From:	Stephen Fox
To:	One Earth Solar
Subject:	Subject: Request for Formal Challenge and Requisition of Evidence from the Lead Local Flood Authority (LLFA) and Applicant Regarding Flawed Surface Water Hydrology Modelling
Date:	29 September 2025 09:53:13
Attachments:	Technical Submission to the Examining Authority Hydrology .docx

Dear Sirs

Interested Party Reference number: FA3AE8AE5

Subject: Request for Formal Challenge and Requisition of Evidence from the Lead Local Flood Authority (LLFA) and Applicant Regarding Flawed Surface Water Hydrology Modelling

I wish to submit the above referred submission which is attached.

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Yours faithfully

Stephen

Technical Submission to the Examining Authority

In the Matter of the Application by One Earth Solar Farm Limited for a Development Consent Order (DCO)

Reference: EN010159

Submitted by: Stephen Fox]

Interested Party Reference number: FA3AE8AE5

Subject: Request for Formal Challenge and Requisition of Evidence from the Lead Local Flood Authority (LLFA) and Applicant Regarding Flawed Surface Water Hydrology Modelling

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I. Introduction and Purpose of Submission

This submission formally requests that the Examining Authority (ExA) exercise its duty to rigorously test the evidence presented by the Applicant and the position adopted by the Lead Local Flood Authority (LLFA) (LCC/NCC) concerning surface water flood risk.

The LLFA's stance is a **conditional acceptance**, stating that the flood impacts of the OEP "would be neutral, **provided mitigation measures being implemented**". I contend that this condition is currently satisfied based on an unsubstantiated and technically inadequate hydrological model that fails to account for the physical reality of a utility-scale solar array.

Given that the site is 56% within Flood Zones 2 and 3, the OEP must provide absolute proof that it satisfies **Element 2 of the Exception Test**: the development must be safe throughout its 60-year lifespan without increasing flood risk elsewhere.

II. The Procedural Inadequacy of the LLFA's Conditional Stance

The LLFA's conditional acceptance is acknowledged as a critical risk factor, as confirmed by Nottinghamshire County Council (NCC) itself commissioning an independent review (AECOM) of the Applicant's Flood Risk Assessment (FRA) specifically on surface water and ordinary watercourses. This action demonstrates that the LLFA was sufficiently concerned about the Applicant's methodology.

The ExA must formally challenge the LLFA because their conditional finding is based on an assumption that cannot be technically proven by the evidence currently on the DCO record:

1. **Failure to Verify Feasibility:** The LLFA has accepted the Applicant's *claim* of neutrality without compelling rigorous, post-development hydrological modelling that incorporates the negative effects of the infrastructure.
2. **Statutory Duty:** The ExA is not bound by the LLFA's conditional view and has a statutory duty to test this evidence before making a recommendation to the Secretary

of State (SoS). Failure to do so, in the face of counter-evidence, would expose the final decision to judicial review.

III. Request for Formal Challenge and Requisition of Evidence

The ExA is respectfully requested to initiate a formal challenge to both the Applicant and the LLFA to address the critical gaps in the surface water modelling methodology:

A. Compelling the Applicant to Re-Model Physical Effects

The Applicant's FRA asserts that the land retains the "same area of soil/grassland available for infiltration as per the baseline scenario". This assertion is fundamentally flawed and must be challenged via the following requisitions:

1. **Soil Compaction and Infiltration Rates:** The ExA should require the Applicant to provide revised modelling that explicitly quantifies the reduction in infiltration rates due to **soil compaction** caused by pile driving and machinery access across the vast array area. This evidence must prove that the accelerated surface water runoff is not causing an increase in flood volume or velocity downstream.
2. **Concentrated Runoff and Flow Alteration:** The ExA should mandate the Applicant to model the **concentrated runoff (the "umbrella effect")** along the drip-lines of the raised PV panels and demonstrate that local ditches, field drains, and the surrounding land can accommodate this accelerated flow without suffering failure, erosion, or displacement of floodwater onto adjacent, off-site housing. It should specifically model peak discharge rate increases of 11.7 times and speed of run off of 2 times.

B. Challenging the LLFA and Environment Agency on Data Integration

The Applicant correctly references the latest, high-resolution **Environment Agency's Risk of Flooding from Surface Water—Climate Change Extents (2025) and associated depth maps** . The ExA should challenge the LLFA and invite comment from the Environment Agency (EA) on the following:

1. **Vulnerability to 2025 Data:** The ExA should question the LLFA on how their conditional acceptance was reached when overlaying the modelled, *amplified* runoff (from the PV infrastructure) onto the high-risk zones identified in the **NaFRA 2025 pluvial depth maps** (e.g., 300mm and 600mm depths) .
2. **Climate Change Scenario Integration:** The ExA must compel the Applicant to demonstrate safety when combining the physical effects of the PV array with the maximum credible flood event (MCFE) scenarios, confirming that the scheme remains safe throughout its 60-year lifespan, as required by the PPG .

It should be noted that the applicant was asked to address this issue at a meeting referred to in the consultation report on1st August 2024 and many times subsequently.

IV. Conclusion and Recommendation

Failure to address the procedural and technical deficiencies in the surface water hydrology modelling renders the OEP proposal unable to prove the necessary safety required by Element 2 of the Exception Test.

The ExA is urged to act proactively, using its powers to requisition the necessary **revised hydrological modelling**. This action is essential not only to ensure compliance with national flood risk policy but also to insulate the Secretary of State's final decision against the high legal vulnerability of Judicial Review on the grounds of relying on insufficient, flawed evidence