BARRY SMITH IP NUMBER [redacted]: FOSSE GREEN DEADLINE 3A COMMENTS

Executive Summary

My commentary is divided into 3 sections:

The first considers the comments made by the Applicant in various responses to REP2029. These include a challenge to the Gate 2 connection claim; a rebuttal of the load factor claims made by the applicant; a challenge to the overplanting ratio proposed; a failure to apply a Rochdale envelope with respect to BESS fires; the lack of common ground with NGET with respect to a grid connection; decommissioning costs; loss of productive farmland following decommissioning and a challenge to their position on food security.

The next section provides commentary on the Applicant's response to specific issues raised in REP2-30. These include a challenge to the Applicant's infrastructure plan as well as statements on energy security which due to cybersecurity risks are not achievable. The transport plan failure to acknowledge the need for AILs to transport transformer replacements is also highlighted.

The final section analyses more generally what REP2-30 provides in terms of clarity on key issues that remain unresolved.

Section A. Fosse Green comments regarding the applicant's response to ExAQ1 (REP2029):

GC.1.01 n

There is no proof of Gate 1 & Gate 2 connection agreements within the NESO TEC Register. Currently all we have is the Applicant's verbal statement at ISH1. "*The Applicant awaits confirmation from NESO of its confirmed connection date for the solar …… and indicative connection date for the BESS ….*" Hence, by definition, neither Gate 2 or Gate 1 approvals have been achieved.

GC.1.03

The Table in response to GC.1.03 is more meaningful when including power output as in REP2-033 Table 8.1. Independent calculations (shown below) suggest the data provided by the Applicant equates to a load factor (efficiency) range of approximately 15 to 20%. Open-source information and UK Government official data indicate that the 2024 solar PV load factor was 9.5%. Given this figure, the Applicant cannot justify such unrealistically high predicted load factor figures for the proposed development.

Load factor calculations (based upon figures presented in REP2-033, Table 8.1):

The theoretical maximum (100%) annual power output would be 240MW x 24 x 365 = 2,102,400 MWh

Lower Load Factor:

(23.9x663)+(47.9x441)+(71.8x421)+(95.8x298)+(119.7x284)+(143.7x225)+
(167.6x170)+(191.6x145)+(215.5x460)=317,477 MWh 317,477
divided by 2,102,400 =**15.3%**

Higher Load Factor:

(23.9x1011)+(47.9x663)+(71.8x441)+(95.8x421)+(119.7x298)+(143.7x284)+
(167.6x225)+(191.6x170)+(215.5x145)+(239.5x460)=416,097 MWh

416,097 divided by 2,102,400 = **19.8%**

Furthermore, it appears the Applicant has applied a load factor of 15.4% in their calculation of a total energy generation figure of 19,438,499 MWh (APP-031 Chapter 6 Para 6.4.67). There is no evidence that such a high figure can be achieved in the UK; this would require either a 50% increase in sunshine hours each year which official Met Office data does not support or increased performance at an unrealistic scale from the panels as the physics associated with silicon PV panels are reaching their limits of efficiency. Using a realistic load factor of 10%, i.e. an increase of 10% over latest generation panels efficiency, the total energy generation figure should be 12,623,040 MWh.

The Applicant's Green House Gas (GHG) emissions assessment of 110,110 tCO_2e manufacturing emissions (APP-031 Table 6.7) for the solar PV panels is not worst case. The proposed Springwell Solar development estimate of GHG emissions is based on more up to date analysis and should be taken as worst case in accordance with the Rochdale Envelope. Manufacturing emissions are circa 386,872 tCO_2e for initial manufacture and a similar amount for the replacement panels at the 30 year point. APP-031 Table 6.7 should therefore total 530,392 tCO_2e. Table 6.8 then becomes 557,444 tCO_2e. Table 6.10 becomes 748,994 tCO_2e. Totalling the revised figures for Tables 6.8 (construction) and 6.10 (operation) plus the figure of 2,869 tCO_2e from Table 6.12
(decommissioning) gives a reasonable worst case life time GHG emissions figure of **1,309,307 tCO_2e** compared with the Applicant's figure of 715,924 tCO_2e.

Applying a realistic load factor of 10% this gives a total 60 year generation figure of 12,623,040 MWh and using the lifetime GHG figure of 1,309,307 tCO_2e results in a lifetime carbon intensity figure of **104 gCO_2e/kWh.**

This figure is based on realitic Government approved data regarding efficiency (load factor) of solar farms and a Rochdale Envelope reasonable worst case assessment of GHG emissions based on the latest available data from the Springwell applicant, THIS FIGURE IS OVER DOUBLE THE GOVERNMENT'S 2030 CLEAN POWER ENERGY TARGET. On this basis the FGE development application should be refused.

GC.1.04

In terms of the overplanting ratio, the Applicant states *"adopting an overplanting ratio of 1.6 results in an overplanting ratio of 1.02 at year 30 when accounting for module degradation and Nominal Operating Cell Temperature (NOCT) conditions."* Yet REP2-033, Table 5.2 for NOCT conditions commences at Year 1 with an overplanting ratio of **1.17** not **1.6**. REP2-033, Paragraph 5.3.1 states that NOCT better accounts for UK conditions, so an overplanting ratio greater than 1.2 cannot be justified. This results in a reduction of 139,250 panels, for the fixed south facing option, to 426,750 significantly reducing the required land for the array.

At ISH3 the issue of overplanting was discussed. Referring to REP2-033 Table 5.2, it appears that the Applicant's argument is based on using Standard Test Conditions (STC) for year 1 with a starting point of 1.56 effective overplanting and the NOCT conditions for year 30 with an effective overplanting ratio of 1.02. Overplanting should be based on either STC or NOCT conditions, not a mix. If STC were used, Table 5.2 clearly shows 1.37 effective overplanting at Year 30; hence the Year 1 figure is too high. Therefore, using either STC or NOCT, a Year 1 figure of 1.6 is not justified.

GC.1.09

The Applicant's response references REP2-029 Appendix B. This Appendix is titled 'Worldwide BESS Fire and Failure Incidents' yet it focuses on UK incidents with very little detail regarding numerous worldwide incidents. Many of these incidents have involved BESS constructed post the first issue of NFA 855 (2019) contrary to the Applicant's argument. In addition, contrary to the Applicant's statement, there have been 4 BESS fires in the UK (plus a further one in Ireland).

"*… there have been other BESS fires outside the UK. The Applicant considers these to be less relevant due to the standards being lower that the UK in some countries ……..*" In reality, BESS worldwide have been constructed to the same US legislation quoted by the Applicant as applicable for this development. Lithium-ion batteries are classed in the UK as articles not substances so are not covered by Control of Major Accident Hazards (COMAH). Currently, other than generic HSE legislation, there is no specific UK legislation covering BESS ("Remarks on the Safety of Lithium-Ion Batteries for large scale BESS in the UK", published in Fire Technology dated 21 Dec 24, by Professor Peter Edwards and Professor Peter Dobson).

In terms of the BESS fires in the UK, the Applicant states "*These fires would not have occurred if the principles and commitments in the Framework BSMP for the Proposed Development had been applied.*" This statement implies that the proposed development will be 100% safe. The nuclear industry (which is regulated to a massive degree compared with the BESS industry) does not make such claims; it works to degrees of risk, probability and consequence. Hence, despite the Applicant's predicted low risk and low probability, the consequences of a BESS fire can, in the worst case, be catastrophic. In this respect, the Applicant has not assumed a Rochdale envelope, worst-case scenario, which would include propagation beyond a single container.

GC.1.14

The Applicant states "*Under the commercial agreement between the Applicant and NGET, should no new substation at Navenby be available, it would fall to NGET to find an alternative point of connection for the Proposed Development.*" REP2-051, states "NGET considers that the delivery of the proposed solar farm in the event that the proposed Navenby substation did not receive planning permission or was not built is a matter for the Applicant to clarify." This is clearly not an area of common ground.

GC.1.15

The Applicant's response to the ExA is an update of the Funding Statement to cover decommissioning. It is worth noting, APP-021 paragraph 1.3.1 states "*The current capital cost estimate for the Proposed Development is approximately £340M. This estimate covers all aspects of the Proposed Development and has been arrived at by including construction costs, preparation costs, supervision costs, land acquisition costs, equipment purchase and commissioning.*" REP1-047 page 352 states "*The Applicant notes that decommissioning costs are not included in the capital cost estimate of the Proposed Development in the Funding Statement **[APP-021]***" However, REP2010 (Funding Statement Revision 3) paragraph 1.1.8 states "*… this Statement has been updated to clarify that the cost estimate includes decommissioning costs…*" Hence the Applicant stated initially that ALL costs are included, then it stated that decommissioning costs are NOT included, and finally it has stated that decommissioning costs ARE included REP2-010 paragraph 1.4.3 states "*The estimate also includes an allowance for project contingencies and has taken account of costs of decommissioning.*" As the capital cost estimate (£340M) has not changed with the addition of decommissioning, it appears the Applicant is effectively stating that the net cost of decommissioning is zero. **No evidence is offered by the Applicant to support such a zero cost claim.**

Moreover, in Chapter 12, page 12-17 (APP-037) the Applicant states **"*The Applicant is committed to setting aside money for decommissioning the Proposed Development.*"** This statement refers to the Applicant, not any subsequent developer or undertaker. There is no evidence of this commitment by the Applicant in terms of their financial statements.

FS.1.09

In response to the ExA's question regarding 'restoration of solar farms to productive farmland', the Applicant states "*The Applicant is not aware of any examples where at the conclusion of operation of a solar farm there has been restoration of the affected farmland to its original ALC classification.*" Noting this is unchartered territory other solar NSIPs have taken a more cautious approach.

Table 12-4 of Chapter 12 of the Mallard Pass ES, Land Use and Soils (APP-042), states that the areas of access tracks and solar stations on the site amounts to 8 ha. Paragraph 12.4.16 acknowledges that these areas will be treated as **permanently sealed over.** It is accepted in paragraph 12.4.20 that even though the o utline

Decommissioning Environmental Management Plan required the solar station and tracks to be restored to agricultural use at the end of the operational phase, **"it is assumed that restoration may not be back to comparable quality, at least initially, following decommissioning".** The onsite substation containing 6.4 ha (paragraph 12.4.45 and Table 12-5 refers) was also considered as **permanently sealed over** for the same reasons as the access tracks and solar stations. Of the 14.4ha of agricultural land affected by the substation, access tracks and solar stations, 4.2ha was BMV land (Table 1 of the ExA Recommendation Report refers). Therefore, the ExA has accepted that infrastructure and vehicle tracks are permanently sealed. It is noted that at REP1-106 (main body, Section 2.4) a number of solar NSIPs that have adopted this conservative approach including Mallard Pass; it is disappointing the FGE Applicant has not provided comment in REP2030.

Indeed, in response to NKDC (REP2-030 Page 118), the Applicant, regarding the land quality after 60 years being "*temporary and reversible for the majority of the land*" refers to Paragraph 4.167 of the Gate Burton decision letter. Why has the Applicant not quoted another part of the same paragraph; "The ExA concluded 2 ha within the Solar and Energy Storage Park would be permanently lost due to construction of the substation and BESS ….. the permanent loss of 2 ha and loss of 73 ha over 60 years is a significant adverse effect of the Proposed Development." In short, **the Secretary of State considered the land beneath the substation and BESS to be permanently sealed.**

FS.1.10

Regarding food security, the Applicant quotes the DEFRA UK Food Security Report 2024. A more recent Government Paper, published 20 January 2026, titled "Global biodiversity loss, ecosystem collapse and national security" is mentioned in REP2-063 6.0+. In summary, severe degradation of critical ecosystems that support major global food production areas would highly likely result in water insecurity, severely reduced crop yields, and a global reduction in arable land. Without significant increases in UK food system and supply chain resilience, it is unlikely the UK would be able to maintain food security if ecosystem collapse drives geopolitical competition for food. The UK is unable to be food self-sufficient at present, based on current diets and prices. The UK does not have enough land to feed its population and rear livestock: a wholesale change in consumer diets is required.

Any use of arable land for anything other than supporting the food chain is further impacting food security. Every approved solar NSIP is impacting food security; the cumulative effect continues to grow. The Applicant's argument that only 1% of UK land is affected does not recognise the fact that we import almost 50% of our food. The stark warnings in the most recent Government paper indicates that the world food supply could be severely tested; in that event, all available land would still not be sufficient.

WE.1.03

In response to the ExA, the Applicant states "*In the unlikely event of a BESS event, …… the swales provide a secondary containment and temporary storage function. ……In the event of a fire, and prior to applying the fire water, the outfalls from the BESS areas will be closed via automatic penstock valves or similar systems, isolating the BESS areas drainage from the wider environment.*" REP2-030 page 215 states "*The Solar Stations, BESS Compound, and Onsite Substation will include some areas of concrete pads, therefore sealing the ground, within gravel compounds. The swales and access tracks will be crushed stone or gravel and therefore still able to drain, and not sealed as such.*" **This contradiction is extremely concerning. Will the swales be impermeable and therefore contain potentially contaminated firewater or permeable and 'still able to drain' thereby contaminating the land and affecting the protected drinking water area?**

Section B. Comments Regarding the Applicant's Response to Written Representations (REP2-030). The page numbers below refer to REP2-030 unless otherwise stated.

2.0 Replacement of Infrastructure:

At page 42, in response to REP1-082, the Applicant states *"During the operational phase of the Proposed Development, any disruption resulting from replacement or repairs would be minimal ……. It is anticipated that maintenance and servicing would include the inspection and, if required, renewal and removal, reconstruction, refurbishment or replacement of faulty or broken equipment, but not the removal, reconstruction or replacement of the whole of Work No. 1 …… at the same time. Maintenance activity would be phased and would therefore be considerably less intensive than during construction."* Given this statement, over what period of time around the 30 year point will all the solar PV panels be replaced? In order to avoid "considerably less intensive disruption than during construction", a large number of panels will need to be replaced significantly earlier or later than 30 years. The Applicant needs to give a clear estimate of the total amount of panel replacements in total across 60 years as it appears it will be considerably higher than just a single replacement of all panels.

5.0 Energy Security:

At page 108, in response to REP1-089, the Applicant states "*It should be noted that the Proposed Development relates to energy security… "* As the majority of the equipment will be manufactured in China – this does not provide energy security given the acknowledged cybersecurity risks associated with this supplier**.** Furthermore, the power generation is, at best intermittent, with a load factor (efficiency) of circa 10%. In contrast, the Advanced Nuclear Framework, published by the Government on 4 Feb 26, states:

"Unlike intermittent renewables, nuclear energy can provide consistent baseload supply, which is essential for maintaining grid stability ……" Hence, this capability provides energy security.

6.0 Transport:

REP1-033 paragraph 2.3.2 & APP-038 para 13.7.64 states **no** Abnormal Indivisible Loads (AILs) will be required for component replacement during operation. This was reiterated by the Applicant at ISH4. APP-199 Para 5.7.1 states *"A 46.6m length vehicle to deliver the transformer to the Principal Site …."* REP1-033 Table 2 and gives a design life of transformers at 30-40 years; hence, transformer replacement will require AIL activity during the period of operation of the site.

Section C: General Commentary on REP2-30.

In addition to the specific questions and issues raised above, the following is a technical assessment of what REP2-30 does and does not do.

Best and Most Versatile (BMV) Land – Internal Framing Tension

The most significant structural weakness concerns the treatment of BMV land.
In response to Lincolnshire County Council, the Applicant rejects the assertion that approximately 282.9 hectares of BMV land would be lost. Instead, it states that only 4.6 hectares of agricultural land is considered "permanently lost", of which 1.5 hectares is Grade 3a BMV, because this relates to landscaping that would not be removed at decommissioning.
However, elsewhere in the same document, when responding to members of the public, the Applicant:

- acknowledges that concrete pads will seal land during operation;
- confirms the project is proposed for a 60-year operational period; and
- states that operational effects are "long term and reversible".

This creates a three-layered narrative:

- Not permanently lost (because it will be decommissioned);
- Long-term operational effect (60 years);
- Reversible in principle.

From a strictly legal standpoint, that framing is coherent. From a planning judgement standpoint, it is vulnerable.
A 60-year withdrawal of land from agricultural production is not a short-term construction effect. It is generational. The Applicant relies heavily on the concept of reversibility at decommissioning, but the planning balance must assess the weight of long-term operational impact. The response does not reconcile that distinction; it simply asserts reversibility as if that resolves the policy concern.
There is also a definitional narrowing taking place. The 4.6-hectare figure relates only to landscaping not proposed to be removed. It excludes:

- solar stations;
- BESS compound;

- onsite substation;
- access tracks;
- internal infrastructure;
- swales and drainage works.

These are excluded on the basis that they will be removed at year 60. The argument is therefore contingent on confidence in future decommissioning enforcement and soil restoration quality, rather than on present impact magnitude.
This does not invalidate the proposal, but it leaves the Applicant relying on future compliance rather than present impact minimisation.

Cumulative BMV – Regional Dilution Approach

The Applicant states that solar NSIPs in Lincolnshire, together with this scheme, represent approximately 1.4% of BMV land in the county, noting a degree of uncertainty in that estimate. This is a strategic reframing of the issue. Instead of addressing:

- whether this site minimises BMV loss;
- whether corridor-level clustering is occurring;
- whether parish-level agricultural character is being altered;

the response shifts to a county-wide percentage. There are two weaknesses in this approach. First, national policy requires minimisation at site level, not simply reassurance that the county retains most of its farmland. Second, the Applicant acknowledges uncertainty in the 1.4% figure. That weakens the evidential precision of the statistic being relied upon to reassure the Examining Authority. In effect, the response dilutes the impact spatially, rather than rebutting it substantively.

Retained Arable Land – Mitigation Framing

The Applicant places considerable emphasis on the commitment to retain 181 hectares of arable land within the Order Limits, including approximately 116 hectares of Subgrade 3a BMV land. This is presented as evidence that agricultural impacts have been minimised. However, retained land within a solar development envelope does not equate to unchanged agricultural baseline conditions. The retained arable land sits within:

- a landscape altered by panels and fencing;
- infrastructure and cabling;
- long-term change of character.

The argument conflates “continued grazing or cropping” with “no material agricultural impact”. In planning terms, those are not identical.

Site Selection – Express Admission of Land Availability Driver

The document is clear that identification of the site was driven by the availability of deliverable land alongside suitability considerations.
In addition, the Applicant confirms a preference for:

- large contiguous land parcels;
- fewer landowners;
- minimising third-party cabling;
- reducing the need for compulsory acquisition.

This is not improper. It is commercially rational. But it materially supports the criticism that land assembly and deliverability were primary drivers of the search envelope. The response does not demonstrate that the initial search was led by environmental constraint mapping first and land assembly second. Rather, it confirms that land availability was integral to the identification process. In examination terms, that shifts weight in how alternatives are assessed.

Cumulative Landscape Assessment – Narrow Framing

In response to concerns about over-concentration and cumulative effects, the Applicant concludes that during operation there would be "no notable difference" between the effects of the Proposed Development alone and the cumulative effects when considered alongside other schemes.
The reasoning for this conclusion rests largely on:

- distance between schemes;
- lack of direct intervisibility;
- and reliance on findings from Joint Interrelationship Reports prepared for other solar NSIP examinations.

This approach is technically structured, but strategically narrow. The assessment focuses on whether there are overlapping visual envelopes or direct combined effects between named schemes. What it does not substantively address is the broader structural question: whether the clustering of multiple large-scale solar NSIPs across this part of rural Lincolnshire changes the strategic character of the landscape over time. In other words, the analysis remains project-to-project rather than landscape-transition based. The concern raised by several objectors is not simply whether panels from Scheme A can be seen from Scheme B. It is whether cumulative solar deployment across this corridor represents a material shift in rural character and land function. That broader planning question is not meaningfully engaged with in this document.

Sequential Test and Brownfield Alternatives – Scale Assumption Embedded

The Applicant states that brownfield registers were reviewed across several district authorities and that no sites of sufficient size were available to provide a viable land parcel. This confirms an important underlying assumption: the proposed scale of development is treated as fixed at the outset.

The alternatives exercise therefore appears to ask:
"*Is there another site capable of accommodating a scheme of this scale?*"
rather than:
"*Is a smaller or distributed scheme capable of meeting the stated objectives with reduced impact?*"
The document does not provide sensitivity testing around scale. It does not demonstrate that a reduced installed capacity or a less contiguous configuration was modelled in terms of:

- land take;
- grid contribution;
- or environmental effect.

Instead, the viability of the scheme appears to be assessed on the basis that a large, contiguous land assembly is required from the outset.
That sequencing is legally defensible. However, it leaves the Applicant vulnerable to the argument that the scale drove the land requirement, rather than land constraints shaping the scale.

60-Year Duration – "Temporary" in Law vs Weight in Planning

Across multiple responses, the Applicant consistently describes the scheme as:

- temporary;
- long-term;
- reversible.

These descriptions are technically accurate in the context of a time-limited Development Consent Order. However, the planning question is not solely whether a development is reversible in principle. It is the weight that should be attributed to its effects during its operational life. A 60-year consent period is not a short or medium-term land use change. For most current residents, it would persist for their entire lifetime. For agricultural businesses, it represents two full generational cycles of food production.
The document does not engage with that lived reality. It frames the development as temporary because it is time-limited, but it does not meaningfully assess whether 60 years should attract weight comparable to permanent change in planning balance terms.
That distinction between legal temporariness and practical permanence remains unresolved.

Procedural Pattern – Defensive Rather than Substantive Enhancement

A consistent pattern throughout the document is that responses frequently direct objectors back to:

- the Environmental Statement;
- the Site Selection Report;

- the Statement of Need;
- or secured Requirements in the Draft DCO.

There is very little genuinely new evidence introduced. There are no expanded sensitivity analyses, no revised modelling scenarios, and no substantive recalibration of impacts. This is procedurally normal. However, it means the Applicant's position rests almost entirely on the robustness of its original submissions rather than strengthened justification under examination scrutiny. Where vulnerabilities existed previously — particularly around scale proportionality, BMV framing and cumulative landscape character — they are largely defended rather than substantively reinforced.

Overall Assessment

Incorporating REP2-030 into the wider analytical framework does not materially weaken the critical observations already identified by various IPs. If anything, it confirms several of them:

- The reliance on reversibility to neutralise 60-year land withdrawal.
- The use of county-wide percentages to dilute site-level BMV concern.
- The clear role of land availability and deliverability in shaping site identification.
- The narrow, intervisibility-based approach to cumulative landscape assessment.
- The absence of scale sensitivity testing within the alternatives discussion.

In strategic terms, the document does not close down the key planning balance questions. It reinforces that those questions remain live and require further detailed examination.