Responses by Preston Farms Ltd. and TCS Biosciences Ltd. to points raised in the Examining Authority's written questions dated 2.4.26 (deadline for response 22.4.26)

Introduction

1. Before answering the specific questions directed to Preston Farms Ltd. (PFL) and TCS Biosciences Ltd. (TCS), we provide a short update on recent interactions with the Applicant. We continue to want to work constructively with the Applicant and had hoped that, following our written submissions, there would be an even better understanding of the challenges posed by the current layout and the reasons why we are seeking limited changes.

2. However, there has been no meaningful movement on our key issues beyond general references to future mitigation and working together once the project is underway. We do not wish to repeat our Written Representation, but the plans remain too uncertain for us to properly assess whether the project is workable for our operation.

3. Key matters remain undefined, including access and cabling routes, what "enhanced mitigation" actually means, detailed transport arrangements, and the assessment of risks to our animals, including cumulative effects. We have sought to approach the project cooperatively and have already accepted considerable risk by not asking that the land we farm be avoided altogether. We accept that some infrastructure near the existing substation and necessary cabling may need to affect us. However, the current plans remain unworkable for our operation in relation to the limited but important issues that remain outstanding.

4. As set out in more detail at section 26 below, events in recent weeks have underlined the importance of domestic resilience in critical national systems. That is not confined to energy. It also extends to critical healthcare and diagnostic supply chains. These objectives should be capable of co-existing, rather than one being pursued at the detriment of the other.

5. The ExA has asked the Applicant many important questions and we trust that we will have the opportunity to comment on its answers in due course. The site selection issue is particularly important.

6. PFL and TCS also respectfully renew the request made in the Written Representation that the Examining Authority undertake a site visit to better understand our operation. We note the current proposed inspection points and would also suggest including the TCS laboratories in Botolph Claydon and Botolph Farm (part of PFL), in Botolph Claydon. We believe this would materially assist the Examination by showing first-hand the integrated nature of the businesses and the practical situation on the ground.

7. For ease of reference/context we set out each question raised in full in italics.

Q1.9.3 – Replacement land

8. To the applicant: The applicant is invited to provide the following information in relation

to replacement land offered to registered tenants: 1. Location, including a site plan. 2. Amount of land (in hectares) compared with the amount of corresponding land subject to compulsory acquisition. 3. Commentary on the extent to which the replacement land could adequately function *as part of the farming operation and serve as alternative provision. If any improvements are required to the replacement land to ensure that it is suitable, who would be responsible for delivering them? 4. Identify measures that could minimise disruption to ongoing farming operations during any transfer to replacement land.*

9. *To A E J & FJ Claridge (John Claridge, Pauline Claridge, Philip Claridge): 5. Please provide feedback regarding the suitability of replacement land offered by the applicant. 6. Identify measures that could* minimise *disruption to the ongoing operation of farming during any transfer to replacement land. 7. If agreement is reached with the applicant regarding the provision of replacement land, to what extent would this address any concerns that you may have regarding the compulsory acquisition of your land interests?*

10. *To Preston Farms Ltd: 8. The ExA notes feedback provided by Preston Farms Ltd in its written* representation *[REP1-133] in relation to the replacement land proposed by the applicant. However, in the context of the above, Preston Farms Ltd is invited to comment further, particularly if it is in a position to provide an update.*

Our response:

11. We have nothing further to add at this stage. PFL is still awaiting the draft agreement for the replacement land. Substantial improvements are required including fencing, gateways, water and significant groundworks to allow access to our current holding. No clarification has yet been provided about who will be responsible for delivering these required improvements.

Q1.16.14 – Mitigation and monitoring

12. *To what extent do the applicant's updated Outline Construction Environmental Management Plan [REP1-078], Outline Operational Environmental Management Plan [REP1-080] and Outline Decommissioning Environmental Management Plan [REP1-082] address your respective concerns regarding mitigation measures or monitoring for noise? Identify any further amendments to these documents that you consider to be necessary and explain why they are needed.*

Our response:

13. PFL and TCS submit that the Applicant's updated Outline Construction Environmental Management Plan [REP1-078], Outline Operational Environmental Management Plan [REP1-080] and Outline Decommissioning Environmental Management Plan [REP1-082] do not adequately address our concerns regarding mitigation measures or monitoring for noise.

14. A central unresolved point is that many of our construction phase noise and disturbance concerns arise because the Applicant continues to proceed based on construction access via Granborough Road, while providing no clear explanation as to why access

from Winslow Road is not feasible (we note it is already being used for abnormal loads). We address this in further detail in response to **Q1.19.13** below.

15. The Applicant's updates are limited and do not materially address our concerns. They leave too much to future detail and provide no proper basis for concluding that the proposed mitigations would be workable for our business. References to liaising with us during the preparation of the detailed plans do not give us comfort, given our interactions with the Applicant to date, which have not suggested a proper understanding of the sensitive nature of our operation or a willingness to address our concerns in substance. Advance notice of activities near grazing land is helpful in principle, but as raised in our Written Representation, we do not have the spare land capacity simply to move herds away from such activities, especially given the prolonged periods associated with the construction phase. Likewise, while "toolbox talks" for staff sound positive in theory, experience from nearby major projects suggests that such measures are not always adhered to in practice and carry limited practical weight. We are also unsure how many staff are likely to be involved and how realistic it is to expect consistent compliance throughout the construction phase.

16. The updates to the Noise and Vibration chapter are not a substantive response to the concerns raised in the Written Representation and supporting evidence. The assessments remain inadequate given the specialist nature of the risk. It continues to assess the scheme by reference to residential and other human receptors. It does not identify Preston Farms / TCS Biosciences as a distinct sensitive receptor requiring specific noise and vibration assessment, nor give any indication that appropriate risk assessments for our business have been carried out. This reinforces rather than answers the concern that the assessment and proposed controls remain generic and are not tailored to the sensitive and regulated nature of our business. A more rigorous methodology supported by proper engagement with PFL / TCS and the application of workable mitigation measures is required.

17. Our position is that this should include:

    a) Defined noise levels and evidence of species appropriate thresholds sufficient to give comfort that the proposed works and operation are compatible with the welfare of the donor animals.

    b) Meaningful monitoring at PFL receptor locations, both at baseline and during relevant activities, together with clear provision for what would happen if thresholds are exceeded or if animal response indicates a problem.

    c) Further consideration of the additional disturbance and risk implications arising from the BESS. We have now engaged a BESS expert, Dr Wojciech Mrozik. His note is sent with these submissions for the ExA's review. He concludes: "The evidence set out in this expert review demonstrates that the Applicant's environmental and safety assessments are significantly flawed and do not provide the Examining Authority with the robust data required to make a safe, informed recommendation on this Development Consent Order (DCO) application". Concerns relate inter alia to adequacy of current BESS

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assessments in relation to PFL / TCS as a nearby sensitive receptor, including the practical implications of alarms, smoke, emergency response activity and related disturbance for a regulated donor-animal operation. As raised in our Written Representation, any fire or similar incident affecting the animals could also have material insurance and business continuity consequences.

d) Further consideration of the full range of likely disturbances, including cumulative effects, for example sudden noise events, piling, vibration, lighting, traffic, human activity, and the combined disturbance effect of works and infrastructure in close proximity to donor animals.

e) Clarity as to engagement and approvals required in relation to any future detailed plans, so that these are not simply approved at a later stage without the concerns of PFL / TCS having been properly addressed.

f) A proper response to the points raised in our Written Representation, many of which remain either unaddressed or replaced only by generic process language.

18. These matters remain either unaddressed or left to generic future stage management language. The Applicant still reserves broad flexibility, has not defined the rights sought with precision, and does not rule out the very harm which Preston Farms and TCS Biosciences have consistently identified, including that it cannot guarantee that the proposal will not adversely affect our animals or put the operation at risk.

19. We also wish to comment further on the question of biosecurity. Biosecurity at Preston Farms / TCS Biosciences depends on a range of cumulative measures, rather than simply personnel operating in accordance with a protocol. It is the way the holding operates as a whole, including controlled access, animal movement, separation from external activity, and low disturbance conditions for donor animals. It is not limited to what is physically brought onto the holding by people or vehicles/equipment. It includes the wider concerns of extensive land disturbance nearby, including dust, surface contamination, water movement and increased interaction between disturbed ground and sensitive livestock areas. We recognise that the Applicant has indicated a willingness to follow biosecurity procedures and adopt certain control measures.

20. However, that does not fully answer our concern. In our view, the response so far has only been to offer generic, light-touch measures in circumstances where the current layout and access arrangements would themselves materially increase the biosecurity risk to the operation, irrespective of any personnel involvement. Even if the risk of any individual lapse is said to be small, the scale of construction activity on or near Preston Farms, involving many personnel over a prolonged period, makes it almost certain from a cumulative probability basis that there will be lapses in practice.

21. In a sensitive operation of this kind, the most reliable biosecurity control is to avoid introducing unnecessary disturbance and third party factors into the operating environment in the first place. The mitigations we have put forward are suggested with this in mind, namely to allow the project to proceed while reducing the impact

on our operation by keeping the main Rosefield footprint together and as far from the core holding as reasonably possible.

22. In our view, the current scheme layout and the level of construction and operational interaction it would introduce are inconsistent with maintaining a tightly controlled biosecure environment. References in the updated plans to "appropriate biosecurity measures" therefore do not answer our more fundamental concern, which is that the project as currently planned would itself undermine the conditions on which our effective biosecurity depends.

Q1.17.1 – Critical National Priority (CNP)

23. *To the Applicant and Buckinghamshire Council: Provide comments on the written representation submitted by Preston Farms Ltd and TCS Biosciences Ltd [REP1-133] regarding the application of CNP. Could the potential impact on these businesses fall under the exceptions to CNP as described at paragraph 4.2.15 of National Policy* Statement *(NPS) EN-1 as an 'unacceptable risk to, or unacceptable interference with, human health and public safety', in light of the role of the businesses in supplying the National Health Service and wider medical sector? If not, why not?*

Our further observation/voluntary response:

24. PFL and TCS respectfully submit that the potential impact of the proposed development on their integrated operation is capable of falling within the exception identified by the Examining Authority, namely whether the residual impact could amount to an "unacceptable risk to, or unacceptable interference with, human health and public safety."

25. This is not just a case of private commercial impact. As set out in our Written Representation, Preston Farms is the only farm of its kind in England and Wales, and TCS Biosciences is the only operation in England and Wales supplying this donor animal blood product for clinical microbiology. The Applicant has provided no assurance that the project will not disrupt our operation, nor has it carried out an adequate risk assessment of the particular issues that we have highlighted.

26. Recent geopolitical instability has reinforced the importance of domestic resilience in critical national systems. As the Prime Minister wrote on 9 April 2026, the recent conflict involving Iran should be a warning that Britain must build resilience "at home." That same logic is not confined to energy. It also applies to critical healthcare and diagnostic supply chains. The point is reinforced by the UK Government's *Approach to Implementing the Pandemic Preparedness Strategy,* published on 25 March 2026, which states that preparedness requires a "whole-of-government, whole-of-society approach". The Institute of Biomedical Science also welcomed its stronger focus on "diagnostic development, workforce resilience and supply chain security", and its Chief Executive, David Wells, observed that this matters "not only for future emergencies, but for the resilience of health services more broadly" and that "high-quality, regulated diagnostic services protect the public every day".

27. The Rosefield project and our concerns therefore bring into focus two nationally

important objectives: the delivery of renewable energy infrastructure, and the protection of a unique domestic healthcare diagnostic supply chain. PFL and TCS do not seek to prevent the Rosefield proposal. The changes sought are limited and would have negligible effect on the scheme's contribution to net zero policy.

28. Since the Written Representation was submitted, further events have underlined the practical importance of this supply chain. We have received confirmation that our product was used in connection with the recent meningococcal outbreak in Kent. After the outbreak of hostilities in Iran, we have also received an urgent request for donor sheep blood from the Middle East, the customer explained "This is particularly important as many of the institutions we serve; including government entities, hospitals, military facilities, and ministries, rely on us to ensure uninterrupted availability of culture media used in patient care. We have also been in discussions with several stakeholders who have emphasized the importance of being fully prepared to support potential healthcare demands and emergencies during this period." These are not abstract points - they demonstrate the present public health significance of the supply chain in question. For those reasons, PFL and TCS respectfully submit that the effect in question is capable of constituting both an unacceptable risk to, and an unacceptable interference with, human health and public safety.

Q1.17.4 – Embedded mitigation: corridor for grazing animals in field E23

29. *Embedded mitigation - corridor for grazing animals in field E23 To the applicant: 1. How wide would the corridor be and what boundary treatments are proposed? If such details are currently unknown, when would they be determined and how would proposals be* developed *and agreed? 2. What evidence can the applicant provide to demonstrate that the related issues identified in the written representation from Preston Farms Limited and TCS Biosciences Limited [REP1-133], including stress to animals, would be avoided or mitigated with the proposed corridor? To Preston Farms Limited TCS Biosciences Limited: 3. The ExA notes the information provided in your written representation regarding the possible implications of moving livestock through the proposed corridor, including the supporting letter from a veterinary surgeon. Is any further scientific evidence or research available to support your conclusions?*

Our response:

30. In relation to the proposed corridor, we are sending with this, annexed, (a) a follow-up letter from our current veterinary surgeon; and (b) a letter from a former veterinary surgeon who now practises independently but is a member of our Home Office Animal Welfare and Ethical Review Body. We trust that their observations will be of help in understanding the gravity of the points we raise. However, we reiterate that even a materially wider corridor would not address our concerns regarding E23, both from a horse safety perspective and as a workable means of access to other parts of our holding. **ANNEXED**

31. As explained to the Applicant and in our Written Representation, E23 is not only

important from an animal movement perspective. It is integral to the operation of the holding as a whole. It contains eight gates and functions as a linchpin between different parts of the farm, both for animal movement and other agricultural operations. Our concern is not simply the width of the proposed corridor - a corridor through solar infrastructure is not an acceptable or realistic substitute for retaining E23 as an open and integral field within the operation. A single corridor would not work, irrespective of the equine safety element. The Applicant's proposed corridor position is also unclear, but even leaving safety aside, for this field to continue to operate effectively numerous corridors (or the majority of the field) would be required to connect each gateway.

32. We have repeatedly identified the importance of retaining E23, from the earliest stage, as a key requirement for the efficient operation of our farm. We do not intend to repeat our Written Representation, but following recent discussions we still have no clear rationale as to why E23 and its solar panels cannot be moved.

33. PFL and TCS also note the Examining Authority's questions on site selection, alternatives and agricultural land. Those questions seem particularly relevant here. If the Applicant's own site selection case suggests a search radius of 10km, then E23, at 17.8 hectares, represents about 0.057% of that wider search area. We therefore respectfully ask that the Applicant provide a clear and detailed rationale as to why E23 was chosen and why it remains within the scheme, given its importance to our business and the scope for a less harmful configuration. To date, no clear answer has been given to us on that question.

Q1.19.13 – oCTMP: co-ordination with local business and visitor attractions

34. *oCTMP – co-ordination with local business and visitor attractions A new section 4.4 (information to other parties) is provided in the oCTMP at deadline 1 [REP1-084] which outlines* the *applicant's approach to sharing information with other parties regarding construction traffic, including the National Trust, Buckinghamshire Railway Centre and Hogshaw Farm and Wildlife Park. The updated oCTMP [REP1-084] also includes additional commitments to work with agricultural business interests to facilitate the safe crossing of livestock and to avoid road reconstruction works to Snake Lane/ Fiddlers Field during the school summer holiday period, if possible. In addition, no construction traffic will be permitted to travel east on Granborough Road to minimise interactions with local agricultural traffic and livestock crossings on the public road. To the applicant: 1. Should business and tourism stakeholders be represented on the Traffic Management Group? If not, why not? 2. Should Preston Farms Limited and any other relevant local agricultural interests also be referenced in section 4.4 of the oCTMP and/ or the Traffic Management Group? If not, why not? To other interested parties: 3. To what extent do the amendments made by the applicant in the oCTMP [REP1-084] address concerns raised in your respective relevant representations and written representations regarding construction traffic management?*

Our response:

35. The amendments made by the Applicant in the updated oCTMP address PFL's

concerns only to a limited extent. The additions concerning information sharing, liaison with agricultural interests, and the commitment that no construction traffic will travel east on Granborough Road are welcome as far as they go. However, they do not resolve the central problem, namely that the proposed construction route via Granborough Road remains critically problematic for the continued smooth operation of PFL and TCS.

36. As explained in the Written Representation, the proposed construction access route from Granborough Road passes through a key part of the operation and is not compatible with it. This is not a minor inconvenience. Granborough Road provides an important route between different parts of the holding and between the farm and the TCS laboratories in Botolph Claydon. Preston Farms and TCS Biosciences produce donor animal blood 52 weeks of the year which must move quickly around the site (via Granborough Road), and the operation depends upon regular, controlled and uninterrupted movement of staff, livestock, feed and machinery.

37. During the winter period, generally from October to April, the principal feed source for the whole farm is held at the silage clamps (located on the Granborough Road), and constant access is required every day of the week. Farm machinery constantly moves in both directions from the silage clamps and any highway disruption will have serious implications. Frequent access is also required during the harvest period, broadly from May to August, to fill those areas. Many fields around the holding are rotated and are not always in grass, to maintain the high-yielding crops required to support the high stocking rate on the farm. The movement and use of land across the farm is not fixed or static. In those circumstances, Preston Farms cannot see how the proposed construction phase via the Granborough Road route will not significantly affect its ability to manage the business. It involves real time, constant movement of machinery and animals, which cannot simply be managed through paper-based communications or limited working windows.

38. It also appears from the updated plans and tracked dDCO that substantial works may be required to Granborough Road itself, including widening, passing places and other highway / traffic management works. The tracked dDCO continues to correct omissions in plots and rights sought, including the addition of plot 6/9 for purposes extending beyond cabling to include access, highway / traffic management and vegetation management. That reinforces our concern that the practical extent of temporary land use and access sought remains broad, is still evolving and is not yet tightly defined. In our view, this would create further disruption to Granborough Road, our operations, and potentially the security of our feed sources and farm access, while giving neither us nor other local road users any real certainty as to the likely extent of that disruption.

39. The amendments to the oCTMP do not answer the prior question of why Granborough Road must be used at all. We have seen or heard nothing from the Applicant as to why access from Winslow Road is not feasible, other than a reference to “commitments” said to prevent that. No clear detail has been provided as to the nature of those commitments or to whom they were given. The Winslow Road is the access option for construction of numerous other infrastructure projects, such as the redevelopment of

the National Grid substation, Stratkraft BESS, Stratera BESS, and Tuckey Solar Farm and so we cannot see any barriers to using that route for the Applicant. The Winslow Road access is just near the north of Parcel 3 where the main Rosefield infrastructure is and it would alleviate many of our concerns about the crossing of our holding except in relation to required cabling. Likewise, no good reason has been given for the need for a permanent maintenance route across the Preston Farms holding after construction. If operational traffic is said to be very limited, that only further raises the question why ongoing access cannot be taken by a less harmful route.

40. Preston Farms' position remains that the amendments do not adequately address its concerns regarding construction traffic management.

41. Preston Farms also considers that it should be expressly referenced in section 4.4 of the oCTMP and should be represented on any Traffic Management Group, together with any other relevant local agricultural interests. That is necessary because Preston Farms is not simply a nearby rural business. It is a specialist, year-round, Home Office licensed operation whose continued functioning depends on carefully managed movements across the holding and between the holding and TCS Biosciences' laboratories. If the Applicant wishes to rely on management and coordination measures, PFL and TCS must be directly included in those arrangements.

Preston Farms Ltd.
TCS Biosciences Ltd.

(submitted for them jointly by
Richard Buxton Solicitors, 22.4.26)

Expert Review

of

Rosefield Solar Farm

BESS Safety Impact Assessment

Dr Wojciech Mrozik

20/04/2026

EXECUTIVE SUMMARY

This expert review, authored by battery safety specialist Dr. Wojciech Mrozik, outlines critical flaws in a proposed Solar Farm Battery Energy Storage System (BESS) Plume Assessment, specifically its failure to evaluate the risks to Preston Farms and TCS Biosciences—a nationally critical donor animal operation located directly in the prevailing downwind path. The report highlights that the current assessment relies exclusively on human health thresholds while entirely ignoring equine and ovine-specific toxicological vulnerabilities, fails to model the most proximate animal grazing areas (10–50 meters away), and omits the hazards of smoke, particulates, and adjoining solar panel fires that could significantly impact the NHS diagnostic supply chain. Furthermore, the review identifies fundamental arithmetic and methodological errors in the Applicant's Layer of Protection Analysis (LOPA), including a physically impossible probability of failure value. Consequently, the report formally requests the Examining Authority to mandate a supplementary plume assessment with veterinary thresholds, a corrected and independently reviewed LOPA, and a revised Emergency Response Plan tailored to the protection and triage of donor livestock.

AUTHOR

Dr Wojciech Mrozik is a Senior Academic Researcher with more than 20 years of experience in the risk assessment, identification and mitigation of hazards of environmental concern, especially associated with lithium-ion battery failures. He is a UK National Expert for several CEN & ISO committees and BSI working groups (*i.e.* ISO/TC 21/SC 2/WG 7 "Classification of fires"; FSH/18/6 “Automatic fire extinguishing test protocol for fires of Lithium-Ion batteries”) and was recently appointed to the cross-governmental Technical Steering Group for EV fire safety. He co-authored the report “Safety of second life batteries in battery energy storage systems“ for the OPSS (https://www.gov.uk/government/publications/safety-ofsecond-life-batteries-in-batteryenergy-storage-systems).
Dr Mrozik is also a co-author of the training program for State Fire Service in Poland https://youtu.be/xGvaY2jjl1A.
Dr Mrozik has published over 40 publications in international journals, has an H index of 29, and over 3400 overall citations. He has led several research and industry-focused projects regarding battery safety.

DOCUMENTS REVIEWED

- EN010158/APP/7.13
- EN010158/APP/7.13.2

- EN010158/APP/8.3
- EN010158/APP/7.9

1. Fundamental Deficiencies in the BESS Plume Assessment: Failure to Assess Downwind Impact on Preston Farms and TCS Biosciences

1.1 The Prevailing Wind Blows Directly Toward the Preston Farms Holding

The Applicant's own BESS Plume Assessment (EN010158/APP/7.13 and the updated EN010158/APP/7.13.2) explicitly acknowledges that the prevailing wind direction at the site is 220° (South-Westerly), with a mean of 207°, a mode of 220°, and a median of 220°. The assessment further states at paragraph 4.8.7:

> *"the prevailing wind direction for the site is typically south-westerly, the likelihood is that any plume would be more likely to move to the north-east."*

The Preston Farms holding lies to the north and north-east of the proposed BESS location. This is, on the Applicant's own evidence, the primary downwind direction for any toxic release event. This is not a marginal or unlikely scenario: it is the most probable dispersion pathway.

1.2 The Receptor Framework Fails to Assess the Downwind Operational Area

Despite this acknowledged wind direction, the Plume Assessment models only 17 residential receptors (R1–R17) and 19 footpath receptors (FR1–FR19), all assessed against human health standards. Not one receptor has been placed on the Preston Farms holding, in particular the nearby grazing areas for the sheep and horses, winter barns or other outdoor working areas of the holding located to the north and north east of the BESS.

The Applicant seeks to address this omission by reference to receptor R12 ('45 Botyl Road'), located at OS coordinates X: 473487, Y: 224698, approximately 0.9 km from the BESS and situated on or immediately adjacent to the Preston Farms holding. However, this reliance is fundamentally misconceived for the following reasons.

1.3 R12 Is Assessed as a Standard Residential Receptor — Not as a Nationally Critical Biomedical Operation

R12 is modelled as a single residential address. The assessment applies standard human AEGL (Acute Exposure Guideline Level) thresholds to a single point representing a dwelling. This entirely fails to capture:

(a) The spatial extent of the sensitive operation. The Preston Farms holding extends across multiple fields and operational buildings. A single residential point receptor cannot represent the full spatial footprint of the operation in the primary downwind direction. The modelling provides no assessment of concentrations across areas that lie between the BESS and the R12 receptor point — areas that are, by definition, closer to the source and therefore subject to higher concentrations.

(b) The unique sensitivity of the donor animals. All assessment criteria applied — AEGL-1, AEGL-2, AEGL-3, SLOT, and SLOD — are calibrated exclusively for human health. Horses are highly responsive to inhaled environmental irritants; exposure to the dust and poor air quality is well-documented to induce profound respiratory inflammation[1][2][3][4]. Hydrogen Fluoride (HF), Hydrogen Cyanide (HCN), Carbon Monoxide (CO), and fine particulates (PM2.5/PM10) at concentrations that fall below human AEGL-1 thresholds (i.e., concentrations causing no more than mild human discomfort) may nonetheless cause acute respiratory distress, physiological stress responses, or lasting harm to equine donors. No veterinary or equine or ovine-specific toxicological threshold has been applied anywhere in the assessment. This is a material omission given that the donor animals are the foundation of a nationally critical supply chain.

(c) The impossibility of rapid evacuation. The Applicant's emergency response framework assumes that people in the downwind area will receive recommendations to remain indoors with doors and windows closed, and that the visible smoke plume will encourage avoidance. These measures are wholly inapplicable to a herd of donor horses and sheep in open paddocks. The animals cannot be rapidly evacuated, cannot be instructed to shelter, and cannot be protected by closing windows. In the event of a thermal runaway event under prevailing south-westerly wind conditions, the donor herd could face prolonged, unmitigated exposure to the toxic plume with no effective protective measure available.

(d) Even sub-acute exposure to stress-inducing stimuli—including smoke, unfamiliar odors, audible alarms, and emergency vehicles—poses a threat to production continuity. In horses, sudden environmental stress triggers a physiological response that may measurably compromises the quality and baseline consistency of collected donor blood[5][6]. TCS Biosciences operates under a Home Office licence with strict quality standards. A single thermal runaway event, even one that does not cause direct animal mortality, could compromise an entire production cycle, with consequences for NHS diagnostic supply given the 28-day shelf life of the product and the absence of any viable substitute or buffer stock.

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[1] Couetil L, et.al (2020), Equine Asthma: Current Understanding and Future Directions. *Front. Vet. Sci.* 7:450. doi: 10.3389/fvets.2020.00450

[2] Saastamoinen M et.al. (2015), Reducing Respiratory Health Risks to Horses and Workers: A Comparison of Two Stall Bedding Materials. *Animals*, 8;5(4):965-77. doi: 10.3390/ani5040394

[3] Mańkowska, A.; Witkowska, D. (2024), The Most Common Environmental Risk Factors for Equine Asthma—A Narrative Review. *Animals*, *14*, 2062.doi: 10.3390/ani14142062

[4] Mazan MR, et.al. (2009) Questionnaire assessment of airway disease symptoms in equine barn personnel. *Occup Med*,.59(4):220-5. doi: 10.1093/occmed/kqp003

[5] Kovac M, et.al (2022), Equine Stress: Neuroendocrine Physiology and Pathophysiology, from *Updates on Veterinary Anatomy and Physiology,* doi: 10.5772/intechopen.105045

[6] Bishop RC, et.al (2025), Increased packed cell volume alters point of care viscoelastic clotting parameters in horses. *Equine Vet J.,* 57(3):766–773. Doi: 10.1111/evj.14413

1.4 The Assessment Ignores Outdoor Occupational Workers as a Receptor Class

Approximately 10 staff employed by Preston Farms work extensively outdoors across the holding throughout the year, in both the barns doing donor collection and outside doing animal husbandry, and field management activities. These workers are not modelled as occupational receptors. The assessment considers only 'site operatives' (i.e., solar farm workers within the development boundary) and passing members of the public. Workers with prolonged outdoor exposure in the primary downwind direction — at distances of 0.5 to 1 km from the BESS — are entirely absent from the receptor framework. This is a gap in the occupational health assessment.

1.5 The Applicant's Own Conclusions Confirm the Risk

The Applicant acknowledges at paragraph 4.8.7 that the prevailing wind makes a north-easterly plume trajectory the most likely outcome of any thermal runaway event. The Applicant further acknowledges at paragraph 4.8.5 that the SLOT contour for HF extends to 72 metres from the source, and at paragraph 4.8.6 that CO impacts are possible at up to 67 metres. The modelled data at R12 (0.9 km) shows HF concentrations of up to 34.15 µg/m³ against a human AEGL-1 of 860 µg/m³ (4.0% of AEGL-1). However, this figure relates to a single residential point at 0.9 km. Concentrations at the closer operational areas — grazing, barns, and outdoor working zones at distances of 400–700 m in the primary downwind direction — are not modelled and are necessarily higher. The Applicant has provided no data for these areas.

1.6 Human Health Thresholds Applied — No Veterinary Toxicological Assessment

The plume assessment models toxic gas concentrations (Hydrogen Fluoride, Carbon Monoxide, Hydrogen Cyanide, and others) exclusively against human health thresholds: HSE SLOT/SLOD values, US EPA Acute Exposure Guidelines (AEGLs), and UK Air Quality Standards. No veterinary toxicological thresholds have been applied for horses or sheep.

Sub-SLOT concentrations of HF, CO, HCN, and combustion particulates that are assessed as "not significant" for human health may nonetheless be sufficient to cause respiratory irritation in animals triggering herd panic and potential injury; contaminate blood with inflammatory markers or absorbed toxins; and require emergency veterinary intervention and suspension of blood collection. The plume assessment is not fit for purpose as applied to this site. A bespoke veterinary toxicological assessment has never been commissioned or submitted.

1.7 Worst-Case Footpath Receptor Reaches 78.2% of AEGL-1 for Hydrogen Fluoride

Animals Adjacent to BESS Not Modelled The addendum (v7.13.2) reveals that the worst-case footpath receptor (FR14, 50m from the BESS) reaches 672.37 µg/m³ — 78.2% of the AEGL-1 threshold for Hydrogen Fluoride (the "notable discomfort" level for humans). Preston Farms livestock graze adjacent to the BESS boundary — substantially closer than FR14. No modelling has been conducted at 10–50m distances relevant to the Preston Farms holding.

The Applicant has failed to model at the distances most relevant to the most sensitive receptor

1.8 Smoke and Particulates Excluded from the Assessment

The plume assessment explicitly states: *"The analysis does not consider the effects of smoke or particles created by a fire."* The addendum models PM10 and PM2.5 for human receptors but does not assess the effect of combustion particulates on donor animals. A BESS fire producing modelled emission rates of 3.829 g/s of PM_{10} and $PM_{2.5}$ over 4–12 hours, with animals grazing within 10–200m, could cause acute respiratory distress, trigger mass panic, potentially contaminate blood with inflammatory markers, and require emergency veterinary intervention. This omission is a material gap in the environmental assessment.

1.9 Definitive Plume Assessment Deferred to Post-Consent

The BSMP (EN010158/APP/7.9, para 7.1.2) commits to a detailed BESS plume assessment post-consent, once the battery system supplier has been confirmed. The Applicant has not yet selected the battery technology. Consent is therefore being sought based on an "example design" that may not reflect the final installation. Deferring the definitive plume assessment to post-consent detailed design is not acceptable given the unique sensitivity of the receptor and the nationally significant consequences of error. Furthermore, it is entirely reasonable and necessary to require a comprehensive assessment of solar panel fire risks prior to consent; yet, the proposed post-consent study is explicitly limited to BESS. Consequently, this critical gap regarding solar fire risk remains unaddressed under the current DCO framework.

1.10 Emergency Response Plan (ERP) Cannot Protect Donor Animals

The ERP, as outlined in the Battery Safety Management Plan (EN010158/APP/7.9), proposes closing the nearby footpath, alerting highway authorities, recommending residents stay indoors, and providing real-time wind data to emergency responders. None of these measures can be applied to 400 horses and 3,500 sheep grazing in open fields. There is no protocol for emergency evacuation of livestock from the plume zone; veterinary triage following toxic gas exposure; suspension and quarantine of blood collection post-incident; or notification of TCS Biosciences to halt processing of potentially contaminated blood. The ERP is inadequate for the specific receptor context of Preston Farms. The Applicant has not engaged with Preston Farms or TCS Biosciences in designing the ERP, despite the BESS being positioned immediately adjacent to their holding

1.11 The Assessment Does Not Constitute an Adequate Basis for Consent

For the reasons set out above, the BESS Plume Assessment does not constitute an adequate assessment of the risk to Preston Farms and TCS Biosciences from a thermal runaway event. The assessment framework was designed for a conventional rural setting with residential and public footpath receptors. It is wholly inadequate for a site that hosts a nationally critical, Home Office-licensed operation with uniquely sensitive animal and human receptors in the primary downwind direction.

Moreover, the BESS is positioned in Parcel 2, immediately adjacent to the Preston Farms holding (plots 6/10). The Applicant was aware of the Preston Farms operation throughout the

preparation of the ES. The exclusion of the most proximate receptor represents a notable limitation in the current plume assessment.

2. Critical Technical Deficiencies in the LOPA Underpinning the BESS Risk Assessment

2.1 The LOPA Frequency Changed Dramatically Between Versions Without Adequate Explanation

The Applicant's BESS Plume Assessment was submitted in two versions: the original (EN010158/APP/7.13, September 2025) and an updated version (EN010158/APP/7.13.2, Deadline 1, March 2026). Between these two versions, the Layer of Protection Analysis (LOPA) frequency for a hazardous cell venting event changed as follows:

Parameter	Version 1 (Sept 2025)	Version 2 (March 2026)
LOPA frequency	2.9×10^{-3} yr^{-1} (~once every 344 years)	1.7×10^{-4} yr^{-1} (~once every 5,000 years)
LOPA documentation	Single sentence, no supporting detail	Annex 2 LOPA table added
Explanation for change	N/A	"Updated to align with the updated Layer of Protection Analysis" — no further detail

The frequency is approximately 17 times lower in Version 2. The only stated reason is alignment with an 'updated LOPA.' No narrative explanation is given for why the LOPA changed. The consequence modelling — including the HF SLOT contour of 72m and the CO SLOT contour of 67m — is identical between versions. The only thing that changed is the claimed frequency of the initiating event.

2.2 The LOPA Table Contains a Physically Impossible Value

The LOPA table presented in Annex 2 of Version 2 contains a Safety Instrumented Function (SIF) Probability of Failure on Demand (PFD) value of 9.5×10^{0}. A PFD value must, by definition, lie between 0 and 1: it represents the probability that a safety function fails to perform its required action on demand. A value of 9.5 is not merely unusual — it is physically impossible. No safety instrumented function can have a probability of failure on demand exceeding 1.0.

This is not a rounding anomaly or a conservative assumption. It is a fundamental arithmetic error that invalidates any calculation downstream of it. The Applicant has provided no explanation for this value.

2.3 A Dominant Failure Mode Has Been Eliminated Without Justification

Initiating cause T10 (FullModFail — full module failure) is assigned a B0 qualification factor of exactly zero in the LOPA table. This has the effect of removing this entire failure pathway from the analysis: its contribution to the mitigated frequency is 0.0×10^{0} yr^{-1} regardless of any other parameter.

In LOPA practice, a B0 factor represents the conditional probability that an initiating event leads to the hazardous consequence scenario. Assigning it zero is equivalent to asserting that full module failure cannot cause a hazardous venting event. This is an extraordinary claim for a lithium-ion BESS — full module failure is precisely the scenario of greatest regulatory concern — and it requires extraordinary evidence. No justification is provided.

2.4 IPL Credits Are Unsourced and Arithmetically Aggressive

Independent Protection Layer (IPL) credit values of 0.1 are applied repeatedly across multiple layers in the LOPA table with no reference to IEC 61511, manufacturer data, proof-test records, or any recognised data source. Stacking four to five such credits produces reductions of 10^{-4} to 10^{-5} per scenario — claims that are aggressive even by the most optimistic industry benchmarks and that cannot be independently verified from the information provided.

2.5 The Arithmetic Path to the Headline Figure Is Opaque and Internally Inconsistent

The LOPA table's per-group 'Likelihood of HARM' is 1.1×10^{-7} yr^{-1} (approximately once every 9 million years per container group). The headline figure cited in the main text is 1.7×10^{-4} yr^{-1} (once every 5,000 years). These two figures differ by three orders of magnitude. The label '3c groups' on the target row of the table suggests that the 1.7×10^{-4} figure may be a tolerable frequency criterion (i.e., a target) rather than a calculated output — in which case the document has confused its inputs with its outputs.

Furthermore, the raw spreadsheet output visible at the bottom of the LOPA table shows '5,804.60 years' — inconsistent with both the '4,732 years' implied by the per-group output and the '5,000 years' stated in the main text. Three different numbers are presented for what is ostensibly the same quantity, with no reconciliation offered.

2.6 The LOPA Does Not Constitute an Adequate Basis for the Risk Acceptability Conclusion

The Objectors submit that the LOPA, as presented in EN010158/APP/7.13.2, does not constitute an adequate basis for the Applicant's conclusion that the BESS poses an acceptable risk to humans (not concerning animals as requested by TCS). A properly documented LOPA should:

- Reference IEC 61511 or an equivalent recognised LOPA methodology standard;
- Justify each IPL credit with cited evidence (manufacturer datasheets, SIL verification calculations, or recognised generic data such as OREDA or HSE Failure Rate and Event Data);
- Show the arithmetic clearly, with a single, consistent frequency figure derived transparently from the table;
- Explain any aggregation across container groups; and
- Provide a physically meaningful SIF PFD value.

Neither version of the Plume Assessment meets these standards.

3. Solar Panel Fire Risk – A Complete Absence from the Assessment

3.1 Solar Panel Fire Is Not Assessed Anywhere in the Application

The plume assessment (both versions) explicitly limits its scope to BESS thermal runaway. There is no assessment anywhere in the application documents of the fire risk from the solar PV array, which will cover hundreds of hectares immediately adjacent to the Preston Farms holding (neither to workers nor animals). Solar panel fires are a known and documented risk, arising from DC arc faults, hotspot failures, inverter fires, lightning strikes, and vegetation fires spreading to panel arrays. A large-scale solar farm fire can produce dense, sustained smoke containing combustion products from burning EVA (ethylene vinyl acetate) encapsulant — releasing acetic acid, formaldehyde, and acetaldehyde — as well as HCN and HCl from burning polymer back sheets, and glass and silicon particulates. None of these have been assessed in the context of Preston Farms livestock.

3.2 The Applicant Has Not Responded to Preston Farms' Fire Risk Concern

Preston Farms' Relevant Representation explicitly raised fire risk, emergency response, insurance implications, and business continuity as specific concerns. The Applicant's Response to Relevant Representations (EN010158/APP/8.3) does not address this concern. This is not an adequate response to a substantive concern raised by a directly affected party whose operations are of national significance.

3.3 Combined Fire Scenario Has Never Been Modelled

The scenario of a solar panel fire spreading to the BESS compound (or vice versa) has never been modelled. Given the proximity of the BESS to the solar array, this is a credible worst-case scenario that should have been assessed. The combined toxic and particulate emissions from a simultaneous solar panel and BESS fire, under prevailing SW wind conditions directed toward the Preston Farms holding, could have serious consequences for the donor animal herd.

3.4 Insurance and Business Continuity Consequences Are Unassessed

A BESS or solar panel fire adjacent to a Home Office licensed establishment would likely trigger immediate suspension of blood collection pending veterinary and toxicological clearance; require testing of all animals haematological changes; trigger supply chain notifications; and require notification to the Home Office. None of these downstream consequences have been assessed in the ES, the BSMP, or the plume assessment.

4. Conclusion and Formal Requests

The evidence set out in this expert review demonstrates that the Applicant’s environmental and safety assessments are significantly flawed and do not provide the Examining Authority with the robust data required to make a safe, informed recommendation on this Development Consent Order (DCO) application. The exclusion of the most proximate downwind receptors, the reliance on inapplicable human safety thresholds rather than equine and ovine data, and

the mathematically invalid risk modelling leave a uniquely sensitive local business—and the nationally critical NHS supply chain it supports—unassessed and unprotected.

Given these fundamental deficiencies in the Applicant's assessments, I suggest that Preston Farms Ltd. and TCS Biosciences Ltd. respectfully request that the Examining Authority require the Applicant to:

- Commission a supplementary BESS Plume Assessment with dedicated receptor points placed at specific operational areas identified by TCS Biosciences, modelled under prevailing south-westerly wind conditions.
- Apply equine and ovine-specific and veterinary toxicological thresholds to the assessment of Hydrogen Fluoride (HF), Hydrogen Cyanide (HCN), Carbon Monoxide (CO), and combustion particulate concentrations at all animal receptor locations.
- Assess the feasibility and adequacy of emergency response measures specifically in the context of an outdoor animal holding that cannot be rapidly evacuated, sheltered, or protected by closing windows.
- Submit a fully documented, independently reviewed Layer of Protection Analysis (LOPA), correcting the physically impossible probability values and providing a mathematically consistent frequency figure for a thermal runaway event.

Until such a supplementary, veterinary-informed assessment has been provided and independently reviewed, the existing Plume Assessment cannot be relied upon as a sound or robust technical basis for granting development consent for the BESS in its currently proposed location.

EQUINE VETERINARY & REPRODUCTION

20th April 2026

To Whom It May Concern:

Re: Proposed corridor for grazing animals at Preston Farms, Botolph Claydon

Regarding the request for further information on the possible implications of moving livestock through the proposed corridor in field E23. My main concern as Named Veterinary Surgeon for Preston Farms is the potential problems this will create for the horses moving through the corridor.

There are many published papers on the effects of confining horses to small areas, for instance when moving through a transport corridor (e.g. Borda et al. The role of space availability and affiliation in shaping equine social distances and dynamics (2025); Fureix et al. Exploring aggression regulation in managed groups of horses Equus caballus (2012); Flauger et al. Aggression level and enclosure size in horses (2013).).

Due to the management of the six herds of horses at Preston Farms, each of which comprises between 60 and 70 individuals, the horses are moved lose, as a herd. This has proved and extremely successful strategy for over four decades and movements are almost entirely incident free. The effect of this system of movement is that horses move quickly, often at a canter or gallop rather than walking quietly. Consequently, they require more space than would be needed if they were ambling at a walk, to avoid bunching and collision. This is particularly important to safeguard the welfare of the more subordinate animals.

Horses are flight animals. When confined to small or bounded areas with very limited opportunities for avoidance of other individuals in the group, horses are known to experience heightened social stress and conflict, which is a significant welfare risk. Equine social tolerance is significantly influenced by available space. Reduced space leads directly to an increase in aggressive interactions and behavioural abnormalities, via forced proximity, with subordinate animals unable to escape experiencing the greatest negative effect. These include more frequent confrontations, elevated injury risk (for example biting and kicking), higher stress and elevated cortisol levels, which may in turn lead to panic and stampede.

In addition to this the passage through a corridor creates the risk of physical injury from collisions with the walls/ fencing, as well as the potential for colliding with other horses. Injuries to the head and limbs are particularly common when horses panic in space-restricted areas. Kicks not uncommonly result in fractures to limb bones or penetration of synovial structured (joints, tendon sheaths), which are commonly fatal in horses.

Equine Veterinary & Reproduction Limited
Registered office: The Old House, Main Street, Maids Moreton, Buckingham. MK18 1QU
Tel: 01280 313130 Email: info@equine-vet-repro.co.uk
Registered in England & Wales Company No: 9485550 VAT No: 208 8482 88

The horses at Preston Farms are handled only once every two weeks, when they are brought in from their grazing fields. They are therefore not generally as calm and tractable as a riding horse, handled by humans several times a day. Many of the horses are donated to Peston Farms due to the fact they are not especially docile or straightforward to manage in a more conventional setting. As a result, their behaviour is less predictable and more exaggerated in response to negative stimuli and perceived threat than most riding horses. Therefore, any increase in their stress levels is heightened compared to the 'average' horse. This is one of the main reasons it is imperative that these horses live in an environment where their exposure to stress is as minimal as possible.

SIGNED:

[redacted]

[redacted]

BRAIN PARTNERS
EQUINE VETS LTD

21/04/2026

To Whom It May Concern

Preston Farms, TCS Biosciences Ltd.

TCS Biosciences Ltd and Preston Farms are the main provider of donor animal blood for microbiological diagnostics within England and Wales. Operating under strict Home Office licencing criteria they keep approximately 3,500 sheep and 400 horses to produce blood products essential for national health security. In the past, I have acted as the Named Veterinary Surgeon for Preston Farms however currently I am a director of Brain Partners Equine Vets Ltd and sit on the Animal Welfare and Ethical Review Body (a mandatory component of the Home Office license system) as an independent but informed member of the panel. I am not employed by either TCS Biosciences Ltd nor Preston Farms.

The welfare of the 400 horses kept at Preston Farms is paramount to the production of a quality product on which lives depend. No short cuts are taken in order to ensure that the product is consistent, minimising variation in haematological parameters. Any change in the long established routine of these animals may result in physiological stress, affecting the quality of the blood products produced. Of particular concern with the current proposal is the development of a corridor through field E23 in order to move animals from one zone to another. Studies have clearly indicated that passage through a corridor or funnel may result in increased negative social interactions and challenges, increased levels of perceived threat and aggression and subsequent elevation in physical injuries, heart rate, and cortisol levels. Horses are flight animals and

[redacted]
Dikler Farm, Fosseway, Lower Slaughter, Cheltenham, Glos. GL54 2EY
Telephone: Ben: [redacted] Victoria: [redacted] Office: 01451 820445
E-mail: info@brainpartners.co.uk Registered at above address in England Number 07770179

this particular group of animals are managed in a group or herd setting with only a light human touch – as such the significance of inter horse relationships and dominance patterns is far more exaggerated than in other conventionally managed equines, magnifying the intensity of any stressor.

The proposed creation of a corridor along which the animals may move will create tensions due to increased animal interactions as horses move through a restricted area. Horses are far more sensitive to vibration, light and sound than humans, triggering the flight response and the sustained use of heavy machinery in their proximity will be highly disruptive. Studies have demonstrated that the use of artificial lights necessary in winter will result in disruption of circadian rhythms and melatonin production, reduction in night time rest patterns and elevation of both blood and salivary cortisol levels. During construction, these animals will still be expected to be moved into the buildings for blood collection, and still maintain strict quality control of the end product. In the past, haematological variation has been noted within the group after stress events of moving into new social groups or variation in diet and so it is to be anticipated that a major alteration in their environment may adversely affect the quality of the blood product with implications for the UK's diagnostic health security.

Biosecurity is paramount for Preston Farms in order to protect both the welfare of the animals and the quality of the products. The Home Office Licencing demands higher than typical farm standards for this unique establishment. The construction of the solar farm will involve many workers and movement of vehicles around the area, with equipment and goods coming in from distant sites. Previous disease outbreaks such as the Foot and Mouth epidemic of 2001, demonstrates how rapidly disease can be spread, both by movement of animals and via human and vehicles. How can Preston Farms be assured that the contractors will maintain strict biosecurity over the sustained period of construction, washing down vehicles, foot dipping etc even during the long

[redacted]
Dikler Farm, Fosseway, Lower Slaughter, Cheltenham, Glos. GL54 2EY
Telephone: Ben: [redacted] Victoria: [redacted] Office: 01451 820445
E-mail: info@brainpartners.co.uk Registered at above address in England Number 07770179

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muddy winter months? How will they ensure that movements on and off the immediate proximity of the farm are controlled and traceable? Currently all members of Preston Farms undergo extensive training on biosecurity and disease management, something which the contractors will be lacking and which presents a very real risk to the animals kept at the farm.

The creation of a transport corridor increases the number of social interactions for the horses within a confined space. Due to the increase in stress factors in their immediate environment caused by the construction and establishment of the solar farm, these interactions are highly likely to be negative, affecting the welfare of the horses. Biosecurity will inevitably be compromised.
Maintaining field E23 as it currently stands as a transit hub, rather than a narrow funnel or corridor, will allow the animals to move at their own pace and spacing, helping to reduce stress and subsequent variations in haematological parameters, ensuring the continued production of an essential diagnostic microbiological tool, vital to the UK and much of the world.

[redacted]

[redacted]

Dikler Farm, Fosseway, Lower Slaughter, Cheltenham, Glos. GL54 2EY
Telephone: Ben: [redacted] Victoria: [redacted] Office: 01451 820445
E-mail: info@brainpartners.co.uk Registered at above address in England Number 07770179