PHILIP HEARD IP NUMBER [redacted]: FOSSE GREEN DEADLINE 3A SUMMARY

This submission is in three parts; Section A covers comments regarding the Applicant's response to ExAQ1 (REP2-029), Section B refers to the Applicant's response to written representations (REP2-030) and Section C summarises key takeaways.

Section A covers:

GC.1.01 Comments regarding Gate 1 & 2 connection agreements and perceived revision of the timescales for the delivery of the Proposed Development.

GC.1.03 Efficiency of the energy production from the proposed development.

GC.1.04 Overplanting.

GC.1.08 Change of criteria from only exporting energy to importing and exporting energy.

GC.1.09 Comments regarding Worldwide BESS Fire and Failure Incidents.

GC.1.14 Lack of agreement between the applicant and NGET.

GC.1.15 Funding for decommissioning.

CC.1.01 Comparison with alternative energy production.

DCO.1.04 Permitted activity under the term 'maintenance'.

ENC.1.07 Potential high value species.

ENC.1.22 Hedgerow removal.

FS.1.09 Permanent sealing of land.

FS.1.10 Food security.

FS.1.11 Lack of detail in Framework Soil Management Plan.

FS.1.13 Offsite removal of soils.

WE.1.03 Contradiction regarding permeable or impermeable swales.

Section B covers:

Climate: GHG worst case assessment and GHG comparisons.

Replacement of Infrastructure: Across what period of time around the 30 year point will all the solar PV panels be replaced? What is the applicant's estimate of the total amount of panel replacements in total across 60 years?

Landscape and Visual: The applicant states "….. *by Year 1 (and by extension at Year 15) of operation, the proposed landscaping would have matured .. "* *W*hat landscaping is being put in place that will mature within one year?

Soils: How will the applicant " …. *ensure that the ALC grade will be unaltered through operations and decommissioning of the Proposed Development."* Is the Applicant AVOIDING or MITIGATING impact to soil resources?

Energy Security: The applicant states the proposed development will provide energy security. Given manufacturing in China, circa 10% efficiency and minimal output at times of maximum requirement, how will the proposed development deliver energy security?

Transport: How will replacement transformers be delivered if no Abnormal Indivisible Loads will be required for component replacement during the operational phase?

Key Takeaways:

- The Applicant's load factor range, based on figures presented in REP2-033 Table 8.1, is 15.3% to 19.8%. Actual load factors in the UK are less than 10%; therefore, the Applicant's load factor range is unjustifiably high. Combining this with a more realistic worst case GHG emission figure, based on more recent data analysis presented by the applicant for the proposed Springwell development, results in a carbon intensity for the proposed development of 104 gCO_2e/kWh. **THIS FIGURE IS OVER DOUBLE THE GOVERNMENT'S 2030 TARGET.**

- Regarding solar PV panel overplanting, the Applicant's argument appears to be based on using Standard Test Conditions (STC) for year 1 with a starting point of 1.56 effective overplanting and the Nominal Operating Cell Temperature (NOCT) conditions for year 30 with an effective overplanting ratio of 1.02. The overplanting should be based on either STC or NOCT conditions, not a mix of both. If STC were used, REP2-033 Table 5.2 clearly shows 1.37 effective overplanting at Year 30; hence the Year 1 figure is too high. Indeed, the reduction rate in STC effective overplanting across 30 years is 0.19. Therefore, using either STC or NOCT, a Year 1 figure of 1.2 will result in an effective DC capacity at Year 30 of circa 245MWp which, according to REP2-033 Section 5, is the aim for Year 30.

- In the Mallard Pass solar project, the same Applicant considered land beneath BESS, substations, access tracks etc to be permanently sealed. Why is the Applicant treating the proposed Fosse Green development differently?

- Despite the Applicant previously stating it was committed to setting aside funds for decommissioning, there is no evidence of this and, indeed, the opposite appears to be the case. On what basis is the Applicant going away from this commitment?

PHILIP HEARD IP NUMBER F86A1944A: FOSSE GREEN DEADLINE 3A COMMENTS

This submission covers the Applicant's comments in response to ExQ1 (REP2-029) and Deadline 1 Submissions (REP2-030), plus a final conclusion. Key takeaways include the Applicant's use of high load factors, underestimation of Greenhouse Gas (GHG) emissions, excessive overplanting of solar PV panels and failure to recognise permanent sealing of land.

Section A. Fosse Green comments regarding the Applicant's response to ExAQ1 (REP2-029). Quotes in italics refer to the particular ExA question:

GC.1.01

Where is the written proof of the Gate 1 & 2 connection agreements? All we have is the Applicant's verbal statement at ISH1. The Applicant states "*The Applicant awaits confirmation from NESO of its confirmed connection date for the solar …… and indicative connection date for the BESS ….*" Confirmation of a confirmation? If the Applicant is awaiting confirmation then, by definition, nothing can yet be confirmed.

"The Applicant does not consider that there is any reasonable basis to revise the timescales for the delivery of the Proposed Development from those currently stated." REP2-033 paragraph 9.1.8 states "*… the Proposed Development would expect to contribute approximately 0.1% of total electricity demand in 2030 (assuming this as the commissioning date), ….*" As APP-026 para 1.2.7 states commencement of operation will be 2033, the Applicant appears to have already 'revised the timescales for the delivery of the Proposed Development'. **Could the Applicant please clarify what is the planned commissioning date of the proposed development?**

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. It is assumed that the ExA requested this data to assess the efficiency of the proposed development. My calculations (shown below) suggest the data provided by the Applicant equates to a load factor (efficiency) range of approximately 15 to 20%. Based on open source information including UK Solar Alliance, Statisa and UK Government data, the 2024 solar PV load factor was 9.5%. Alongside such a proven figure, how can the Applicant 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 (hours per day) x 365 (days per year) = 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 the calculation resulting in a total energy generation figure of 19,438,499 MWh (APP-031 Chapter 6 Para 6.4.67). There is no justification for such a high figure. Indeed, for a more realistic load factor of 10% (based on real data), the total energy generation figure would 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. To paraphrase my earlier comments (REP1-108, paragraph 5.1 and REP2-063, paragraph 1.3), 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. My earlier comments show that the manufacturing emissions are circa 386,872 tCO_2e for initial manufacture and also for that of 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** NOT the Applicant's figure of 715,924 tCO_2e.

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

This figure is based on real, not predicted, Government data regarding efficiency (load factor) of solar farms and a Rochdale Envelope reasonable worst case assessment of GHG emissions based on data from the Springwell applicant, data which is more current than that produced by the Fosse Green applicant. THIS FIGURE IS OVER DOUBLE THE GOVERNMENT'S 2030 TARGET. HOW CAN THE PROPOSED FOSSE GREEN DEVELOPMENT PROCEED FROM SUCH A STARTING PONIT?

It is noted that analysis of the proposed 800MW Great North Road Solar and Biodiversity Park, concludes that the development will produce more GHG emissions than it will save by replacing gas generated electricity.

GC.1.04

Regarding 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. As REP2-033, Paragraph 5.3.1 states that NOCT better accounts for UK conditions, an overplanting ratio no greater than 1.2 can be justified. This results

in a reduction, for example of the fixed south facing option, of 139,250 panels to 426,750.

At ISH3 the issue of overplanting was discussed. Referring to REP2-033 Table 5.2, it appears to be the case 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. The overplanting should be based on either STC or NOCT conditions, not a mix of both. If STC were used, REP2-033 Table 5.2 clearly shows 1.37 effective overplanting at Year 30; hence the Year 1 figure is too high. Indeed, the reduction rate in STC effective overplanting across 30 years is 0.19. Therefore, using either STC or NOCT, a Year 1 figure of 1.2 will result in an effective DC capacity of circa 245MWp at Year 30 which, according to REP2-033 Section 5 is the aim for Year 30.

It is noted that REP2-033 states, referring to Table 5.2, "*This table also shows why the scheme has built in a module replacement as part of the DCO consent to enable the Proposed Development to deliver up to 240MW of power over its full 60-year consent period.*" Table 8.1, which as stated above shows an inflated load factor range of some 15 to 20%, states only 460 hours per year at full (239.5MW) capacity, and this at a load factor of almost 20%. Therefore, even at this predicted load factor, according to Table 8.1, the proposed development will only achieve maximum output for 5% of the year. No amount of overplanting will compensate for such low efficiency. How can this justify such mis-use of prime agricultural land?

GC.1.08

The Applicant states "*the BESS will support the operation of the co-located solar array by storing generation when it is not need and exporting it to the grid when it is needed, and by providing a grid balancing function using electricity from the Proposed Development or from the wider grid if that grid balancing function could not be achieved when required using only electricity from the Proposed Development.*" APP-031 paragraph 6.4.76 states "*As the lifetime generation figure of the BESS is significantly less than that of the Proposed Development, it is reasonable to assume that the battery will only store and discharge energy generated by the Proposed Development.*" So the Applicant has changed a key element in the application documentation, moving away from only exporting energy to importing and exporting. Such a key criteria change should be subject to a 'change request'.

GC.1.09

The Applicant's response references REP2-029 Appendix B. Firstly, this Appendix is titled 'Worldwide BESS Fire and Failure Incidents' yet it majors on UK incidents with very little detail regarding worldwide incidents. Indeed, many worldwide incidents have involved BESS constructed post the first issue of NFA 855 (2019) contrary to the Applicant's argument. To correct the Applicant, 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 ……..*" Many BESS worldwide have been constructed to the same US legislation quoted by

the Applicant. Can the Applicant please quote all the UK standards. Lithium-ion batteries are classed in the UK as articles not substances so are not covered by Control Of Major Accident Hazards (COMAH). Other than generic HSE legislation, there is no specific UK legislation covering BESS (please refer to the article "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).

Regarding two 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. Even the nuclear industry (regulated to a massive degree) does not make such claims; it works to degrees of risk, probability and consequence. In short, even for 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 worst case scenario, which would have included 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." It looks like this is 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]***" REP2-010 (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 has 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. It is becoming difficult to understand which of these conflicting statements should be relied upon. REP2-010 paragraph 1.4.3 states "*The estimate also includes an allowance for project contingencies and has taken account of costs of decommissioning.*" The ExA has asked "How decommissioning activities have been factored into costs estimate and funding availability and commitments?" The Applicant has merely added the word 'decommissioning' into paragraphs 1.3.1, 1.4.2 and 1.4.3. As the capital cost estimate (£340M) has not changed with the addition of decommissioning, the Applicant is effectively stating

that the net cost of decommissioning is zero. **Where is the Applicant's evidence to support such a zero cost of decommissioning claim?**

The Applicant states *"The breach of any commitments under a DCO amounts to a criminal offence ….. "* If, at the time of decommissioning, the undertaker is insolvent, no amount of criminal action will pay to clean up the mess which would be left to the local authority and hence the local tax payer to fund. If approved, the Applicant is responsible for this industrial impact on the landscape; it is irresponsible not to put financial provision in place to ensure that the decommissioning work is carried out. 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; where is the Applicant's evidence of this commitment?

CC.1.01

The Applicant states "*….. grid intensity is unlikely to decrease without projects like the Proposed Development, it is reasonable to compare the carbon intensity of the Proposed Development against the counterfactual scenario of no decarbonisation to the national grid, particularly for the short-term period identified in Paragraph 6.4.73 of only 4 years."*

The UK national grid output in 2024 was 284TWh. This is projected to rise to 375TMWh in 2030 and some 600TMWh in 2050. The renewable projects already approved in the pipeline are more than sufficient to replace fossil fuels; the proposed development and other proposed energy projects are to meet the Government's planned additional capacity. Therefore, given that the Government policy is only renewable energy, the only reasonable comparison for the proposed development is against the other renewables that will be providing this additional capacity. Hence, the Applicant's argument is flawed.

As already stated by the Secretary of State, comparison with fossil fuel produced energy is not appropriate. I refer also to paragraph 5.4 of REP1-108. APP-031 paragraph 6.4.77 uses a comparison with the Open Cycle Gas Turbine (OCGT). This results in the projected GHG emission savings of the proposed development being misleadingly high. The Government are aiming for a 50% Net Zero grid by 2030 and 100% net zero by 2050. Therefore, based on Government targets, the Applicant's comparison must be with a 50/50% fossil fuel/green energy mix for the period from commencement of operations (2033?) up to 2050, then 100% green energy thereafter ie a mix of 14% fossil fuel/86% green energy across the 60 years of the proposed development. This is worst case, as the Government is aiming to phase out fossil fuel energy well in advance of 2050.

DCO.1.04

Regarding 'maintenance', in response to the ExA's question, the Applicant states *"The inclusion of this wording is considered sufficient to ensure that any environmental effects from activities associated with maintenance of the Proposed Development would not exceed those assessed in the ES ……. Where a component is no longer operational and requires final decommissioning, this will also be identified within the*

maintenance schedule". The existing wording would allow, for example, 99% of solar PV panels to be replaced under the term 'maintenance'. This would be a greater 'waste' impact than the Applicant is declaring, which LCC would need to deal with. Moreover, this would also result in the Applicant's GHG assessment being considerable understated. Given 30 year solar panel life is unproven, it is highly likely a significant number of panels will need replacing prior to that point. Consideration should be given to imposing a limit on total replacement of all significant components; this should be mandated in the DCO.

At REP2-031 Page 21, in response to NKDC regarding maintenance, the Applicant states "*.. an annual maintenance schedule will be agreed."* The Applicant refers to, REP1-033 paragraphs 2.3.1 to 2.3.6 which mentions submitting a maintenance plan to the relevant authorities. Nowhere in this section does it suggest that this plan is submitted for approval by the local authorities, it appears to be for information only. This document needs to clearly state that, other than for unforeseen emergencies, the planned maintenance for the year ahead is to be submitted for **approval** by the local authorities. If, in the absence of any clause in the DCO limiting the totality of unplanned component replacements, this gives the local authorities the opportunity to control excessive production of waste as it is likely that many solar panels will fail to reach anything close to the 30 year point.

ENC.1.07

In response to the ExA regarding, for example, otters and voles, the Applicant states "*The presence of a Species of Principal Importance at a site does not automatically mean that the particular site is of high value (e.g. regional/national importance) for that species."* Equally, such presence does not automatically mean it is not of high value. *"The limited evidence of Otter present within the DCO Site ….suggests that the Order limits and their value to Otter are of local to district importance only. "* Furthermore, the Applicant states "*….. the fact that Otter populations are rising in Lincolnshire..."* The otter population in Lincolnshire is 'recovering' ie heading back towards previous numbers. Is it solely the Applicant who has made the judgement between 'national' and 'local' importance or has an independent body been involved?

ENC.1.22

In response to the ExA, the Applicant states "*The areas of hedgerow removal set out on the Hedgerow Removal Plan **[AS-112]** aligns with Figure 3-17 ……. **[AS-029]**".* REP2-030 Page 213 states "*Paragraph 3.2.2 of the Biodiversity Net Gain Report **[APP-194]** clarifies that a total of 3.48km of hedgerow habitat will be lost ……."* AS-122 paragraph 5.2.13 states "*Removal of existing hedgerow will only occur where access is required.*" How many access points and of what sizes equate to 3.5km? The latest version of the Draft DCO (REP2-006) Schedule 11 (Page 81+) does not appear to have changed in this respect; it totals some 1985m of hedgerow removal. Indeed, the initial draft DCO listed hedgerow removal totaling 1985m, published at the same time as APP-194 stating 3.48km; is this just another mistake? It appears there is over 1.5km of hedgerow removal that is not accounted for, what are they and why are they not shown on AS-112?. If the Applicant cannot explain where this additional

hedgerow removal will occur, the DCO wording should change to limit any hedgerow removal to that listed in detail in the DCO Schedule 11.

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."* Surely, this is even more reason to assume the worst case. Indeed, noting this is unchartered territory a number of other solar NSIPs have taken a cautious approach. This includes Mallard Pass NSIP, a 60 year time limited consent, which was also promoted by the same applicant as Fosse Green. 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 was accepted in paragraph 12.4.20 that even though the outline 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 Applicant has already previously accepted that infrastructure and vehicle tracks are permanently sealed; why has the Applicant now changed its stance regarding the extent and areas of land that are permanently sealed and based on what evidence? It is noted that at REP1-106 (main body, Section 2.4) an IP cited a number of solar NSIPs that have adopted this conservative approach including Mallard Pass; it is disappointing the Applicant has not provided comment in REP2-030.

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 far more recent Government Paper, a national security assessment, was published on 20 January 2026, entitled "Global biodiversity loss, ecosystem collapse and national security". This Paper was mention in REP2-063 6.0+. In short, 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 would be required.

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

FS.1.11

The ExA raises a number of points regarding the Framework Soil Management Plan (FSMP). The Applicant states "*It is intended that the detailed SMP would provide this level of detail.*" In the draft DCO (REP2-006-Page 42 Paragraph 15 (2)), the Applicant states "*The soil management plan must be substantially in accordance with the framework soil management plan"*. If the soil management plan is to be substantially in accordance with the framework soil management plan, why is the detail the ExA is requesting not in the framework plan? The Applicant regularly cites precedent set by other solar NSIPs; compared to many others, the Framework Soil Management Plan (REP1-038) is woefully short of detail. There is little evidence to suggest the soil will be adequately managed over the 60 year period nor that it will be returned to its previous quality. It is concerning that "*no site visit was undertaken as part of this assessment and report*" (REP1-038 Page 2).

FS.1.13

Regarding offsite uses, the Applicant states "*Removal of soils is not expected or planned for the Proposed Development.*" REP1-038 paragraph 6.1.1 states "*A number of options are available for soil stripped from the site in terms of reuse either on-site or following off-site transfer.*" Paragraph 6.7.1 goes on, "*Potential off-site uses include:*

- *Commercial topsoil soil;*
- *Commercial clay soil;*
- *Commercial sand/gravel/mudstone/limestone sale;*
- *Exportation of soil materials to landfill – this option is to be avoided as far as is practicable …….*

This wording suggests that removal of soil is in fact planned.

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 impermeable 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.

1.0 Climate:

1.1 Regarding the GHG assessment (page 206), in response to my statement that the Applicant has not adopted the worst case 'Rochdale Envelope', the Applicant's response is to merely explain the Rochdale Envelope. The Applicant has ignored my reference to the proposed Springwell development, whose GHG emission assessment was based on "the modular structure outlined in Royal Institution of Chartered Surveyors (2023) guidance" (Ref 8-17 of Springwell APP-028). This document is later than either of the documents referenced by the Applicant in APP-031 paragraph 6.4.31 and is therefore more up to date guidance. Hence, the Rochdale Envelope worst case approach would employ similar data to that used by the proposed Springwell development; indeed this would be in accordance with the Applicant's explanation of the Rochdale Envelope.

1.2 Page 208 refers to REP1-017. Paragraph 6.4.72 of REP1-017 assumes a do-nothing approach resulting in a carbon intensity of the proposed development 88% lower than the grid average in 2025. Firstly, comparing with carbon emissions 8 years before the commencement of operations is totally inappropriate. Secondly, if the proposed development did not go ahead, other (most likely higher priority) energy projects will produce the energy and given Government policy, all will be renewable. Therefore, given that solar is the most polluting of the renewables, the proposed development will, most likely, result in a higher carbon intensity than alternatives.

1.3 Referring to the GHG assessment, the Applicant states (page 209), *"The comparison is therefore for information only and is not used in the calculations on which the assessment is based."* However, REP1-017 Para 6.4.77 still claims a totally inappropriate 2.2M+ tCO_2e saving across life of the proposed development by comparing with fossil fuel produced energy. If this is information only, then, at the very least, the information should be correct.

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."* If this is the case, 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 both significantly earlier and 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.

3.0 Landscape and Visual:

3.1 At page 22, in response to REP1-079, the Applicant states "*There are no significant medium- or long-term visual effects anticipated on residents of Witham St Hughs as, by Year 1 (and by extension at Year 15) of operation, the proposed landscaping would have matured such that views of solar PV infrastructure within the Principal Site would be screened.*" Could the Applicant please explain what landscaping is being put in place that will mature within one year?

3.2 At page 143, in response to LCC the Applicant states "*However, the assessment concluded that by Year 15 of operation, significant landscape effects would be limited to areas in which the solar PV infrastructure is principally located i.e the Principal Site and the local landscape character areas …"* Therefore, given that 15 years is quoted on many occasions as the point of full maturity of planting, the Applicant admits that for the whole Principal Site, over 1000 ha, there will be significant landscape effects which will last for 60 years.

3.3 At page 212, the Applicant attempts to justify the moderate negative weight attributed to landscape and visual. It is worth noting that the Secretary of State has attributed at least moderate negative weight regarding landscape and visual against a number of solar developments with great negative weight in some cases. The proposed development can only add to this cumulative impact.

3.4 At page 213, the Applicant states "*The landscaping strategy includes allowing some hedges to grow …… This is considered in keeping with the landscape ……..*" I question how tall hedges are in keeping with a currently wide open landscape.

4.0 Soils:

At page 216, regarding restoration of land to its former quality, the Applicant states "*The Framework SMP …… contains industry standard good practice mitigation measures to reduce impacts on soil which will ensure that the ALC grade will be unaltered through operations and decommissioning of the Proposed Development.*" If the Applicant is so certain that these mitigation measures will 'ensure that ALC grades will be unaltered' **this certainty should be secured through Requirement 20 of the draft DCO.** The FSMP (REP1-038), paragraph 3.1.4, regarding soil management during construction, uses the word 'AVOID' on 5 occasions. Paragraph 3.1.5 then states "*….. this works to mitigate against potential impacts to soil resources ……..*" So, is the Applicant AVOIDING or MITIGATING impact to soil resources?

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… "* Could I again please ask the Applicant

to justify the word 'security'? By far the majority of the equipment will be manufactured in China – **this is not energy security.** The power generation is, at best intermittent, with a load factor (efficiency) of circa 10% - **this is not energy security.** Solar is producing its maximum output in summer months when the UK's greatest need is in winter; BESS cannot store energy for more than a few hours – **this does not provide energy security when it is most needed.**

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 ……" **This is 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 gives a design life of transformers at 30-40 years; could the Applicant please explain how will a transformer be replaced other than by an AIL?

Section C. Conclusion:

C.1 The Applicant's load factor range, based on figures presented in REP2-033 Table 8.1, is 15.3% to 19.8%. Actual load factors in the UK are less than 10%; therefore, the Applicant's load factor range is unjustifiably high. Combining this with a more realistic worst case GHG emission figure, based on more recent data analysis presented by the applicant for the proposed Springwell development, results in a carbon intensity for the proposed development of 104 gCO_2e/kWh. **THIS FIGURE IS OVER DOUBLE THE GOVERNMENT'S 2030 TARGET.**

C.2 Regarding solar PV panel overplanting, the Applicant's argument appears to be based on using Standard Test Conditions (STC) for year 1 with a starting point of 1.56 effective overplanting and the Nominal Operating Cell Temperature (NOCT) conditions for year 30 with an effective overplanting ratio of 1.02. The overplanting should be based on either STC or NOCT conditions, not a mix of both. If STC were used, REP2-033 Table 5.2 clearly shows 1.37 effective overplanting at Year 30; hence the Year 1 figure is too high. Indeed, the reduction rate in STC effective overplanting across 30 years is 0.19. Therefore, using either STC or NOCT, a Year 1 figure of 1.2 will result in an effective DC capacity at Year 30 of circa 245MWp which, according to REP2-033 Section 5, is the aim for Year 30.

C.3 In the Mallard Pass solar project, the same Applicant considered land beneath BESS, substations, access tracks etc to be permanently sealed. Why is the Applicant treating the proposed Fosse Green development differently?

C.4 Despite the Applicant previously stating it was committed to setting aside funds for decommissioning, there is no evidence of this and, indeed, the opposite appears to be the case. On what basis is the Applicant going away from this commitment?