

Dear Mr Maund

Please see below for my final closing position and the key points I wish to make in opposition to the application for One Earth Solar Farm.

Site Selection

The process undertaken by the Applicant with regards to site selection is not robust and would appear they have looked for willing landowners adjacent to the connection point and suitable topography as the main considerations and then tried to mitigate the use of BMV and flood zones 2 and 3, rather than to avoid both of these aspects which the NPS states should be avoided. At Issue Specific Hearing 1, Mrs Price for the Applicant discussed the process undertaken for site selection and stated a suitable site was identified within Flood Zone 1 near to Ossington, but landowners were not willing to have solar on their land, although has evidence been produced to prove landowners were approached and declined? Interestingly when looking at the Great North Road Solar Park another NSIP in the Newark and Sherwood area, there is land around Ossington included within this scheme. Despite the Applicant having compulsory purchase powers as an NSIP, the Applicant did not pursue this preferable land, situated outside of Flood Zones 2 and 3, yet still within their 10km search area of the connection point. Instead, the Applicant appeared to stop their search once they found willing land owners, despite over 50% of the proposed order limits being situated within flood zones 2 and 3 and there being a need to cross the River Trent to get power back to the connection point.

The fact the Applicant was initially unable to provide evidence of other sites that had been reviewed outside of flood zones, suggests a full site selection survey had not been undertaken. Smaller pockets of land could have been identified as being suitable which has been done in many other NSIP schemes such as GNR Solar Park and Cottam, however again the applicant opted not to take this option as it was less convenient, instead going for massive blocks of panels impacting the visual amenity of the local residents and those passing through the area for several miles.

Whilst EN3 discusses the use of BMV land and whilst it is not prohibited to use BMV land EN3 does state developers should seek to mitigate the impact, for instance, by maintaining some agricultural use (agrivoltaics, such as sheep grazing) within the solar farm and ensuring the land can be restored to its previous agricultural use after decommissioning. The maintaining of agriculture has not been considered an option as the local farmers do not have suitable housing for sheep.

Protected Drinking Water (PDW) Area

The site selected by the Applicant has a large proportion of it situated in a protected drinking water area.

5.16.14 of NPS EN-1 states “The Secretary of State must refuse development consent where a project is likely to cause deterioration of a water body or its failure to achieve good status or good potential, unless the requirements set out in Regulation 19 are met.”

Whilst the Applicant has provided document [REP4-018] 6.21.2 Appendix 7.4 Stage 1 Water Framework Directive Screening Assessment (Clean) (Rev 3) and states there will be no deterioration of a water body or failure to achieve good status or good potential, it is materially not possible to mitigate all the risks to ensure absolutely no deterioration of the water body in order to meet this statement. The fundamental purpose of risk mitigation is to reduce the likelihood of a risk occurring and/or minimising its impact or severity should it occur, rather than eliminating it entirely. Therefore, not amount of mitigation can eliminate the potential for contamination of the PDW area to become contaminated.

The Planning Inspectorate’s own NPS guidance explicitly requires “sufficient certainty” that no deterioration will occur and not a “risk-managed” approach or deferred mitigation. The only way the Applicant can fully mitigate the risk to the PDW Area is to remove all the infrastructure from this area meaning there would be no risk from fire/firewater contamination or pollution from the PV panels and PCS units. I would suggest the Applicant has not looked to do this as it would make the scheme unviable and is therefore using mitigation measures, they deem to be sufficient.

Because those legal tests aren’t met, the Secretary of State is required by law to refuse consent under paragraph 5.16.14 of NPS EN-1. The risk to the drinking-water environment is too high and cannot be justified when there are alternative sites available that could provide the same renewable energy, but without the risk to a PDW site.

Evidence of BESS Fire causing land contamination with cathode metals

I would like to bring the Examining Authority and the Secretary of States’ attention to an article published in “nature.com” on the 26th November 2025 about the environmental consequence following a BESS fire at Moss Landing, California, which is immediately adjacent to Elkhorn Slough, a Ramsar site recognised as a wetland of international importance. The reference for this peer reviewed paper is:

Aiello, I.W., Endris, C., Cunningham, S. *et al.* Coastal wetland deposition of cathode metals from the world's largest lithium-ion battery fire. *Sci Rep* **15**, 42113 (2025).
<https://doi.org/10.1038/s41598-025-25972-8>

This looks to be the first real-world evidence that a BESS fire caused contamination of the soil by battery metals. The reason I feel this paper is important is for the following reasons:

1. A BESS fire causes off site contamination and not just on-site pollution.

Metals from burning lithium-ion batteries (nickel, manganese and cobalt) were transported off-site via the smoke plume. These metals were deposited beyond the battery compound, in surrounding wetlands. The contamination pathway was airborne deposition, not surface runoff or direct contact.

This matters in relation to the One Earth (OE) scheme because the Applicant is focusing on the bunding, fire water containment and on-site drainage. The Moss Landing evidence shows that even perfect on-site containment does not prevent airborne metal fallout. This is concerning given the placement of the Eastern BESS is within a PDW area and located next to the Anglian Water water treatment plant and reservoir and a fire could deposit metals directly into these water sources, ditches, the floodplain and infiltration zones within the PDW area. The fire water containment does not address plume borne contamination of a PDW area.

2. The most critical contamination occurs in a thin, surface layer that standard monitoring misses

The paper shows the metal enrichment was confined to the top 2–5 mm of soil. Therefore, standard soil samples (cores/mixed samples) would likely dilute or entirely miss the contamination signal. This is important with regards to the OE scheme as the drinking water risk is the greatest from surface deposition followed by rainfall infiltration into permeable soils. If the Applicant were to rely on routine soil sampling and periodic groundwater monitoring then the initial contamination may never be detected yet still migrate downward into the aquifer.

3. Contamination is rapidly mobilised, not safely “washed away”

The paper shows the metal concentrations declined over weeks due to rainfall and tidal flushing, this did not mean the metals disappeared but were redistributed and mobilised into water and sediments.

This is important in relation to the OE scheme as the scheme lies on permeable soils, includes drainage ditches, flood zones, and groundwater connectivity.

If there were rainfall after a fire this would accelerate the downward migration of contamination into the groundwater and potentially reach abstraction points or connected water bodies. This may result in a rapid decline in surface water measurement but this may indicate greater groundwater risk and not reduced risk due to declining measurements.

4. Battery cathode metals are highly relevant drinking water contaminants

The deposited metals were nickel, manganese and cobalt. These metals are toxic at low concentrations and have defined drinking water limits or health-based guidance values.

This is important to the OE scheme as a protected drinking water area is governed by the precautionary principle, Water Framework Directive objectives and the Drinking Water Inspectorate expectations. Even small, short-duration releases can be unacceptable if the contaminants enter the aquifer and remediation of this contamination is impractical or impossible.

The risk of contamination is not hypothetical as the exact metals of concern have now been shown to be released in real BESS fires, as discussed in this paper.

6. Scale does not remove risk, it increases the consequence

Moss Landing was a single site fire which produced measurable off-site contamination. The study did not conclude “safe”, it concluded “detectable and transient”.

This is important as the OE scheme is multiple BESS compounds, spread across a large hydrologically connected area. Even if the potential for a fire to occur is debated the consequence of contamination in a drinking water catchment is severe and irreversible. In a PDW environment, low probability does not justify high-consequence risk.

7. Direct relevance to Water Framework Directive

The Moss Landing study demonstrates:

- A credible pollution pathway exists from BESS fires to sensitive waters.
- The pathway is airborne to surface deposition and then infiltration. This pathway is not adequately addressed by bunding, drainage or fire-water containment.

The Moss Landing BESS fire provides evidence that locating BESS infrastructure within a PDW area is incompatible with the Water Framework Directive objectives unless this pathway is explicitly assessed and mitigated, which the Applicant has not evidenced within their documents submitted to the Inspectorate.

Conclusion of the Moss Landing BESS Fire

The Moss Landing BESS fire provides real-world evidence that lithium-ion battery fires can deposit toxic cathode metals beyond the site boundary via airborne pathways, contaminate surface soils in a manner undetectable by standard monitoring, and mobilise rapidly into surrounding environments, demonstrating that the proposed Eastern BESS presents an unacceptable contamination risk within a PDW area catchment. The evidence within this paper supports the need for the Secretary of State to decline this scheme under 5.16.14 of NPS EN-1.

Other points from the Moss Landing fire that are important to note are:

1. The BESS fire was actively burning for at least 2 days and there was also a small reignition on 18th Feb 2025. This is concerning and backs the previously raised points made by interested parties as part of this examination in relation to the potential for a BESS fire and the need to have more than 2 hours of fire fighting water capacity at the BESS site. Evidence from BESS fires which has been previously submitted suggests a BESS fire will burn for longer than 2 hours, in most case over 24 hours. Yet the applicant still feels meeting the minimum requirements of NFA policy is sufficient even within a PDW area.
2. This article describes the BESS at Moss Landing as being 300MW/1200 MWh capacity, this is comparable to the two BESS sites planned by the applicant. Whilst the weather conditions are not stated this fire produced a smoke plume that could be seen tens of kilometers away and deposited ash and soot across the surrounding area. Due to potential toxicity, including possible exposure to hydrogen fluoride, evacuation orders and road closures were issued. Residents were permitted to return 2 days after the fire began. Whilst the applicant has undertaken the Unplanned Emissions test, this is using methodology with legacy data. The weather can be variable, and the wind will not always blow in an easterly direction. In July 2025, there was an incident where 12,0000 tonnes of straw bales were on fire at Wigsley Airfield

which is located approximately 2-3 miles East of South Clifton. This fire generated a large plume of smoke and residents of South Clifton reported ash on their cars, which demonstrates the wind does blow to the West.

Terrorist Threat to BESS sites

Nick Timothy, the MP for West Suffolk, has raised concerns in the House of Commons regarding the vulnerability of Battery Energy Storage Systems (BESS) to acts of sabotage by hostile foreign states and terrorists. During a Westminster Hall debate on UK Air and Missile Defences on November 27, 2024, and another debate on BESS safety on June 5, 2025. The key points of his argument were:

- **Vulnerability:** He argued that BESS sites, particularly near to RAF bases, are vulnerable to sabotage.
- **National Security Context:** referenced warnings from MI5 that the UK faces a threat of "state-backed sabotage" and "Russian acts of aggression" against critical infrastructure.
- **Fire Risks:** stressed the significant safety risks associated with BESS fires, which he noted cannot be extinguished using conventional methods and emit toxic fumes, potentially forcing local residents to remain indoors for extended periods. He cited examples of fires elsewhere, including one in Liverpool that took 59 hours to put out, this fire was a BESS owned by Orsted.
- **Regulatory Concerns:** expressed concern that fire services lack the legal power to enforce safety measures on BESS sites and called for clear national regulations for their safety.

Given the current geopolitical situation, I would question if locating a BESS on a PDW area is suitable. Allowing the placement of the Eastern BESS within the PDW would be irresponsible, as the impact in the event of a terrorist attack would be catastrophic to the population that is served by the water supply.

In Summary, the One Earth Solar Scheme is not within a suitable location for a solar scheme, even though the generation of 740MW of renewable energy may be deemed as required for the UK to achieve its Net Zero targets. There are more than sufficient schemes within planning or already approved to meet the target set by the Government. Therefore, choosing to approve a scheme which has over 50% of its area situated within flood zones 2 and 3, is utilising BMV land (grade 2 and 3a) of greater than 50% of its area and more importantly has high risk infrastructure such as the Eastern BESS located

within a Protected Drinking Water area, would be highly irresponsible and also against NPS with regards to 5.16.14 of NPS EN-1 to approve this application.