that the Scheme should ensure sufficient data to inform a mitigation licence application if DLL was unavailable; the Applicant's response was that GCN surveys and an Outline Protected Species Mitigation Strategy would address the issue. That is not the same as demonstrating licensing deliverability for the BESS Site itself.

The same concern applies to birds. The ES confirms breeding bird constraints across the Scheme, including red-listed linnet, skylark and yellowhammer, amber-listed species, probable breeding barn owl, and an arable farmland assemblage associated with field margins, hedgerows, woodland, scrub, ponds, ditches and scattered trees. More importantly

for the BESS Site, skylark is expressly scoped into operational assessment for Sites 1–10 and the BESS Site, and the ES records 81 skylark breeding territories, 70 within areas subject to permanent development; skylark is red-listed, a NERC Act section 41 priority species, and the Applicant accepts that nesting within solar arrays and associated infrastructure such as BESS is assumed to be deterred. The BESS Site therefore sits within a matrix of European Protected Species risk, licence dependency, and red-listed ground-nesting bird displacement. In those circumstances, it is inadequate to rely on outline mitigation and later licensing as though they are mere implementation details. The Planning Inspectorate should require the Applicant to demonstrate, now, that the BESS Site is avoidable, necessary, licensable and deliverable without unacceptable harm to GCN and breeding birds during the ground-nesting season. In the absence of that demonstration, the BESS Site should be treated as a high-risk ecological constraint and should weigh against the Order.

#### 4. Deferral and unenforceable mitigation

The BESS Site should not be treated as environmentally acceptable where the Applicant's case depends on deferred mitigation rather than enforceable, site-specific controls.

The BESS is a substantial permanent storage compound with distinct risks and impacts: firewater containment, surface-water drainage, pollution control, lighting, operational noise, security fencing, access, replacement activity and decommissioning. Yet the Applicant's approach repeatedly pushes the detail of those controls into later management plans, detailed designs, or future approvals, rather than fixing clear mitigation in the DCO now.

This is particularly problematic for the BESS Site because it is not a generic solar field: it is one of the most technically complex and risk-sensitive parts of the Scheme. Mitigation for battery fire risk, contaminated firewater, drainage exceedance, lighting spill, replacement works and ecological protection must be precise, measurable and enforceable before consent is granted.

Outline commitments and phrases such as “where practicable”, “as far as reasonably practicable”, “where required” or “to be agreed at detailed design” are not adequate where they leave the substance of mitigation uncertain. This is not a matter of drafting preference; it goes to the lawfulness of the planning judgment.

The Planning Inspectorate can only give weight to mitigation which is secured, effective and capable of enforcement. If the BESS Site's acceptability depends on later decisions about the location, design, firewater capacity, drainage specification, lighting limits, ecological buffers, replacement works and emergency response, then the environmental effects have not been properly assessed at this stage.

In these circumstances, the BESS Site should be treated as insufficiently controlled and should weigh against the Order unless the Applicant provides binding DCO requirements with fixed performance standards, site-specific drawings, clear trigger points, approval mechanisms, monitoring obligations and enforceable remediation duties.

## 5. Water, private supplies and contamination risk

The BESS Site should be treated as a high-risk water and contamination receptor area, not as a routine ancillary compound.

The Applicant's own Water Environment chapter confirms that the assessment had to consider potential new contaminants in surface-water runoff from the BESS, contamination from battery materials including "lead, lithium and other heavy metals" during installation, replacement or removal, contaminated firewater from a BESS fire, changes to runoff from impermeable BESS areas, and impacts to groundwater recharge from BESS infrastructure.

This is a significant admission: the BESS Site introduces risks qualitatively different from solar panels in fields. Those risks are particularly serious because PINS expressly identified private water supplies as an issue, noting that a number of private water supplies lay within 250m of the site, that accurate location and abstraction data were not available, and that the ES should identify and assess potential impacts to private water supplies and their buffers where significant effects could occur.

The Applicant's later position does not remove that concern. Chapter 16 records that, within the 1km study area around the BESS, National Grid Substation and Project Substations, 29 private water supplies or permitted abstractions were identified, 19 of which are potentially still active. The FRA also accepts that sensitive water receptors, including private drinking water supplies and ecological designated sites, are located within the study area and have the potential to be impacted through mobilisation of contaminants to surface water and groundwater receptors.

Yet the proposed answer remains substantially outline-led: drainage for the BESS is to include treatment stages before controlled discharge, likely to ordinary watercourses, with firewater to be contained, tested and potentially tankered off-site; detailed BESS drainage and firewater arrangements are then left to later DCO requirements and the Outline BSMP.

This is not enough for a risk-sensitive BESS Site in a private-water-supply setting. BEPS should submit that consent cannot safely proceed unless the Applicant provides a receptor-specific assessment of each potentially affected private supply, including location, abstraction depth, source aquifer, groundwater flow direction, pathway, travel time, contaminant scenario, emergency containment failure scenario and enforceable monitoring/remediation commitments. In the absence of that evidence, the BESS Site should weigh against the Order because its water, private-supply and contamination risks have not been demonstrated to be acceptably controlled.

## 6. Fire, substation safety and emergency access

The BESS Site should be treated as a major safety-critical compound, not as a routine element of a solar farm. It would concentrate battery storage, a project substation, nearby National Grid substation infrastructure, electrical plant, access routes, drainage and firewater containment in one location; this creates a materially different risk profile from solar PV arrays.

A BESS fire is not simply a local operational incident: it may involve thermal runaway, toxic smoke, contaminated firewater, prolonged firefighting, exclusion zones, emergency water demand, access for specialist appliances, and potential interaction with adjacent substation infrastructure. The Applicant's reliance on an Outline Battery Safety Management Plan and later detailed approval is therefore inadequate unless the DCO itself secures clear, enforceable safety standards for the BESS Site.

The Planning Inspectorate should require, before consent, a site-specific fire and emergency response assessment addressing battery chemistry, spacing, container layout, fire-breaks, explosion/deflagration risk, water supply, contaminated firewater storage, emergency shut-down, smoke plume consequences, evacuation triggers, emergency access geometry, turning areas, appliance loading, rendezvous points, and liaison with Norfolk Fire and Rescue Service.

Particular weight should be given to emergency access because the BESS Site sits within a wider grid and substation cluster where any access failure, congestion, road closure, construction overlap, or simultaneous incident could compromise response. It is not sufficient for the Applicant to say these matters will be finalised later: safety mitigation must be precise, measurable and enforceable at the point of consent. In the absence of a robust, site-specific and fire-service-endorsed emergency strategy for the BESS Site, its fire, substation safety and emergency access risks remain unresolved and should weigh against the Order.

## 7. Landscape, dark skies, heritage and rights of way

The BESS Site should be treated as one of the most sensitive landscape and experiential receptor areas in the Scheme, not as a visually absorbable ancillary compound.

The Applicant's own visual baseline describes the BESS Site as lying in a large, open arable landscape on a high plateau, with visibility in all directions and long-distance visibility towards Tivetshall St Margaret, Tivetshall St Mary and Pulham Market; that visibility includes a range of PROWs and the Via Beata route. The same baseline identifies numerous residential and heritage receptors within the BESS visual envelope, including multiple Grade II listed buildings, Wacton Conservation Area, Wacton Hall Grade II\*, and a substantial network of PROWs and restricted byways.

The Applicant's landscape assessment then accepts that construction of the BESS Site, 400kV substation, CRC1 and CRC2 would cause large-scale changes to perceived tranquillity through construction vehicles, task lighting, fencing and intermittent noise; medium-scale effects on B1134 Station Road.

PROW closures affecting Great Moulton RB19 and Tivetshall St Margaret FP3; and tree and hedgerow loss, including important hedgerows. These are not peripheral effects: they go directly to rural character, dark-sky experience, heritage setting and public enjoyment of the rights-of-way network.

The harm is compounded by the Applicant's own decision to exclude lighting effects from the main LVIA and defer them to a separate Lighting Strategy, even though the Lighting Strategy confirms that the BESS is one of the few operational elements expected to require security and maintenance lighting, with detailed luminaire locations left until detailed design. In this context, reliance on future planting, motion sensors and outline lighting controls is inadequate.

The Planning Inspectorate should require the BESS Site to be assessed as a combined landscape, night-time, heritage-setting and PROW harm receptor. In the absence of a binding and site-specific mitigation package that fixes lighting limits, viewshed protection, heritage-setting safeguards, PROW continuity and dark-sky performance standards, the BESS Site should weigh substantially against the Order.

## 8. Soils/BMV land and reversibility

The BESS Site should be treated as a permanent loss of high-quality agricultural land, not as a reversible solar use.

The Applicant's own soils chapter states that the BESS will be located on Grade 2 land and that the BESS Site is "essentially all Grade 2 quality", meaning avoidance of BMV land is not possible within the area surveyed. That is a serious constraint: Grade 2 is best and most versatile agricultural land, and the BESS is not comparable to raised solar panels on piles above retained grassland.

The BESS requires a compound of up to 6.5ha, topsoil stripping, matting on upper subsoil, concrete pad bases, permeable areas, and potentially reinforced concrete foundations to 1m or piling up to 12m deep. Those works are inherently more intrusive than ordinary solar arrays and cannot credibly be presented as merely temporary or readily reversible.

The Applicant's wider assessment itself accepts that, on a worst-case basis, permanent BMV loss from BESS, project substations, National Grid substation and tracks could amount to 37.9ha, producing a medium magnitude impact on a high-sensitivity resource and a significant moderate adverse permanent effect. The BESS Site is therefore part of the Scheme's most damaging agricultural-land impact, not an incidental feature.

Where the Applicant has not shown that this BESS is required, and where it has not tested a reduced-BESS or no-BESS alternative, the permanent sterilisation of Grade 2 BMV land is disproportionate.

The Planning Inspectorate should reject any assumption that the BESS Site is reversible and should require the Applicant to justify why a substantial battery compound must be placed on essentially all Grade 2 land when poorer-quality or off-site storage alternatives have not been properly appraised.

## 9. Utilities and community infrastructure

The BESS Site should be treated as a utilities and community-infrastructure constraint, not as an isolated battery compound.

The Applicant's own Order Limits chapter shows that the BESS Site is not simply a storage area: it would contain the BESS for "storage, import, and export of energy to the National Grid", a 400kV Project Substation, links to CRC1 and CRC2, and would sit in close functional relationship with Sub-Site 1B, the National Grid Substation and wider grid connection works. The Transport Assessment confirms that the BESS Site is approximately 23ha and that CRC1 links Sub-Site 1B to the BESS Site while CRC2 links the BESS Site to Site 2B, thereby making it a key infrastructure node rather than a peripheral facility.

This matters because the Applicant's own Chapter 18 accepts that the Scheme required consultation and desk-based assessment of existing telecommunications, television and utilities infrastructure, including Anglian Water assets, overground and underground broadband cables, the Cadent high-pressure gas pipeline and power network cables.

PINS expressly required that utility and telecommunications receptors be identified, and that any required diversions or alterations be located, described and assessed in the ES, including mitigation where significant effects were likely. In that context, it is not sufficient for the Applicant to rely on generic easements, the Utilities Plan and the Outline CEMP as though utility risk is merely a construction-management matter.

Shotesham Parish Council warned that, given the scale of the development and cable corridors, significant conflict with existing infrastructure and utilities was “inevitable”; the Applicant’s response was to point to easements, the Utilities Plan and outline management measures, and then assert that risk would be minimal once infrastructure is in place.

That is inadequate for the BESS Site, where battery storage, high-voltage substation infrastructure, cable corridors, access works, drainage systems, emergency response requirements and nearby residential/community receptors converge. The Planning Inspectorate should require a BESS-specific utilities and community-infrastructure assessment identifying all affected statutory undertakers, service corridors, easements, diversion requirements, outage risks, emergency access constraints, broadband/water/power impacts, construction phasing conflicts and enforceable protection measures.

Until that is provided, the BESS Site should be treated as under-assessed and its infrastructure burden should weigh against the Order.

## 10. Overall conclusion

The BESS Site is not a minor ancillary feature and should not be absorbed into the general need case for solar generation. It is a substantial, risk-sensitive and environmentally consequential infrastructure compound, bringing together battery storage, high-voltage substation infrastructure, cable connections, access works, drainage, firewater containment, lighting, security, utilities protection, replacement activity and decommissioning obligations in one locality.

The Applicant has not shown that this BESS Site is required for the solar generating station to operate, has not demonstrated that the BESS has the same connection certainty as the solar element, and has not carried out a transparent alternatives appraisal of a solar-only scheme, reduced BESS, alternative BESS location, or off-site/network storage option. The result is a serious planning defect: the most intrusive non-solar component of the Scheme is being justified by generic assertions about storage benefits rather than by a site-specific case for necessity, deliverability and proportionality.

That failure matters because the BESS Site carries multiple unresolved impacts. It sits within a cumulative grid and storage choke-point; affects Grade 2 BMV land; raises water, private-supply and contamination risks; depends on robust fire, safety and emergency-access controls; introduces lighting and dark-sky harm; contributes to landscape, heritage-setting and PRow impacts; creates utilities and community-infrastructure conflicts; and relies heavily on deferred mitigation and later approvals.

These are not peripheral matters to be tidied up after consent. They are central to whether the BESS Site is acceptable at all.

In BEPS’s submission, the Planning Inspectorate should require the Applicant to justify the BESS Site as a distinct component of the Order, with fixed, enforceable, site-specific mitigation and a proper comparison of alternatives. Unless and until that is done, the BESS Site should attract little or no positive weight, its adverse impacts should be weighed separately, and its inclusion should count against the making of the Order.

# Examination Requests

On behalf of **Great Moulton, Tivetshall and Wacton** , we respectfully request that the Examining Authority require East Pye, and NGET where relevant, to provide a coordinated response to the matters set out below.

These requests are intended to test whether the Scheme is sufficiently defined, assessed and secured for determination. **They do not seek to transfer the Applicant's design, assessment or evidential responsibilities to local residents.**

- **BESS need and deliverability:** Confirm the specific need, connection status and deliverability relied upon for the BESS, and identify which claimed planning benefits arise from the BESS rather than from the solar generating station alone.
- **BESS alternatives:** Provide a transparent comparison of reasonable BESS locations and configurations, identifying the environmental, technical and land-use criteria applied and explaining why less sensitive alternatives were rejected.
- **National Grid Substation site -selection audit trail:** Provide a dated and like-for-like audit trail for National Grid Substation Options 1, 2, 3, 4A and 4B, identifying the environmental, technical, operational, land-availability and other criteria applied at each stage; the evidence available when each decision was made; the role of landowner availability or willingness and competing development; and the reasons why the final Site 1B configuration was preferred.
- **Site and works reconciliation:** Provide a definitive coordinated plan reconciling the BESS Site, Work No. 2, Sub-Site 1B, Project Substation, National Grid Substation, overhead-line and grid-connection works, access arrangements, drainage, firewater infrastructure and mitigation land.
- **Application -document reconciliation:** Identify and reconcile any material differences between the Environmental Statement, Works Plans, Parameters Plans, Design Approach Document, outline management plans and draft DCO concerning the location, extent, dimensions, access, operation or mitigation of the BESS and Site 1 infrastructure, and confirm which document or control will ultimately govern each matter.
- **Deferred design and Rochdale -envelope controls:** Provide a compliance schedule identifying every material matter deferred to detailed design and linking it to the relevant ES worst case, DCO parameter or Requirement, approval process and method of verification.
- **Design -envelope and change control:** Identify the maximum parameters controlling the BESS, Project Substations, National Grid Substation and associated infrastructure and explain how subsequent changes in equipment, layout, dimensions, access, drainage or mitigation will be checked against the Environmental Statement. Where a proposed change would fall outside the assessed envelope, confirm what reassessment, consultation and approval would be required before it could proceed.
- **BESS safety and emergency response:** Demonstrate that the final site-specific fire and emergency strategy will provide adequate emergency access, firefighting-water supply, contaminated-firewater containment, drainage isolation, incident-command

arrangements, public-route management and post-incident environmental response.

- **Surface-water drainage, flooding and contaminated water:** Provide a coordinated Site 1/BESS/substation drainage strategy demonstrating the design basis, climate-change allowances, infiltration assumptions, exceedance routes, discharge arrangements and interaction with groundwater, together with the means by which potentially contaminated firefighting water will be isolated and prevented from entering groundwater, watercourses or neighbouring land.
- **Operational noise:** Demonstrate that cumulative operational noise from the BESS, Project Substation, National Grid Substation and associated plant will remain within the assessed envelope using the final equipment and layout, including appropriate acoustic-character corrections, cumulative night-time assessment and post-installation commissioning verification.
- **Private water supplies and groundwater:** Confirm the private-water-supply baseline and demonstrate the groundwater pathway assessment, intrusive investigation requirements, foundation and piling controls, monitoring and remediation arrangements wherever a credible pathway cannot be excluded.
- **Ecology and BNG:** Provide a single coordinated BESS/Site 1 ecology and biodiversity net gain schedule identifying habitat loss, species constraints, lighting and dark-corridor protection, ponds, hedgerows and movement routes, mitigation, compensation, licensing dependencies and long-term management.
- **Access and public rights of way:** Provide a final coordinated access and PRow plan distinguishing construction, operational, emergency and permanent maintenance access, and demonstrate the need for, status, design and duration of the RB19/Hundred Lane crossing and any associated permanent access arrangements.
- **Construction phasing and traffic:** Provide a Scheme-wide worst-case construction programme showing the proposed phasing and any simultaneous works across Sites 1A–1D, Sites 2A–2C, the BESS, Project Substations, National Grid Substation, overhead-line works and cable/access works, together with the corresponding peak HGV and abnormal-load movements, routes, highway works, PRow effects and responsibility for road-condition monitoring and remediation.
- **BMV agricultural land:** Quantify the BESS and substation use of Grade 2 and other Best and Most Versatile agricultural land and distinguish land capable of genuine restoration from land affected by permanent or retained infrastructure, foundations, access, drainage or other works.
- **Landscape, visual and heritage effects:** Provide receptor-specific assessment and appropriate verified visualisations demonstrating the combined effects of the BESS, Project Substations, National Grid Substation, overhead-line works and solar development at opening, after mitigation has established and following solar/BESS decommissioning, including the position where retained National Grid infrastructure remains.
- **Glint, glare and aviation:** Demonstrate, using the final or assessed worst-case panel parameters and layout, the Scheme-wide and cumulative glint-and-glare effects upon residential receptors, highways and aviation interests, including Norfolk Gliding Club,

and identify the controls securing any relied-upon mitigation.

- **Cumulative and in -combination effects:** Provide receptor-based schedules showing the combined effects of the BESS, substations, solar arrays and associated infrastructure upon the closest homes, key PRoWs, rural lanes, water receptors and heritage, landscape and ecological receptors, including overlapping construction and operational effects where relevant.
- **Monitoring and corrective action:** Provide a consolidated monitoring and verification schedule for all material operational commitments, including noise, groundwater and private water supplies, drainage, lighting, ecology, traffic and landscaping, identifying the monitoring standard, frequency, responsible body, reporting arrangements, trigger levels and corrective action where the assessed or permitted limits are exceeded.
- **Asset ownership and long -term responsibilities:** Provide a definitive asset-ownership and responsibility schedule distinguishing East Pye, NGET and any future operator for the BESS, Project Substations, National Grid Substation, grid connection, overhead-line works, access, drainage, landscaping and environmental mitigation, including responsibility during construction, operation, decommissioning and the period after the solar/ BESS development has been removed.
- **Decommissioning and restoration:** Provide a definitive decommissioning and restoration schedule identifying what infrastructure will be removed, what will remain, the restoration standard for agricultural land and habitats, the treatment of foundations, cabling, roads and drainage, the parties responsible for carrying out those works and how delivery of the decommissioning and restoration obligations will be secured throughout the operational life of the Scheme.
- **Post-Year-60 position:** Confirm which infrastructure, access arrangements, drainage, landscaping and mitigation will remain after the approximately 60-year solar/ BESS operational period and provide a post-Year-60 landscape, noise, access, environmental and operational statement addressing the retained National Grid infrastructure.

## Concluding Request

**BEPS-Great Moulton does not ask the Examining Authority or local residents to design the Scheme or to reconstruct the Applicant's case from dispersed documents. The Applicant, with NGET where relevant, should demonstrate through the coordinated information above that the BESS/Project Substation Site combined with Site 1 associated Grid Connection Infrastructure are sufficiently defined, justified, assessed and secured within an enforceable environmental envelope.**

Where information remains dependent upon later detailed design, East Pye should identify the assessed worst case and the binding DCO control that prevents the eventual design, construction or operation from producing effects greater than those examined. Where the final NGET connection solution could materially alter the land, infrastructure or effects now before the Examination, East Pye should demonstrate that the present consent and land powers remain justified before those powers are granted.

Where East Pye relies upon mitigation, a design assumption, an indicative layout, a future management plan or a later approval process in order to reach a “not significant” or otherwise acceptable conclusion, East Pye should identify precisely where that safeguard is

secured, the assessment envelope within which it must remain, who is responsible for approving and implementing it, and how compliance will be demonstrated, monitored and enforced.

The central requirement is that East Pye and NGET (if appropriate) should demonstrate the final proposition they seek consent for, show that it remains within the assessed worst case, identify the mechanism by which each material safeguard is secured, and provide an auditable means of verifying compliance.

# Chapter 1: Introduction

## Existing Rural Landscape, Character and Amenity

The BESS/Site 1 locality is an established rural agricultural landscape between Great Moulton and the Tivetshalls, is a genuinely peaceful, open rural landscape characterised by working arable farmland, mature hedgerows and trees, open skies, long views, quiet rural lanes, public rights of way and a sparse pattern of homes and historic buildings. The farmland, hedgerows and field margins provide ecological connectivity and habitat for species including bats, barn owls, brown hare, hedgehogs and farmland birds, while the lanes and rights of way provide direct public access to the countryside. The landscape also contributes to the setting of historic buildings and to the outlook and amenity of nearby homes.



The South Norfolk Landscape Assessment, E2: Great Moulton Plateau Farmland, recognises these characteristics: an elevated arable plateau with sparse settlement, expansive skies, long views, quiet lanes and historic features. Its landscape strategy seeks to conserve the area's open and unsettled character and specifically recognises the need to consider the effects of further tall structures. It also identifies the footpath network, quiet rural character, open views, historic halls and moats, mature hedgerow trees and plateau landform as important

assets.

East Pye's own baseline likewise recognises the open plateau, long views and relatively tranquil, dimly lit rural context. [APP/6.1.3; APP/6.1.4; APP/6.1.7; APP/6.3.7.2]

*Visual Showing residential properties in Lodge Road*



The proposal would replace this predominantly agricultural setting with a substantial concentration of energy infrastructure, including the BESS compound and 400kV Project Substation infrastructure, with battery enclosures, electrical plant, busbars, access roads, fencing, security equipment, drainage and lighting. [APP/6.1.4; APP/7.5; APP/7.18]

In this open landscape, the relevant issue is the combined industrialising effect of that infrastructure over the Scheme's lifetime, rather than simply whether individual components remain within maximum design parameters or can eventually be partly screened..

BEPS does not argue that energy infrastructure is prohibited in the countryside. The National Policy Statements and Planning Act 2008 governs this NSIP and relevant National Policy Statements. However local planning policy evidence and the NPPF remain material to the assessment of siting, landscape character, heritage, biodiversity, residential amenity and mitigation.

Local evidence nevertheless identifies Great Moulton Plateau Farmland as sensitive because of its openness, expansive skies, historic features, historic features, quiet rural roads and sparse settlement. It is evidenced by major electricity infrastructure, whose tall structures would be conspicuous and introduce an overt human influence in such landscapes.

The Tivetshall locality is not a nationally designated landscape, but that does not make its character insignificant. Its open countryside, productive farmland, historic field pattern, hedgerows, quiet lanes, rights of way, heritage assets and relationship with the wider plateau remain material considerations. Planting and landscape buffers may reduce some visual effects over time, but they cannot recreate the existing open plateau landscape without altering its character, nor can planting necessarily remove effects associated with elevated electrical infrastructure, expansive skies, heritage settings, night-time character, tranquillity or views from roads, public rights of way and nearby homes. East Pye's reliance on buffers, planting and later detailed design should therefore be examined against this landscape's particular sensitivity. [APP/6.1.5; APP/7.17; APP/7.18; APP/7.20]

The 2026 NPPF also requires specific regard to landscape character and the intrinsic character and beauty of the countryside, hedgerows, biodiversity, tranquillity and the effects of artificial lighting on dark landscapes and amenity.

*Visual over proposed BESS/Project Substation & The Cottage on Station Road*



The question is not whether energy infrastructure is capable of being located in the countryside in principle. It is whether East Pye has justified this particular location and shown, with evidence capable of being enforced through the DCO, that the effects of the BESS and associated grid infrastructure are acceptable throughout construction, operation, battery replacement, emergency response and decommissioning.

The document therefore proceeds from a simple proposition: the Applicant should establish the case for the scheme it seeks permission to build. Local residents should not be required to reconstruct a safe design, identify every missing interface or prove a different site would work before East Pye has demonstrated why its own chosen design and location are appropriate.

**The central issue for the ExA is therefore whether this sensitive rural location has been adequately justified and whether the combined effects of the BESS and 400kV infrastructure on landscape character, views, heritage setting, tranquillity, dark skies, rights of way, ecology and residential amenity can genuinely be mitigated over the development's lifetime.**



## 1.1. Landscape Permanence in The Tivetshalls/Great Moulton

One of the central concerns is the repeated description of East Pye as a broadly temporary and reversible development.

East Pye distinguishes between the approximately 60-year solar/BESS scheme and National Grid infrastructure that is intended to remain. That distinction is important because reversibility cannot be assumed for retained transmission assets, associated access and any mitigation that must continue beyond the BESS operational period.

That distinction matters.

An effect which ends because equipment is removed and agricultural land restored is fundamentally different from an effect created by major transmission infrastructure which remains beyond Year 60 with no equivalent decommissioning date identified.

**East Pye should demonstrate or secure:**

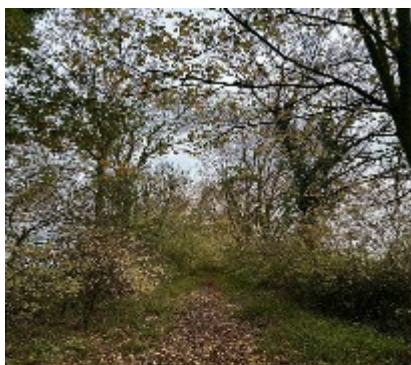
- **confirm the anticipated operational life and decommissioning status of the National Grid Substation and retained Grid Connection Infrastructure;**
- **identify all access roads, crossings, drainage features, security elements and landscape mitigation that would remain after BESS and solar decommissioning;**
- **assess the post -Year-60 landscape and amenity condition rather than treating the entire western cluster as one temporary development; and**
- **secure responsibility for the long -term maintenance of planting and other mitigation transferred to NGET or any successor operator .**

The Examining Authority should therefore be very cautious about accepting broad statements that the landscape change is “temporary” simply because the solar element has a 60-year design life. Sixty years is itself a profound inter-generational alteration of a rural landscape; but in this case even that is not the end of the effect. Part of the infrastructure is expressly retained beyond Year 60, and part of the access infrastructure is expressly identified as permanent.

APP/3.1 Draft Development Consent Order; APP/6.1.4 ES Chapter 4 – The Scheme; APP/6.1.7 ES Chapter 7 – Landscape and Visual; APP/6.3.7.9 PRoW Visual Amenity Assessment; APP/6.4 ES Non-Technical Summary; APP/7.3 Outline Decommissioning Environmental Management Plan; APP/7.4 Outline Landscape and Ecology Management Plan; APP/7.8 Outline PRoW and Permissive Paths Management Plan; APP/7.18 Design Principles, Parameters and Commitments; APP/7.26 Commitments Register.

## 1.2 Hundred Lane / Great Moulton RB19 - Permanent Haul Route and Maintenance Crossing

East Pye's own evidence contradicts the claim that Hundred Lane would remain unaffected. It identifies the lane as a historic, tree-lined rural route and Restricted Byway, largely unchanged since at least 1883–1884. The proposal would place it between the BESS and major 400 kV infrastructure, cross it with a construction haul route retained for permanent maintenance access, remove vegetation, introduce operational traffic, and materially alter its landscape setting and users'



East Pye's PRow material identifies a haul-route crossing of RB19/Hundred Lane that is also described as permanent maintenance access. The source document records Applicant findings of Major Adverse and Significant effects during construction and at Year 1, with a Moderate Adverse and Significant effect remaining at Year 15. A permanent engineered crossing of a historic rural byway therefore requires its own necessity and alternatives case

### East Pye should:

- identify precisely which assets the permanent crossing serves and for how long;
- explain why the operational requirement cannot reasonably be met through existing or earlier access arrangements, including A03/Frith Way and the previously described Lodge Road/Frith Way approach;
- confirm whether the crossing is removed when the BESS and Project Substations are decommissioned or retained for National Grid infrastructure;
- provide the final width, surfacing, drainage, vehicle types and expected operational frequency; and
- explain when the permanent crossing entered the design and how the permanent change was consulted upon

**Principal Applicant evidence:** APP/6.1.4; APP/6.1.7; APP/6.3.7.9; APP/6.3.11.1; APP/7.3; APP/7.4; APP/7.6-7.8; APP/7.18; APP/7.20; APP/7.26.

The Examination should not treat the The Tivetshall/Great Moulton/Wacton cluster as wholly temporary and reversible when the Applicant expressly confirms that major transmission infrastructure will remain. Nor should a permanent crossing of Hundred Lane/RB 19 be accepted without a clear explanation of its necessity, duration, alternatives, consultation history and relationship to the retained National Grid infrastructure.

## Chapter 2 Environmental Impact

East Pye has submitted substantial environmental assessment material. The examination issue is whether the final BESS and Site 1 infrastructure will remain within the effects assessed, and whether the mitigation relied upon is sufficiently defined, secured and capable of verification. [APP/6.1.9; APP/6.1.16; APP/7.1; APP/7.5; APP/7.18; APP/7.26]

For groundwater and private water supplies, East Pye should demonstrate that the evidence available at consent, together with any post-consent investigation and detailed-design controls, is sufficient to support its conclusions of negligible or very small magnitude, Minor effects and Not Significant residual effects. This is particularly important for the BESS, National Grid Substation and Project Substations, where deeper or piled foundations may be required and where engineered drainage, batteries, transformers, oils and firewater controls are concentrated. [APP/6.1.9; APP/6.1.16]

### 2.1 Rochdale Envelope – Protecting Receptors Despite Design Flexibility

East Pye relies on a Rochdale Envelope and on design parameters that are to control later detailed design. Flexibility is acceptable only if the assessed envelope represents a realistic worst case and the DCO prevents later design choices from producing materially different or greater effects. [APP/6.1.2; APP/7.18; APP/3.1, Requirement 5]

East Pye should therefore demonstrate that the final BESS, substation, foundation, drainage, firewater, lighting and access designs cannot move outside the environmental envelope assessed in the ES.

What is stated explicitly that

“The Need For Flexibility Should Not Be Abused And Does Not Give Applicants An Excuse To Provide Inadequate Project Descriptions

### 2.2 Groundwater and Private Water Supplies

East Pye identifies 29 private water supplies or permitted abstractions within 1 km of the BESS, National Grid Substation and Project Substations, of which 19 are potentially active. It also identifies 53 within 250 m of PV arrays and cable routes, of which 44 are potentially active. The records contain uncertainty over matters such as exact location, duplication, depth and source aquifer. [APP/6.1.16; APP/6.3.16.1]

**Where that uncertainty remains, East Pye should demonstrate that the assessment uses a sufficiently precautionary assumption, or verify the relevant supply location and source where reasonably practicable**

### 2.3 Environment Agency Concerns

The Environment Agency identified insufficient ground and design information to exclude contaminant migration pathways created by deep or piled foundations and recommended further foundation risk assessment. East Pye proposes post -consent ground investigation and Foundation Works Risk Assessment (FWRA), with those measures secured through the CEMP framework. [APP/6.1.16; APP/7.1; APP/7.26]

**East Pye should demonstrate that the final securing mechanism creates an effective hold point so that no relevant deep or piled foundation work proceeds until the necessary investigation, FWRA, mitigation and approval have been completed.**

## 2.4 Groundwater Travel Times

East Pye did not adopt the Environment Agency's requested amendments concerning groundwater travel times around private water supplies. Instead, it retained the 1 km and 250 m assessment distances and explained why it considered the wider travel-time screening overly conservative. [APP/6.1.16]

**East Pye should therefore justify that approach for the final design and demonstrate that a credible preferential pathway would not be excluded merely because a receptor lies outside a fixed screening distance.**

## 2.5 Water Quantity Does Not Resolve Contamination Risk

The Water Resources Assessment addresses abstraction and water-resource matters, while the Water Environment and Ground Conditions assessments separately consider groundwater -quality risks from spills, foundations, transformer oils, drainage failure and contaminated BESS firewater. [APP/6.1.9; APP/6.3.9.3; APP/6.1.16]

**East Pye should therefore demonstrate that its separate pollution -prevention and groundwater controls remain adequate for the final design. A conclusion on water quantity or new abstraction does not, by itself, resolve groundwater -quality risk.**

## 2.6 Ground and Foundation Information Remaining Post -Consent

Material ground information is to be developed after consent, including intrusive ground investigation, a Phase 2 Ground Conditions Assessment where required, FWRA for the BESS, National Grid Substation and other structures requiring deep foundations or piling, and Hydrogeological Risk Assessment (HRA) where required for relevant trenchless crossings. [APP/6.1.16; APP/7.1; APP/7.26]

**Post-consent assessment is not inherently unacceptable. East Pye should, however, demonstrate that each required assessment is completed before the work to which it relates and that the approval process can require additional mitigation or design change where the results justify it.**

## 2.7 BESS and Substations– Integrated Groundwater Protection

East Pye's submitted documents contain specific controls for the BESS and substations, including lined drainage, isolation arrangements, containment of contaminated firewater, transformer bunding and later detailed BSMP and drainage design. [APP/6.1.9; APP/6.3.9.1; APP/7.5]

**The DCO also provides separate controls through detailed design, the BSMP, drainage and CEMP requirements. [APP/3.1, Requirements 5, 6, 11 and 13]**

**East Pye should demonstrate that these controls operate together for the final layout and that no gap arises between foundation, drainage, pollution -control and emergency - response measures.**

## 2.8 Private Water Supply Verification and Monitoring

The Applicant's consultation response states that there will be 'appropriate engagement where required', but does not itself evidence a completed programme of physical

verification or baseline water-quality monitoring for every potentially affected private supply. [APP/5.11]

**East Pye should identify which supplies remain within a credible effect pathway, verify their location and source where reasonably practicable, and explain whether monitoring is required.**

**Where a credible pathway cannot be excluded after detailed assessment, East Pye should secure proportionate baseline and follow-up monitoring together with appropriate incident response and contingency arrangements.**

## 2.9 Certainty Before Foundation Works

Requirement 13 secures approval of a CEMP before the relevant part of the authorised development commences, while the Outline CEMP and Commitments Register provide for FWRA before relevant foundation works. [APP/3.1, Requirement 13; APP/7.1; APP/7.26]

East Pye should demonstrate that this combination creates a clear and enforceable pre-works hold point for any deep or piled foundations that could create a groundwater pathway.

**The Applicant's Minor/Not Significant conclusions, and the negligible or very small magnitudes on which they rely, should only be relied upon if those controls demonstrably preserve the assessed envelope.**

## 2.10 Overall Groundwater and Private Water Supply Requirement

The Water Environment assessment treats private water supplies within 1 km as Very High sensitivity, while the Ground Conditions assessment also identifies highly sensitive aquifer receptors and adopts a 1 km study area for the BESS and substations because piling may be required. [APP/6.1.9; APP/6.1.16]

East Pye should demonstrate that the final design and secured controls are capable of preventing unacceptable effects from contaminant pathways created by foundations, construction or operational pollution, drainage or containment failure, and contaminated BESS firewater.

**Where material uncertainty remains, East Pye should demonstrate that the relevant works cannot proceed until that uncertainty has been investigated, assessed and satisfactorily controlled.**

## 2.11 Hawkchurch BESS Appeal– Relevance to Receptor Protection

The Hawkchurch BESS appeal (APP/U1105/W/25/3369854) was dismissed on 13 August 2026. One of the principal issues was whether fire safety and pollution control measures would be sufficient to prevent pollution of aquifers and protect groundwater quality with regard to local residents. The Inspector concluded that the evidence was not sufficiently robust to be confident that the firewater pollution controls would be adequate.

BEPS does not suggest that Hawkchurch establishes that East Pye would cause the same effects. Its relevance is narrower: where a BESS relies on fire safety, drainage and containment measures to protect groundwater, the adequacy of those measures must be demonstrated by sufficiently robust, scheme-specific evidence rather than assumed or left unresolved.

East Pye should demonstrate or secure:

- which private water supplies remain within a credible effect pathway, verifying location and source where reasonably practicable and otherwise applying a suitably precautionary assumption;
- why the retained 1 km/250 m screening approach, including the decision not to adopt the Environment Agency's groundwater travel time amendments, remains protective for the final design and any credible preferential pathway;
- an enforceable pre -works sequence so that the necessary ground investigation and FWRA are completed before relevant deep or piled foundation works, and any required HRA is completed before the trenchless crossing to which it relates;
- final BESS and substation foundation, drainage, containment and firewater arrangements that remain within the assessed environmental envelope and are secured through the applicable DCO requirements and approved management plans; and
- where a credible pathway to a private supply cannot be excluded after detailed assessment, proportionate baseline and follow up monitoring, with clear incident -response and contingency arrangements.

*Key Applicant documents checked: APP/6.1.2, APP/6.1.9, APP/6.1.16, APP/6.3.9.1, APP/6.3.9.3, APP/6.3.16.1, APP/7.1, APP/7.5, APP/7.18, APP/7.26, APP/5.11 and APP/3.1. Hawkchurch comparator: Planning Inspectorate appeal decision APP/U1105/W/25/3369854, 13 August 2026.*

## 2.12 Ecology and Biodiversity – BESS/Site 1 Specific Transparency

The BESS and Site 1 should not be treated ecologically in the same way as the solar-array areas. This part of the Scheme would introduce a concentrated area of BESS equipment, substations, hardstanding, permanent access, security fencing, drainage infrastructure and operational lighting into an existing agricultural landscape formed by interconnected hedgerows, trees, ponds, ditches and field margins. East Pye's own BNG documentation recognises this distinction by classifying BESS post-development habitat as “Urban – Developed land, sealed surface”. Pasted markdown

East Pye has undertaken extensive Scheme-wide ecological surveys. The Examination issue is therefore not whether ecological work exists, but whether East Pye has demonstrated clearly and specifically what the BESS/Site 1 hard-infrastructure cluster would affect, what mitigation is necessary, and whether that mitigation remains effective once the final BESS and substation designs are fixed. At present, the relevant evidence is distributed between the ES, species appendices, BNG material, management plans and design commitments rather than being presented as a single auditable BESS/Site 1 assessment.

### Protected species evidence should be reconciled specifically to the BESS/Site 1 area

The same difficulties arise with the protected species evidence, BEPS would request for transparency and traceability, not for East Pye to repeat work already completed.

**A consolidated schedule would allow the Examining Authority to test the local baseline, habitat loss, species constraints, mitigation, BNG consequences and long-term controls without having to reconstruct that position from numerous separate documents. and whether the necessary mitigation is clearly secured**

### Bats, Barbastelle and Dark Corridors

The ecological constraints are material. East Pye records widespread bat activity, including high barbastelle activity across the wider survey area, making the protection of hedgerows, woodland edges and genuinely dark commuting and foraging corridors important when the BESS and substations would introduce security, maintenance and potentially emergency lighting. East Pye must therefore demonstrate not simply that lighting will be controlled in principle, but that the final luminaire locations, heights, triggering arrangements and maximum spill levels will preserve the dark corridors and habitat assumptions relied upon in the ES.

### Breeding Birds

East Pye's surveys identify breeding and farmland birds of conservation concern across the Scheme, including species dependent on open arable land, hedgerows, field margins and nearby buildings. The ES records significant use of the site by breeding birds, including 81 skylark territories, 70 within areas subject to permanent development, and recognises displacement and habitat loss from the BESS, substations and solar infrastructure. [APP/6.1.8; APP/6.3.8.4; APP/7.4]

**East Pye should therefore demonstrate, specifically for the BESS/Site 1 footprint, which breeding territories and supporting habitats would be lost, displaced or disturbed by construction and operation, and where equivalent replacement or compensatory habitat will be provided and secured for the lifetime of the development. Scheme-wide**

mitigation should not obscure the local ecological effects of converting open farmland and associated habitat to permanent or long-term energy infrastructure.

## Great Crested Newts and Ponds

Great crested newts, ponds and terrestrial habitat also require clear spatial protection. East Pye relies on 50 m buffers around known or unsurveyed GCN ponds and 30 m buffers around ponds demonstrated negative by survey. Those buffers need to be reconciled directly with the final locations of access roads, drainage, fencing, hardstanding, substations and other infrastructure. The same principle applies to badgers and other terrestrial species: where extensive permanent security fencing is proposed, East Pye should demonstrate where existing movement routes occur and how permeability will be maintained through appropriate gaps or passages.

## Hedgerows, Trees and Ecological Connectivity

Ecological connectivity is particularly important because the local habitat functions as a network rather than as isolated features. Hedgerows, mature trees, ditches, ponds and field margins provide connected habitat through the Site 1/BESS locality. East Pye should therefore identify which features would be retained, removed, crossed or illuminated and demonstrate that their ecological function would continue throughout construction and operation. Particular attention should be given to the proposed works at Hundred Lane, where alteration of established boundary vegetation and the haul-road crossing may affect both ecological connectivity and the rural landscape corridor.

## Drainage, Pollution and BESS Firewater

Ecological assessment should be integrated with the drainage and BESS safety strategy. Ponds, ditches, groundwater-connected habitats and downstream receptors may provide credible pathways for contaminated runoff or firewater.

**East Pye proposes isolation of the drainage system following a fire, testing of retained water and off-site removal where contamination is identified. East Pye should therefore demonstrate that the proposed containment capacity is sufficient, identify the ecological receptors and pathways protected by those measures, and explain the safeguards available if valves, penstocks or other containment measures fail.**

## Rural Habitat Conversion and Hard Infrastructure

East Pye's BNG documentation classifies BESS postdevelopment habitat as "Urban – Developed land, sealed surface", with substations, access and associated infrastructure also reflected within the post-development assumptions. [APP/7.23; APP/7.24]

East Pye should therefore identify clearly the habitat loss and conversion attributable specifically to the BESS/Site 1 infrastructure cluster, the ecological functions affected, and the mitigation or compensatory habitat relied upon.

**A Scheme-wide BNG result does not remove the need for transparency at Site 1. East Pye should provide a BESS/Site 1-specific account showing the local habitat debit, the compensatory habitat relied upon, where it will be delivered and how its establishment and long-term management are secured.**

## Replacement and Decommissioning

Ecological protection should extend throughout the operational life of the development. Battery replacement, augmentation and decommissioning may involve renewed vehicle movements, lighting, ground disturbance and works close to habitats that may have changed or become newly occupied.

East Pye should therefore secure proportionate ecological checks and, where necessary, updated surveys before substantial replacement, augmentation or decommissioning works, rather than relying solely on the original construction baseline.

East Pye should demonstrate or secure:

- a single BESS/Site 1 ecological schedule identifying local receptors, habitat losses, protected -species constraints, mitigation, compensation, monitoring and long -term management;
- a coordinated constraints plan showing ponds and buffers, hedgerows, trees, ditches, ecological corridors, fencing, access, drainage and lighting;
- confirmation that the final BESS, Project Substation, access, drainage and lighting arrangements remain within the ecological effects assessed in the ES;
- a BESS/Site 1-specific BNG account identifying the local habitat debit, compensatory habitat, delivery location and management mechanism;
- integration of the firewater and drainage strategy with mapped ecological receptors and pollution pathways;
- protection of ecological connectivity affected by permanent access or infrastructure works; and
- ecological review and, where necessary, updated surveys before major replacement, augmentation or decommissioning works.

The issue is not whether East Pye has undertaken ecological surveys. It is whether East Pye has demonstrated, for the **BESS/Site 1 hard -infrastructure cluster** , what ecological effects arise, how they will be mitigated throughout the development's life, and how each measure relied upon is secured and capable of verification. [APP/6.1.8; APP/6.3.8.1–8.10; APP/7.1–7.4; APP/7.23–7.25]

## 2.13 Telecommunications and Emergency Communications

**Residents, emergency services and people reliant on telecare require reliable communications throughout construction and operation.**

Shallow fibre and other telecoms infrastructure may be vulnerable to excavation, access works and construction activity. Reliable communications are also important for emergency response to the BESS and substations.

East Pye identifies telecommunications infrastructure within the Order Limits. [APP/6.2.18.1; APP/6.1.18]

**East Pye should demonstrate where BESS/Site 1 works interact with vulnerable telecoms assets, how those assets will be protected or diverted, and what rapid repair and emergency communication arrangements will apply if service is disrupted.**

## **2.14 Utilities and Essential Services**

The BESS/Site 1 locality is a concentrated infrastructure node in which high -voltage plants, cable corridors, drainage, access and emergency response interact with existing utilities and telecommunications. A Scheme-wide utilities plan is useful, but East Pye should make the interfaces at this cluster directly auditable

**East Pye should provide a BESS/Site 1 utilities schedule identifying affected apparatus, protection or diversion measures, statutory undertaker requirements and responsibility for maintaining service continuity.**

## **2.15 Climate Change and Resilience**

**The BESS, substations and emergency systems must remain safe and effective under future climate conditions.**

East Pye identifies battery replacement as a major lifecycle emission source, approximately 1,034,103 tCO<sub>2</sub>e, while a potential BESS saving of approximately 957,849 tCO<sub>2</sub>e sits outside the principal GHG assessment. SF<sub>6</sub>-containing equipment is also proposed, but lifetime fugitive emissions are not quantified.

**East Pye should demonstrate that the final design remains robust in relation to:**

- battery replacement and charging assumptions;
- SF<sub>6</sub> leakage;
- extreme heat and cooling demand;
- drought and firefighting-water availability;
- climate-adjusted drainage and firewater containment; and
- resilience of the BESS, substations and emergency access.

These matters should be sufficiently defined and secured before the climate conclusions are relied upon.

## 2.16 Listed Buildings, Rural Setting and Residential Receptors



*Friends Meeting House*

East Pye assesses designated heritage assets, including Barn Cottages, Moulton Farmhouse and other listed buildings in the wider locality. The Examination should distinguish heritage significance from residential visual amenity: a conclusion of limited heritage harm does not automatically establish that the same infrastructure has no important effect on the outlook, tranquillity or living conditions of nearby homes.



*Walk Farm Listed*

The source document also raises the vulnerability of older timber-framed, clay-lump and traditionally constructed buildings to vibration, settlement and heavy construction traffic. Where a credible risk exists, the Applicant should identify the buildings, appropriate vibration limits and the need for pre-construction condition surveys and monitoring.

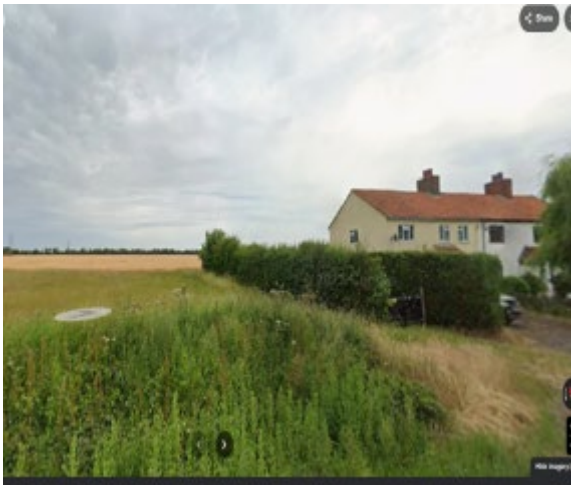
**East Pye should:**

- demonstrate the combined BESS/substation effect on the closest residential and heritage receptors, including duration before mitigation becomes effective;
- identify any vulnerable older buildings within the relevant influence area;
- secure proportionate condition surveys and vibration monitoring where required; and
- provide a clear response and remediation procedure if damage attributable to construction occurs.

*Station Road - B1134 - Homes opposite the proposed BESS Site and Project Substation*



## *The Cottage*



## *Fernleigh Cottages*

*current view from these homes on Station Road B1134 which is the proposed location of the Project Substation and BESS site.*



## Chapter 3 The Order Limits - Site and Surroundings

The principal receptors are the communities of **Tivetshall St Margaret, Tivetshall St Mary, Great Moulton and Wacton**, together with nearby homes, farms, heritage assets, PRowS, rural lanes, agricultural land, drainage features and the wider landscape. These receptors are vulnerable because the area is predominantly **open agricultural countryside**, characterised by scattered development, narrow rural roads, public rights of way, open views and a generally tranquil rural setting.



### East Pye identifies:

- Site 1 (Sub-Sites 1A–1D) – approximately 73.6 ha;
- The BESS Site – approximately 22.90 ha ;
- Site 1 (Sub-Sites 1A–1D) – approximately 73.6 ha;
- Site 2 (Sub-Sites 2A–2C) – approximately 99.9 ha.

ES Chapter 3 defines a separate 22.90 ha BESS Site, while ES Chapter 4 describes Work No. 2 as the BESS compound “contained within Sub-Site 1B”. The relationship between these descriptions is not sufficiently clear.  
[APP/6.1.3; APP/6.1.4; APP/2.2; APP/2.3; APP/3.1]

**East Pye should provide a definitive combined plan identifying the BESS Site, development compounds, authorised works, access routes, PRowS, environmental buffers and nearby receptors.**

### 3.1 Site Envelope and Development Footprint

East Pye identifies a BESS Site of approximately 22.90 ha, while the operational BESS compound and 400 kV Project Substation occupy only part of that area. The remainder may be required for access, drainage, firewater, security, ecological mitigation and landscaping. The Applicant should define the purpose of each part of the land rather than relying on a large undifferentiated envelope.

The land is predominantly **BMV Grade 2 agricultural land**, increasing its sensitivity to permanent or extensive infrastructure.

### East Pye should:

- provide a definitive combined plan showing the BESS Site, Work No. 2, Sub-Site 1B, Project Substation, National Grid infrastructure and adjoining mitigation land;
- identify land required for operational plant separately from land reserved for drainage, firewater, ecology, landscape mitigation and access;
- confirm that the Works Plans, Land Plans, draft DCO and Environmental Statement use consistent spatial definitions; and

- show that all assessed offsets and buffers are protected from later encroachment by detailed design.

**East Pye should clearly identify which land is required for operational development and which will remain undeveloped or be secured for landscaping, ecology, drainage and mitigation. The final layout should preserve all assessed offsets and environmental buffers.**

### 3.2 Relationship with Tivetshall St Margaret, Great Moulton and Nearby Homes

The surrounding fields presently form part of the rural setting and physical separation between settlements and scattered homes. The relevant visual and amenity question is therefore the combined relationship between residential receptors and the whole infrastructure cluster, not simply the shortest distance to one individual component.



East Pye's proposals introduce the BESS, Project Substation, solar infrastructure, fencing, access and associated equipment into this presently agricultural setting.

**East Pye should:**

- provide clear receptor plans showing distances to the final BESS, substations, fencing, access and other operational infrastructure;
- demonstrate how landscape mitigation, noise control, lighting limits and emergency safeguards protect the closest homes; and
- assess the effect of the cluster on perceived rural separation between Great Moulton and the Tivetshalls.

East Pye should demonstrate, through its ZTV, residential receptor assessment and verified visualisations, the effects on the closest properties and explain how setbacks, planting, lighting controls and other mitigation will protect residential and landscape amenity.

*Visual Showing Views from The Cottage, Station Road across the Proposed 400kV substation and BESS towards Hundred Lane*



*Visual Showing  
Views from  
Hundred Lane  
across the*

*Proposed 400kV substation and f BESS towards Station Road*



### 3.3 Rural Roads, Access and Public Rights of Way

Residents, walkers, cyclists, horse riders, farmers and heritage receptors depend upon the rural character and accessibility of the surrounding countryside.



The local network includes narrow rural roads, ditches, bends, restricted byways and PRowS used by residents, farmers, walkers, cyclists and horse riders. East Pye should demonstrate that the final access strategy is safe and proportionate and that any permanent road or crossing works are justified by an identified operational requirement.

**East Pye should:**

- identify all temporary and permanent access routes and highway works on one coordinated plan;
- show where widening, passing places, vegetation removal, drainage alteration or visibility works are required;
- demonstrate protection for vulnerable road users and PRow users during construction and operation; and
- secure reinstatement where works are temporary and a clear necessity case where works are permanent.

**Principal Applicant evidence:** APP/6.1.3; APP/6.1.4; APP/6.1.11; APP/6.2.18.1; APP/6.3.11.1; APP/7.6-7.8; APP/2.2; APP/2.3; APP/3.1.

East Pye should demonstrate the combined relationship between these receptors and the proposed infrastructure rather than relying solely upon assessments of individual components.

### 3.2.4 Proximity of Development to Homes

Nearby homes, particularly around Tivetshall St Margaret, Lodge Road, Station Road and Hundred Lane, are vulnerable because of their proximity to the proposed BESS, substations and solar development.

The surrounding fields presently provide open views and physical separation between homes, villages and infrastructure. The proposed development would introduce BESS equipment, substations, solar arrays, fencing and related works across several adjoining land parcels.

*Visual Showing Proximity of BESS/Solar Panels /National Grid & 2 x 400Kv substation to residential properties in Lodge Road*



### 3.3 Rural Roads, Access and PRowS



Residents, farmers, walkers, cyclists and horse riders rely on a network of narrow rural lanes that also provide access to homes and agricultural land.

East Pye should demonstrate that the proposed access strategy can operate safely alongside existing users, identify where widening, passing places or other highway works are required, and secure appropriate protection for pedestrians, cyclists, riders, drainage features and PRowS.

### 3.4 Examination Requirement

The key issue is the combined relationship between the Order Limits, the infrastructure that may be constructed within them and the surrounding receptors .

BEPS submits that East Pye should provide a single coordinated plan showing:

- the BESS Site and development footprint;
- BESS and Project Substation compounds;
- National Grid and other substation infrastructure;
- solar development and cable connections;
- permanent and temporary access routes;
- PRowS;
- residential and heritage receptors; and
- secured landscape, ecological, drainage and safety buffers.

This would allow the Examining Authority and local communities to understand clearly what development is authorised, where it may be located and how the surrounding receptors will be protected.

## Chapter 4: The Scheme - BESS and the Project Substation

The BESS Site accommodates a substantial battery compound and the 400 kV Project Substation together with access, electrical, drainage, security and safety infrastructure. The Examination should test the development that the DCO would authorise, not merely an indicative layout.

East Pye identifies a **22.90 ha BESS Site**, together with substantial associated electrical infrastructure. However, important elements of the final BESS and Project Substation design remain subject to detailed design.

The Examination should therefore establish not simply whether an indicative design has been assessed, but whether **every development capable of being authorised by the DCO would remain within the environmental and safety effects assessed** .

### 4.1 BESS Site and Work No. 2

The source document records assessed BESS enclosure heights up to 3.5 m, security fencing up to 3 m, operational access roads generally 4.5-6 m wide and foundation options including piles to approximately 12 m. The Project Substation may occupy up to approximately 3 ha and include equipment up to 13 m to the top of busbars. These parameters demonstrate that the BESS Site is a major engineered compound rather than a lightly developed agricultural use..

East Pye should provide:

1. a definitive plan identifying the BESS Site, Work No. 2, Sub -Site 1B and associated infrastructure;
2. a parcel-by-parcel explanation of the purpose of the land within this area; and
3. confirmation that the Works Plans, DCO and environmental assessments all rely upon the same spatial boundary.

## 4.2 Scale and Physical Infrastructure

Residents and landscape receptors are potentially affected by substantial industrial infrastructure within a predominantly rural setting.

| BESS ELEMENT                                                                                                                                                                                            | EAST PYE PARAMETER                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <i>(The assessed parameters include BESS enclosures up to <b>3.5 m high</b>, 3 m security fencing, operational access roads and foundations extending to piles of up to <b>12 m below ground</b> .)</i> |                                                                                             |
| BESS enclosure height                                                                                                                                                                                   | Up to 3.5 m                                                                                 |
| BESS control building                                                                                                                                                                                   | Up to 6 m long, 2.5 m wide and 3.5 m high                                                   |
| Fencing                                                                                                                                                                                                 | 3 m palisade fencing, with CCTV                                                             |
| Operational access                                                                                                                                                                                      | 4.5 m to 6 m wide; up to 8 m at passing places                                              |
| Foundations                                                                                                                                                                                             | Reinforced concrete base up to 1 m deep, or piles up to 12 m below ground with 1 m pile cap |
| Surfacing                                                                                                                                                                                               | Levelled platform; each unit on a concrete base                                             |

### PROJECT SUBSTATION IN THE BESS SITE 400KV

*(The associated 400 kV Project Substation may occupy up to approximately **3 ha**, with equipment reaching **13 m to the top of the busbars** , together with transformers, switchgear, buildings, fencing and access infrastructure.)*

|                         |                                                                               |
|-------------------------|-------------------------------------------------------------------------------|
| Maximum compound area   | 3 ha / approx. 7.4 acres                                                      |
| Maximum height          | 13 m to the top of the busbars                                                |
| Relay and control room  | Up to 7 m by 19 m, 4.2 m high                                                 |
| 33 kV switch room       | Up to 7 m by 19 m, 4.2 m high                                                 |
| Fencing                 | m palisade fencing plus 2.5 m deer-type wire mesh wooden post fencing outside |
| Access                  | Up to 6 m wide, hardcore or gravel over levelling                             |
| Foundations             | Concrete base/monolith plinth up to 1 m deep or piles up to 12 m deep         |
| Transformers/Switchgear | Gas-insulated or air-insulated                                                |

East Pye should demonstrate that the final layout remains within these assessed limits and that its combined landscape, noise, drainage, ecological and residential effects have been assessed as part of the wider infrastructure cluster rather than as isolated components.

## 4.3 Detailed Design - Rochdale Envelope

Important design matters remain for later determination, including final battery technology and chemistry within the assessed envelope, manufacturer and enclosure selection, detailed layout and spacing, cooling, fire detection and suppression, manufacturer -specific fire -test evidence, final firewater hydraulics, aspects of plume analysis and the Emergency Response Plan. Flexibility is acceptable only if these choices cannot enlarge the assessed environmental or safety envelope.

East Pye should demonstrate or secure:

- link each deferred design choice to a maximum parameter or worst -case ES assumption;
- final battery and enclosure specifications that remain within the tested and modelled safety envelope
- identify the approval body and consultation requirement for each deferred matter;
- require manufacturer -specific evidence before operation where the final technology materially affects safety, noise or fire behaviour; and
- provide a compliance schedule showing how final design will be checked against the assessed envelope.
- post -incident inspection, deposition/clean -up and environmental monitoring where required by the final consequence assessment.
- Final infrastructure definition – a coordinated parcel -by-parcel schedule and plan for Sub -Sites 1A–1D and the BESS Site identifying the BESS, Project Substations, National Grid Substation, pylon works, cables, drainage, access, fencing and other permanent and temporary infrastructure by Work Number, location, dimensions and duration.
- Operational noise control – a final cumulative acoustic design demonstrating that the selected BESS, inverter, transformer and substation plant remains within the assessed noise envelope, including night -time operation, acoustic character, mitigation, commissioning, monitoring and corrective action.
- Lighting and dark -sky protection – a final operational lighting scheme identifying fixed, emergency and sensor -controlled lighting, switching arrangements and ecological and dark -sky safeguards.
- Construction controls – a coordinated construction layout identifying compounds, laydown areas, haul routes, welfare facilities, temporary fencing and lighting, vegetation removal and visibility -splay works.
- Drainage and firewater containment – a final strategy demonstrating how potentially contaminated drainage or firewater would be isolated, contained, tested and removed, including safeguards against failure of penstocks, shut -off valves or other containment systems.

- **Combined -effects verification** – confirmation that the final design remains within the assessed environmental and safety envelope for residential amenity, public rights of way, landscape and visual effects, tranquillity and dark skies, ecology, traffic and access, drainage and groundwater, agricultural land and cumulative effects.

Where a matter remains deferred, East Pye should identify the approval mechanism, consultation requirements, compliance criteria and verification process that will ensure the final Scheme cannot materially exceed the effects assessed at Examination. The issue is whether the final design is sufficiently defined and controlled to ensure that the assumptions and mitigation relied upon in the Environmental Statement are carried through into construction and operation.

Use of a Rochdale Envelope is not itself objectionable. The important issue is whether the DCO prevents later design choices from producing effects greater than those assessed.

## 4.4 BESS Safety and Emergency Response

The Outline Battery Safety Management Plan [APP/7.5] addressing thermal runaway, fire, explosion, electrical hazards, toxic-gas release, reignition, emergency access, firefighting water and contaminated-runoff containment. The document provides an important assessment framework, but it is based on a concept BESS rather than the final equipment, layout and operating system that would ultimately be installed.

The final battery chemistry, equipment specification, enclosure design, spacing, fire behaviour and emergency arrangements therefore remain matters for detailed design. East Pye should consequently bear the responsibility for demonstrating, before construction and operation, that the final BESS remains within the safety and environmental parameters assessed during the Examination.

**East Pye should demonstrate or secure:**

- the final battery technology and configuration present risks no greater than those assessed in APP/7.5;
- final equipment spacing and fire -separation arrangements are supported by appropriate large -scale fire testing and consequence modelling;
- site -specific plume modelling using the final equipment and thermal -runaway data demonstrates compliance with the relevant public -health criteria;
- emergency access, isolation, firefighting and post -fire monitoring arrangements are practicable for the final layout;
- firefighting water and potentially contaminated runoff can be fully contained, isolated and removed without unacceptable risk to groundwater, surface water, soils or ecological receptors; and
- the detailed Battery Safety Management Plan and Emergency Response Plan incorporate all measures necessary to address the final design and are agreed with the relevant emergency and environmental authorities.
- demonstrate that final cell chemistry, enclosure arrangement and spacing are no worse than the safety case examined;

- confirm the standards and guidance against which the final BESS will be designed, approved and independently verified.
- secure fire detection, isolation, suppression and emergency shut -down measures appropriate to the selected technology;
- demonstrate sufficient firefighting -water availability and contaminated - firewater containment, including credible failure modes;
- provide appliance access, turning, rendezvous and incident -command arrangements agreed through the relevant approval process;
- identify warning, exclusion and PRow management measures where modelled consequences may affect public routes; and
- secure post -incident inspection, testing, clean -up and environmental monitoring where required.

BEPS does not contend that battery safety has been ignored or that toxic exposure to residents is a predicted effect. The issue is that East Pye should not be permitted to rely upon an assessment of an illustrative BESS while leaving material safety characteristics to later selection without demonstrating that the final development remains within the assessed envelope. The burden should rest with East Pye to prove that the system ultimately installed is no worse, in safety and environmental terms, than the system assessed at Examination.

#### [Appendix 1](#) - *The NFCC guidance*

The Navenby BESS material relevance as an external illustration of why battery spacing, fire propagation and firewater containment can materially affect community and environmental safety.

## 4.5 Operational Noise in a Very Quiet Rural Environment

The BESS and substations introduce continuous or recurrent plant noise from transformers, inverters, cooling equipment and associated electrical plant into a rural sound environment in which the source document records very low background levels, including periods below 25 dB. In such conditions, acoustic character - including tonality or other distinctive features - can matter as much as the numerical A-weighted level.

East Pye's assessment uses an indicative or example plant because final equipment is not yet selected. Conservative assumptions are used in some respects, but later manufacturer choice, layout, cooling duty and attenuation may materially affect the result. The final installed plant should therefore be checked against the assessed cumulative noise envelope rather than assumed to comply because an indicative model did so.

East Pye should:

- provide a final plant schedule and acoustic model based on the equipment actually selected;

- assess combined BESS and Project Substation noise at the same receptors, including relevant BS 4142 acoustic character corrections;
- demonstrate compliance during the quietest relevant night -time periods and under credible operating conditions;
- secure any barriers, enclosures, low -noise equipment or operational controls necessary to achieve the assessed outcome; and
- establish a verification and complaint -investigation mechanism after commissioning.

## 4.6 BESS Replacement and Augmentation During Operation

East Pye anticipates battery maintenance, replacement and supplementation during the operational period but does not fix a 60-year replacement timetable. The uncertainty is understandable, but the environmental consequences of large-scale replacement - HGV movements, handling, waste, temporary storage, fire risk, noise and ecological disturbance - should remain bound by the consented envelope.

The remaining issue is that the application does not identify the likely frequency or scale of replacement or augmentation activity, or demonstrate separately how associated traffic, handling, waste, storage, fire and pollution effects would remain within the Environmental Statement assumptions.

**East Pye should:**

- identify the replacement assumptions used in the ES and GHG assessment;
- secure traffic, handling, waste, recycling, temporary storage and fire/pollution controls for replacement campaigns;
- require review if the frequency or scale of replacement materially exceeds the assumptions assessed; and
- ensure substantial replacement works remain subject to relevant ecological and environmental checks.

The relevant consideration is not whether East Pye can predict an exact replacement cycle now, but whether foreseeable replacement and augmentation throughout the operational life of the BESS remain within the traffic, noise, waste, safety and environmental envelope examined and secured by the DCO.

Principal Applicant evidence: APP/6.1.2; APP/6.1.4; APP/6.1.6; APP/6.1.12; APP/7.2; APP/7.5; APP/7.18; APP/7.26. The source document also relies on an independent acoustic review reproduced as Appendix 2.

# Chapter 5: Reasonable Alternatives, Site Selection and Design Evolution

## Evolution

A planning examination does not require local communities to design an alternative BESS for the Applicant. East Pye should provide the evidence that explains why the chosen BESS location and configuration represent a justified outcome when environmental constraints and reasonable alternatives are considered together.

### 5.1 The BESS-Specific Site Selection Issue

East Pye's Site Selection Assessment and design evolution material explain the wider solar and grid siting process and the value of proximity to the point of connection. The source document's concern is narrower: the BESS is a risksensitive and land-intensive component, yet the route from wider grid proximity to this particular BESS parcel is not presented as a transparent like-for-like comparison of reasonable BESS locations.

**East Pye should demonstrate or secure:**

**identify the reasonable BESS locations considered within or outside the wider Scheme;**

- **set out the criteria used to compare them, including homes, groundwater, private supplies, emergency access, ecology, BMV land, landscape, heritage and noise;**
- **explain why co-location benefits outweighed the environmental disadvantages of the chosen parcel; and**
- **explain whether a smaller BESS, different configuration, solar-only scheme or off-site/network storage option was considered and, if not, why not.**

### 5.2 Point of Connection and Co-location

Grid proximity and electrical efficiency are legitimate planning considerations. They do not, however, answer the separate question of whether the final siting of battery storage and project substation infrastructure has avoided or reduced harm so far as reasonably practicable. East Pye should distinguish engineering convenience from environmental preference and explain the weight given to each.

### 5.3 Design Evolution: Mitigation after Selection versus Avoidance

The BESS design was later refined through setbacks and mitigation addressing flooding, screening, residential amenity, fire safety and noise. Those changes may be beneficial, but they also identify constraints that were known or became apparent after the location had been selected. The Applicant should demonstrate that the mitigation-led design remains preferable to reasonable alternatives that could avoid the constraint at source.

### 5.4 Access Design Evolution

The access strategy has evolved, including the relationship between Station Road, Lodge Road/Frith Way, existing access A03 and the permanent RB19/Hundred Lane crossing. Any permanent new crossing or road alteration should be supported by a clear chronology, operational need and alternatives assessment.

## 5.5 Consistency of the Scheme Description

Site selection can only be scrutinised if the selected site is spatially clear. East Pye should therefore reconcile the description of a separate BESS Site with Work No. 2 “contained within Sub-Site 1B” and confirm exactly which land was subject to the site-selection and alternatives reasoning.

Principal Applicant evidence: APP/7.17; APP/7.18; APP/7.20; APP/6.1.3-6.1.5; APP/2.2; APP/2.3; APP/3.1; APP/6.3.1 1.1; APP/7.6; APP/7.7.

**East Pye should therefore provide a concise and auditable account of the reasonable alternatives actually studied and the principal reasons for selecting the proposed locality.**

## 5.3 Design Evolution and Co-location

Residents and the surrounding rural environment experience the BESS, Project Substations, National Grid infrastructure and associated works as one infrastructure cluster, irrespective of their separate Work Numbers or ownership.

The Stage 3 design introduced or refined an approximately 200 m separation from the nearest residential property in response to fire -safety and noise considerations. Surface-water constraints affected the developable BESS area, while buffers and woodland -connectivity measures were incorporated into the evolved design. [APP/6.1.5; APP/7.17; APP/7.18; APP/6.3.9.1; APP/7.4; APP/7.5]

These changes show that the selected locality contains material constraints. Co -location may provide engineering advantages and shorter connections, but it also concentrates the BESS, Project Substations, National Grid infrastructure and associated works in one rural locality. Residents and other receptors experience that infrastructure together, not by individual Work Number.

The Great Moulton Plateau Farmland is itself identified as susceptible to battery storage, substations and high -voltage infrastructure. [APP/6.1.7; APP/6.3.7.2]

**East Pye should therefore demonstrate that the environmental disadvantages of concentrating this infrastructure at Site 1 were weighed alongside the engineering advantages of co -location.**

## 5.4 Definition of the BESS and Site 1 Infrastructure

**Affected communities require a clear definition of the development whose effects they are being asked to accept.** ES Chapter 3 identifies a separate BESS Site of approximately 22.90 ha, while ES Chapter 4 describes Work No. 2 as the BESS compound contained within Sub-Site 1B. [APP/6.1.3; APP/6.1.4]

East Pye should provide a definitive coordinated plan showing the BESS Site, SubSite 1B, Work No. 2, Project Substations, National Grid infrastructure, principal access and drainage, and the relevant parish boundaries.

This is necessary to understand the relationship between the infrastructure, surrounding communities and the cumulative effects being assessed.

## 5.5 Central Examination Issue

**Mitigation of a chosen site should not substitute for explaining the choice of site.** East Pye should demonstrate that the environmental and residential constraints which later required substantial design change were properly considered when the BESS locality was selected.

Relevant Applicant documents include APP/6.1.3, APP/6.1.4, APP/6.1.5, APP/6.1.7, APP/6.3.7.2, APP/6.3.9.1, APP/7.4, APP/7.5, APP/7.17, APP/7.18 and APP/7.20, together with the Works Plan, Land Plan and draft DCO.

**The issue is whether East Pye has demonstrated that environmental, residential and safety constraints genuinely informed the choice of BESS location, and whether enforceable controls will ensure that the development ultimately constructed remains within the environmental and safety envelope examined.**

*The Botley West examination provides a useful procedural comparison, where further information was sought concerning alternative locations, site -selection methodology, environmental and technical considerations, identified disadvantages and opportunities for further design reduction.*

**For East Pye, the Examining Authority should therefore require:**

- a clear chronology of BESS and western -cluster design changes from scoping through PEIR, targeted consultation and DCO submission;
- a BESS-specific alternatives and mitigation schedule;
- a plan showing the relationship between the BESS Site, Project Substations, Work No. 2 and Sites 1A –1D;
- a combined residential -amenity and cumulative -effects assessment for the Site 1/BESS infrastructure cluster;
- parcel -specific design evolution for Sites 2A and 2B; and
- confirmation that worst -case effects have been assessed consistently across the final scheme.

**Until this information is provided, the Examination should carefully test whether the BESS, substations, Site 2 development and wider western infrastructure cluster have been justified and assessed on a sufficiently integrated basis.**

## 5.6 Applicant's stated site-selection rationale

APP/7.20 records that access considerations relevant to the National Grid Substation were also important to the BESS and that proximity between BESS and National Grid Substation was preferred to limit grid connection infrastructure. East Pye states that proximity minimises transmission losses, maximises storage efficiency, supports grid balancing and clusters taller infrastructure.

The selected BESS Site is also said to provide access from Station Road and separation from homes, heritage and PRowS.

This explains the proximity to the Point of Connection is attractive to the Applicant. It does not, however, provide a transparent criteria-led assessment of alternative BESS specific sites. In particular, The Applicant has not clearly shown how alternative BESS sites were tested against residential proximity, fire safety, emergency access, groundwater protection, contaminated firewater containment, landscape and visual harm, agricultural land quality, public rights of way, ecological sensitivity, operational noise and cumulative effects with the substations and grid infrastructure.

We would submit that the BESS location appears to have been driven primarily by grid proximity and co-location with other major electrical infrastructure. Later design changes may reduce some harm, but they do not demonstrate that the BESS location was selected through a robust, comparative assessment of reasonable alternatives.

## 5.7 Design evolution of the BESS Site

The ExA has itself identified the inconsistency between the two 400kV substations described in the Scoping Report and the three contained in the submitted application. Tivetshall Parish Council submits the ExA should require The Applicant to provide a complete dated change chronology, comparative plans and a clear explanation of how the environmental effects of the additional 400kV Project Substation—including its greater voltage, height, equipment, noise, landscape effects, construction requirements and abnormal-load movements - were assessed and consulted upon

APP/6.1.5 records a three-stage evolution.

At Stage 1, the general BESS location and co-location with a 400 kV Project Substation were identified close to the Point of Connection.

At Stage 2, the maximum BESS area was set back from identified surface-water risk and landscape screening/ woodland connectivity was introduced.

At Stage 3, the north-eastern BESS area was set back further to provide a minimum 200 m buffer to the nearest residential property in response to fire-safety best practice and noise considerations.

## 5.8 Technical issue: alternative BESS locations

The Applicant explains the reasons for the selected general location

**The examination question is whether the evidence provides a sufficiently transparent comparison of materially different BESS/Project Substation locations, particularly where the selected site is Grade 2 BMV and where the final safety/noise layout remained under development.**

The comparison should distinguish the technical benefit of proximity to the PoC from the environmental question of whether a materially lower -impact configuration was reasonably available.

## 5.9 Mitigation after selection versus avoidance through selection

The Applicant's documents refer to later refinements including setbacks, buffers, screening, surface-water considerations, residential amenity, fire -safety separation and noise considerations. Those changes may be relevant mitigation, but they do not answer the prior question of whether the BESS and associated project substation and infrastructure should be located in this sensitive village-edge position at all.

This distinction is important. Design evolution should not be used to disguise the absence of a clear alternatives case. If surface-water setbacks, landscape buffers, woodland connectivity, residential separation, fire safety and noise mitigation were necessary after the location was identified.

We would submit that the ExA should require The Applicant to explain why those issues were not determinative site -selection criteria from the outset.

**The examination should be able to understand which constraints were decisive when the site was chosen and which were managed only after selection.**

**Key East Pye sources:** APP/7.20 §3.7; APP/6.1.5 design evolution table; APP/6.1.15; APP/7.5.

## 5.10 Consistency and Clarity of the Scheme Description

The concern remains regarding the relationship between the "BESS Site" and Work No. 2, this is not sufficiently clear for residents.

The ExA should require The Applicant to confirm, in one clear schedule and plan, the precise spatial relationship between the BESS Site, the POC National Grid Substation, the 2 x 400kV Project Substations, the 132kV Project Substations, access works, cable routes, drainage works, fencing, lighting and emergency -response infrastructure.

Without that clarification, it is not possible to be confident that all environmental assessments have been undertaken on a consistent spatial basis.

## 5.11 Safety, Water and Emergency-Response Concerns

The BESS safety case remains dependent on detailed design and later management controls. We acknowledge that the Rochdale Envelope is unlawful in principle, where major infrastructure is proposed close to residential receptors, private water supplies, public rights of way and sensitive rural landscapes, the worst-case parameters must be clear enough to allow likely significant effects to be properly understood before consent is granted.

The Applicant's Site Selection Assessment confirms that the Grid Connection Agreement allows for export of up to 500MW of electricity and import of up to 500MW to be stored in the BESS. That is a major operational facility, not a minor ancillary feature.

We would submit that the ExA test whether the current information is sufficient to assess worst-case effects, including BESS fire, toxic emissions, contaminated firewater, access for emergency services, drainage design, groundwater pathways, private water supplies, operational noise and impacts on nearby residents and public rights of way.

## 5.12 Uncertainty Matters - Gas Insulated Switchgear or Air insulated Switch Gear

As The Applicant has not confirmed whether the proposed 400 kV substations will use Gas-Insulated Switchgear (GIS) or Air-Insulated Switchgear (AIS). This uncertainty matters.

This is a material design choice between GIS and AIS as it affects how much land is needed, appearance, how much noise it produces, and the safety and environmental effects and maintenance.

Without a clear decision, residents and planners cannot properly understand the visual, environmental, or safety impacts of the substations. The Applicant should confirm the technology type before consent is granted, so that the full effects on land use and the surrounding community can be properly assessed, together with the control equipment required to facilitate export from the Scheme to the proposed National Grid Substation.

The Applicant has provided indicative layouts, typical images and maximum design parameters. What is missing and crucial for the residents of Tivetshall and Great Moulton is that none of the following has been finalised:

- **engineering drawings**
- **final battery chemistry, supplier and BESS unit model. notwithstanding that the Outline BSMP appears to use lithium -ion / LFP assumptions for assessment purposes**
- **the number, spacing arrangements of BESS Enclosures/Battery Units on site**
- **final firewater -containment design**
- **final substation technology choice, or final detailed layout for the BESS and substations.**
- **noise Assessments**

The Applicant is relying on a broad Rochdale Envelope and is deferring material design decisions until after consent. Tivetshall residents deserve the reassurance that the ExA has sufficient fixed information, to assess the likely significant effects of the BESS, Project Substations and National Grid Substation before consent is granted.

## 5.13 Cumulative Assessment of the Western Infrastructure Cluster

There is concern that the consideration of the individual components of the western part of the Scheme risks understating their combined effect.

The BESS, Project Substations, National Grid Substation, Sites 1A–1D, Sites 2A and 2B, overhead-line works, pylons, cable corridors, compounds, haul routes and highway alterations should be considered together as a single infrastructure cluster when assessing cumulative effects.

Those combined effects include prolonged construction traffic, PRow disruption, drainage and water risks, permanent electrical infrastructure, changes to rural landscape character and tranquillity, and impacts upon residential amenity.

**The Examining Authority should therefore require an integrated assessment of highways, PRowS, drainage and water, utilities, emergency access, construction phasing and permanent operational infrastructure across the Tivetshall –Great Moulton –Wacton area.**

## 5.8 Road and Access Design evolution for Road Changes

ES Chapter 11 identifies the normal construction accesses for Sub-Sites 2A–2C as A07, A08 and A10 from existing A140 lay-bys. The proposed changes to the B1134/Station Road are therefore more directly associated with abnormal indivisible loads and the west ern infrastructure route, although Areas 1–3 adjoin Site 2A and contribute to the cumulative effects experienced around Site 2.

Widening or straightening sections of Station Road could affect residents along the B1134, including Hales Street and Moulton Road, and alter conditions at junctions with Lodge Road, Green Lane and Star Lane, together with PRowS BR9, FP11 and FP12.

The existing width and alignment of Station Road naturally constrain vehicle speeds. Widening or straightening may alter those conditions and could increase conflict risks for pedestrians, cyclists and equestrians crossing or using the highway. The Applicant should therefore demonstrate clearly how the final highway design protects these users and maintains safe access to the wider PRow network towards Great Moulton and Wacton.

There is also the concern that the targeted -consultation material has not always made clear whether individual highway works would occur to the north or south of the B1134, making it difficult for adjoining property owners and residents to understand the direct effects.

**Tivetshall residents requests that the Examining Authority require the Applicant to provide:**

- a single coordinated plan showing Site 2 panels, drainage, landscaping, ecological buffers, PRowS, accesses and all temporary and permanent highway works;
- for Areas 1, 2, 3, 5 and 7, final swept -path drawings and a schedule identifying temporary and



permanent widening, vegetation removal, street reinstatement and affected receptors; -furniture changes,

- confirmation that the environmental assessments remain valid for the final highway design, with updated assessment where materially different effects arise; and
- clear identification of the location, extent and permanency of each proposed B1134 highway alteration.

# Chapter 6: Design Certainty, Rochdale Envelope and Post-Consent Controls

## 6.1 Why Design Certainty Matters

Residents, neighbouring landowners, users of public rights of way and environmental receptors require certainty that the BESS and Project Substation ultimately constructed will not produce materially different or greater effects than those assessed at Examination.

East Pye relies on a Rochdale Envelope and maximum design parameters because a number of detailed equipment and layout decisions will be made after consent.

This approach can provide appropriate flexibility, but only where the final development is clearly bounded by the environmental and safety assumptions assessed in the application.

The burden therefore rests with East Pye to demonstrate that later design choices remain within that assessed envelope.

## 6.2 What is Fixed

East Pye has fixed important parameters through APP/7.18 and the draft DCO controls, including compound areas, maximum building and enclosure heights, foundation parameters, BESS residential separation, ecological offsets and drainage principles.

Requirement 5 requires the detailed design of Work Nos. 1, 2 and 3 to accord with the relevant Design Principles, Parameters and Commitments.

Requirement 6 provides a separate approval process for battery safety management, including consultation with Norfolk Fire and Rescue Service and the Environment Agency.

These controls provide important limits to the Scheme.

## 6.3 What Remains Flexible

Affected receptors remain potentially sensitive to design choices that have not yet been fixed.

Matters remaining for later determination include battery technology and chemistry, enclosure numbers and energy duration, cooling arrangements, precise plant locations and spacing, detailed fire suppression, acoustic mitigation and the final Project Substation configuration.

Those choices may materially influence:

- operational noise and acoustic character;
- landscape and visual effects;
- drainage and contaminated firewater;
- fire behaviour and emergency response;
- access and circulation within the site; and

- cumulative effects between the BESS and Project Substations.

The final detailed design process therefore carries significant environmental and safety consequences.

## 6.4 What East Pye Must Demonstrate or Secure

East Pye should demonstrate, through the DCO requirements and subsequent approvals, that:

1. Each flexible parameter is bounded by an identified Environmental Statement worst-case assumption or maximum design parameter.
2. Later safety evidence cannot enlarge the consented envelope. The final Battery Safety Management Plan, large-scale fire testing and consequence modelling should demonstrate compliance with the assessed design rather than provide justification for greater noise, firewater, air-quality or spatial effects.
3. Residents are protected from the final plant actually installed. Final acoustic assessment should use the selected equipment and demonstrate compliance with the assessed cumulative noise envelope, including relevant tonal or other acoustic character corrections.
4. Water and environmental receptors are protected. A final integrated drainage and firewater-containment design should identify containment capacity, isolation, testing, release or tankering arrangements and foreseeable emergency failure modes.
5. Overlapping infrastructure is assessed together. The detailed BESS and Project Substation designs should be considered cumulatively wherever their noise, drainage, fire-safety, landscape, access or other effects interact.
6. Compliance can be verified. Each deferred matter should be linked to a clear approval process, consultation requirement, compliance criterion and corrective mechanism.

## 6.5 Examination Issue

The central issue is not whether some design flexibility is permissible. It is whether East Pye has provided sufficiently clear limits and enforceable controls to ensure that post-consent design cannot transfer additional environmental or safety risk onto surrounding residents and other receptors.

Where a material design matter remains unresolved at Examination, East Pye should demonstrate how the final decision will remain within the assessed reasonable worst case and how compliance will be independently capable of verification. Where I would place it

## Chapter 7 Climate Change and BESS Carbon Effects

A scheme promoted as part of the response to climate change should demonstrate both its greenhouse -gas consequences and the resilience of its safety -critical infrastructure under future climate conditions. The BESS is particularly important because East Py e's own lifecycle assessment identifies replacement as a major source of operational emissions.

### 7.1 BESS Lifecycle Carbon

The source document records East Pye attributing approximately 1,034,103 tCO<sub>2</sub>e to BESS replacement over the operational period, representing the dominant share of operational -phase emissions and a substantial share of total Scheme lifecycle emissions. East Pye also calculates a potential storage -related saving of approximately 957,849 tCO<sub>2</sub>e based on assumed storage capacity and charging/discharging behaviour, but treats that figure separately from the principal GHG total because of uncertainty and double -counting

East Pye should:

- confirm the battery technology, capacity, cycle assumptions and replacement frequency that underpin the carbon assessment;
- demonstrate that the final replacement regime and transport/waste arrangements remain within the assessed envelope;
- explain the evidential basis and limitations of any BESS -specific carbon benefit relied upon in the planning balance; and
- quantify or otherwise transparently address material fugitive greenhouse -gas sources associated with final high -voltage equipment where relevant.

### 7.2 Future Climate Resilience

Future heat, drought, intense rainfall and changing storm conditions may affect battery cooling, drainage, firewater management, firefighting-water availability, access and electrical equipment. Resilience should therefore be demonstrated as part of the final design rather than assumed from present-day operating conditions.

East Pye should:

- demonstrate design resilience to credible future heat and cooling demand;
- confirm climate -adjusted drainage and firewater containment capacity;
- demonstrate adequate emergency water provision under drought or supply -stress conditions;
- protect emergency access from foreseeable flooding or surface -water disruption; and
- ensure that later equipment selection does not increase energy consumption, noise or safety risk beyond the assessed envelope.

*Principal Applicant evidence: APP/6.1.6; APP/7.5; APP/7.18; APP/7.26.*



## Chapter 8: Landscape and Visual

East Pye's own baseline describes the BESS/Site 1 locality as open plateau farmland with expansive skies, long views, sparse settlement and a relatively tranquil, dimly lit rural character. The BESS, Project Substations and National Grid infrastructure would introduce a concentrated industrial form into that setting. The correct question is therefore whether East Pye has demonstrated that the scale, visibility and perceptual change are acceptable, not whether some screening can eventually reduce selected views.

### 8.1 Landscape Character and Sensitivity

The source document refers to the Great Moulton Plateau Farmland and the wider South Norfolk/High Suffolk clayland landscape: large arable fields, hedgerows, mature trees, quiet lanes, historic features and frequent open views. This character is sensitive to tall or extensive infrastructure because built form can be conspicuous over long distances.

### 8.2 Applicant-Identified Significant Effects

The source document relies on East Pye's own findings of significant adverse effects at relevant BESS/Site 1 landscape and visual receptors, including public rights of way and some residential viewpoints. Construction effects also include traffic, task lighting, temporary fencing, intermittent noise, PRoW closures and vegetation loss. Those Applicant findings should be given full weight when the acceptability of the location is considered.

### 8.3 Tranquillity, Dark Skies and Night-Time Character

The BESS and substations require security, maintenance and emergency lighting in a landscape where darkness and low levels of activity form part of the baseline. The LVIA and Lighting Strategy should be read together so that night-time effects are not diluted by treating lighting as a separate technical topic.

### 8.4 Reliance on Planting

Planting can reduce visibility over time but cannot make the infrastructure absent, and it may itself alter the open plateau character. East Pye should identify the time at which mitigation is expected to become effective, the land needed to achieve it, the party responsible for maintaining it and the residual effect in the intervening years.

### 8.5 Combined Infrastructure Cluster

The BESS, Project Substations, National Grid Substation, Site 1 works, overhead-line alterations, access and nearby solar arrays may be experienced together. The Examining Authority therefore needs an integrated landscape assessment of the cluster as people see and experience it, not merely a series of component-by-component conclusions.

**East Pye should:**

- provide a coordinated landscape plan showing all BESS, substation, grid, access, fencing, lighting and mitigation elements;
- identify significant effects at construction, Year 1, Year 15 and decommissioning for the principal local receptors;
- demonstrate that screening relied upon is within the Applicant's control and secured for as long as required;

- assess the combined effect on tranquillity, dark -sky character and perceived rural separation; and
- ensure that later design changes remain inside the landscape and visual envelope examined.

## Chapter 9: Ecology and Biodiversity

East Pye has undertaken Scheme-wide ecological surveys. The BESS question is whether that evidence is sufficiently reconciled to the hard-infrastructure footprint and whether the final design protects the species and habitat functions on which the assessment relies.

### 9.1 Bats and Dark Corridors

The wider surveys record bat activity, including barbastelle. In this rural landscape hedgerows, trees, woodland edges, ponds and field boundaries can function as commuting and foraging routes. The BESS and substation lighting, fencing and access should therefore be designed around identified dark corridors rather than leaving those protections to general wording.

### 9.2 Breeding Birds and Ground-Nesting Species

The source document records 81 skylark breeding territories across the surveyed area, with 70 within areas subject to permanent development, and notes that skylark remains within the operational assessment for BESS and solar sites. The Applicant should identify the BESS/Site 1 contribution to habitat displacement and where replacement or compensatory habitat is secured.

### 9.3 Great Crested Newts, Ponds and Terrestrial Habitat

East Pye relies on pond buffers and survey results to control GCN risk. The decisive evidence is spatial: the final BESS, access, drainage, fencing and substation layout should be shown against ponds, buffers and terrestrial habitat so that detailed design cannot erode the mitigation assumptions.

### 9.4 Badgers, Fencing and Habitat Connectivity

Security fencing can fragment terrestrial movement even where individual hedgerows or trees remain. East Pye should identify known or likely movement routes and show how ground clearance, mammal gaps or other permeability measures will maintain ecological connectivity.

### 9.5 Hedgerows, Trees, Ditches and Rare Flora

The ecological function of Hundred Lane and other mature boundaries should be assessed as part of an interconnected network. Vegetation removal, access crossings, lighting and drainage changes should be shown together because small individual losses may have a greater combined effect on connectivity than a parcel-based habitat calculation suggests.

### 9.6 Biodiversity Net Gain and Long-Term Management

A positive scheme-wide BNG result does not remove the need to identify the local BESS/Site 1 habitat debit. Where rural land is converted to developed/sealed surface, East Pye should show the compensation attributed to that loss, its location, establishment period, management responsibility and monitoring.

East Pye should:

- provide a single BESS/Site 1 ecology schedule and plan;
- demonstrate protection of bat corridors, ponds, bird habitat, badger movement and connected hedgerows under the final layout;
- link drainage/firewater pathways to ecological receptors;
- identify the local BNG debit and compensatory habitat; and
- secure ecological review before major replacement and decommissioning activities where habitat or species use may have changed.

Principal Applicant evidence: APP/6.1.8; APP/6.3.8.1 -8.10; APP/7.1-7.4; APP/7.18; APP/7.23-7.25.

## Chapter 10: Water Environment

Water is a cross-cutting issue because the BESS and substations combine deep or intrusive foundations, impermeable or engineered surfaces, transformers and oils, battery materials, drainage infrastructure and potentially contaminated firewater above sensitive groundwater and near private supplies.

### 10.1 Groundwater and Private Drinking Water Supplies

East Pye identifies multiple private supplies and permitted abstractions within the study area, but some records remain uncertain. A high-sensitivity receptor should not be treated as protected merely because a desk-based source-pathway-receptor screen predicts a low likelihood of impact. The Applicant should establish the relevant hydrogeology to the level needed to support its conclusion and secure investigation where uncertainty remains.

### 10.2 Foundations and Contaminant Pathways

Piling or deep foundations may create vertical pathways. East Pye proposes later intrusive investigation and Foundation Works Risk Assessment. The DCO should therefore make the sequencing explicit: no relevant piling or deep foundation should proceed until the hydrogeological setting and contamination pathway have been satisfactorily assessed and controlled.

### 10.3 Drainage and Contaminated Firewater

The BESS drainage system must cope with normal surface water and the abnormal condition of a battery fire. Containment, isolation, testing, tankering and controlled release should form one integrated system and should be tested against credible equipment or valve failure, not merely the intended operating condition.

### 10.4 Rivers, Ditches and Catchment Connectivity

Ditches, field drains, culverts, ponds and groundwater may connect receptors beyond the immediate compound. East Pye should identify the receiving catchment and demonstrate that its assessment has not stopped at an artificial parcel boundary where a credible pollution pathway continues downstream.

**East Pye should:**

- confirm the private -water -supply baseline and monitoring strategy;
- justify groundwater travel -time and screening assumptions;
- secure pre -foundation investigation and risk assessment;
- provide final drainage/firewater capacity and failure -mode analysis; and
- show downstream surface -water and ecological pathways on a receptor plan.

**Principal Applicant evidence:** APP/6.1.9; APP/6.1.16; APP/6.3.9.1; APP/6.3.9.3; APP/6.3.16.1; APP/7.1; APP/7.5; APP/7.26.

# Chapter 11: Cultural Heritage

The principal heritage issue is not whether every nearby building will suffer statutory heritage harm. It is whether East Pye has adequately assessed the effect of a large BESS and grid-infrastructure cluster on the rural setting in which designated and non-designated assets are understood and experienced.

## 11.1 Setting of Listed Buildings and Historic Rural Landscape

East Pye considers listed buildings in the Site 1/BESS study area and predicts limited or no residual harm for a number of them after mitigation. The source document accepts that the surrounding agricultural landscape contributes to the setting of some assets. Where mitigation takes decades to mature, the Applicant should state the duration of the effect and not treat eventual screening as though it exists from day one.

## 11.2 Hundred Lane and Historic Landscape Structure

Hundred Lane/RB19 is described in the source document as a historic rural route with longstanding boundary vegetation. A permanent engineered crossing, vegetation change and the enclosure of the lane between energy infrastructure should therefore be considered not only as access engineering but also as a change to historic landscape character and user experience.

## 11.3 Residential Amenity is a Separate Test

Heritage significance and residential outlook are different planning considerations. East Pye should therefore avoid relying on a “no significant heritage effect” conclusion as a substitute for a proper residential visual, noise or amenity assessment of nearby homes.

**East Pye should demonstrate or secure:**

- **demonstrate the combined BESS/grid effect on the setting of affected heritage assets;**
- **identify the period before planting materially reduces the effect;**
- **assess Hundred Lane and other historic routes as landscape and experiential receptors as well as access routes; and**
- **keep heritage conclusions separate from residential amenity conclusions.**

**Principal Applicant evidence:** APP/6.1.10; APP/6.3.10.1; APP/6.1.7; APP/6.3.7.9; APP/7.4.

## Chapter 12: Transport and Access, Public Rights of Way and Glint/Glare

The transport case should demonstrate that the BESS, substation, solar and grid works can be constructed and operated safely on the rural road network, that permanent highway alterations are justified, and that PRow users are protected throughout the works. The same chapter should clearly distinguish transport effects from separate glint/glare and aviation considerations.

### 12.1 Construction and Operational Access

Station Road/B1134, Hundred Lane, Lodge Road and Frith Way form part of the access context. East Pye should provide a final access schedule distinguishing temporary construction use, permanent operational access, abnormal-load requirements and emergency access. Where the design relies on widening, straightening or new crossings, the reason and permanence should be explicit.

### 12.2 Hundred Lane / RB19

The permanent RB19 crossing should not be treated as an incidental design detail. East Pye should identify what operational vehicle movements require it, why existing or earlier access options are inadequate and what restoration commitment applies if the asset it serves is eventually removed.

### 12.3 Vulnerable Road Users and PRowS

Walkers, cyclists, horse riders, school transport and residents use roads and rights of way with limited width, verges and passing space. East Pye should demonstrate how HGV routing, peak construction activity, temporary closures, crossing points and visibility works protect those users and maintain access to the wider network.

### 12.4 Replacement Campaigns and Emergency Access

Battery replacement may generate significant periodic vehicle movements later in the Scheme life. Emergency access also needs to remain available during construction, normal operation and any concurrent incident. These requirements should be included in the operational traffic and emergency plans rather than treated as exceptional future matters.

### 12.5 Glint/Glare and Aviation

The source document identifies aviation and local airfield considerations within the wider Scheme. For the BESS objection, East Pye should ensure that final solar layouts and any materially reflective or illuminated infrastructure affecting local aviation receptors remain covered by the submitted glint/glare and aviation evidence. If layout changes occur, the Applicant should confirm that the assessment remains valid.

East Pye should:

- provide a single final access plan and schedule showing all temporary/permanent road and PRow works;
- supply swept -path and geometry evidence for final highway alterations and abnormal -load movements;
- demonstrate cumulative construction traffic where BESS, substation, solar, cable and National Grid works overlap;
- secure safe arrangements for walkers, cyclists, riders and school/community movements;
- address later battery -replacement traffic and emergency access; and
- confirm the continued validity of glint/glare and aviation assessments for the final layout.

Principal Applicant evidence: APP/6.1.11; APP/6.3.11.1; APP/7.6 -7.8; APP/7.20; relevant glint/glare and aviation appendices referenced in the source document.

## Chapter 13: Noise and Vibration

Noise is a principal BESS issue because continuous electrical and cooling plant would operate in a very quiet rural soundscape. The Applicant should demonstrate the effect of the final plant actually selected and the cumulative contribution of BESS, Project Substation and retained grid infrastructure.

### 13.1 Operational Noise

The source document records very low rural background levels, including periods below 25 dB, and relies on an independent acoustic review questioning the degree to which indicative plant data can determine the final BS 4142 outcome. In a low -background setting, modest sound levels and tonal or otherwise distinctive character may be noticeable even where absolute levels appear low.

### 13.2 Construction Noise and Vibration

Piling, heavy traffic, compaction and substation construction may affect nearby homes and older buildings. East Pye should define applicable vibration limits, monitoring locations and trigger/action levels before high -vibration works begin.

### 13.3 Cumulative Noise

The BESS and Project Substation should be modelled together where they operate concurrently. The retained National Grid Substation is also relevant to long -term sound character if its plant remains after the BESS is decommissioned. The Examination should therefore distinguish the temporary 60 -year plant from any permanent transmission noise source.

East Pye should demonstrate or secure:

- use final manufacturer data and the final layout for commissioning -stage verification;
- apply appropriate BS 4142 corrections for tonality, intermittency, impulsivity or other distinctive acoustic character;
- demonstrate cumulative night -time compliance for BESS and substation plant at the quietest relevant periods;
- secure mitigation and post -commissioning verification; and
- clarify the long -term noise assessment for any National Grid infrastructure that remains after BESS decommissioning.

### 13.3 Noise Intrusion into rural Rural Character, Cumulative Effects and Assessment Uncertainty

*Great Moulton and Tivetshall residents have employed their own Consultant - his comments are included under each relevant chapter. BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf - Oakridge Environmental Services) - (see full report following & Appended to this document*

Great Moulton is a quiet rural environment, not an existing industrial soundscape. The significance of operational noise therefore cannot be judged simply by whether a predicted figure falls below a general numerical limit. The important questions are how noticeable the new sound would be, its character, how long it would occur, and the extent to which it would change the existing rural acoustic environment, particularly during evening, night-time and early-morning periods.

The Applicant has undertaken a substantial baseline survey, these were unattended acknowledges that it was not possible to identify the dominant sound sources throughout the monitoring periods. At the Great Moulton monitoring locations, (these have never been identified), so the road traffic may in fact refer to the B1134, which is not in the vicinity of Great Moulton, the road traffic was identified during attended observations, but the technical review questions whether traffic provides a reliable and continuous masking effect at the nearest homes, particularly during quiet night-time periods. **East Pye also identifies the relevant Great Moulton residential receptors as high-sensitivity receptors.**

*BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf*

*Page 5 2.1 Baseline Sound Survey The Environmental Statement on noise and vibration prepared by Stantec provides a baseline noise survey taking data from 51 noise monitoring positions that effectively ...(see full report following & Appended to this document*

*Page 6 The submitted ES Chapter 12 identifies MP41, MP42 and MP43 as the associated measurement positions for residential receptors in and around Great Moulton, including dwellings on Broadgate Lane and Station Road. The ES also identifies these (see full report following & Appended to this document*

This is important because the proposed development would introduce a substantial new cluster of electrical infrastructure into that rural setting, including the **BESS, National Grid Substation, Project Substation, transformers, inverters and associated electrical plant**. These are operational effects capable of occurring over the lifetime of the development, including during the quietest periods of the night.

**We would ask the ExA to be aware of Great Moulton's concern that the omission by the Applicant not to identify that the POC substation has no decommissioning date, so the proposed temporary changes to the environment are NOT temporary.**

The concern is increased because the operational noise assessment is **not based on final plant specifications or a final equipment layout**. East Pye states that detailed plant specifications are not yet available and that potential noise emissions have therefore been assessed using

**example equipment data and an example plant layout.** The final number, type, location and operating regime of BESS containers, transformers, inverters and cooling equipment may materially affect both the overall noise level and its acoustic character.

***BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf***

***Page 8 2.2 Noise modelling and calculations 2.2.1 Assessment Assumptions and Limitations The authors have stated that “Detailed plant specifications are not available at this stage and potential noise emissions based on example equipment data have been assessed using an example plant layout which has been based on an indicative plant layout) (see full report following & Appended to this document***

There is also significant reliance on mitigation. The assessment includes a **4-metre-high acoustic barrier around parts of the BESS**, while reduced fan duty is assumed as part of the BESS noise mitigation. The technical review identifies uncertainty over matters including the number of BESS units represented in the model, barrier location and performance, source heights, frequency response, plant layout and the effectiveness of the mitigation over the lifetime of the development.

***BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf***

***Page 9 This introduces a level of uncertainty that is difficult to evaluate. The authors have prudently used a conservative approach assuming the plant operates simultaneously, continuously, and at maximum output. However, there is no indication as to the number of battery storage units (see full report following & Appended to this document***

Particular concern arises from **tonal and low-frequency noise**. Electrical infrastructure does not necessarily produce sound that is adequately described by a single broadband A-weighted figure. The review identifies insufficient disclosed frequency data to independently verify the modelling of low-frequency sound from the BESS, inverters and substations, or the effectiveness of barriers at those frequencies. Such components may be more noticeable during quiet night-time conditions.

***BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf***

***Page 9 The sound source data have only been given in broadband A-weighted sound power levels and thus, if the noise model has been calculated in accordance with ISO 9613-2, has used the 500 Hz octave-band frequency to estimate ...***

***BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf***

***Page 10 ... frequency propagation, barrier performance at low frequencies or the potential prominence of transformer hum and cooling plant noise at night. This is particularly relevant as the development includes both BESS infrastructure, ...(see full report following & Appended to this document***

East Pye itself recognises that high-voltage transformers can generate a **100 Hz hum**, but concludes that this would be masked by broadband noise from the BESS inverters and

containers. The technical review questions whether that assumption has been sufficiently demonstrated. If a BESS cooling plant operates at reduced duty during the night, or plant loading and operating conditions change, the relative prominence of transformer noise may also change. Without the underlying one-third-octave data, the absence of an appropriate BS 4142 acoustic-feature correction cannot presently be independently verified.

### ***BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf***

***Page 11 2.2.3 BS 4142 Acoustic Feature Rating Corrections The authors have concluded that neither the BESS nor the National Grid Substation produce any tonal sound, despite stating:.... “.(see full report following & Appended to this document)***

This is therefore **not an argument that unacceptable noise has already been conclusively demonstrated**. The concern is that the Applicant has not yet provided sufficient certainty to rule it out. The review identifies continuing uncertainty over final plant specification, source spectra, modelling assumptions, mitigation performance and whether the measured residual sound environment is representative of the most affected homes.

The issue must also be considered **cumulatively**. Residents around Site 1 and the adjoining BESS would not experience the National Grid Substation, Project Substation, BESS, inverters and other electrical plants as separate planning exercises. They would experience the combined acoustic effect of an infrastructure cluster operating within the same rural environment. Any assessment and noise limits must therefore control the **combined operational effect**, rather than allowing individual items of plant to be considered in isolation.

For Site 2 and other solar parcels containing operational electrical equipment, the same principle applies: the assessment must demonstrate that inverter, transformer or other plant noise remains acceptable at the relevant receptors. However, the attached technical review is principally directed to the BESS and National Grid infrastructure around Great Moulton and should not be presented as a parcel-specific assessment of Site 2.

### **What should be required**

**Before reliance is placed on the Applicant's conclusion of no significant operational noise effects, East Pye should be required to demonstrate, on a secured worst-case basis:**

- **the final or maximum plant numbers, specifications, locations and operating conditions;**
- **cumulative operational noise from the BESS, National Grid Substation, Project Substation, transformers, inverters and associated plant;**
- **representative night-time background conditions at the most affected homes;**
- **appropriate assessment of tonality, low-frequency sound and other distinctive acoustic characteristics;**
- **the specification and effectiveness of acoustic barriers, enclosures and other mitigation;**
- **enforceable cumulative noise limits applying to the completed development; and**

- **post-installation verification, together with a clear requirement for corrective mitigation if operational noise proves more intrusive than predicted.**

The central concern is that a long-term industrial acoustic character should not be introduced into a quiet rural environment on the basis of example equipment, indicative layouts, assumed masking and mitigation that has not yet been finally specified and demonstrated.

The Applicant must therefore establish not merely that predicted broadband noise can meet numerical criteria, but that the **final development, operating cumulatively and during the quietest periods, will avoid significant adverse effects and minimise other adverse effects on residential amenity and quality of life.** The technical review concludes that the present information does not yet provide sufficient certainty to make that judgment.

***BEPS-GMPC -Review of the NIA - East Pye Solar V2.pdf Page 14***

***However, it is not possible to validate this assessment due to the degree of uncertainty in the submitted assessment. This is due to: • The lack of detail in plant selection, both for the BESS and National Grid ...(see full report following & APPENDIX 2)***

13.3.1 [APPENDIX 2- Independent Noise Impact Assessment Review](#) - Oakridge Environmental Services on behalf of the village of Great Moulton and The Tivetshalls

13.3.2 [APPENDIX 3 - Professional Article on Solar/BESS Noise](#) The sound of solar: Noise in a sustainable world | New Civil Engine

*Principal Applicant evidence: APP/6.1.12; noise appendices referenced in the source document; APP/7.2; APP/7.18; Appendix 2 independent noise review.*

## Chapter 14: Air Quality

Normal operation of the BESS is not expected to be a major source of routine air pollution, but construction emissions and the low-probability/high-consequence case of a battery fire require appropriate controls. The Applicant should demonstrate that the final battery technology and layout remain no worse than the plume and consequence assumptions examined.

### 14.1 Construction Dust and Diesel Emissions

Construction compounds, access works, earthworks, piling and HGV movements can generate dust and diesel emissions close to rural homes, farms, habitats and roads. The CEMP should identify sensitive receptors, suppression measures, monitoring and complaint response for the actual construction programme.

### 14.2 BESS Fire Plume and Emergency Response

The plume assessment within Appendix B of the Outline BSMP [APP/7.5] does not identify assessment-level exceedances at the modelled residential receptors. It does, however, identify HF and/or CO exceedances along three public rights of way under the assessed worst-case and sensitivity conditions.

These results should not be interpreted as evidence of routine air-quality impacts or as establishing that residents will experience toxic exposure. They do, however, demonstrate that the consequences of a credible BESS incident are dependent upon the particular battery system, fire behaviour, layout, meteorological assumptions and emergency-response arrangements assessed.

The submitted modelling is based on an illustrative BESS configuration rather than the final system. East Pye should therefore be required to demonstrate, using the final equipment specification and manufacturer-specific test data, that the eventual development does not produce materially greater plume concentrations, fire consequences or emergency-management requirements than those assessed in APP/7.5.

Where the Applicant's own modelling identifies potential exceedances affecting public rights of way, the response should not depend principally upon receptors avoiding harm after an incident has occurred. East Pye should demonstrate that the final design has first reduced the risk at source so far as reasonably practicable through battery selection, enclosure design, separation distances, fire protection, detection, isolation and layout. Any temporary PROW closure or emergency restriction should form part of a clearly defined and deliverable emergency response, rather than substitute for adequate design mitigation.

East Pye should also demonstrate that the final Emergency Response Plan provides workable arrangements for incident command, public warning, access restriction, liaison with emergency services, firefighting-water containment, monitoring, re-entry and management of any residual contamination.

The proper Examination question is therefore not whether residents, walkers, landowners or neighbouring receptors can respond adequately to a BESS emergency. It is whether East Pye has demonstrated, and the DCO adequately secures, that the final BESS is designed and operated so that risks are controlled at source and remain within the safety and environmental envelope relied upon for consent.

**East Pye should:** ·

- demonstrate that final chemistry, enclosure spacing and fire behaviour are no worse than the system modelled;
- update consequence modelling where a materially different final technology or layout is selected;
- secure public -route management, warning and exclusion arrangements where required;
- identify post -incident deposition, clean -up and environmental monitoring triggers; and
- coordinate air -quality emergency response with contaminated -firewater and groundwater protection.

*Principal Applicant evidence:* APP/6.1.13 where applicable; APP/7.1; APP/7.5; the plume modelling summarised in the source document.

## Chapter 15: Socio-Economics

The principal socio-economic question is not whether the Scheme may create construction expenditure or renewable-energy benefits in the abstract. It is whether East Pye has demonstrated how the concentrated BESS/grid development affects the local rural economy, access, agriculture, tourism and day-to-day functioning of the nearby villages, and whether any claimed benefits are specific and deliverable.

### 15.1 Rural Businesses and Agricultural Activity

Construction traffic, access restrictions, land take and changes to agricultural operations may affect farms, contractors and small rural businesses. East Pye should identify material local disruption and demonstrate how access to fields, premises and services will be maintained.

### 15.2 Tourism, Recreation and Rural Character

PRoWs, quiet lanes and rural landscapes contribute to recreational use and the experience of the villages. Where significant visual effects, closures or construction disruption are accepted, East Pye should account for those effects in its socio-economic conclusions rather than treating landscape and recreation as unrelated chapters.

### 15.3 Property and Insurance Concerns

The source document records local concern about property, insurance and valuation. These matters should not be overstated without objective evidence. East Pye should, however, provide clear information on operational safety, access and nuisance controls so that community concern is not intensified by avoidable uncertainty.

- East Pye should:
- demonstrate continuity of access for farms and rural businesses;
- identify periods of material construction disruption and the mitigation/communication arrangements;
- ensure recreation and PRoW effects are reflected in the socio-economic assessment where relevant; and
- avoid relying on generic economic benefit claims without identifying the locally deliverable component.

**Principal Applicant evidence:** APP/6.1.15 where applicable; transport, landscape and PRoW documents referenced elsewhere in this submission.

## Chapter 16: Soils and Agriculture

The BESS is materially different from raised solar arrays because it requires concentrated hard infrastructure, stripping and reworking of soils, foundations, access, drainage and long -term operational disturbance. East Pye's own soil evidence describes the BESS area as essentially Grade 2 BMV land.

### 16.1 Best and Most Versatile Land

The source document records a BESS compound up to approximately 6.5 ha and a Project Substation within a wider approximately 22.90 ha BESS Site. It also records a worst -case figure of approximately 37.9 ha of permanent BMV loss across BESS, project substations, National Grid substation and tracks, assessed as a significant permanent agricultural effect. The precise BESS contribution should therefore be made transparent.

### 16.2 Reversibility and Soil Restoration

Topsoil stripping, concrete bases, piled foundations and long -term access are more intrusive than ordinary solar arrays. East Pye should distinguish land that can genuinely return to agricultural use after decommissioning from land affected by retained National Grid infrastructure or long -term engineered works.

### 16.3 Soil Management throughout the Scheme Life

Battery replacement, maintenance, drainage repairs and decommissioning may disturb soils long after initial construction. Soil handling and compaction controls should therefore extend beyond the construction CEMP where later campaigns involve significant earthworks or heavy plant.

East Pye should:

- provide a parcel -specific ALC plan for the BESS, Project Substation, National Grid works and permanent access;
- quantify the permanent and temporary BMV loss attributable to each component;
- justify why Grade 2 land is required where reasonable alternatives are said to be unavailable or less suitable;
- distinguish truly reversible land from land affected by retained infrastructure; and
- secure soil management and restoration standards for construction, replacement and decommissioning.

*Principal Applicant evidence:* APP/6.1.15 or the soils/agricultural chapter cited in the source document; relevant ALC appendices; APP/7.3; APP/7.18.

## Chapter 17: Ground Conditions

Ground conditions matter because the BESS and substations may use deep foundations or piling and because ground disturbance can alter pathways between shallow soils, aquifers, drains and private water supplies. East Pye proposes to resolve important details through later intrusive investigation and risk assessment.

### 17.1 Intrusive Investigation and Foundation Works

A Phase 1 assessment cannot determine every site-specific foundation or contamination issue. Post-consent investigation can be appropriate, provided the DCO prevents relevant works from proceeding until the necessary evidence has been produced, assessed and approved.

### 17.2 Vibration, Settlement and Nearby Buildings

Foundation works, heavy construction traffic and compaction may affect vulnerable buildings or structures. Where East Pye's chosen method creates a credible risk, the Applicant should identify condition -survey and monitoring requirements before works commence.

### 17.3 Groundwater, Drainage and Contamination

Ground investigation, groundwater protection, drainage and BESS firewater cannot be treated as separate controls. The final foundation design should be checked against the hydrogeological and contamination assessment so that the engineering solution does not create a new pollution pathway.

East Pye should:

- secure intrusive investigation before relevant detailed foundation design is approved;
- require Foundation Works Risk Assessment and any necessary hydrogeological assessment before piling/deep foundations;
- identify vibration and settlement controls for sensitive buildings or structures;
- integrate foundation design with groundwater, drainage and contamination protection; and
- provide monitoring and corrective action where residual uncertainty remain

*Principal Applicant evidence:* APP/6.1.16; APP/6.3.16.1; APP/7.1; APP/7.26.

## Chapter 18: Electromagnetic Fields

High-voltage substations, cables and grid infrastructure generate electromagnetic fields. East Pye's obligation is to demonstrate compliance with the applicable exposure guidance and to identify the receptors and infrastructure interfaces relevant to the final design. The submission should not imply biological or ecological effects that are not supported by the Applicant's evidence.

### 18.1 Residents and Public Routes

The Applicant should show that final equipment, cable routes and operational boundaries remain compliant at accessible locations, including nearby homes and public routes. Where the detailed electrical arrangement changes after consent, compliance should be re-checked against the same standards.

### 18.2 Electrical Compatibility and Infrastructure Interfaces

The same chapter should identify any relevant compatibility issues with existing utilities, communications or aviation/navigation systems where those matters are within the environmental assessment or protective provisions process.

East Pye should:

- identify the applicable EMF exposure standards and demonstrate compliance for the final layout;
- confirm the assessment at accessible boundaries, PRowS and nearby residential receptors; and
- re-assess if later electrical design changes could materially affect the field envelope.

*Principal Applicant evidence:* APP/6.1.18 and associated plans/appendices referenced in the source document.

## Chapter 19: Other Environmental Matters

The purpose of this chapter is to ensure that cross-cutting matters are not lost between individual technical topics. For the BESS/Site 1 cluster the most important interfaces are utilities, communications, lighting, waste, materials, replacement activity, decommissioning and the consistency of management plans.

### 19.1 Utilities and Essential Services

East Pye should identify all existing service corridors affected by the final layout and show how diversions, protection, outages and emergency repair will be managed without transferring unacceptable risk to nearby homes, farms or emergency response.

### 19.2 Lighting and Security

Security and maintenance lighting affects landscape, residents, bats and dark-sky character at the same time. The final Lighting Strategy should therefore define luminaire heights, direction, controls and maximum spill levels with direct cross-reference to ecological and residential receptors.

### 19.3 Waste, Materials and Replacement

Battery replacement will create a recurring materials and waste stream. East Pye should demonstrate lawful and practical arrangements for removal, temporary storage, transport, recycling or disposal and any damaged or incident-affected equipment.

### 19.4 Decommissioning

The decommissioning strategy should clearly distinguish BESS/Project Substation assets to be removed from National Grid assets, access or mitigation that remain. Restoration should be specified sufficiently to demonstrate the end state relied upon in the environmental assessment.

East Pye should:

- provide cross-referenced final plans and management documents for utilities, lighting, waste and decommissioning;
- define performance standards rather than relying only on “where practicable” wording where mitigation is essential;
- assign responsibility for long-term maintenance, monitoring and incident response; and
- demonstrate the post-decommissioning land and infrastructure condition relied upon in the ES.

*Principal Applicant evidence: APP/6.1.18-6.1.20; APP/7.1-7.5; APP/7.18; APP/7.26.*

## Chapter 20: National Grid Infrastructure Cluster

The BESS should not be assessed in isolation from the National Grid and Project Substation infrastructure that gives the locality its defining character. The western cluster comprises multiple high -voltage and storage components, associated access, drainage, cabling, security and landscape mitigation. Some parts are intended to be removed after the operational period; others are intended to remain.

### 20.1 One Functional Infrastructure Cluster

The local receptor experiences the BESS, Project Substation, National Grid Substation and related access as one concentration of infrastructure. East Pye should therefore demonstrate combined effects for noise, landscape, lighting, drainage, emergency access and construction, rather than relying only on separate component chapters.

### 20.2 Permanent versus Time-Limited Infrastructure

The National Grid Substation and Grid Connection Infrastructure are described as remaining after the approximately 60 -year solar/BESS period. The Applicant and NGET should therefore identify which impacts, access arrangements and mitigation become effectively permanent and which genuinely end with BESS decommissioning.

### 20.3 Operational Responsibility

Where different entities operate the BESS, Project Substation and National Grid assets, responsibility for emergency coordination, access, drainage interfaces, noise, maintenance and landscape mitigation should be clear. Fragmented ownership should not lead to fragmented environmental control.

East Pye should:

- provide a single plan and asset schedule for the western infrastructure cluster;
- identify operator/owner responsibility for each asset and shared system;
- assess combined operational noise, lighting, drainage and emergency response;
- confirm all infrastructure that remains after Year 60 and the mitigation that continues with it; and
- demonstrate that shared or adjacent systems do not create gaps between DCO requirements and NGET responsibilities.

*Principal Applicant evidence:* APP/6.1.3; APP/6.1.4; APP/6.1.7; APP/6.1.12; APP/7.37.5; APP/7.18; APP/7.26; relevant NGET examination material referenced in the source document.

## Chapter 21: Cumulative and In-Combination Effects

Residents and environmental receptors do not experience the Scheme as separate Environmental Statement chapters. They may experience traffic, noise, lighting, visual change, PRow disruption, drainage, ecological disturbance and construction activity at the same time. East Pye should therefore demonstrate cumulative effects at receptor level.

### 21.1 The Receptor Experience

The appropriate unit of analysis is often the receptor: a household, PRow, rural lane, ditch, habitat corridor or heritage setting. A series of individually “not significant” topic effects may still require careful examination where they combine in duration, timing or location.

### 21.2 Construction Overlap

BESS, substation, solar, cable, highway and National Grid works may overlap on the same roads and affect the same communities. East Pye should demonstrate the realistic peak combined construction case, including worker movements, HGVs, temporary traffic management, noise, dust and PRow closures.

### 21.3 Operational In-Combination Effects

The BESS and substations combine visual change, low-level operational sound, lighting, security fencing and altered access. Water, ecology and ground conditions are also connected through drainage and foundation pathways. These interfaces should be shown directly rather than left for the Examining Authority to reconstruct across documents.

### 21.4 Residual Significant Effects and Mitigation Dependency

East Pye’s own documentation identifies significant landscape and visual effects in the BESS/Site 1 area. Other conclusions depend on later plant selection, planting, acoustic design, lighting controls, drainage and safety management. The Examination should distinguish: Applicant -identified significant effects; effects predicted not significant but mitigation -dependent; and residual uncertainty caused by deferred design.

East Pye should:

- provide receptor -based cumulative schedules for the closest homes, key PRows, rural roads and sensitive environmental receptors;
- demonstrate combined construction activity under a realistic phasing case;
- assess BESS, Project Substation and National Grid operational effects together where they interact;
- identify which conclusions depend on future mitigation or detailed design; and
- show how compliance and cumulative performance will be verified after detailed design.

*Principal Applicant evidence:* APP/6.1.19; APP/6.1.20; cumulative LVIA and topic assessments referenced in the source document.

## Chapter 22: Human Health and Wellbeing

Human health and wellbeing should be assessed through the actual pathways by which the Scheme may affect people: noise, sleep disturbance, construction traffic, dust, lighting, emergency incidents, access to recreation, private water supplies and prolonged uncertainty. The chapter should neither exaggerate unproven risks nor treat these pathways as unrelated because they sit in separate technical assessments.

### 22.1 Residential Amenity

Nearby residents may experience construction disturbance followed by long -term changes in view, sound, lighting and rural character. East Pye should demonstrate that the combined effect remains acceptable at the closest homes and that mitigation is secured for the full period in which it is needed.

### 22.2 Water and Emergency Risk

For households reliant on private water supplies, prevention and rapid response to contamination are directly relevant to wellbeing. BESS emergency planning should also identify public communication and protective actions without implying that a serious incident is expected to occur.

### 22.3 Access to Countryside and Community Routes

PRoWs and quiet rural lanes contribute to everyday recreation and community wellbeing. Temporary closures, permanent crossings, construction traffic and long -term industrialisation of views should therefore be assessed as lived effects, not just transport or landscape metrics.

### 22.4 Human Rights and Proportionality

The source document cross-refers to Article 8 and Article 1 of Protocol 1. The useful Examination question is proportionality: whether interference with private life, home, property use or access is justified by a properly evidenced public-interest case and is no greater than necessary, taking account of reasonable mitigation and alternatives.

East Pye should:

- demonstrate the combined amenity effect on the closest households;
- secure protection and response arrangements for private water supplies where credible pathways exist;
- maintain safe and usable access to community routes so far as reasonably practicable; and
- explain why residual interference with homes, property use or public routes is necessary and proportionate in light of the alternatives considered.

*Principal Applicant evidence:* Human-health, noise, transport, landscape, water and safety documents referenced throughout the source document; relevant DCO and management -plan controls.

## Chapter 23: Great Moulton Specific Issues

Great Moulton is directly affected by the concentration of BESS, Project Substation and National Grid infrastructure around Site 1. The local issue is not one isolated impact but the conversion of open plateau farmland into a long -lived grid hub, together with access, PRow, water, noise and landscape consequences.

### 23.1 The Western Grid Hub

East Pye should present Site 1 and the BESS as a coherent local infrastructure cluster. Residents should not have to combine separate Works Plans, environmental chapters and management plans to understand the total development between Great Moulton and Tivetshall.

### 23.2 Hundred Lane / RB19 and Rural Character

The permanent crossing, vegetation change and infrastructure on either side of Hundred Lane make this route a particularly clear example of the need for an Applicant -led necessity and alternatives case. East Pye should demonstrate why the permanent change is required and how its acknowledged significant visual effect is addressed.

### 23.3 Very Quiet Sound Environment

Great Moulton is a quiet rural environment, not an existing industrial soundscape. The rural baseline is exceptionally quiet at certain times. The significance of operational noise therefore cannot be judged simply by whether a predicted figure falls below a general numerical limit. The important questions are how noticeable the new sound would be, its character, how long it would occur, and the extent to which it would change the existing rural acoustic environment, particularly during evening, night -time and early-morning periods.

East Pye should therefore design the final BESS and substation plant to the local sound environment rather than relying on generic acceptability. Final commissioning evidence is essential because the decisive plant has not yet been selected.

#### 23.3.1 Cumulative Effects and Assessment Uncertainty

Great Moulton and Tivetshall residents commissioned an independent review of East Pye's Noise Impact Assessment by **Oakridge Environmental Services** . The full report is provided at **Appendix 2** , with relevant findings referred to throughout this chapter.

East Pye has undertaken an extensive baseline sound survey and identifies Great Moulton residential receptors as highly sensitive. However, the unattended monitoring could not continuously identify the dominant sound sources, and the Oakridge review questions whether road traffic provides reliable masking at the nearest homes, particularly during the quietest night -time periods.

This is important because Site 1 would introduce a substantial concentration of operational electrical infrastructure, including the **BESS, National Grid Substation, Project Substation, transformers, inverters and associated plant** . The National Grid infrastructure is also of particular importance because it is not proposed to be decommissioned with the temporary solar and BESS development.

The operational assessment is not based on the final plant or a final layout. East Pye relies on **example equipment data and an indicative plant layout**, together with mitigation including acoustic barriers and assumptions concerning BESS fan operation. Oakridge identifies uncertainty concerning plant numbers, source locations and heights, operating regimes, barrier performance and the effectiveness of mitigation.

The review also raises specific concerns regarding **tonal and low -frequency noise**. East Pye recognises that high -voltage transformers can generate a characteristic 100 Hz hum but relies partly on masking by other plant. Oakridge considers that the disclosed frequency information is insufficient to independently verify low -frequency propagation, barrier performance or the absence of significant acoustic character, particularly during quiet night -time conditions.

The issue is not that unacceptable noise has already been demonstrated, but that **East Pye has not yet provided sufficient certainty to rule it out**. Residents would experience the BESS, substations, transformers and other electrical plant as a single infrastructure cluster. The assessment and any secured limits should therefore address their **combined operational effect**, including during the quietest periods.

East Pye should demonstrate or secure:

- the maximum plant numbers, specifications, locations and operating conditions relied upon in the assessment;
- cumulative operational noise from the BESS, National Grid Substation, Project Substation and associated electrical plant;
- representative night -time background conditions at the most affected dwellings;
- appropriate assessment of tonality, low -frequency noise and other distinctive acoustic characteristics;
- the specification and effectiveness of barriers, enclosures and other mitigation;
- enforceable cumulative noise limits for the completed development; and
- post -installation verification and corrective mitigation where predicted limits or acoustic characteristics are not achieved.

The central issue is whether East Pye can demonstrate that the final development, operating cumulatively and during the quietest periods, will avoid significant adverse noise effects and minimise other adverse effects on residential amenity. Oakridge concludes that the present level of uncertainty does not yet allow that conclusion to be independently verified.

*[BEP SG MPC Review of the NIA- East Pye Solar V2, Oakridge Environmental Services, pp. 514; Appendix 2]*

## 23.4 Grade 2 Land and Private Water Supplies

The same locality combines Grade 2 agricultural land with sensitive groundwater and private supplies. East Pye should justify why this land is required and demonstrate that deep foundations, drainage and firewater systems protect the underlying water environment.

## 23.5 Retained National Grid Infrastructure

Great Moulton's landscape and amenity effects do not necessarily end at BESS decommissioning because the National Grid Substation and connection infrastructure are described as remaining. East Pye and NGET should identify the post-Year-60 condition and any access or mitigation that remains with it.

### East Pye should:

- provide one Great Moulton/Site 1 infrastructure plan covering BESS, substations, OHL/ grid works, access, drainage and mitigation;
- provide a necessity and alternatives case for the permanent RB19 crossing;
- verify final cumulative noise at the quietest relevant periods;
- protect private water supplies and Grade 2 agricultural soils through enforceable controls; and
- provide a post-Year-60 landscape and access statement for retained National Grid assets.

**Principal Applicant evidence:** APP/6.1.4; APP/6.1.7; APP/6.1.9; APP/6.1.12; APP/6.1.15/soils evidence cited in the source document; APP/6.1.16; APP/6.3.7.9; APP/7.3.7.8; APP/7.18.

## Chapter 24: Core Position

The core position is not that East Pye has undertaken no assessment. It has submitted a large Environmental Statement and an extensive suite of plans, appendices and outline management documents. The issue is whether those documents establish a sufficiently clear and enforceable case for this particular BESS and grid-infrastructure cluster.

The Examining Authority should be able to answer four questions from East Pye's evidence without reconstructing the case on the Applicant's behalf: Why is the BESS needed and deliverable as a distinct component? Why is this location and scale justified against reasonable alternatives? What is the maximum development that may ultimately be built? What binding controls ensure that the final design will not produce materially different or greater effects than those examined?

Where East Pye can answer those questions with site-specific evidence and enforceable controls, that evidence can be weighed in the usual planning balance. Where a material conclusion still depends on undefined later design, uncertain receptor information or mitigation that is not secured, the uncertainty should remain with the Applicant rather than being assumed away.

**Before the BESS element is given positive weight, East Pye should therefore establish:**

- a transparent BESS -specific need and deliverability case;
- a reasoned alternatives and site -selection case for the chosen BESS location;
- a definitive spatial description of the BESS/Site 1/National Grid cluster;
- fixed environmental and safety limits for all material deferred design choices;
- site -specific fire, drainage, groundwater, private -water, noise, landscape, ecology, transport and agricultural -land controls;
- receptor -based cumulative assessment; and
- clear DCO mechanisms for approval, monitoring, verification and corrective action.

## Appendices

The source document contains external and specialist supporting material, including a safety comparator and an independent acoustic review. Those materials should be retained as supporting evidence where the final submission team wishes to rely on them, but the main objection should stand on East Pye's own application evidence and the secured DCO position.

### Appendix 1- External BESS Safety Comparator

The source document refers to external BESS safety material as an illustration of why cell/container spacing, plume assumptions and firewater design can matter. It should not be presented as proof that East Pye has the same design deficiency. East Pye's proposal should be judged against its own final technology, APP/7.5, the secured DCO controls and the applicable guidance.

The Navenby material is external to the East Pye application and is relied upon only as an illustration of why spacing, plume assumptions and firewater design can matter. BEPS does not contend that East Pye has the same design deficiency. East Pye's compliance must be judged against APP/7.5, the final secured design and the applicable guidance at the time.

The following is an article highlighting the unusual steps The UK Health Security Agency (UKHSA) took in intervening in a local planning application in relation to a proposed battery energy storage system (BESS) site at Navenby in Lincolnshire which highlights the facts that there are many issues which do cause concern.

"Its response to the application which highlighted the lack of compliance with [guidance](#) on BESS fire safety issued by the National Fire Chiefs Council (NFCC), as a result of which it "significantly increases" the risk of a fire at the site developing into a major incident."

***The NFCC guidance states that battery modules should have 6m separation between each one to mitigate against fire spreading through thermal radiation in the event that one module goes into thermal runaway.***

The UKHSA said: "The non-compliant 3.5m spacing significantly increases the probability of a domino effect (thermal runaway)." "This design failure renders the air quality modelling... unreliable and insufficient to safeguard the community.

***The letter to the council also raised concerns that water used to fight any fire at the site would not be contained by the size of the proposed "firewater lagoon", leading to pollution into the local environment: "The release of highly toxic firewater run-off (containing heavy metals and corrosive acids) into the aquifer, posing potential contamination risk to land and groundwater, the public water supply and environmental health".***

Additionally, UKHSA found fault with the application, stating that it "fails to address the high probability that a lithium-ion fire will be left to burn for days or weeks... prolonging the potential exposure of nearby residents to toxic gases".

The Navenby BESS site has been designed to store up to 400MW of electricity, with the site developers, Windel Energy and Recurrent Energy, explaining in a consultation document

that: "Advanced safety measures, including continuous monitoring of individual battery cells, are in place to promptly address any potential concerns and manage operations for utmost safety."

*As previously [reported](#) by the FPA, the dangers posed by BESS sites and the need for greater regulatory safety has been raised in the House of Commons. The debate came after a series of incidents at BESS sites, including a [fire](#) at one such site at East Tilbury, Essex in February 2025*

## Appendix 2 - Independent Noise Impact Assessment Review

The source document identifies an independent acoustic review prepared for Great Moulton and Tivetshall. The key points relied upon in this concise submission are reflected in Chapters 4 and 13: the importance of the very low rural background, final plant selection, BS 4142 acoustic character, cumulative BESS/substation noise and post-commissioning verification. The full specialist report should be appended to the final submission if it is to be relied upon as expert evidence.

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| Great Moulton Residents Group – Review of Noise Impact Assessment East Pye Solar –<br>Planning Inspectorate Reference: EN0110014 | OES25- N-GMRG-001/V2 |
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### Noise Impact Assessment Review

#### East Pye Solar

Solar PV station, erection of a battery energy storage facility  
(BESS), National Grid substation  
and associated infrastructure

On behalf of

Block East Pye Solar and Great Moulton  
Parish Council

Great Moulton

Norfolk

Planning Inspectorate Reference: EN0110014

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| Great Moulton Residents Group – Review of Noise Impact Assessment East Pye Solar –<br>Planning Inspectorate Reference: EN0110014 | OES26- N-GMRG-001/V2 |
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# 1. Introduction

## 1.1 Introduction

This report is prepared on behalf of Great Moulton Parish Council in support of refusal of the planning application EN0110014 for the erection of a battery energy storage facility (BESS) and a National Grid substation within the parish of Great Moulton, Norfolk. The BESS and National Grid substation will serve a proposed solar farm which is also part of the application. However, it is the BESS and substation that have the potential to cause significant adverse effects to the residents of Great Moulton. The grounds for refusal include consideration of potential noise impacts stated as follows:

This report is a technical review of the applicant's submitted Noise Impact Assessment and supporting information. It does not purport to provide a complete new operational noise assessment of the scheme.

Rather, it considers whether the submitted information is sufficiently detailed, transparent and robust to allow the decision-maker to conclude that unacceptable adverse noise effects would be avoided. Where the applicant's information is incomplete, uncertain or not capable of independent verification, this report identifies those limitations and the implications for decision-making.

## 1.2 Summary

The case is not that the BESS and National Grid substation development is inherently unacceptable in noise terms. Rather, the concern is that the submitted information does not provide sufficient information and therefore introduces a high level of uncertainty as to whether adverse noise effects would be avoided or capable of being mitigated effectively once the site becomes operational, particularly having regard to:

- BS 4142 assessment methodology, context and uncertainty;
- The very quiet rural night-time acoustic environment;
- Potential low-frequency and lack of information on tonal characteristics;
- Uncertainty over the final plant specification; and
- Limited information on modelling inputs and scale of uncertainty of the noise propagation model for a large collection of noise sources with a low frequency character

acoustic character, mitigation assumptions and receptor background conditions remain uncertain, the decision-maker cannot be confident that the proposed development would be acceptable in noise terms.

While it is acknowledged that grid-scale battery energy storage systems (BESS), substations and associated electrical infrastructure can often be made acceptable in noise terms, it is respectfully submitted that the current submission does not provide sufficient certainty to conclude that this particular development would not give rise to

adverse or significant adverse effects on residential amenity, particularly during the night-time period and in relation to low-frequency and/or tonal noise.

The BESS is considered in some detail because it appears to be one of the potentially dominant operational noise sources, but the same issues of specification uncertainty, source data, acoustic character, mitigation assumptions and receptor context are also relevant to the National Grid substation and other noisy operational elements of the scheme.

### 1.3 Documents examined

| Report                                                                               | Prepared by | Date          |
|--------------------------------------------------------------------------------------|-------------|---------------|
| Environmental Statement Vol. 1: Chap.12 – Noise and Vibration                        | Stantec     | March 2026    |
| Environmental Statement Vol. 2: Figure 12.1 Sound and Meteorological Survey Location | Stantec     | February 2026 |
| Environmental Statement Vol. 2: Figure 12.2 Noise and Vibration Sensitive Receptors  | Stantec     | February 2026 |
| Environmental Statement Vol. 3 Appendix 12.1 Baseline Sound Survey Report            | Stantec     | March 2026    |
| Environmental Statement Vol. 3: Appendix 12.2 – Noise Modelling and Calculations     | Stantec     | March 2026    |
| Statutory Nuisance Statement Revision 1                                              | Stantec     | March 2026    |

Table 1 - Reports examined

## 2. Stantec Environmental Statement – Noise and Vibration

### 2.1 Baseline Sound Survey

The Environmental Statement on noise and vibration prepared by Stantec provides a baseline noise survey taking data from 51 noise monitoring positions that effectively covers the number of noise-sensitive receptors across this vast site. The survey durations were 6 to 8 days at each location and provide a good representative snapshot of the ambient and background sound levels in terms of broadband A-weighted  $L_{eq,T}$ ,  $L_{90,T}$  and  $L_{F\ Max,T}$ .

However, the report states that as this was an unattended survey, it is not possible to accurately comment on the dominant noise sources or specific noise events during the entire survey period. Comments were given on the on-site environmental sound climate at the time of set-up and collection and these included "on-site sound levels dominated by vehicular movements on the surrounding road network" for the majority of the survey positions and in all 4 of the survey positions reported for Parcel Group 1 which covers Great Moulton.

These are MP41 to MP44. Since no octave or third-octave band data have been published, it is not possible to determine whether road traffic noise is the dominant source of noise in this isolated rural area. The presence of road traffic noise can be indicated by comparing the spectral content of the measured levels with the typical road traffic spectrum set out in BS EN 1793-3 and referenced in BS 8233:2014. This is a concern, as the subsequent noise model and specific sound level assessments rely somewhat on the masking effect of road traffic sound. The DEFRA-funded strategic noise maps produced by Extrium (<http://www.extrium.co.uk/noiseviewer.html>) shows that the A140 to the east of Great Moulton does not appear to have a significant noise impact on the area. (See **Figure 1 to Figure 3**).

These strategic road traffic noise maps are not a substitute for receptor-specific background sound measurements, but they provide useful context when considering whether road traffic is likely to provide a consistent masking influence at Great Moulton, particularly during the night-time period.

The submitted ES Chapter 12 identifies MP41, MP42 and MP43 as the associated measurement positions for residential receptors in and around Great Moulton, including dwellings on Broadgate Lane and Station Road. The ES also identifies these receptors as high sensitivity receptors.

This reinforces the need for particular caution when applying generic assumptions about the residual acoustic environment at Great Moulton, because the acceptability of the operational assessment depends on whether the measured baseline is genuinely representative of the receptor locations and whether the assumed masking environment is present during the most noise-sensitive periods.

The principal concern at this time is not whether the background sound levels reported by the applicant are numerically correct at the monitoring locations. Rather, it is whether those measurements and the acoustic conclusions drawn from them are representative of the nearest and most affected residential receptors.

The submitted assessment relies upon assumptions regarding the residual acoustic environment, including the degree to which existing background sounds like road traffic, would mask operational noise from the BESS, National Grid substation and associated infrastructure. If those assumptions are not representative of the receptor locations, the conclusions of the BS 4142 assessment may be materially affected. This uncertainty could then be further exacerbated by tonal and character assumptions informing the selected Noise Rating level on which judgement is made as to whether or not there are significant impacts.



Figure 1- Lden Road traffic noise levels from Extrium



Figure 2 LAeq,16hrs road traffic noise levels (daytime) from Extrium



Figure 3 Night road traffic noise levels from Extrium

## 2.2 Noise modelling and calculations

### 2.2.1 Assessment Assumptions and Limitations

The authors have stated that:

*"Detailed plant specifications are not available at this stage, and potential noise emissions based on example equipment data have been assessed using an example plant layout which has been based on achieving the Outline Operational Environmental Management Plan..... noise requirements"*

The ES Chapter 12 states that the operational assessment has been informed by scheme information but also identifies assessment assumptions and limitations. The submitted information therefore appears to rely on an indicative plant layout and example plant data at this stage.

This is important because the final number, type, layout and operating regime of BESS containers, inverters, transformers and associated cooling plant may materially affect both the overall rating level and the acoustic character of the installation. In a BS 4142 assessment, such uncertainty is not simply a matter of calculation refinement; it affects the confidence that can be placed on the predicted outcome and on the conclusion that no significant effect is anticipated.

This introduces a level of uncertainty that is difficult to evaluate. The authors have prudently used a conservative approach assuming plant operates simultaneously, continuously, and at maximum output. However, there is no indication as to the number of battery storage units to be installed and the authors have made an exception with the BESS by assuming reduced sound levels associated with lower fan duty as a method of mitigation. It is not clear from the report how many units have been used in the calculation of noise from the BESS.

The calculation includes the provision of a 4m high acoustic barrier in areas around the BESS with a surface density of 15kg/m<sup>2</sup> and an absorptive side facing the battery storage containers.

The inclusion of a 4 m high acoustic barrier as part of the modelled mitigation indicates that operational noise requires material mitigation in order to achieve the assessment conclusions. The effectiveness of that mitigation is therefore central to the reliability of the assessment and should be supported by clear assumptions regarding barrier location, height, surface density, absorption, source heights, frequency performance and long-term deliverability.

Consideration could be given to an earth bund around the BESS and substation site that provides sound and visual screening.

The need for a 4 m high acoustic barrier as embedded or additional mitigation is itself a material indicator that operational plant noise is capable of being significant if not carefully controlled.

The ES Chapter 12 includes operational plant noise assessment tables and residual operational assessment tables, but the robustness of those conclusions depends on the performance assumptions for the barrier, the assumed source heights, source directivity, plant layout and the frequency content of the source data. If any of these assumptions change at detailed design stage, the modelled screening performance and receptor levels may also change.

The sound source data have only been given in broadband A-weighted sound power levels and thus, if the noise model has been calculated in accordance with ISO 9613-2, has used the 500 Hz octave-band frequency to estimate sound attenuation. However, there are concerns regarding low-frequency sound from the BESS, inverters and substations, which will not be addressed by A-weighted broadband levels, and attenuation over distance in the lower frequencies such as 50 Hz and 100 Hz is less than that in the mid to high frequencies.

The ES Chapter 12 reports operational sound power data in tabulated form and concludes that residual effects would not be significant. However, without the supporting octave-band or one-third-octave source data, it is not possible to independently test whether the model has appropriately accounted for low-

frequency propagation, barrier performance at low frequencies or the potential prominence of transformer hum and cooling plant noise at night. This is particularly relevant as the development includes both BESS infrastructure, inverters and a National Grid substation, as these source types can include tonal, low-frequency or otherwise distinctive acoustic components.

The practical implication for nearby residents is that the likely audibility, character and intrusiveness of operational noise cannot be confidently determined from the information currently provided.

This is particularly important at night, when residual sound levels in rural areas may be low and when tonal or low-frequency components may be more noticeable than would be suggested by broadband A-weighted levels alone.

The absence of transparent source spectra and detailed modelling inputs therefore prevents a robust assessment of whether operational noise would be inconspicuous, clearly audible, adverse, or potentially significant at the most affected dwellings.

When considering background noise levels and statements in the applicants noise reports suggesting reliance on traffic noise to provide masking of operational sound, the accuracy and consideration of spectral make-up of the ambient noise is a key consideration to ensure any consideration of impact is as accurate as possible.

#### **2.2.2 Operational Assessment of Low Frequency Noise**

The authors of the noise model have provided a calculated 1/3 octave band façade incident external sound level from estimated noise from both the National Grid Substation and the BESS site.

However, it is not clear how the one-third-octave-band sound power levels from the plant have been determined. For example, manufacturer's data or measurements taken from existing sites. Although the authors state that they have used manufacturers' sound power levels of similar plant, this is not documented and only the A-weighted sound power levels are reported.

Without this information it is not possible to check the validity of the estimated sound levels.

The ES Chapter 12 includes operational plant assessment outputs for high sensitivity residential receptors and identifies residual operational effects as not significant. However, the ability to reach that conclusion is dependent on the accuracy of the assumed source spectra and propagation model. If the underlying frequency data are not provided, the assessment cannot be independently checked against the low-frequency criteria or the tonal audibility method in BS 4142. This is a material limitation because a broadband A-weighted level can mask the presence of a pronounced low-frequency component which may be more noticeable inside dwellings, particularly during the night-time period.

This issue is particularly relevant to electrical infrastructure such as transformers and substations, where tonal or low-frequency components may form an important part of the perceived acoustic character. The assessment should therefore demonstrate not only compliance with broadband noise limits, but also that the frequency content and acoustic character of the predicted sound would not give rise to adverse perceptibility or disturbance at nearby dwellings.

It is also not clear how much absorption from the proposed noise barriers located around the BESS has been estimated in the model, but the effective absorption at low frequencies will be affected by the depth of the absorptive layer. This is due to the length of the soundwave, which is equal to the speed of sound in air (m/s) divided by the frequency of the sound (Hz). This can range from 13.7 m at 25 Hz to 2.1 m at 160 Hz. (See **Table 2**.) The use of earth bunds, which have a wider footprint as mitigation, would address some of these concerns.

|                |      |      |     |     |     |     |     |     |     |
|----------------|------|------|-----|-----|-----|-----|-----|-----|-----|
| Frequency (Hz) | 25   | 31.5 | 40  | 50  | 63  | 80  | 100 | 125 | 160 |
| Wavelength (m) | 13.7 | 10.9 | 8.6 | 6.9 | 5.4 | 4.3 | 3.4 | 2.7 | 2.1 |

Table 2 – Typical wavelength values (m) for low frequency 1/3 octave bands (Hz).

### 2.2.3 BS 4142 Acoustic Feature Rating Corrections

The authors have concluded that neither the BESS nor the National Grid Substation produce any tonal sound, despite stating:

*"High voltage transformers can generate a 100Hz hum due to vibration of the transformer coil. The acoustic modelling exercise indicates that the specific sound level from the high voltage transformers, including the 100Hz tone, is unlikely to be distinguishable at the receptor as it will be masked by other broadband sound relating to the BESS inverters and BESS Containers."*

Annexe C of BS 4142:2014+A1:2019 provides a 1/3 octave band method for assessing the audibility of tones. If the 1/3 octave band data used in the noise model were provided, this would prove/disprove the likelihood of tones and the value to be added to the Rating Level.

In the absence of disclosed one-third-octave data, it is not possible to confirm whether the transformer 100 Hz component would be sufficiently masked at the receptor, or whether it would remain perceptible during periods of low residual sound.

This is important because the assessment appears to rely on the assumption that broadband BESS-related sound will mask any transformer tone. That assumption may not be robust where the BESS cooling plant is operating at reduced night-time duty, or where weather, plant loading or operating mode changes the relative contribution of the transformer and cooling plant sources.

The authors also state:

*"BESS are designed without any noticeable acoustic features due to the broadband nature of the sound. Noise from the proposed development is not likely to be readily distinctive against the residual sound environment. Therefore, no rating penalty has been applied for 'Other Sound Characteristics'."*

Section 11 of BS 4142:2014+A1:2019 states:

*"The character and level of the residual sound compared to the character and level of the specific sound. Consider whether it would be beneficial to compare the frequency spectrum and temporal variation of the specific sound with that of the ambient or residual sound to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous sound by comparison to the acoustic environment that would occur in the absence of the specific sound. Any sound parameters, sampling periods and averaging time periods used to undertake character comparisons should reflect the way in which sound of an industrial and/or commercial nature is likely to be perceived and how people react to it."*

If one-third-octave-band or at least one-octave-band data were available from the baseline sound survey, this could be used to show whether the specific sound level is in fact indistinguishable against the residual background. The authors may be relying on the presence of road traffic noise, particularly in the 80 Hz to 160 Hz one-third-octave bands. However, it has not been demonstrated that road traffic is the dominant noise source in all areas, particularly in Great Moulton where the BESS and National Grid substation are proposed. Road traffic in this rural area is sporadic and there are long periods, particularly at night, when there is very little traffic.

The same concern applies to any reliance on road traffic or general residual sound to mask tonal or low-frequency components from the proposed plant. Masking cannot be assumed from short attended observations or from broadband A-weighted sound levels alone. It should be demonstrated using representative night-time frequency data for the residual sound environment and the predicted plant noise. Without that comparison, there remains uncertainty as to whether tonal components, particularly around 100 Hz, would be perceptible at residential receptors during quiet night-time periods.

In the absence of this information, it is not possible to determine whether the operational sound would be appropriately characterised as acoustically neutral, or whether rating penalties for tonality, intermittency, distinctiveness or other acoustic features may be required. T

his is a material issue because even relatively small changes to the rating level may alter the BS 4142 outcome, particularly where representative night-time background sound levels are low.

### 2.3 Implications for residential receptors

The implications for residents are not that unacceptable noise effects have been conclusively demonstrated at this stage. Rather, the submitted information does not allow those effects to be confidently ruled out. This distinction is important.

Where a proposed development includes substantial operational electrical infrastructure in a quiet rural environment, the assessment should provide sufficient information to demonstrate that noise from the BESS, National Grid substation, transformers, inverters, cooling plant and associated infrastructure would not result in unacceptable effects at the nearest and most affected dwellings.

The current assessment does not provide sufficient transparency regarding final plant specification, source spectra, modelling assumptions, mitigation performance or the representativeness of receptor background sound levels.

As a result, it is not possible to determine with confidence whether operational noise would be insignificant, acceptable subject to mitigation, or potentially adverse at individual residential receptors. This uncertainty is itself material to the planning decision, because the decision-maker must be satisfied that significant adverse effects on health and quality of life would be avoided before consent is granted.

## 3. Conclusion

Paragraph 4.43 of the Statutory Nuisance Statement states:

*“A noise assessment has been undertaken and is reported in ES Volume 1, Chapter 12 - Noise and Vibration [EN0110014/APP/6.1.12]. This chapter focuses on an assessment of the likely significant effects on noise and vibration as a result of the Scheme. The noise and vibration assessment concludes that no significant noise or vibration effects are anticipated.”*

However, it is not possible to validate this assessment due to the degree of uncertainty in the submitted assessment. This is due to:

- The lack of detail in plant selection, both for the BESS and National Grid substation;
- Operational assumptions such as reduced fan duty at night and the suggestion of acoustic enclosures without details/specifications;
- Lack of spectral data for both the assumed plant noise and the residual/background sound survey;
- Lack of detail regarding the acoustic barrier performance and the propagation of low frequency noise (<160Hz) over distance;
- Insufficient evidence supporting the decision not to add a feature correction to the specific sound level.

Taken together, the available information does not demonstrate that the development would avoid adverse or significant adverse noise impacts with sufficient certainty. The conclusions of the submitted assessment are therefore not robust, as they are dependent on assumptions which have not been substantiated by project-specific data. Accordingly, the Council's position remains that insufficient information has been provided to demonstrate that acceptable noise levels can be achieved and maintained. The absence of confirmed plant specification, lack of frequency-based source and survey data and limited transparency of the modelling approach collectively introduce a substantial level of uncertainty into the assessment. This is not a minor or isolated uncertainty, but one which has the potential to materially alter the outcome of the BS 4142 assessment.

Relatively small changes in the underlying assumptions — including acoustic character corrections and spectral content — may reasonably result in rating levels within a range indicative of adverse or significant adverse impact. In the context of an exceptionally quiet rural environment, such outcomes may be particularly difficult to mitigate effectively through design or operational controls once the site is constructed.

The ES Chapter 12 records that operational plant noise has been assessed against defined LOAEL and SOAEL thresholds and concludes that residual operational effects would not be significant. However, those conclusions are only as reliable as the assumptions on which they are based. The present review identifies several areas where the submitted information does not allow independent verification of the assessment outcome, including the absence of confirmed plant specification, incomplete disclosure of source spectral data, uncertainty over acoustic feature corrections, limited transparency over barrier performance, and uncertainty regarding the representativeness of the residual acoustic environment at Great Moulton.

If the applicant subsequently provides confirmed plant specifications, source sound power spectra, detailed modelling assumptions, mitigation specifications and representative receptor-based background data, it may then be possible to undertake a more definitive assessment of likely operational impacts. Until that information is available, any attempt to quantify the precise degree of impact at individual dwellings would be subject to significant uncertainty.

This raises fundamental concerns regarding reliance on pre-commencement or pre-operational planning conditions to resolve these issues at a later stage. Paragraph 198 of the National Planning Policy Framework requires planning decisions to ensure that development avoids significant adverse impacts on health and quality of life arising from noise.

Where the submitted information does not allow the decision-maker to confidently conclude that unacceptable noise impacts would be avoided, the appropriate conclusion is not that the matter can simply be deferred, but that the assessment is presently insufficient. The associated Planning Practice Guidance sets out the concept of the Significant Observed Adverse Effect Level (SOAEL), above which adverse effects should be avoided. The potential for adverse or significant adverse noise effects cannot be ruled out with the degree of confidence required.

On the information currently submitted, the proposed development has not demonstrated compliance with Policy ENV2 or national planning policy in relation to noise.

**On the information currently submitted, the applicant has not demonstrated with sufficient confidence that adverse or significant adverse noise effects would be avoided, particularly at night and in relation to low-frequency and/or tonal operational plant noise.**

**Noise is a material consideration in the national Planning Framework. Refusal of the application is therefore justified unless and until the applicant provides sufficient project-specific evidence to demonstrate that the BESS, National Grid substation, Inverters and associated noisy infrastructure can operate without causing unacceptable noise impacts at affected residential receptors.**

## Appendix 3 - Professional Article On Solar/Bess Noise

The source document reproduces professional commentary on the importance of designing noise control into solar/BESS infrastructure from the outset, particularly in quiet rural settings. It is supporting context rather than a substitute for project-specific modelling. The East Pye decision should turn on the project evidence, final plant and enforceable acoustic limits.

### Noise Impact Assessment Review

Article, regarding the issue of Noise associated with large NSIP developments. Daniel Clare is managing director at RSK Acoustics – 2 April 2025 -

#### [The sound of solar: Noise in a sustainable world | New Civil Engine](#)

The noise associated with solar farms, particularly large developments, can be significant and compounded by their rural locations. In these settings, any additional noise can be noticeable and can have an impact on people using and living in the area, as well as local wildlife.

It is often assumed that solar farms don't make any noise, that they are silent generators of clean energy. While the panels themselves make no noise, the infrastructure surrounding solar farms that enables energy to reach our homes does create residual noise. It is important to design for this noise at the start of the process to avoid surprise mitigation further down the project's development that could increase costs and delay planning approvals.

When considered at the scale of solar farm installations that we see in the UK, the electrical infrastructure that enables these large -scale connections to the grid can have an impact on existing noise environments if noise is ignored. Typically developed in rural locations where there is sufficient land to house solar photovoltaic (PV) panels, these naturally quieter environments can often mean that low -level noise emissions that would often go unnoticed in an urban environment have the potential to be disruptive. Managing this is regulated closely by planning policies to ensure any noise brought by the infrastructure is not harmful to wildlife or residents.

National policies such as the National Planning Policy Framework (NPPF) and the Noise Policy Statement for England (NPSE) both provide specific overarching requirements to protect residents and communities from noise associated with developments and promote its effective management for good health and quality of life. At a local level, individual councils and authorities will have their own policies, resulting in some national variation and making it crucial to understand what applies to a specific site. An understanding of acoustics is vital to delivering new projects in line with these regulations and for positive community outcomes. Dispelling myths around sound and solar means appropriately anticipating the impact of an installation and designing mitigation early on.

On a solar farm, it is the supporting infrastructure, such as battery storage, transformers and substations, that produces noise. The significance of that audible noise is relative to the existing environment and the plant chosen. Identifying the right products for the development and working closely with the manufacturers allow for greater control over potential noise. Engaging with the manufacturers at this stage also enables collaborative work on designing the plant for greater noise control and quieter operation when installed.

Ambient sound levels typically fluctuate through the course of the day – it is usually quieter overnight than during the day – and vary by location. The bustle of a city will create much more noise than rural countryside. This means that a low-level sound generated by a battery energy storage system or transformer may not be noticeable during the day in the middle of a city, but in the countryside it would be. It is also important to bear in mind the cumulative effect of multiple plant and machines running together; it is unlikely that a solar farm will have a single source of noise.

When there is an understanding of these specific environmental factors, and their relationship with the infrastructure to be installed, it becomes possible to manage noise. To most effectively mitigate potential significant noise, incorporating actions into the design is vital. It means not only cost savings against implementing measures later on but also issues can be removed in their entirety.

Layout is particularly important on large sites where significant infrastructure is needed. It is possible to design in a way that is sympathetic to acoustics, moving sources away from receptors such as residents or wildlife or creating noise barriers with needed site structures. These intelligent designs make use of the natural noise-managing properties of terrain, structures and buildings. If this is considered at the design stage, buildings such as offices and substations that are an integral part of the site can be positioned in a way that they serve as these needed noise barriers.

Making these design elements as effective as possible comes down to accurate early estimations of source noise levels. Preparing models that simulate the acoustics of the site means that mitigation can be designed from the beginning. Like in many construction and engineering disciplines, it's always the case that action to eliminate will be taken before action to insulate. The accuracy of models and plans makes this possible. Engaging acoustic specialists early on enables mitigation to be optimised. Working on the early planning and design stages of the project also means that it is possible for cross-discipline collaboration, opening opportunities for solutions to be found together.

Ultimately, by incorporating acoustic considerations from the outset and integrating noise reduction strategies into the design, we not only align with regulations but also foster harmonious relationships with local communities and protect wildlife. Effective noise management is not an afterthought but a crucial element of sustainable solar farm development that ensures long-term success and minimal environmental impact

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