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IP NUMBER [redacted]: FOSSE GREEN DEADLINE 6 COMMENTS

This document is in three sections; Section A provides comment on the Applicant's Response to Deadline 5 Submissions (Revision 1), Section B provides comment on the Applicant's Response to the Examining Authority's Third Written Questions, and Section C comments on the Unplanned Emissions Assessment.

Section A

This Section provides comment on the Applicant's Response to Deadline 5 Submissions (Revision 1). Page numbers and wording in italics refer to REP5A-038 unless otherwise stated.

Load Factor

A.1 Further to the ExA's Rule 17 query (page 77) to the Applicant regarding justification of a calculation resulting in a circa 10% load factor, there are two issues:

Issue 1:

At REP3-036 Paragraph 5.3.2, the Applicant states that Standard Test Conditions (STC) "*is not representative of typical operating conditions experience in real solar installations in the UK.*" Paragraph 5.3.4 states "*NOCT output rating gives a more accurate estimation of energy production in real-life conditions.*" Yet the Applicant has used STC data in the table at page 77 of REP5A-038. Using the Nominal Operating Cell Temperature (NOCT) data in Table 5.2 of REP3-036 results in a lifetime output figure across 60 years of the proposed development of approximately **13,976,644MWh,** not the 19,438,499MWh claimed by the Applicant; a reduction of 5,461,855MHh.

Issue 2:

Equally important is the load factor claimed by the Applicant. Quite simply, the load factor must be based on the efficiency of the output exported to the grid. Hence, the real load factor as applied to the grid, is a ratio of the life-time exported output of the proposed development and the maximum possible output based upon the grid connection capacity of 240MW. Therefore, doing a reverse calculation using the Applicant's estimated output of 19,438,499MWh, the load factor that has been applied is:

$$\frac{19{,}438{,}499}{(240 \times 24 \times 365 \times 60)} = 15.4\%$$

[If my estimated NOCT lifetime output generation figure of 13,976,644MWh were used, the Load factor is approximately a far more realistic 11.1%]

Note:

The DESNZ publication **Feed-in Tariff load factor analysis 2023–24** states:

"A load factor is the amount of electricity generated by a system over a certain period expressed as a proportion of its maximum possible output."

Although this wording does not explicitly use the term "export-limited AC capacity", DESNZ's load-factor tables appear to always use the **declared AC capacity** of the installation ie. The Feed-in Tarriff "declared net capacity", which is the **export-limited AC rating** for grid-connected. Hence, the ratio above resulting a load factor of 15.4% is correct and, when compared to the solar PV load factor average of 10.1% in the DESNZ document, is excessively high. The result is the proposed development shows an over-inflated output benefit.

Grid Connection

A.2 At page 48, the Applicant states that a Gate 2 connection is only shown in the TEC Register when the project is already consented, being constructed, or built and ready (and the developer has signed the offer). Where can this definition be found?

A.3 The formal definitions of Gate 1 & 2 under NESO's 2025–26 Connections Reform programme, as approved by Ofgem, are:

Gate 1 means a project is *not yet ready or strategically aligned* and therefore receives only an *indicative* (non-firm) connection offer.

Gate 2 means a project *meets NESO's readiness and strategic alignment criteria* and therefore receives a *confirmed* connection date, point, and queue position.

This Gate 2 definition does not fully accord with the Applicant's definition. Yet this definition appears to encompass all the aspects that the Applicant claims are currently in place; so why is there no Gate 2 confirmation in writing to be found anywhere? The only document regarding a Gate 2 for the proposed development appears to be NESO's Existing Agreements Register which is an eligibility list only and does not confer Gate 2 status.

A.4 Regarding the 'confirmed' Gate 1 for the BESS, could the Applicant please confirm or otherwise whether the remainder of the proposed development will still go ahead if the BESS does not achieve Gate 2 status?

A.5 Page 48 states regarding the Navenby Substation, "*NGET confirmed that the proposed substation is not due to Fosse Green alone, but the wider demand for connection in the area.*" As stated in this quote, the proposed development forms part of the justification for the substation. Therefore the Environmental Impact Assessment for the proposed development should have taken into account a proportion of the environmental impact of the proposed substation resulting from the Fosse Green development; this proportion should assume a reasonable worst case scenario that not all of the proposed renewable projects planning to connect to the proposed Navenby substation will be approved/built. In short, the proposed development is claiming the benefit resulting from the substation connection point without taking into account any of the negative impacts. Precedence for

this is the recent ruling in Raeshaw Farms Ltd v Scottish Ministers (Raeshaw Farms Ltd CSIH 10 dated 17 Feb 2026).

GHG Emissions

A.6 At page 21 regarding GHG emissions, the Applicant states "*… there is no clarity or traceability on the emission factor used in Springwell ….*" The detail provided in the Springwell documents is broadly similar to that provided by Fosse Green. Given that the Applicant has not selected any panel type nor panel manufacturer, could the Applicant please reference where the 'clarity and traceability on the emission factor' for the proposed development can be found in the documentation.

A.7 At page 42, regarding emissions comparisons with the grid, the Applicant refers to REP3-006. The Applicant cannot justify any savings comparisons with the grid prior to the commencement of operations in 2033. Yet the Applicant continues to compare 'overall lifetime carbon savings' to the current (2025) energy mix (REP3-006 Paragraph 6.4.73). Indeed, the Applicant continually dismisses any comparison other than with other operational emissions; operational emissions for the proposed development commence in 2033 and therefore the only valid comparison is with other energy providers to the grid at that time. It is clear why the Applicant is reluctant to compare to grid carbon intensity at the same time when the proposed development will be operational; based on **DESNZ Energy & Emissions Projections 2024–2050 (3 February 2026), the UK grid carbon intensity in 2033 will be around 20% of the 2025 level, ie some 80% lower.**

A.8 REP3-006 paragraph 6.4.77 states "*Comparing the operational carbon intensity of the Proposed Development at 0.025 tCO_2e/MWh and OCGT at 0.460 tCO_2e/MWh (REF 6-43), the use of battery energy storage for grid balancing purposes would deliver an additional saving of approximately 2,242,089 tCO_2e over its operational lifetime.*" Contrary to the Applicant's assertion at page 42, that neither CCGT nor OCGT are used as a baseline, this appears to be using OCGT as a baseline to estimate GHG emission savings attributable to the BESS. Notwithstanding that the Applicant states this figure is not included in the overall GHG savings estimate, it is inflated and should be based on comparison with the 2033 grid energy mix.

Potential Ground Contamination from Storm Damage

A.9 At page 45 the Applicant *"notes that a contributing factor to the storm damage at Porth Wen solar farm was its location, being an exposed coastal area which is vulnerable to strong winds."* Camblesworth is inland and suffered storm damage. Referring to the Framework OEMP the Applicant states that this "*will ensure that the structural integrity on the panels will be regularly observed."* If serious storm damage occurs, it will not be difficult to visually assess the structural integrity. The Trent Valley is known as Tornado Alley and with the impact of global warming there are more and more occasions when we are seeing severe thunderstorms which are often the precursors to a tornado. Indeed, there have been many eyewitness accounts of tornados in the region. Given the Met office analysis of climate change accelerating so that temperature records are not being broken by 0.1 degrees but 2 degrees, a 1 in a 100 year event is now much more likely to occur on a much more frequent basis and therefore, the design must reflect that in terms of rainfall (bund size), wind strength and particularly gust speeds. The key question is, to what storm level will the proposed development be designed to withstand? For a 60 year development, with

unforeseen weather events occurring far more regularly, design against a 1 in 100 year event should be the absolute minimum requirement.

Abnormal Indivisible Loads (AILs)

A.10 Page 40 states, "*no AILs are expected to be required during operation."* REP5-013 Table 2 (Page 6) states the indicative design life of transformers as being 30 – 40 years. As this Table is titled "Indicative Design Life of Key Equipment of the Proposed Development" it would be reasonable to assume ALL key equipment is included. Indeed, APP-031 Paragraph 6.4.27 states "*…transformers are assumed to be replaced every 30 years."* No mention is made of different design lives for different transformers. REP3-045 Table C-2 states that MV transformers have a typical design life of 30-40 years. Where in the documentation is it stated that the large substation transformers (400kV power transformers?) have a design life of at least 60 years, and based on what evidence? Research appears to show that a typical design life for a 400kV transformer is 30-40 years, but "well maintained units consistently operate for 40 to 50 years". The Applicant cannot guarantee units will be 'well maintained', therefore assuming a 60 year life is not taking a reasonable worst-case approach, it is taking a highly optimistic best-case one. Hence, it is highly likely that AIL(s) will be required during the operation phase in order to replace the large 400kV substation transformers.

Permanent Sealing of Land

A.11 "*The Applicant does not consider it has changed position on the issue of permanent sealing* [of land]." It is difficult to keep count of the number of times the Applicant HAS changed its position regarding this issue. For example, in response to ExA question FS.2.02 "*The Applicant is not aware of other solar NSIPs including areas of built 'hard' infrastructure (access roads, compounds, BESS, substations) within the calculation of land permanently lost, except where an applicant is not proposing to decommission these works."* The Applicant then states at page 26 it has fully explained its position why "*other solar NSIPs such as Mallard Pass, Heckington Fen, Gate Burton and Beacon Fen may have assessed some impacts as permanent …"* in these cases the permanent sealing was not associated with any intention to retain the hard infrastructure on decommissioning , so the Applicant HAS CHANGED IT'S POSITION.

A.12 Regarding the Applicant's comments (page 27) referring to the proposed Springwell development "…. *It is noted that Springwell Solar Farm differs from the Proposed Development by the presence of 86ha (213 acres) of Very High sensitivity land comprising Grades 1 and 2 within its Order Limits. 14 ha (35 acres) of this is solar PV with the potential for crushed gravel access tracks and impermeable concrete pad foundations on which Solar Stations will be sited."* This is **INCORRECT**. In the proposed Springwell development, there is no planned permanent sealing of Grade 1 or 2 land as a result of access tracks, BESS, substation etc (Springwell, APP-051 Chap 11 Table 11-12 (page 29) refers). **Hence, the Springwell Secretary of State decision letter regarding permanent sealing of land has direct read across to the proposed development.**

PRoW

A.13 At Paragraph 11.4.18 of APP-036 the Applicant states "*….. given the linear nature of PRoWs and Permissive Paths, the range of noise impacts along them that forms the ambient noise environment, and the transient usage of a PRoW or Permissive Path, a material change*

in the experience of using the PRoW or Permissive Path as a whole as a result of noise emissions from the Proposed Development, which could affect PRoW and Permissive Path user's health or quality of life, is not anticipated." Firstly, one of the most popular walks in the area is a circular walk commencing and finishing in Thorpe on the Hill which if the proposed development is approved, will be subject to continuous noise from the proposed development as this circular route is traversed. Secondly, given the Applicant states PRoW have been scoped out as noise receptors, how can the Applicant come to such a conclusion in the absence of any noise impact assessment.

FSMP

A.14 At page 38, referring to the Framework Soil Management Plan (REP4-010), the Applicant states "*The agricultural land soil resource within the Principal Site will be returned to the landowners in its current state following decommissioning of the Proposed Development and reinstatement of the land."* **The use of the word 'WILL' suggests a 100% guarantee.** With no proven experience of any soil restoration following even just 20 years, let alone 60, this statement cannot be given any weight in the examination process. Furthermore, the Applicant cannot provide any guarantees regarding successful removal of any contamination (heavy metals, toxic firewater, leeching from temporary battery storage etc).

Food/Energy Security

A.15 At page 58 the Applicant states "*… the key document on UK food security is the Defra UK Food Security Report 2024."* A further key document is the one I referred to at page 58, dated 20 January 2026. This latest Government document is some 2 years more recent than the 2024 Defra document referred to by the Applicant and addresses food security risks as underpinning national security in today's volatile world; why has the Applicant ignored it? It is noted that in the Springwell Decision Letter (Paragraph 4.51), the Secretary of State considered that the Applicant should have assessed the impacts of the proposed development on food production and food security within its environmental statement.

A.16 Alongside this are my comments regarding energy security which the Applicant has again not addressed. Projects such as the proposed development may provide peripheral support to energy generation targets but, being intermittent energy, providing its maximum output when demand is at its lowest, sourced from China and only some 10% efficient, cannot provide energy security at a time when the need for security is becoming increasingly significant. Hence, the Applicant's 'need' argument must be tempered by the fact it does not bring any level of energy security.

A.17 It is also noted that the Applicant has not commented regarding my assertion that this is not cheap energy. During public consultation the Applicant has stated the proposed development will power 110,000 homes. At approximately £2Bn to power one million homes, a Small Modular Reactor (SMR) will, pro-rata, power 110,000 homes for circa £220M; compared to the Applicant's projected cost of £340M (APP-021) to power 110,000 homes – some 1.5 times higher cost than an SMR. In addition, unlike the proposed development, a SMR provides consistent baseline energy.

Overplanting

A.18 The Applicant will respond to the ExA's Rule 17 request for further information at PD-028 regarding overplanting, but it is worth noting the Applicant's statement (REP3-036 5.3.7) ***"Since the purpose of overplanting is to ensure that generating levels are maintained in the real world, it is NOCT output rating that is used to derive the level of overplanting required."*** The Applicant's own data (REP3-036 Page 18, Table 5.2) for NOCT conditions shows an overplanting ratio commencing at 1.17 in Year 1, ending at 1.02 in Year 30.

Section B

REP5A-037 Applicant's Response to the Examining Authority's Third Written Questions. Words in italics refer to REP5A-037 unless otherwise stated.

GC. 3.06

B.1 The Applicant refers to REP3A-004 (draft DCO) regarding annual maintenance schedules which prevents "*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 environmental statement."* The environmental impact assessment of the construction phase covered the total installation of 100% of the solar panels; hence, if 99% of panels were replaced under the term 'maintenance' during the operational phase, the environmental impact would be within the scope of that assessed under construction, and therefore, using the wording in the DCO, would not "give rise to any materially different effects that have not been assessed in the environmental statement". Therefore, in its current form, the DCO does not exert any control or limit over the maintenance activities undertaken during the operational phase. From a waste perspective alone, the cumulative impact arising from the many proposed and approved solar developments in the region will present massive challenges for local authorities which will require management and control.

CC. 3.01

B.2 In response to the ExA regarding assessment of GHG emissions, the Applicant states "*…….. it could in theory lead to other forms of energy generation being proposed to deliver this energy. This might include a series of small gas fired power plants, which do not currently require carbon capture technology ….."* This is speculation. Carbon capture technology could be mandated in 7 years time, or the 'other forms of energy' could be cleaner renewables such as wind or Small Modular Reactors. Gas may still be considered because it gives a consistent baseline supply, as does nuclear, whereas solar does not.

ENC.3.06 & ENC.3.07

B.3 Regarding embedded avoidance and mitigation measures (fish), the ExA requested "a review is undertaken to determine whether there are other similar references in the various management plans that may introduce doubt about the deliverability of mitigation measures ……" At REP1-019 Page 8-43, the Applicant states that burying cables 5m below the Rivers Witham and Brant will reduce electromagnetic fields (EMF) to "below background level", thereby reducing EMF effects on fish. There does not appear to be any recognised standard (such as the International Commission on Non-Ionizing Radiation, Institute of Electrical and Electronic Engineers, Defra/Centre for Environment, Fisheries and Aquatic Science) that defines a 5m burial depth as sufficient to reduce EMF to below geomagnetic

background, nor any evidence that the Applicant has actually modelled magnetic field strength or spatial gradients at the riverbed. Fish sensitivity to EMF is driven by localised gradients, not absolute field strength; there is no evidence that this has been assessed. Furthermore, it has been shown that EMF persists even when cables are buried deep and remains detectable up to tens of metres from the cable; modelling study of buried subsea cables (Hutchison et al., 2021) shows that deeper burial reduces EMF but does not remove it, and magnetic field deviations remain detectable by sensitive species even when cables are buried. In the absence of modelling outputs (micro-tesla values at the riverbed, gradient plots, cable spacing etc), the statement by the Applicant that EMF will be "below background level" does not appear to be verified and therefore cannot be relied upon in the environmental assessment.

FS.3.03

B.4 "*The Applicant has based the Framework SMP on good industry practices, its experience on other projects, and the Framework SMPs accompanying several made DCOs for solar NSIPs ….*" Could the Applicant please explain its 'experience on other projects' and how any such experience is relevant to managing soils that will lay dormant for 60 years? Moreover, none of the "solar NSIPs" mentioned in the Statement of Competence have even commenced construction, so the Applicant cannot provide any physical evidence to underpin, with any degree of certainty, how soil that has been sealed, not worked, shaded etc for such a long time, will behave.

Section C

Unplanned Emissions Assessment

C.1 It is noted that regarding the proposed BESS to the South of Green Man Road, Navenby, NKDC commissioned an independent Review of the BESS Unplanned Emissions Assessment (NKDC Planning Portal 25/0491/FUL Documents Tab Unplanned Emissions Assessment Review (Published on the Portal 08 May 2026}). It is assumed that the Applicant will be fully aware of the recommendations as the Applicant is also promoting the Navenby BESS. The recommendations include:

> **Recommendation 1:** The applicant should be asked to explain the reasoning for using AEGL-1 value of 820 µg/m^3 for hydrogen fluoride as the reference point for this study, rather than using the more demanding Environment Agency short-term EAL of 160 µg/m^3, or alternatively, update the assessment to use the EAL as the reference point. [Note: AEGL: Acute Exposure Guideline Levels. EAL: Environmental Assessment Level]
>
> **Recommendation 2:** Consideration should be given to presenting the results as zones or distances of potential impact due to emissions during and unplanned fire event, rather than as dilution factors. The model results can then be evaluated against the EAL for hydrogen fluoride, as set out in Recommendation 1.
>
> **Recommendation 4:** Consideration should be given to using ADMS for modelling emissions from a multiple cabinet fire scenario. [Note: ADMS: Atmospheric Dispersion Modelling System]

C.2 APP-176 Unplanned Emissions Assessment, Paragraphs 2.2.3 and 2.2.4 appears to show that the Applicant is using the same AEGL-1 value of 0.82 mg/m^3 (820 µg/m^3). Therefore the same question is valid; what is the reasoning for using this value and not the more demanding Environment Agency short-term EAL of 160 µg/m^3? Given that APP-176 is almost identical to the Unplanned Emission Assessment for NKDC Planning Application 25/0491/FUL (Documents Tab 'Unplanned Emissions Assessment' dated 24 April 2025), a number of the 7 recommendations in the Review could equally apply to APP-176.

C.3 At REP5A-038 page 46 the Applicant states regarding modelling and referring to the Unplanned Emissions Assessment (APP-176) "*It considers the very unlikely scenario of propagation beyond a single container.*" Maybe 'unlikely' but not impossible and not unknown as shown on a number of occasions worldwide. APP-176 Paragraph 4.1.7 states "*In the unlikely event that a fire was to break out in a single module, it is very unlikely, given the control measures, that the fire would spread to the rest of the modules in a cabinet, or from a single cabinet to a larger BESS container.*" This suggests modelling in based on either a single module or a single cabinet not even a single container and is definitely **not a worst-case scenario.**