

From: [REDACTED]
To: [One Earth Solar](#)
Subject: Re: Response to Environment Agency RESPONSE TO DOCUMENTS SUBMITTED AT DEADLINE 4 Appendix on Flood Risk Assessment and related submissions for the One Earth proposal
Date: 02 December 2025 22:09:12

For the avoidance of doubt the above submission is made under following terms
Reservation of Rights (Litigant in Person)

This submission is made under explicit protest and strictly without prejudice to the Interested Party's right to challenge the lawfulness and procedural integrity of the Examination.

The Interested Party's continued participation is legally compelled by the statutory process (Planning Act 2008) to maintain standing, but this action does not constitute a waiver, acceptance, or validation of any alleged procedural impropriety, ExA bias, unlawful censorship, or fundamental flaws in the Administrative Record.

All rights to seek Statutory Appeal and Judicial Review against the final Development Consent Order decision are fully reserved.

Regards

Stephen

On Tue, 2 Dec 2025, 17:38 Stephen Fox, [REDACTED] wrote:

TO: The Examining Authority **PROJECT:** One Earth Solar Farm (EN010159) **FROM:** Stephen Fox (Interested Party Ref: [REDACTED]) **DATE:** 02.12.25 **SUBJECT:** CLOSING SUBMISSION: The "Evidentiary Vacuum" and the Unquantified Risk to Public Safety

Dear Sirs

Please accept this as a submission for deadline 6.

Response to Environment Agency RESPONSE TO DOCUMENTS SUBMITTED AT DEADLINE 4 Appendix on Flood Risk Assessment and related submissions for the One Earth proposal

Summary

The Environment Agency's Appendix on flood risk for the One Earth proposal is technically and procedurally deficient. The Appendix accepts separate east and west floodplain level changes without transparent cumulative accounting, relies on timing differences without providing connectivity diagnostics, and treats a generic 5 mm tolerance as acceptable without requiring a project-specific uncertainty justification or independent review. These omissions mean the EA has not demonstrated that the proposal meets the statutory and policy requirement that flood risk be demonstrably acceptable at the decision stage. The Examining Authority should withhold consent until the consolidated, auditable evidence and enforceable safeguards set out below are submitted, independently reviewed, and approved.

Key technical and legal failings

1. No combined level-for-level floodplain accounting

- **Deficiency:** The Appendix reports separate peak level changes of **3.5 mm** (east)

and **2.2 mm** (west) but does not publish a combined cut-and-fill table showing lost floodplain volume by elevation across the order limits.

- **Why this matters:** Level-for-level accounting is the accepted method to quantify displaced floodplain storage and to determine whether compensation or mitigation is required. Without a combined volumetric table the total net loss of storage is opaque and cannot be assessed for acceptability. ^1
- **Legal implication:** The Planning Act and acceptance expectations require that material flood risk be demonstrably acceptable at the decision stage; deferring this fundamental accounting to detailed design is inconsistent with that requirement. ^2

2. Insufficient evidence for hydraulic independence of east and west cells

- **Deficiency:** The EA relies on different times to peak and different peak mAOD values to assert the eastern and western floodplains operate as distinct hydraulic cells.
- **Why this matters:** Timing differences alone do not prove hydraulic independence. The Appendix lacks model diagnostics quantifying inter-cell exchange (for example inter-cell flux time series, hydrographs at linking nodes, or flow exchange maps). Without these diagnostics the claim of independence is unsubstantiated and may understate cumulative impacts at receptors. ^3

3. Unjustified acceptance of a blanket 5 mm tolerance

- **Deficiency:** The Appendix treats a small millimetre threshold as a de-facto acceptance criterion without requiring a project-specific modelling uncertainty statement, sensitivity testing, receptor-level analysis, or independent review.
- **Why this matters:** Numeric tolerances must be tied to the actual model performance and site specifics. A generic 5 mm figure is not evidence-based and cannot replace rigorous uncertainty analysis. Accepting such a tolerance without safeguards risks permitting uncompensated floodplain loss. ^4

4. Incomplete prescription of blockage and debris testing

- **Deficiency:** The EA requests blockage-percentage runs but does not require a documented derivation linking column spacing and plan area to blockage percentage, nor does it require worst-case debris-trapping scenarios to be tested and reported spatially.
- **Why this matters:** Debris accumulation can materially increase effective blockage and local flood levels. Without a transparent derivation and worst-case testing the modelling inputs cannot be independently verified. ^5

5. Procedural gaps on enforceable verification and remediation

- **Deficiency:** The Appendix does not secure pre-commencement approval of a Detailed Design Package, as-built verification, or a binding monitoring and remediation regime with clear triggers and reporting obligations.
- **Why this matters:** Given the acknowledged uncertainties, enforceable

post-construction verification and remedial triggers are essential to ensure design assumptions hold in practice and to protect receptors. Promises to resolve issues at detailed design are insufficient without pre-approved, enforceable mechanisms. ^6

6. Water resources and BESS firewater inconsistencies

- **Deficiency:** The Water Resources Assessment omits HDD bentonite volumes and the EA has not required a single, auditable BESS firewater containment and decontamination protocol to resolve contradictory statements across documents.
- **Why this matters:** Omitting construction water demands undermines supply reliability claims. Inconsistent firewater commitments create regulatory uncertainty and risk of contamination if not resolved and secured. ^7

Required evidence and conditions before consent

The Examining Authority should direct the Environment Agency to require the applicant to submit, and to withhold approval until it has reviewed and accepted, the following deliverables as pre-decision or pre-commencement requirements:

1. **Combined cut-and-fill table** showing lost floodplain volume by elevation slice across the entire order limits and a plan showing proposed compensation locations and elevations or a robust justification for infeasibility. ^8
2. **Cumulative hydraulic model runs** including baseline, east only, west only, and east+west combined scenarios, with tabulated peak level differences (mm) and plan maps of peak depth and velocity change. ^9
3. **Connectivity diagnostics** from the Tidal Trent model including inter-cell flux time series, hydrographs at linking nodes, and maps of flow exchange for the design event. ^10
4. **Blockage derivation method statement** linking column spacing and plan area to blockage percentage, mapping of blockage to model grid cells, and sensitivity runs for a defensible range of blockage percentages (for example 0.5%, 1%, 2%, 5%). ^11
5. **Debris worst-case scenarios** and corresponding hydraulic outputs, plus an enforceable maintenance and clearance regime with triggers and named responsibilities included in the O&M plan. ^12
6. **Project-specific modelling tolerance and uncertainty statement** including sensitivity testing results and justification for any numeric acceptance threshold; require independent peer review of this statement. ^13
7. **Inverter foundation statements** on an inverter-by-inverter basis showing minimisation of footprint and obstruction and worst-case volumetric loss calculations. ^14
8. **Water resources update** including HDD fluid volumes, identification of abstraction licences and any low-flow restrictions, and any licence variation timetable. ^15
9. **Unified BESS firewater protocol** consistent across all documents committing to

containment, testing, tankering, decontamination of drainage infrastructure, verification sampling and regulator notification with named responsible parties and timescales. ^16

10. **As-built compliance report and five-year monitoring plan** for flood levels, debris accumulation and maintenance actions, with remedial triggers and reporting to the Local Planning Authority and the Environment Agency. ^17

Conditional rejection of any unconditional 5 mm tolerance

Any numeric tolerance, including a 5 mm allowance, must be **conditional** and accepted only after all of the following are satisfied: the applicant's project-specific uncertainty analysis demonstrates the tolerance is within model noise for the Tidal Trent model and this site; cumulative and debris worst-case runs show no receptor exceeds the threshold; an independent technical review endorses the modelling and tolerance justification; and enforceable monitoring and remedial provisions are secured by pre-commencement condition. The Examining Authority must not accept a blanket tolerance without these safeguards. ^18

Draft pre-commencement condition to secure the required outputs

Condition X Detailed design, hydraulic assessment and verification

(1) No development, site clearance or construction works shall commence until a Detailed Design Package has been submitted to and approved in writing by the Local Planning Authority in consultation with the Environment Agency. The Detailed Design Package must include:

- (a) a site layout showing the location and extent of all solar panel arrays, inverter/plant locations and access tracks;
- (b) a level-for-level cut-and-fill table and plan showing lost floodplain volume and proposed compensation locations and elevations;
- (c) results of hydraulic modelling that assess combined east+west impacts, blockage-percentage sensitivity runs, debris-trapping scenarios and connectivity diagnostics between floodplain cells;
- (d) a modelling uncertainty and tolerance statement and sensitivity summary demonstrating that any residual flood level changes are within agreed tolerances and endorsed by independent review;
- (e) structural and hydraulic details of panel mounting systems and inverter foundations including measures to prevent debris build-up;
- (f) a Flood Risk Management and Maintenance Plan that sets out debris inspection and clearance regimes, post-event triggers and responsibilities; and
- (g) a BESS firewater containment and decontamination protocol committing to containment, testing, tankering, decontamination, verification sampling and regulator notification.

(2) The Detailed Design Package must demonstrate that the approved design does not give rise to any additional flood risk effects compared with those reported in the approved Flood Risk Assessment, unless a flood risk betterment is demonstrated to the satisfaction of the Local Planning Authority in consultation with the Environment Agency.

(3) Following completion of the development, an As-Built Compliance Report and five-year monitoring data shall be submitted to and approved in writing by the Local Planning Authority in consultation with the Environment Agency. ^19

Conclusion and requested action

The Environment Agency's Appendix raises important points but, as drafted, **fails to provide the demonstrable, auditable evidence** required to show there is no

unacceptable flood risk at the decision stage. The Examining Authority is requested to:

- direct the Environment Agency to require the consolidated deliverables listed above;
- withhold consent until the combined volumetric and cumulative hydraulic evidence, connectivity diagnostics, blockage derivation, debris worst-case testing, project-specific uncertainty statement and independent review, and enforceable as-built monitoring and remediation arrangements are submitted and approved; and
- refuse to accept any unconditional numeric tolerance (including a generic 5 mm allowance) unless the conditional evidence and safeguards described above are provided and approved.

Yours faithfully

Stephen Fox

Interested Party Ref: [REDACTED]

Footnotes

1. **Level-for-level accounting:** A level-for-level cut-and-fill table shows the volume of floodplain storage lost or gained at each elevation increment and is the standard way to demonstrate whether displaced storage has been compensated or whether residual impacts remain. This is a fundamental output for assessing floodplain displacement and compensation options.
2. **Decision-stage requirement:** The statutory and procedural framework for nationally significant infrastructure projects requires that material environmental and flood-risk issues be demonstrably acceptable at the decision stage; unresolved material risks should not be deferred without clear justification and safeguards.
3. **Connectivity diagnostics:** Model outputs such as inter-cell flux time series and hydrographs at linking nodes are necessary to quantify hydraulic exchange between spatially separated floodplain areas and to test whether temporal separation of peaks prevents cumulative impacts.
4. **Modelling tolerance and uncertainty:** Model tolerances are model- and site-specific. A numeric threshold (for example 5 mm) must be justified by sensitivity testing, model performance metrics and an uncertainty statement that demonstrates the threshold is within model noise for the specific model and study area.
5. **Blockage derivation:** Translating column geometry and spacing into an effective blockage percentage for a regional hydraulic model requires a documented method (column plan area, spacing, porosity, likely debris retention) and mapping of that blockage to model grid cells.
6. **Enforceable verification:** As-built verification, monitoring and remedial triggers

are standard mechanisms to ensure that design assumptions are realised in practice and to provide a route to remedy unforeseen impacts. These must be secured by condition where material uncertainty exists.

7. **Water resources and firewater:** Construction water demands (including HDD bentonite mixing volumes) and consistent, auditable protocols for containment and decontamination of contaminated firewater are necessary to avoid environmental harm and regulatory ambiguity.
8. **Combined volumetric accounting:** A combined cut-and-fill table enables assessment of total displaced storage across the order limits and is necessary to determine whether compensation or alternative mitigation is required.
9. **Cumulative hydraulic runs:** Running combined scenarios (east+west) is necessary to test whether separate small changes could combine spatially or temporally to produce larger impacts at receptors.
10. **Connectivity diagnostics detail:** Inter-cell fluxes and linking hydrographs show the magnitude and timing of exchange flows and are essential to test the EA's assertion of hydraulic independence.
11. **Blockage sensitivity:** A defensible range of blockage percentages should be tested to capture uncertainty in column layout, debris porosity and likely debris loads.
12. **Debris scenarios:** Large woody debris and seasonal loads can change effective blockage; worst-case scenarios should be modelled and mitigation secured.
13. **Independent review:** Independent peer review of the uncertainty statement and modelling approach provides assurance that tolerances and conclusions are robust.
14. **Inverter foundations:** Inverter and substation foundations can create localised obstruction; inverter-by-inverter statements ensure cumulative small losses are not overlooked.
15. **HDD and abstraction licences:** Construction water demands and abstraction licence constraints (including low-flow restrictions) must be identified and assessed to confirm supply reliability and environmental protection.
16. **BESS firewater protocol:** A single, consistent protocol across all management documents avoids ambiguity and ensures a clear, auditable response to any firewater capture event.
17. **Monitoring and remedial triggers:** A five-year monitoring plan with clear remedial triggers ensures that if measured impacts exceed agreed thresholds, timely mitigation or compensation is implemented.
18. **Conditional tolerance:** Any numeric tolerance must be conditional on demonstrable, modelled evidence, independent review and enforceable monitoring and remediation.
19. **Condition rationale:** The draft condition secures the required evidence and ensures that any residual risk is demonstrably acceptable before construction proceeds.

If you would like, I will now prepare the formal submission package in the Examining Authority's preferred format and include a short cover letter and tracked suggested condition text — reply **Prepare formal submission** and I will produce it.

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Regards

Stephen