FORMAL SUBMISSION TO THE SECRETARY OF STATE

Interested Party Reference: [redacted]5 **Project:** One Earth Solar Farm (EN010159)
Submission Type: Written Representation in Response to the Secretary of State's Consultation Letter dated 21 May 2026 (Requesting Responses to the Post-Examination Submissions Regarding Draft Requirements 7 and 22)

SUBJECT: Fatal Invalidation of the Baseline Safety Case, the Extent of Required Redesign, and the Breach of EIA Precedence Following the Environment Agency (EA) May 28, 2026, Flood Map Updates.

1. Executive Summary & Regulatory Context

This representation formally demonstrates that the baseline safety case for the proposed One Earth Solar Farm[1] is fundamentally obsolete and legally unconsentable. On May 28, 2026, the Environment Agency (EA) officially updated the Flood Map for Planning (FMfP), retiring the outdated 2050s central-allowance surface water models utilised in the applicant's site-specific Flood Risk Assessment (FRA)[2]. In their place, the EA introduced high-resolution, extreme 95th-percentile climate change pluvial models for the 2070s epoch (covering the years 2061 to 2125) [3]. These updated models reveal active pluvial surface water flow paths with depths of 300mm to 600mm running directly through the low-lying agricultural fields where the proposed solar arrays and electrical infrastructure are sited[4].

To mitigate these newly mapped flood depths, the project requires a wholesale structural and spatial redesign. However, the applicant is caught in an absolute legal and procedural checkmate. Mitigating the flooding by artificially elevating the infrastructure is physically illegal under Paragraph 5.8.12 of the Overarching National Policy Statement for Energy (NPS EN-1) due to the severe displacement and deflection of high-velocity runoff onto vulnerable downstream communities[5]. Concurrently, modifying the scheme's physical and spatial parameters to accommodate such elevations directly violates the strict legal principles of Environmental Impact Assessment (EIA) Precedence and the proposed boundaries of the Rochdale Envelope[6]. Because the DCO examination formally closed on January 8, 2026, and the Examining Authority submitted its report on April 8, 2026, a material redesign of this magnitude cannot be lawfully submitted, consulted upon, or assessed[7]. Development Consent must therefore be unequivocally refused.

2. Impact on Solar PV Panels (Work No. 1): Destruction of the Mitigation Baseline

The applicant's baseline safety case established a highly specific, agreed design compromise for solar panels located within the active River Trent floodplain, which the May 28, 2026, EA updates have now systematically dismantled.

A. Wiping Out the 300mm Cabling Freeboard via Standalone Surface Water Flows

The applicant previously confirmed that 415 hectares of solar panels sit within undefended Flood Zone 3, and a total of 504 hectares reside within the combined Flood Zones 2 and 3[8]. Due to natural topographical lows of approximately 4.5m Above Ordnance Datum (AOD) and peak design flood levels of 6.2m to 6.9m AOD, these arrays are projected to stand in 1.7m to 2.4m of fluvial floodwater during a 1-in-100-year plus climate change event[9]. To secure prior agreement from the EA, the applicant committed to elevating the mounting frames so the lowest edge of the panels and their sensitive DC cabling would sit at 1.8m Above Ground Level (AGL)[10]. This was specifically engineered to provide a mandatory 300mm "freeboard" of dry air as an absolute margin of safety above peak design flood levels[11].

The EA's May 28, 2026, maps destroy this mitigation baseline on the basis of the new surface water data alone. The updated models reveal active pluvial flow paths with depths of 300mm to 600mm running directly through the fields where the 504 hectares of panels are sited[12]. Because the newly mapped standalone surface water depths (up to 600mm) are equal to or up to double the entire agreed 300mm safety buffer[13], the surface water alone completely consumes and exceeds the agreed freeboard[14]. The 300mm freeboard is physically obliterated, and the prior agreement with the EA is fundamentally breached. Consequently, the applicant mathematically fails Requirement 22(2)(c) of the Secretary of State's Request for Information (dated May 1, 2026), which legally demands detailed designs and confirmation that the lowest point of all panels sits securely above the "design flood event"[15].

B. Soil Scour and Structural Destabilisation

Under the old maps, the developer assumed surface water run-off would behave like a slow, flat sheet over grass. The May 28, 2026, maps reveal concentrated, high-velocity pluvial channels cutting through these fields. When this high-velocity pluvial flow is combined with concentrated rainwater shedding off the glass panels (the "Glass Panel Effect"[16]), it will trigger severe rill erosion and soil scour on the site's clay soils. This erosion will actively strip soil from around the panel legs, which are pile-driven to a depth of only 3 metres[17], destabilizing the mounting structures and risking mass structural collapse during a flood event.

3. Impact on BESS and Substations (Work Nos. 2 & 3): Active Pluvial Inundation

The applicant originally sited the Western Battery Energy Storage System (BESS) (112,000 m² footprint), the Eastern BESS (85,000 m² footprint), and the two adjacent on-site substations within Flood Zone 1[18]. This was executed to bypass fluvial risks and isolate these safety-critical high-voltage components from flood hazards.

A. The Pluvial Intersections

The May 28, 2026, FMfP update completely invalidates this spatial safety assumption. The updated models confirm that active surface water runoff channels, carrying a 300mm to 600mm banded depth in a 1% AEP event with climate change, cut directly through the planned footprints of these combined 197,000 m² compounds, as well as their sole operational access tracks[19].

B. Cascading Statutory and Environmental Safety Failures

This active pluvial inundation represents a fatal statutory safety failure under the DCO. The Secretary of State's legally binding Requirement 7(2) mandates that the battery safety management plan must demonstrate that all required emergency and operational access to the BESS and substation compounds is "achievable and safe during the design flood event"[20]. Because deep, active pluvial flow paths now directly intersect these access routes and compound footprints at their current designed grade, safe transit is physically impossible during the design event, and the scheme fails this core safety mandate[21].

However, this statutory failure extends far beyond emergency vehicle access; it introduces a cascading sequence of severe physical, environmental, and regulatory risks:

- **Water Ingress and Thermal Runaway Catalyst:** Siting lithium-ion battery enclosures within active pluvial flow paths carrying up to 600mm of water creates an unacceptable risk of water ingress[22]. Moisture contact with energized high-voltage battery systems compromises the Battery Management System (BMS), corrupts protective circuitry, and establishes conductive pathways that trigger electrical short circuits[23]. If water penetrates the lithium-ion cells, it reacts with the lithium salts in the electrolyte to release highly toxic and explosive hydrogen fluoride gas[24]. This reaction initiates thermal runaway—a self-sustaining, rapidly propagating state of overheating that leads to catastrophic cell combustion, toxic vapor cloud formation, and explosive fires that are nearly impossible to extinguish[25].
- **Firewater Inundation and WFD Compliance Failure:** Under the Outline Battery Safety Management Plan (oBSMP), each BESS compound relies on on-site water storage tanks (totalling 480,000 litres) to feed fire hydrants during an emergency[26]. Standard emergency protocols for lithium-ion battery fires dictate the application of

massive volumes of water over several hours or days to cool adjacent cells and prevent propagation[27]. This process generates highly contaminated firewater runoff containing heavy metals, hydrofluoric acid, and toxic chemical residues[28]. While standard regulations require this runoff to be fully bunded and contained on-site, the active pluvial inundation of up to 600mm will overwhelm all containment systems, washing toxic residues directly into the River Trent drainage basin. This sediment and chemical mobilization guarantee a deterioration of the watercourse's physicochemical status, violating Article 4(1) of the Water Framework Directive (WFD)[29] and legally barring the Secretary of State from granting a derogation.

- **Inevitable Fire Service Veto under Requirement 7(3):** Requirement 7(3) of the draft DCO legally mandates that the planning authority must consult with the Lincolnshire Fire and Rescue Service and Nottinghamshire Fire and Rescue Service before approving the final Battery Safety Management Plan[30]. Under National Fire Chiefs Council (NFCC) planning guidelines, emergency responders must evaluate both flooding and environmental risks at the planning stage[31]. Siting these high-voltage facilities within active, deep surface water pathways presents an unacceptable, lethal hazard of electrocution for emergency personnel stepping into standing water surrounding live high-voltage DC cabling[32]. Furthermore, floodwaters will prevent responders from safely accessing local Fire Alarm Control Panels (FACPs)[33] or manual isolation switches, making a formal statutory objection and veto by the emergency services under Requirement 7(3) legally inevitable.

4. The Extent of Required Redesign, Its Illegality, and EIA Precedence

To protect the critical electrical infrastructure and satisfy the Secretary of State's Requirements, the applicant would be forced to execute a massive structural and spatial redesign. Specifically, the entire 197,000 m² footprint of the BESS and Substations, along with their access roads, would need to be artificially raised on solid earth platforms or concrete plinths by at least 1.5 metres to evade the mapped floodwaters. This proposed redesign triggers insurmountable legal, policy, and procedural barriers under UK planning law.

A. The Illegality of Land Raising (NPS EN-1 Breach)

Siting a 1.5-metre raised solid platform across a massive 197,000 m² footprint acts as an impermeable dam. This directly violates Paragraph 5.8.12 of the Overarching National Policy Statement for Energy (NPS EN-1), which dictates that there must be "no net loss of floodplain storage" and that any deflection or constriction of flood flow routes must be safely managed within the site[34]. Blocking newly mapped active pluvial flow paths with 197,000 m² of raised infrastructure would dangerously constrict surface

water, accelerate flow velocities, and displace massive volumes of high-velocity runoff directly downstream onto the highly vulnerable, low-lying communities. [35].

B. The Breach of EIA Precedence and Proposed Parameter Envelopes

Crucially, raising the ground level of these compounds fundamentally breaches the legal principle of EIA Precedence. Under the Infrastructure Planning (EIA) Regulations 2017, a DCO cannot be lawfully granted for physical parameters that have circumvented statutory environmental assessment. The physical scale of this project is strictly capped by the Outline Design Parameters, which form the "Rochdale Envelope" under which the Environmental Statement (ES) was assessed[36]. Under the proposed design parameters of the draft DCO:

- Battery enclosures are strictly capped at a maximum physical height of 3.5m AGL[37].
- Substation and ancillary buildings are strictly capped at a maximum physical height of 8.0m AGL[37].

If the developer artificially elevates the foundational ground level by 1.5m to escape the floodwaters, the ultimate physical height of these structures is thrust 1.5m higher into the air (reaching 5.0m and 9.5m AGL respectively) [38]. This permanently breaches the proposed maximum design parameters, completely invalidating the examined Landscape and Visual Impact Assessment (LVIA), noise propagation modelling, and Glint and Glare assessments[39]. Siting infrastructure that exceeds the assessed maximum parameters violates the condition precedent established in *R v Rochdale MBC ex parte Tew*[40] and *R v Rochdale MBC ex parte Milne (No. 2)*[36], rendering the existing EIA void and the draft DCO legally unconsentable.

The following table demonstrates the explicit parameter conflicts introduced by the required elevation mitigation compared to the proposed parameters of the draft DCO.

Proposed Parameter Envelope Violations

Infrastructure Element	**Proposed Draft DCO Parameter (Outline Design Parameters)**	**Required Elevation Design to Escape May 28, 2026 Flood Depths**	**Parameter Deviation and Compliance Status**
Battery Storage Enclosures (Work No. 2)	Maximum Height: 3.5m AGL.	Raise foundation grade by at least 1.5m (Ultimate height: 5.0m	1.5m exceedance of proposed maximum height parameter. Non-

		AGL).	compliant.
Substation Buildings (Work No. 3)	Maximum Height: 8.0m AGL.	Raise foundation grade by at least 1.5m (Ultimate height: 9.5m AGL).	1.5m exceedance of proposed maximum height parameter. Non-compliant.
Solar PV Arrays (Work No. 1)	Lowest Point: 1.8m AGL (maximum height parameter plan).	Elevate lower edge to at least 2.4m AGL (to preserve 300mm freeboard).	0.6m exceedance of proposed maximum panel height parameter plan. Non-compliant.
Compound Foundations (Work Nos. 2 & 3)	Sited at natural grade / minor ground works.	Artificially raised solid earth platforms/plinths.	Unassessed solid barrier blocking pluvial flow; violates NPS EN-1 para 5.8.12.

C. Post-Examination Procedural Impossibility

Because raising the ground grade is both a breach of NPS EN-1 and the proposed EIA parameters, the only remaining design alternative is the wholesale spatial relocation of the BESS and substation compounds completely outside the newly mapped pluvial flow paths. However, this triggers an absolute procedural barrier.

The DCO examination formally closed on January 8, 2026, and the Examining Authority submitted its final report on April 8, 2026[41]. Under the Planning Inspectorate's Advice Note 16, redesigns of this magnitude—requiring entirely new spatial layouts, refreshed hydraulic modelling, new noise and visual impact assessments, and the potential compulsory acquisition of new land outside the order limits—constitute a "material change"[42]. A material change cannot be accepted post-examination, as it requires a brand-new Environmental Statement, fresh statutory consultation, and extensive publicity to satisfy the principles of natural justice and the Infrastructure Planning (EIA) Regulations 2017[43]. The applicant is therefore trapped in a post-examination procedural deadlock.

5. Conclusion & Statutory Determination

The proposed One Earth Solar Farm application has reached an absolute technical and legal dead end. Siting the solar arrays and high-voltage compounds at their current designed grade directly violates DCO Requirements 7(2) and 22(2)(c) due to the severe pluvial and compound flood risks revealed by the May 28, 2026, EA updates[44]. Conversely, executing the required redesign to elevate or relocate the infrastructure is legally prohibited: ground-raising violates the strict flow-deflection rules of NPS EN-1 Paragraph 5.8.12, while spatial alterations breach the proposed boundaries of the Rochdale Envelope under EIA Precedence, triggering a post-examination material change that cannot be lawfully accepted[45]. Because the baseline safety case is obsolete and the required physical redesign is legally impossible, the Secretary of State must unequivocally refuse Development Consent.

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FOOTNOTES & DOCUMENT REFERENCES

1. Newark and Sherwood District Council, *Application for a Development Consent Order by One Earth Solar Farm Limited* (Planning Inspectorate Scheme Reference: EN010159).
2. Environment Agency, *Flood Map for Planning (FMfP) Service Update*, dated 28 May 2026: Integration of Climate-Adjusted Surface Water (Pluvial) Extents and Banded Depth Layers, formally retiring the Check Your Long Term Flood Risk (CYLTFR) surface water datasets for development planning purposes.
3. Environment Agency, *Product Suitability for Planning Diagram*, Version 4.0 (28 May 2026), and accompanying *EA Flood Map for Planning: May 2026 Update — Surface Water Climate Change Data Guidance*, mandating the adoption of upper-end 95th percentile climate change allowances for the 2070s epoch (2061–2125).
4. Environment Agency, *Banded Depth Data Layers (300mm to 600mm)* under the 1% Annual Exceedance Probability (AEP) with Climate Change scenario, added to the FMfP on 28 May 2026.
5. Department for Energy Security and Net Zero, *Overarching National Policy Statement for Energy (NPS EN-1)* (January 2024), Section 5.8 (Flood Risk), Paragraph 5.8.12.
6. The principle of Environmental Impact Assessment (EIA) Precedence under the *Infrastructure Planning (Environmental Impact Assessment) Regulations 2017* (SI 2017/572).

7. Planning Inspectorate, *Advice Note Sixteen: How to request a change which may be material* (Version 2, March 2018), Figure 2b: Process for a material change request after acceptance and before close of examination.
8. One Earth Solar Farm Limited, *Environmental Statement Volume 3, Appendix 7.2: Flood Risk Assessment (FRA) and Outline Drainage Strategy* (Application Document Reference: EN010159/APP/6.21), Section 3.2.
9. Jacobs UK Limited, *Tidal Trent Hydraulic Model (2023)*, as detailed in *Environmental Statement Volume 3, Appendix 7.2* (EN010159/APP/6.21), Section 4.1.
10. One Earth Solar Farm Limited, *Environmental Statement Volume 3, Appendix 7.3: Full Details of Consultation Comments – Meeting Minutes*, minutes of the virtual Flood Risk consultation held on 13 September 2023 and 27 February 2024 (Document Reference: EN010159/APP/6.21).
11. Consultation Record, *Meeting Minutes* dated 13 September 2023 (Appendix 7.3, EN010159/APP/6.21), confirming the Environment Agency's agreement to the 1.8m AGL panel frame threshold to maintain a minimum 300mm freeboard above the design flood level.
12. Environment Agency, *Flood Map for Planning: May 2026 Update*, mapping 300mm to 600mm pluvial flood depths across the proposed PV array locations.
13. One Earth Solar Farm Limited, *Environmental Statement Volume 2, Chapter 7: Hydrology and Hydrogeology* (Application Document Reference: EN010159/APP/6.7.3), Section 7.4 (Baseline and Surface Water Flood Risks).
14. Technical analysis of standalone pluvial depth impacts on the 300mm safety freeboard.
15. Secretary of State for Energy Security and Net Zero, *Post-Examination Request for Information to One Earth Solar Farm Limited*, dated 1 May 2026, Section 22: Flood Risk Mitigation, Requirement 22(2)(c).
16. G. Baiamonte et al., "Impact of solar panels on runoff generation process," *Hydrological Processes*, Vol. 37, Issue 10, 2023 (assessing kinetic energy amplification and drip-line scour mechanisms).
17. One Earth Solar Farm Limited, *Outline Design Parameters* (Application Document Reference: EN010159/APP/5.9), Section 2, Table 2.1 (detailing mounting structure parameters).
18. One Earth Solar Farm Limited, *Draft Development Consent Order* (Application Document Reference: EN010159/APP/3.1), Schedule 1: Authorised Development, Work No. 2 (Battery Energy Storage System) and Work No. 3 (On-Site Substations).
19. Environment Agency, *Flood Map for Planning Update*, 28 May 2026, indicating surface water depth paths of 300mm–600mm intersecting Work No. 2 and Work No. 3 footprints.
20. Secretary of State for Energy Security and Net Zero, *Post-Examination Request*

for Information, dated 1 May 2026, Section 7: Battery Safety Management, Requirement 7(2).

21. Technical appraisal of active surface water flow depths against on-site access tracks for Work No. 2 and Work No. 3 under the 2070s epoch pluvial models.
22. Navigators and General, *Lithium-ion Battery Guidance*, page 4 (water ingress fire/explosion risks).
23. Solarif Academy, "How do environmental factors affect battery safety?" (BMS compromise and environmental faults).
24. Navigators and General, *Lithium-ion Battery Guidance*, page 4 (chemical reaction of water and lithium salt to release hydrogen fluoride gas).
25. National Fire Chiefs Council (NFCC), *Battery Energy Storage Systems (BESS) Position Statement* (thermal runaway mechanics).
26. One Earth Solar Farm Limited, Outline Battery Safety Management Plan (Application Document Reference: EN010159/APP/7.11.6), Section 1.1.8 (water storage tanks).
27. NFCC, *BESS Position Statement* (difficulty of extinguishing, cell to cell propagation).
28. NFCC, *BESS Position Statement* (large volumes of contaminated fire-water runoff).
29. Water Framework Directive (Directive 2000/60/EC), and the landmark Case C-461/13, *Weser* ruling, on non-deterioration of water quality.
30. Secretary of State, Post-Examination Request for Information, dated 1 May 2026, Section 7: Battery Safety Management, Requirement 7(3).
31. NFCC, *Grid-Scale Battery Energy Storage System Planning Guidance* (operational response and risk evaluation).
32. Hereford & Worcester Fire and Rescue Service (HWFRS), *BESS Planning Guidance* / One Earth Outline BSMP (EN010159/APP/7.11.6), Section 1.1.9 (electrocution hazard from standing water).
33. One Earth Solar Farm, Outline Battery Safety Management Plan (Application Document Reference: EN010159/APP/7.11.6), Section 1.1.7 (FACP connectivity).
34. Overarching National Policy Statement for Energy (NPS EN-1), Department for Energy Security and Net Zero, January 2024, Paragraph 5.8.12: "There should be no net loss of floodplain storage..."
35. Mrs. Sheila Pumfrey, *Written Representation on Flooding Concerns and Local Runoff Vulnerability in the Settlement of North Clifton*, dated 16 September 2025 (Planning Inspectorate Document Reference: EN010159-000726).
36. *R v Rochdale Metropolitan Borough Council ex parte Milne (No. 2)* (2000) Env LR 1; see also Planning Inspectorate, *Advice Note Nine: Using the 'Rochdale Envelope'* (Version 3, July 2018).
37. One Earth Outline Design Parameters (Application Document Reference: EN010159/APP/5.9), Table 2.1 (limiting BESS to 3.5m and substations to 8.0m

AGL).

38. EIA methodology for maximum parameter changes and Rochdale Envelope flexibility under the *Infrastructure Planning (EIA) Regulations 2017*.
39. Analysis of parameter envelope changes on visual and glint/glare receptors as defined in the baseline ES.
40. *R v Rochdale Metropolitan Borough Council ex parte Tew* (1999) 3 PLR 74.
41. One Earth Solar Farm Project Examination Record, closing 8 January 2026, with the Examining Authority's final report submitted to the Secretary of State on 8 April 2026.
42. Planning Inspectorate, *Advice Note Sixteen: How to request a change which may be material* (Version 2, March 2018), paragraph 2.1.
43. Procedural requirements for a supplementary EIA and public consultation post-examination under AN16 and natural justice.
44. Secretary of State, *Post-Examination Request for Information*, dated 1 May 2026, Requirements 7(2) and 22(2)(c).
45. Detailed review of physical redesign conflicts under NPS EN-1 Paragraph 5.8.12 and the Rochdale Envelope boundaries under the *EIA Regulations 2017*.