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IP NUMBER [redacted]: FOSSE GREEN DEADLINE 5A COMMENTS

This submission primarily refers to the Applicant's response to Deadline 4 submissions (REP5-025). Page numbers and quotes in italics refer to REP5-025 unless otherwise stated.

1.0 Justification of Overplanting Ratio

1.1 In response to an IP's concern at Page 72 regarding justification for the overplanting ratio the Applicant states, "*If the STC overplanting was 1.2 the NOCT effective overplanting would be:*

Year 1 – 211 MWp (DC) – 0.88 Effective overplanting

Year 30 – 185MWp (DC) – 0.77 Effective overplanting"

1.2 Having failed to adequately explain 'in layman's terms' the justification for the overplanting, the Applicant has now introduced new figures with no explanation of the context. Therefore, in the absence of a simple explanation could the Applicant, using the data supplied at Table 5.2 of REP3-036, please **provide the full mathematical calculation** that starts at 1.6 ratio overplanting in Year 1 ending in approximately 1.0 in Year 30. In doing so, can the Applicant point out any interrelationship between Standard Test Conditions (STC) and Nominal Operating Cell Temperature (NOCT), noting that NOCT is the Applicant's preferred applied conditions. Where STC is being used to justify NOCT figures can the Applicant please state the authority for doing this, such as IEC 61215.

1.3 My assessment of the approach taken is that the Applicant is mixing STC and NOCT. **STC** is used for the Year 1 overplanting ratio and **NOCT** for the Year 30 overplanting ratio. The two are then compared as if they were the same metric. This does not appear to be permitted under IEC 61215/60904 practice and produces artificially low ratios that understate the true DC build-out. In short, **STC is being used to justify an overplanting ratio that is meant to represent performance under NOCT.** The two test regimes are **independent**, measure **different physical conditions**, and **cannot be mixed** to justify panel count, degradation allowances, or long-term yield.

For the Benefit of the ExA and Other IPs

1.4 STC overstates real-world output by 25–35% compared with NOCT, so using STC for Year-1 capacity and NOCT for Year-30 output (or vice-versa) produces a **mathematically invalid ratio**. A coherent overplanting ratio must be derived **entirely within one test regime**, not by mixing them.

1.5 STC and NOCT cannot be mixed as they measure different physical conditions

- **STC:**
    - Irradiance: 1000 W/m²
    - Cell temperature: 25°C
    - Spectrum: AM1.5
    - Purpose: *Laboratory maximum output rating*

- **NOCT also referred to as Nominal Module Operating Temperature (NMOT) in documents such as IEC 60904-3 and related IEC 61215 procedures:**
    - Irradiance: 800 W/m²
    - Ambient temperature: 20°C
    - Wind: 1 m/s
    - Purpose: *Realistic operating performance*

These regimes are **not scaled versions of each other**. They represent **different physics**, not a simple correction factor.

Mixing them creates a false overplanting ratio

If you take:

- Year-1 output at **STC**, and
- Year-30 output at **NOCT**,

you artificially inflate the apparent drop in performance, because:

- STC → NOCT typically reduces output by **25–35%**,
- Degradation over 30 years is typically **12–18%**.

1.6 Regulatory and planning implications

For a DCO-scale solar NSIP (like Fosse Green), mixing STC and NOCT:

- **fails EN-1 and EN-3 requirements for evidence-based design**
- **inflates land take**
- **misrepresents grid utilisation**
- **undermines the claimed need case**
- **invalidates the overplanting justification**

1.7 Overplanting Conclusion

- **Point 1:** The Applicant's claimed overplanting ratio appears to be derived by comparing **Year-1 STC power** with **Year-30 NOCT/NMOT power**.
- **Point 2:** STC and NOCT/NMOT are **independent test regimes** with different irradiance and temperature conditions and are not interchangeable.
- **Point 3:** When the same module is evaluated consistently under NOCT/NMOT, the justified overbuild factor is of the order of **1.15–1.20**, not 1.6.
- **Point 4:** The additional ~30–35% embedded in a 1.6 ratio is an artefact of mixing test regimes and does **not** represent genuine degradation or operational need.
- **Point 5:** As a result, the land take, visual impact, and grid utilisation case based on a 1.6 ratio is **materially overstated** and should be revisited using a consistent test basis.

IEC 61215/60904 define **separate, internally consistent test regimes** with **different purposes**, and require that performance characterisation, translation, and comparison be

done **within** a single regime. Mixing STC and NOCT in a single performance-modelling chain is therefore **methodologically unsupported**.

2.0 Maintenance

At page 23, in response to NKDC regarding maintenance, the Applicant states "*The Applicant does not consider it necessary to include a requirement regarding panel replacement.*" NKDC disagree. This is not only a Fosse Green specific issue, it is a significant cumulative issue resulting from the numerous solar projects in the County and surrounding area that will generate waste. Hence the reference to Springwell highlights the cumulative impact. The Applicant's argument rests on the statement that "*Schedule 16 of the Order would ensure that the carrying out of any works which are likely to give rise to any materially new or materially different effects that have not been assessed in the ES would not be undertaken, and considers that this gives the LPAs sufficient control, including in relation to any cumulative effects…..*" Given that the ES includes all construction, replacement of panels at approximately the mid-life of the Proposed Development and decommissioning, a further, almost total panel replacement would not result in 'effects that have not been assessed in the ES'. Therefore Schedule 16 of the Order **ALLOWS** an almost total panel replacement AS THE WORK WOULD **NOT** GIVE RISE TO ANY MATERIALLY NEW OR MATERIALLY DIFFERENT EFFECTS THAT HAVE NOT BEEN ASSESSED IN THE ES. Hence, NKDC's concerns remain valid and control of maintenance via the DCO should be put in place.

3.0 Funding For Decommissioning

3.1 Further to the Applicant's comments on Page 26, and notwithstanding what the Secretary of State has said, if the local authority needed to pay for a single decommissioning of a solar project it will be a huge challenge; given the multiple renewable energy projects in the region the potential of more than one becoming insolvent is a major risk. No amount of litigation can generate money if those involved are insolvent. Given they create the mess in the first place, why are solar applicants not behaving responsibly and ensuring the people whose lives they have adversely affected, in this case for 60 years, do not also have to ultimately pay for the decommissioning as well?

3.2 Page 46 states "*The Applicant's sum for decommissioning costs is based on experience, knowledge and industry information.*" Could the Applicant please give further information: what **experience** has there been of any decommissioning of a solar project even close to this scale; what **knowledge** and what **industry information** is available to even remotely predict the decommissioning costs in 67 years time?

3.3 The Applicant's inconsistent approach to this issue can be summarised as follows:

> Version 1: APP-021 paragraph 1.3.1 states that **all** aspects of the Proposed Development are included in the Funding Statement, but decommissioning was not included in the list of activities. The Applicant also stated (Chapter 12, Page 12-17 (APP-037)) **"***The* **Applicant** *is committed to setting aside money for decommissioning the Proposed Development.*" Note: this states the **Applicant**, not developer nor undertaker.
>
> Version 2: At REP1-047 page 352 the Applicant acknowledged that decommissioning costs are **not** included in the Funding Statement [APP-021].

Version 3: REP2-010 (Funding Statement Revision 3) paragraph 1.1.8, states that the Funding Statement has been updated to include decommissioning costs. How can, by simply adding the word "decommissioning", the Statement be updated?. A funding statement is about funding, if a further item of capital expenditure is added, it must be added to the total amount of the capital funding. All the Applicant has done is said, outside the Funding Statement or DCO, that the estimate cost of decommissioning will be about £7M. By the time of decommissioning in 2093 the real value will have decreased to between £230K and £1.8M in today's terms depending upon worst and best case inflation estimates. This is woefully inadequate.

Note: Despite having raised on a number of occasions the Applicant's commitment to set aside money for decommissioning, the Applicant has ignored the question. Why was it stated in the first place when there was no intention to see through the commitment?

3.4 At the very least, why is there not a commitment through the DCO to set aside the proceeds from recycling of all components replaced during the operational phase in preparation for decommissioning?

3.5 It is noted on page 46 that the Applicant refers to the proposed Springwell development. Whilst the Applicant's amendments do align with those made in the equivalent document by the Springwell applicant, the significant difference is that the Springwell applicant had set a cost estimate range (£650M - £750M) which was considered an acceptable range to absorb the addition of the word 'decommissioning' in the Funding Statement. The Proposed Fosse Green development has a single cost estimate of £340M and therefore needs an uplift to recognise the addition of decommissioning costs. REP2-010 is not a funding statement, it is merely an overall estimated funding figure; a genuine funding statement would show an estimated cost breakdown of the major elements that constitute the £340M cost estimate.

4.0 National Highways

In response to National Highways regarding DCO Requirement 14, the Applicant states "*… the Applicant considers that having two approving bodies for one requirement is impractical.*" Why? By way of example, in what way is this different to the following?

a. The Biodiversity Net Gain Plan (BNG Plan) Report is submitted at examination, but the *final* BNG Plan must be approved by:

   - Local planning authority (North Kesteven DC)
   - Natural England (as statutory consultee for BNG metrics, protected species, and habitat creation)

   BNG delivery on agricultural land, wetland features, and hedgerow networks requires Natural England's input.

b. The Preliminary Surface Water Drainage Strategy (Appendix 9-D) shows that final drainage plans must be approved by:

   - Lead Local Flood Authority (Lincolnshire CC)
   - Internal Drainage Boards (where drainage districts are crossed)
   - Environment Agency (if any works affect main rivers or flood zones)

These bodies have overlapping statutory responsibilities, so approval cannot come from one alone.

5.0 BESS Safety

5.1 The Applicant's continued approach to BESS safety remains a significant concern. The Applicant uses the Rochdale Envelope to justify producing very little detail in a *number* of areas to retain flexibility of design, but in the case of BESS safety, refuses to model a worst case fire/thermal runaway event, contrary to the Rochdale Envelope principles, which would see propagation beyond a single container. This missing safety evidence represents a clear danger risk to the local population.

5.2 The Applicant states *"These fires would not have occurred if the principles and commitments in the Framework BSMP for Proposed Development had been applied".* Where is the evidence that these BESS were not built to acceptable standards? Where is the proof that there will be no fires of thermal runaway occurring at the proposed development? **Safety cannot be 100% guaranteed …… clearly, other than for the Proposed Fosse Green Development; where is such evidence?** It is noted that a recent BESS fire at Rainworth in Nottinghamshire required the public to be advised to keep doors and windows closed; these events continue to happen and overconfident statements similar to the above from the Applicant do not allay fears amongst the local population.

6.0 Permanent Sealing on Land

6.1 At page 47 regarding permanent sealing of land and a number of cases cited by the IP, the Applicant states "*These projects had different baseline conditions or proposed different infrastructure to the Proposed Development, which led to this reasoning.*" Is the Applicant suggesting that the infrastructure that sits on a concrete base affects how the soil beneath that base behaves? Greater weight of infrastructure could lead to greater compaction depending upon the construction of the concrete raft but this is not a given. Could the Applicant please explain the different baseline conditions which result in Fosse Green being so unique? The most significant 'baseline condition' is the longevity of the development; nothing has yet been proven beyond 20 years, yet alone 40 or 60. The other developments cited by the IP have taken as a minimum a cautious, Rochdale Envelope worst-case, approach; not so the proposed development. Indeed, some solar NSIPs just take permanent sealing beneath infrastructure as a given.

6.2 Page 48 states "*The Applicant is not seeking flexibility to leave any above ground infrastructure in place (including access tracks) following decommissioning …….*" Nor have a number of other solar projects which have consider land to be permanently sealed.

6.3 Given that the Applicant has referred to the Springwell decision on over 20 occasions in REP5-025, it is surprising the Applicant does not refer to the Springwell decision stating permanent sealing of land. Regarding my REP5-047 Paragraph D17, in the Springwell decision letter, paragraph 4.49, the Secretary of State agreed with the ExA **"that sealed over hard standing areas of the Proposed Development should be treated on a precautionary basis as 'permanently lost.'"**

7.0 Resilience Against Storm Damage

At page 68 in response to an IP regarding destruction of Porth Wen Solar Farm during Storm Darragh, the Applicant states no official report has been seen, but speculates that deficient construction methods were to blame. This is hearsay and should be afforded little evidential weight. The Applicant states that an inland location such as the proposed development is less likely to experience such a storm. Maybe 'less likely' but not unlikely. Indeed, Camblesworth solar farm suffered storm damage in late 2025; Camblesworth is not by the coast. So rather than blame bad workmanship, which the Applicant cannot guarantee will not happen with the proposed development, can the Applicant please explain the measures being taken to prevent heavy metal contamination of our drinking water?

8.0 Hedgerows/PRoWs

8.1 At page 14, regarding LV.2.02, the Applicant states "*…. With regards to LCC's comment that most hedgerows in the locality are maintained at 2m, this does not accord with what the Applicant has experienced during fieldwork across all seasons.*" This is a matter of fact rather than professional judgement; most of the hedgerows ARE maintained at about 2m, please go and take a look. Of course, the Applicant will be aware that, in accordance with the stewardship requirements of the land, a number of hedgerows are only cut every 2 years, hence any hedges slightly taller than 2m are most likely as a result of being towards the end of the 2 year cycle.

8.2 *"LCC has a different professional judgement on the effectiveness of proposed hedge rows in mitigating visual impacts but, in the absence of specific examples, the Applicant has assumed this is captured in …… the statement of common ground …"* It is assumed from this statement that the Applicant has specific examples to the contrary; could they please be stated. At page 15, the Applicant states the hedgerows will be maintained between 3 and 4m. So, up to double the existing height and the Applicant considers this will not affect the landscape and visual setting!

8.3 I refer to an appeal by JBM Solar Projects 28 Limited, against a decision to refuse planning permission for a solar farm on land to North of Stretton Road, Morton, Alfreton DE55 6HA (Appeal Ref: 6001477). The appeal was dismissed. In doing so, the Inspector stated (page 33 of the Appeal), regarding screening by maturing existing and new hedgerows post-construction, "….. I agree with the Council's position that the hedgerows themselves would have a harmful impact. The new visual experience along Evershill Lane for walkers and horse riders would be a tunnel effect bounded at relatively close range by 3m high hedgerows…." This was a very small solar farm proposal in comparison to the proposed development; 4m high hedgerows and many kilometres of 'tunnel vision' will drive away those walkers still remaining after construction and the earlier operational years.

8.4 At page 20, the Applicant states "*The assessment approach recognises that walking contributes positively to physical and mental wellbeing, and that change in access, amenity and visual can represent potential health pathways.*" At page 21, the Applicant states "*Significant adverse visual effects for walkers are acknowledged. However, the Applicant considers it appropriate and necessary to distinguish between environmental effects and population-level health outcomes.*" At Page 22 the Applicant states " *… there is no robust evidence to conclude that visual change would lead to sustained reductions in walking behaviour sufficient to result in significant adverse health outcomes at a population level.*"

The Applicant agrees that visual changes could be detrimental to health but because it will be below 'population level' impact, it does not matter what the impact will be on the local community. The Applicant uses the phrase 'no robust evidence'; where is the robust evidence there will **not** be significant health outcomes at such a level?

8.5 **Population-level impacts** in Environmental Impact Assessment (EIA) are impacts that are large enough to measurably affect a ***defined population group*—not just isolated individuals.** This includes whole communities, demographic groups, or vulnerable cohorts whose shared characteristics make them a "population" for assessment purposes. On what basis does the Applicant judge that a proposed development that affects 7 villages, numerous farms and a total population of some 7,000 (based on the 2021 Census), does NOT have a population-level impact?

Further Issues:

9.0 Crossing the PRAX/Philips 66 Pipeline

9.1 It is concerning that, after so much time, the Applicant believed that the pipeline carries gas and not aviation fuel. This does not bode well for the depth of the analysis required to ensure a safe crossing of the pipeline.

9.2 In the draft Statement of Common Ground, REP5-020 page 41, it is stated *"The HSE have not shared any concerns with the Applicant."* It is noted that the Health and Safety Executive (HSE) is a statutory consultee for development proposals that may affect a major accident hazard pipeline such as the PRAX/Phillips 66 aviation-fuel pipeline. This duty arises under **The Town and Country Planning (Development Management Procedure) (England) Order 2015 (DMPO 2015)**, which requires local planning authorities to consult HSE on applications within the consultation distance of a major accident hazard pipeline. However, it is further noted that the statutory consultation regime under the DMPO 2015 applies to Town & Country Planning Act (TCPA) applications, not to Development Consent Orders (DCOs) under the Planning Act 2008. Under the DCO regime, HSE is not automatically a statutory consultee, but it is a prescribed consultee at the pre-application stage under the PA2008 framework.

9.3 Even if the HSE provided comment at the pre-application stage, this issue has become increasingly significant. So, where the Applicant states that HSE have not shared any concerns, have HSE actually been in communication at all post any pre-application comments? In REP5-020 Page 40, PRAX state "If the HSE were of the opinion that such damage was occurring or was likely to occur it might need to prevent the Proposed Development going ahead." **Given this statement, it is surely necessary to obtain a clear opinion from the HSE.**

9.4 REP5-027 page 4, depicts the lowest overhead power lines as being 25.5m above ground level. At REP5-036 paragraph 11, PRAX state that the minimum separation between the Fosse Green Energy circuit and the outermost conductor of the existing NGET OHL (National Grid Energy Transmission Overhead Line) is to be 30m. In addition, the cable circuit must be at least 600mm below the pipeline. Therefore, the Fosse Green cable must be **at least 600mm below the pipeline or 4.5m below ground level, which ever is the deeper.** At that level, Horizontal Direct Drilling will be going through limestone bedrock; this will transmit significant vibration and, most likely, lead to fracking of the rock. Where is the evidence of

the vibration effect on the pipeline and where is the acceptance (by the Environment Agency?) that the drilling lubricant, and any contaminants from the machinery itself, that enter the aquifer is at an acceptable level?

9.5 Given the potential consequences of a failure in the pipeline induced by the cable crossing, the planned crossing details need to be supported by a full quantitative risk assessment (QRA) and a clear demonstration of the risk being 'as low as reasonable practicable' (ALARP) prior to any DCO consent.

9.6 **In comparison with other NSIP solar projects** (given that modern NSIP practice requires full disclosure):

Gate Burton Solar Project

- Provided full pipeline crossing methodology.
- Included trenchless HDD design, risk assessment, and operator engagement.
- Achieved SoCG with pipeline operator.

Mallard Pass Solar Project (same Applicant)

- Submitted detailed crossing risk assessments.
- Operator engagement documented.
- Clear ALARP demonstration.

Sunnica Energy Farm

- Multiple pipeline crossings with National Grid and Cadent.
- Full engineering drawings and method statements provided.

Fosse Green

- No design.
- No full engineering plan risk assessment.
- No operator agreement.
- No evidence of feasibility.

10.0 Raeshaw Wind Farm Judicial Review (JR)

10.1 The recent ruling in Raeshaw Farms Ltd v Scottish Ministers where a windfarm proposed development did not have an identified grid connection solution (Raeshaw Farms Ltd CSIH 10 dated 17 Feb 2026) is relevant to the consideration of the DCO application for the proposed development. The court quashed the original decision of 14 Jan 2025 which had approved the construction of the windfarm. Paragraph 42 of the judgment states:

> "The appellant advances four grounds of challenge relating to the reporter's treatment of the grid connection in this case. The first is a distinct irrationality challenge about taking the benefits of the project that could only be realised were a grid connection to be installed without taking the disbenefits into account. The remaining grounds address the central issue of whether the windfarm and associated grid connection properly constituted a single project requiring an Environmental Impact Assessment of the whole development and not just the construction phase."

10.2 Both of these key findings are relevant to the proposed development. The Applicant is claiming benefit resulting from a potential grid connection at the National Grid Navenby Substation (NGNS), without any indication of the level of harmful impact to the population and environment that that substation will cause. Whilst the Applicant is using the NGNS as an argument in justification for both the siting and purpose of the proposed development, the National Grid is using the proposed development in part justification for the siting and purpose of the substation. The inter-dependence of both projects suggests that they should be considered in a single project, with an environmental assessment covering the totality.