

The Great Grid Upgrade

Sea Link

Sea Link

Volume 9: Examination Submissions

Document 9.129: Applicants Response to 2GEN1 and 2GEN2 in respect of Need

Planning Inspectorate Reference: EN020026

Version: A
March 2026

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Version

| Date | Version | Status | Description / Changes |
|-------------|----------------|---------------|------------------------------|
| March 2026 | A | Final | For Deadline 5 |
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1. Introduction

1.1 Purpose of this Document

1.1.1 This document provides National Grid Electricity Transmission plc's (the Applicant's) response to the ExA's Written Question 2GEN2. This states that:

'The need for the project was explored at ISH1. Several parties have made submissions requesting that the topic of need be discussed again at a future ISH. The ExA reminds all parties that the examination is a predominately written process. Due to the highly technical nature of need as a topic and the necessity for considered responses to questions, the ExA's current view is that it will be most assisted by examining the evidence in writing. To date the ExA has received extensive evidence on the topic of need, both orally and in writing, and is carefully considering the cases of the parties. If any party has any new or additional evidence they believe is important and relevant to the examination of need, we ask that it is submitted for DL5 in order to allow a fair opportunity for all parties to comment on each other's submissions.'

1.1.2 This document is submitted in response to this Written Question. The Applicant first provides an overview of the need case, signposting to application and examination documents (on which it continues to rely and does not repeat in full here), before responding to a number of points raised by Interested Parties during the examination in respect of need.

1.1.3 In accordance with Question 2GEN1 of the Examining Authority's second written questions (ExQ2), the Applicant also provides in **Appendix A**, below, a response to **REP3-144**, **REP4-156** and **REP4-238** in relation to need.

2. The Need for Sea Link

2.1 The Context for Need

- 2.1.1 The need case for Sea Link is set out in several application documents, primarily the **Strategic Options Back Check Report [APP-320]**, the **Planning Statement [AS-057]**, and the **Design Development Report [APP-321]**. Regard should be had to those documents for a full statement of the need for Sea Link.
- 2.1.2 The Applicant has made further submissions in response to various points made in relation to need, primarily in the **Applicant's Detailed Responses to the Relevant Representations identified by the ExA [REP2-014]**, the **Applicant's Comments on Written Representations [REP2-034]** and the **Applicant's Response to Issue Specific Hearing 1 (ISH1) Action Points [REP1-124]**. The Applicant continues to rely on those submissions, which it is not practicable to repeat here in full.
- 2.1.3 In summary on the need case, as set out in the **Strategic Options Back Check Report [APP-320]** at paragraph 3.8.1 (and see generally Section 3: Need Case) the Proposed Project will address several distinct issues within the electricity transmission network:
- Provision of minimum (no fossil fuel contribution) 9,703.7 MW of capacity across East Anglia EC5 Boundary and 5,271.8 MW of capacity across EC5N Boundary.
 - Provision of maximum 13,197 MW of capacity across East Anglia EC5 Boundary and 8,765.7 MW of capacity across EC5N Boundary.
 - Provision of 7,467 MW of capacity across the LE1 Boundary.
 - Provision of 1,852 MW of connection capacity for the Sizewell Generation Group.
 - Provision of 3,480 MW of connection capacity for the Essex Coast Generation Group
 - Provision of 6,516.2 MW of capacity from the SC2 Boundary Group.
- 2.1.4 It should be noted that during the application the requirement to provide additional capacity of 1,852MW of capacity from the Sizewell Generation Group has reduced to 352MW. This is still a sizeable figure and as set out in this document is only one of the multiple requirements set out above that needs to be addressed by the Applicant's proposal - with the others being addressed including the contribution to capacity of boundaries EC5, LE1 and SC2 (Kent).
- 2.1.5 It is important to note that each one of these issues on its own would have to be addressed by a specific investment in the network, and that by providing additional capacity and greater resilience in the network, the Proposed Project will help to address each of these issues.
- 2.1.6 Further, whilst the additional capacity that Sea Link will provide will help to accommodate individual generation projects and also provide additional capacity to overcome specific network constraints, it is also important to recognise and give weight to the fact that the Proposed Project is a holistic and strategic investment designed to reinforce the national electricity transmission network as a whole.

2.2 The National Policy Context for Assessing Need

2.2.1 The Proposed Project is the subject of a Section 35 Direction issued by the Secretary of State confirming that the Proposed Project is of ‘*National Significance*’ and that it should be treated as development for which development consent is required under the Planning Act 2008.

2.2.2 The primary policy document for DCO applications for electricity transmission subject to a Section 35 Direction is the Overarching National Policy Statement for Energy (EN-1). Paragraph 1.3.10 of NPS EN-1 confirms that:

‘EN-1, in conjunction with any relevant technology specific NPS, will be the primary policy for Secretary of State decision making on projects in the field of energy for which a direction has been given under section 35.’

2.2.3 NPS EN-1 is part of a suite of National Policy Statements issued by the Secretary of State for Energy Security and Net Zero. As confirmed in the ExA’s Rule 6 Letter [PD-010] other National Policy Statements of relevance to the Proposed Project are NPS-EN-3 (*‘Renewable electricity generation (both onshore and offshore)’*) and NPS EN-5 (*‘The electricity transmission and distribution network’*). Under the transitional arrangements for new National Policy Statements, it should be noted that the Proposed Project is assessed against the suite of NPSs designated in 2024 and not the more recent versions that were designated in January 2026.

2.2.4 The 2026 suite of NPSs are however potentially an important and relevant consideration in determining the development consent application for Sea Link. The Applicant therefore submitted a Planning Statement Addendum at Deadline 4 [REP4-092] assessing the new NPSs. This document concluded that the 2026 NPSs reinforced the need case even further:

‘The 2026 NPSs have now embedded the Clean Power Action Plan, prioritising 95 % clean electricity by 2030 and aligning CNP policy with a presumption in favour of consent for qualifying projects. As a project which was identified in the NESO’s Advice on Achieving Clean Power by 2030 (NESO, 2024), the critical and urgent nature of the project is therefore reinforced by the inclusion of the Clean Power Mission in the 2026 NPSs.’

2.3 NPS Approach to Assessing Need for NSIPs

2.3.1 Part 3 of NPS EN-1 identifies an overall need for new nationally significant energy infrastructure projects including applications for projects to increase the capacity of the electricity network, such as the Proposed Project.

2.3.2 NPS EN-1 paragraph 3.3.65, confirms that “*There is an urgent need for new electricity network infrastructure to be brought forward at pace to meet our energy objectives*”. Paragraph 3.3.70 provides that: “*As all new grid projects have a role in efficiently constructing, operating and connecting low carbon infrastructure to the National Electricity Grid, the scope of networks CNP infrastructure is not limited to those associated specifically with a particular project*”. Paragraph 3.2.6 provides that “*The Secretary of State should assess all applications for development consent for the types of infrastructure covered by this NPS on the basis that the government has*

demonstrated that there is a need for those types of infrastructure which is urgent, as described for each of them in this Part”.

2.3.3 NPS EN-1 paragraph 3.2.7 confirms that ‘*substantial weight*’ should be given to this need in considering applications for development consent under the Planning Act 2008.

2.3.4 Paragraph 3.3.68 of NPS EN-1 notes that “*The volume of onshore reinforcement works needed to meet decarbonisation targets is substantial*” and that “*National Grid ESO forecasts that over the next decade the onshore and offshore transmission network*” will require, inter alia, “*substantial reinforcement in East Anglia to handle increased power flows from offshore wind generation*”. That provides specific policy support for Sea Link.

2.3.5 Paragraph 3.2.8 of NPS EN-1 sets out that the Secretary of State ‘*is not required to consider separately the specific contribution of any individual project to satisfying the need established in this NPS*’.

2.3.6 Paragraph 4.2.4 of NPS EN-1 confirms that the Government has found there to be a ‘*critical national priority*’ for the provision of nationally significant low carbon infrastructure which is specifically confirmed (within the **Glossary to NPS EN-1**) to include:

‘energy infrastructure which are directed into the NSIP regime under section 35 of the Planning Act 2008, and fit within the normal definition of “low carbon”, such as interconnectors, Multi-Purpose Interconnectors, or ‘bootstraps’ to support the onshore network which are routed offshore’.

2.3.7 Sea Link is a bootstrap within the meaning of this policy.

2.3.8 It has been suggested by Suffolk Energy Actions Solutions (SEAS) in **[RR-5210]** and **[REP1-281]** that unlike with generator projects, it is necessary to demonstrate a locational need for network reinforcement NSIPs.

2.3.9 The Applicant recognises that policy at NPS EN-1 paragraph 3.3.78 provides:

“the case for a new connection or network reinforcement is demonstrated if the proposed development represents an efficient and economical means of:

- connecting a new generating station or storage facility to the network
- reinforcing the network to accommodate such connections, or
- reinforcing the network to ensure that it is sufficiently resilient and capacious (per any performance standards set by Ofgem) to reliably supply present and/or anticipated future levels of demand.”

2.3.10 In considering the ‘*economic and efficient*’ approach the network project needs to follow good design, avoidance and mitigation principles (and / or biodiversity compensation where needed for transmission in the marine environment), as referenced in EN-5.

2.3.11 As is set out below, the Proposed Project meets the tests set out in this policy in NPS EN-1 paragraph 3.3.78 by reinforcing the network in a way that will help to accommodate additional connections and also reinforcing the network to ensure that it is sufficiently resilient and capacious to reliably supply present and/or anticipated future levels of demand as required by Ofgem performance standards. Locational need has clearly been demonstrated.

2.3.12 In addition, policy in NPS EN-1 on the urgent need for electricity network infrastructure (as referenced above) also remains highly relevant. It provides substantial weight in support of the Proposed Project. As set out above, the “*urgent need*” that proposals

should “*be brought forward at pace*” to meet the Government’s energy objectives expressly applies to network reinforcement DCOs such as the Proposed Project (see NPS EN-1 paragraph 3.3.65, and also the Glossary cited above).

2.4 Regulatory Context

2.4.1 As set out in the Planning Statement [**AS-057**], National Grid has duties placed upon it by the Electricity Act 1989 and operates under the terms of its transmission licence.

2.4.2 Where National Grid is developing new infrastructure, it is required to have regard to the following statutory duties under the Electricity Act 1989. Under Section 9(2) of the Electricity Act 1989, it is required:

“to develop and maintain an efficient, co-ordinated and economical system of electricity transmission”.

2.4.3 These obligations mean that National Grid is responsible for the delivery of new electricity transmission infrastructure (within England and Wales) and for the cost of projects, as costs will ultimately be borne by electricity users.

2.4.4 The Proposed Project has been brought forward by the Applicant in accordance with and having had regard to these obligations and following a prolonged and ongoing engagement with National Energy System Operator (NESO), the independent public body with responsibility for Britain’s electricity and gas networks.

2.5 Clean Power 2030 Report

2.5.1 The National Energy System Operator (NESO) was created as a result of the UK’s Energy Act 2023 and is an independent System Operator. One of the NESO’s principal functions established by the 2023 Act is to carry out strategic planning and forecasting in connection with the development of transmission systems. The Clean Power 2030 ‘*Advice on achieving clean power for Great Britain by 2030*’ Report (published November 2024) is the NESO analysis of what it considers to be the pathway to a clean power system by 2030.

2.5.2 As set out in the Planning Statement [**AS-057**] at para. 1.2.5, the NESO Clean Power 2030 report identifies Sea Link as “*critical*” to delivering a network which supports the clean power pathways (see page 34 of the Clean Power 2030 main report and Section 2.4 (page 8) of its Annex 2). The report also sets out the constraint costs that would arise if Sea Link was not delivered by 2030 and NESO had to manage this problem by paying generators to reduce (turn-down) their electricity output in areas that are congested and switch on (turn-up) in locations closer to electricity users.

2.5.3 The specific reference to the Project in the Clean Power 2030 report provides additional recognition of the need for the Project on top of what is stated in respect of the need for new electricity networks.

2.5.4 Furthermore, the subsequent UK Government “Clean Power Action Plan” policy paper published in December 2024 fully endorsed the conclusions of the Clean Power 2030 report and the need to deliver Sea Link by 2030¹.

¹ “Clean power Action Plan : A new era of clean electricity” - Page 63 and 64.

3. Rebuttal Points

3.1 The Sizewell Generation Group gap has reduced since the Application was submitted

- 3.1.1 In **Table 2.42 (Suffolk Energy Action Solutions – Needs Case; pages 363 - 379)** of **The Applicant’s Comments on Written Representations [REP2-034]**, the Applicant confirms that there presently is a requirement to provide additional capacity of 352.1 MW solely to accommodate generators within the Sizewell Generation Group. This is a lower figure than the 1,852 MW identified in the **Strategic Options Back Check Report [APP-320]** and follows the termination of National Grid Ventures’ (NGV) Nautilus interconnector Connection Agreement at Friston. This meant that Nautilus’ 1,500 MW no longer contributes to future power transfers from the Sizewell Group.
- 3.1.2 The Applicant is quite clear that a gap of 352 MW (an amount which would power up to 300,000 homes) is a significant shortfall in provision in its own right, contrary to any alternate suggestion.
- 3.1.3 As the holder of an Electricity Transmission Licence, the Applicant must meet a wide range of conditions and obligations. As set out in the **Appendix A** of the **Strategic Options Back Check Report [APP-320]** these obligations include:
- Condition D2: *“Obligation to provide transmission services”, which includes “responding to requests for the construction of additional transmission system capacity”.*
- Condition D3: *“Transmission system security standard and quality of service” which includes “Transmission owners are required to at all times plan, develop the transmission system in accordance with the National Electricity Transmission System Security and Quality of Supply Standard (‘NETS SQSS’).”*
- 3.1.4 These Conditions oblige National Grid to ensure sufficient capacity for connections and system reinforcements to reach compliance with the NETS SQSS. The Applicant would be in breach of its obligations under its Licence if it did not provide adequate capacity in the network, and a shortfall of 352 MW would require a significant intervention in the network to address.
- 3.1.5 These obligations on Licence Holders are recognised in NPS EN-5 which states that:
- “2.8.4 The Secretary of State should also take into account that Transmission Owners (TOs) and Distribution Network Operators (DNOs) are required under Section 9 of the Electricity Act 1989 to bring forward efficient and economical proposals in terms of network design.*
- 2.8.5 TOs and DNOs are also required to facilitate competition in the generation and supply of electricity, and electricity distributors have a statutory duty to provide a connection where requested.”*
- 3.1.6 Whilst a shortfall of 352MW is significant in its own right, the rationale for the Proposed Project is in any case to provide additional capacity, resilience and transmission capacity and to tackle a number of issues in the network as a whole. It is not solely to address a shortfall in any one individual generation group. As set out above at paragraph 2.1.3, addressing the shortfall in the Sizewell Generation Group is only one

of a number of objectives including providing capacity contributions to EC5, LE1 and SC2 (Kent). Sea Link is required to add capacity to the EC5, LE1 and SC2 boundaries alongside capacity to the Sizewell Generation Group, thereby addressing many system needs.

3.2 Rebuttal point 2 - The Sizewell Group Gap can be met by building new OHLs or reconductoring the Sizewell to Bramford double circuit and SC2 Kent can be addressed by a new circuit between Canterbury and Kemsley

- 3.2.1 The Applicant notes the suggestion from SEAS in [REP2-112] and [REP4-156] that a need of 352MW can be met in two ways: (1) by building a new Sizewell to Bramford double overhead line (OHL) circuit; or (2) by reconductoring the Sizewell to Bramford double circuit with uprated conductors (para 51). SEAS also suggested that the issues in SC2 (Kent) could be addressed by building a new circuit between Canterbury and Kemsley.
- 3.2.2 As to the second suggested option for Suffolk (reconductoring), this is not technically possible.
- 3.2.3 There are limitations as to what a circuit can carry, defined by the International Electrotechnical Commission (IEC) as a maximum rating of 5,000 amperes for a 420 kV transmission line.
- 3.2.4 This equates to a capacity on a single circuit of 3465 MVA (megavolt-ampere) or a double circuit of 6,930 MVA.
- 3.2.5 It is important to note that the Sea Link need case analysis already accounts for planned uprating of the existing Sizewell to Bramford circuits that is required to connect Sizewell C. The four circuits connecting Sizewell to Bramford are considered at 3465MVA each (6930MVA double circuit), the capacity after this planned work is completed. Therefore following the worst case-fault of a double circuit between Sizewell and Bramford, losing 6930MVA of capacity, the remaining double circuit between Bramford and Sizewell provided the remaining 6930MVA maximum capability
- 3.2.6 The total unscaled generation in the Sizewell group following the reduction is 8,738MW, and the scaled generation is 7,282.1MW. Therefore following the worst case described above 7,282.1MW of generation needs to be transmitted out of the group with the maximum capacity on the remaining circuit being 6930MW. This leaves a 352MW shortfall ($7282.1\text{MW} - 6930\text{MW} = 352\text{MW}$) which must be addressed.
- 3.2.7 This post fault capacity 6930MVA on either remaining Sizewell to Bramford circuit post fault, shows that the existing system is already capable of meeting the maximum (IET) 5000 amperes rating. Therefore, it is not possible to upgrade these circuits any further. Therefore, to address any shortfalls, additional circuits are required.
- 3.2.8 System enhancement solutions such as uprating existing circuits with higher capacity conductors, conductor monitoring, new conductor technologies or enhanced power flow control, are not practical in this case. Such solutions are typically used where circuits for a variety of reasons are not achieving the (IET) 5000A rating, and deploying such solutions would deliver ratings to meet this limitation. In this case where the highest IEC 5000A ratings are being achieved, such options are not viable as the circuits already achieve maximum rating.

- 3.2.9 Turning then to the suggestion of new circuits being constructed - for both the Sizewell Generation Group and SC2 (Kent) boundary it has been suggested that new circuits could address both issues, if, as indicated above, enhancement of existing circuits is not possible. Such options would only address the Sizewell Generation Group demand and SC2 Kent demands in isolation. Undertaking both isolated proposals would not address the required need across EC5, LE1 and would neither be coordinated, economical or efficient as required by the Electricity Act 1989 and recognised within the National Policy Statements EN-1 and EN-5.
- 3.2.10 The Proposed Project addresses multiple technical and policy needs that require resolution through a coordinated, economic and efficient solution and within the proposed timescales. The new circuits as suggested by SEAS would be a piecemeal approach that would not address the full need as described above. Furthermore, the suggested new circuits could not be delivered in the timescales required to deliver system need and consumer benefit paragraph 4.3.23 of NPS EN-1 is relevant, which provides:

“The Secretary of State should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security, climate change, and other environmental benefits) in the same timescale as the proposed development.”

3.3 Rebuttal point 3 - The Gap should be measured in Scaled (and not non-scaled) generation

3.3.1 For the avoidance of doubt, the Sizewell Generation Group Gap of 352MW is measured in scaled generation.

3.3.2 The **Strategic Options Back Check Report [APP 320]**, Table 3.2 “Planned Generation for East Anglia” page 30 & 31, sets out the Scaled Generation requirements in the area. The scaling as indicated in paragraph 3.6.4, page 31 & 32 is set out below: -

“The SQSS defines the technique that should be used to scale generation outputs for certain types of generators. Generators with fixed scaling factors (DT) are:

- Nuclear and fossil fuel power with carbon capture and storage DT = 0.85.
- Wind, Wave and Tidal DT = 0.7.
- Pumped Storage DT = 0.5.
- Interconnectors Considered importing at Peak DT = 1.0.”

3.3.3 The capabilities and deficits described in the **Strategic Options Back Check Report [APP 320]** are fully derived from Scaled Generation. The current post-fault capacities are as follows:

- Sizewell Generation Group – 2031 scaled generation required transfer of 7282.1MW, post fault capability of 6,930 MVA, which would leave a deficit of - 352.1MW (7,282.1MW – 6,930MVA);
- EC5 – 2031 required transfer 23,007.7 MW and post fault capability 13,304 MVA, which would leave a deficit of -9,703.7 MW (23,007.7MW-13,304MVA).

3.3.4 The Applicant considered the scaled generation deficits and whether they satisfied requirements set by Chapter 2 “Generation Connection Criteria Applicable to the

Onshore Transmission System” of the NETS SQSS. Specifically, the Applicant assessed against and is satisfied that the Proposed Project meets the following requirements:

“2.8.4 conditions on the onshore transmission system shall be set to those which ought reasonably to be expected to arise in the course of a year of operation. Such conditions shall include forecast demand cycles, typical power station operating regimes and typical planned outage patterns modified where appropriate by the provisions of paragraph 2.11.”

- 3.3.5 Scaled generation is used throughout and demonstrates that the Sea Link proposal meets the requirements of the NETS SQSS and resolves the wider need on the system contributing to capacity on EC5, LE1 and SC2 (Kent) as set out above.

3.4 Rebuttal point 4 – It is very unlikely that there would be a requirement to export from Kent to Suffolk

- 3.4.1 SEAS in **[REP4-156]** at para. 37 challenges the Applicant’s suggestion that part of the need case for Sea Link is to enable the export of electricity from Kent to Suffolk at times of high interconnector flows into Kent. SEAS’ argument is unfounded.

- 3.4.2 The Applicant’s **Strategic Options Back Check Report [APP 320]** sets out the requirements of the NETS SQSS to consider “worst-case” fault outages. These are generally based on one “worst-case” fault outage at a time. Therefore, the Applicant’s design in particular utilises the Sea Link HVDC link to manage “worst-case” faults in:

- EC5 East Anglia by the Sea Link HVDC link exporting to Kent;
- Sizewell Generation Group by the Sea Link HVDC link exporting to Kent;
- SC2 Kent by the Sea Link HVDC link exporting to East Anglia.

- 3.4.3 The “worst-case” fault for Kent would be a SC2 boundary fault as illustrated below in plate 3.6 from the Strategic Options Back Check Report **[APP-320]**:

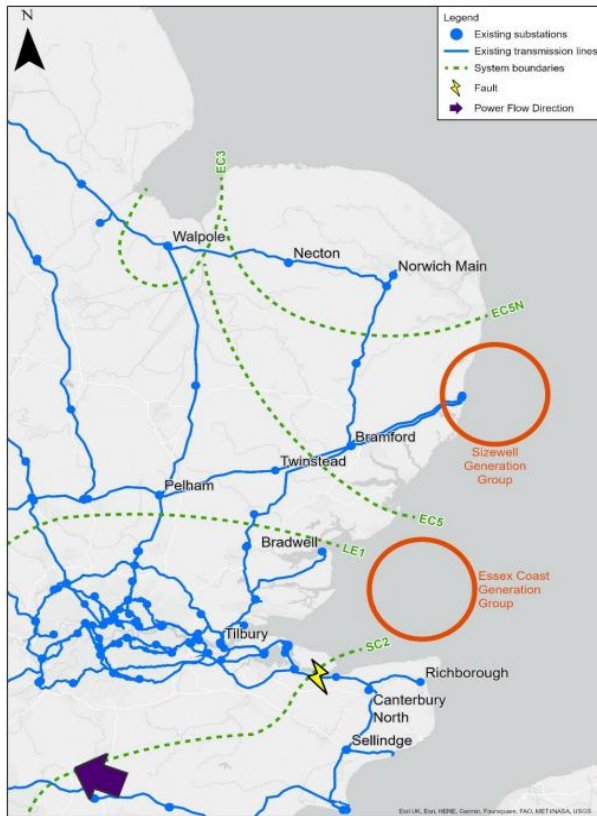


Plate 3.6: SC2 boundary fault and impact

- 3.4.4 The Strategic Options Back Check Report [APP 320] explains that “For the SC2 Boundary group the worst-case fault is for the double circuits connecting Canterbury North to Kemsley as shown in Plate 3.6, with the remaining circuit capability being 5,873 MW. The transfer required by 2037 following the closure of Dungeness Nuclear Power Station is 12,689.2 MW. This is in excess of both the capability and capacity of SC2 causing both overloads and voltage stability issues on the south coast” (paragraph 3.7.21).
- 3.4.5 Under the above fault in Kent, the Sea Link HVDC would export energy from Kent to East Anglia, as all circuits in East Anglia would be available as required by the NETS SQSS design standard. Under this required credible scenario Sea Link would export from Kent to East Anglia and therefore ensure compliance with the NETS SQSS.
- 3.4.6 This again shows why Sea Link is the most coordinated, efficient and economical solution resolving multiple deficits in generation groups and boundaries, as the HVDC solution in this case has the flexibility to not only resolve issues within East Anglia but also Kent, making it a highly effective transmission solution for the events explained above.

3.5 Rebuttal point 5 - The Assumptions Underpinning the Clean Power 2030 report have now been superseded, as certain OWFs are now connecting elsewhere and do not require Sea Link.

3.5.1 SEAS in its submissions **REP3-144** dated 19 January 2026 argues that the assumptions underpinning Clean Power 2030 are now out of date. In particular, SEAS contends that since Five Estuaries Windfarm now has an agreement to connect to a node close to Lawford in Essex and Rampion Extension (also known as Rampion 2) is a windfarm off the South coast of Sussex then Sea Link is no longer required to accommodate them:

'In the past, the NESO suggestion that Sea Link is Required for connection of Five Estuaries OWF and firm Connection of Rampion Extension might have been considered plausible, but at the time of this DCO examination it is simply not the case.' (para. 12 [REP3-144])

3.5.2 SEAS' argument is unfounded. SEAS is incorrect to infer that these offshore wind farms were ever planned to connect directly to Sea Link. On the contrary, these wind farms have always been planned to connect elsewhere in the network. Five Estuaries and Rampion Extension connection locations have not changed since Clean Power 2030 was produced.

3.5.3 Within Clean Power 2030 Annex 2, Section 2.4 (page 8) it is clearly stated that Five Estuaries is contracted to connect in Essex at a new substation which is part of the Norwich to Tilbury project. Similarly, Rampion Extension was contracted to connect at Bolney 400kV Substation in West Sussex at the time of Clean Power 2030 analysis and is still contracted to connect at the same location. It is also clearly stated within Clean Power 2030 Annex 2, Section 2.4 (page 8) that Sea Link is required to facilitate the transfer of clean power throughout East Anglia and the connection of Five Estuaries and Rampion Extension.

| | |
|--|--|
| Norwich to Tilbury (AENC and ATNC) | Delivers new substation connecting <ul style="list-style-type: none">• North Falls OWF• Five Estuaries OWF• Tarchon Interconnector Facilitates transfer of clean power through and out of East Anglia |
|--|--|

3.5.4 As set out in the Strategic Options Back Check Report [APP 320] “Needs Case”, Sea Link is required to ensure there is sufficient cross boundary capacity, on boundaries EC5, LE1 and SC2, to allow these generators to connect while maintaining NETS SQSS compliance and avoid constraints. Specifically, Rampion Extension connects within SC2 boundary and Sea Link is required to reinforce this boundary to facilitate the firm connection of Rampion Extension. Similarly, Five Estuaries connects between the EC5 and LE1 boundaries, and Sea Link is required to reinforce these boundaries to facilitate the firm connection of Five Estuaries.

3.5.5 Sea Link remains critical for the needs case requirements of the Sizewell Generation Group, and the EC5, LE1 and SC2 boundaries as set out in the Strategic Options Back Check Report [APP 320] “Needs Case”.

3.5.6 As set out above, one of the NESO's principal functions established by the Energy Act 2023 is to carry out strategic planning and forecasting in connection with the development of transmission systems. The Clean Power 2030 'Advice on achieving clean power for Great Britain by 2030' Report (published November 2024) is the NESO analysis of what it considers to be the pathway to a clean power system by 2030. It remains valid and attracts very significant weight.

3.5.7 The need for Sea Link is likewise recognised by Ofgem in its decision of 19 November 2025 to approve Early Construction Funding (ECF) for Sea Link. Ofgem stated, in reliance on the Clean Power 2030 report (footnotes omitted; a copy of this ECF decision is appended to this document):

“2.1 As part of the drive to meet net zero 2030 targets, transform the connections processes, generate more clean power, and boost energy security and resilience we must expand the grid at an unprecedented scale and pace. There will be significant growth in wind generation, and a range of reinforcements will be required to deliver the capacity to allow the system to operate in an economic and efficient manner. Sea Link will play an important role in this required reinforcement.

...

2.3 The project will reduce network constraints on the heavily utilised network on the east coast. NESO’s Clean Power 2030 advice identified the project as an investment required in order allow the Government’s clean power objectives to be reached. The project has been highlighted as needing to be accelerated due to the consequences of it not being delivered by 2030. NESO has estimated that failure to accelerate Sea Link to 2030 could cost consumers between £1.1 – 1.4 billion in constraint costs.”

3.5.8 In summary, the independent NESO report remains valid and supports the identification in National Policy Statement (NPS) EN-1 of an urgent national need for electricity infrastructure of this nature, which is required in the national interest to be delivered as soon as possible. The timing and need for the project set out Strategic Options Back Check Report [APP 320] remains urgent within the requirements of NPS EN-1 and EN-5 framework, alongside the Electricity Act 1989 and NGET Transmission Licence requirements.

3.6 Conclusions

3.6.1 For the reasons set out above, the need case for Sea Link is compelling and robust.

3.6.2 As set out in the Strategic Options Back Check Report [APP 320] the project will address a significant number of issues in the network by providing additional resilience and capacity to distribute electricity:

- Provision of minimum (no fossil Fuel contribution) 9,703.7 MW of capacity across East Anglia EC5 Boundary and 5,271.8 MW of capacity across EC5N Boundary.
- Provision of maximum 13,197 MW of capacity across East Anglia EC5 Boundary and 8,765.7 MW of capacity across EC5N Boundary.
- Provision of 7,467 MW of capacity across the LE1 Boundary.
- Provision of 352 MW of connection capacity for the Sizewell Generation Group.
- Provision of 3,480 MW of connection capacity for the Essex Coast Generation Group
- Provision of 6,516.2 MW of capacity from the SC2 Boundary Group.

3.6.3 Whilst the Nautilus connection has reduced the immediate requirement for the Sizewell Generation Group, the remaining gap of 352MW, and technical needs across EC5, LE1 and SC2 (Kent) are still substantial and need to be addressed consistent with the Applicant’s licence obligations.

- 3.6.4 For the reasons set out above, it is not possible to increase capacity by reconductoring the Sizewell to Bramford double circuit and the option of a new line altogether would not meet policy tests in NPS EN-1.
- 3.6.5 Moreover, addressing the requirements of the Sizewell Generation Group or Kent in isolation would not resolve the other issues, namely EC5 and LE1 boundary requirements in the network that the Proposed Project will address. Dealing with each issue in isolation would not be efficient nor economical. The solution provided by the Applicant resolves all the relevant Technical Need issues in a single solution.
- 3.6.6 The Sea Link solution is the economic and coordinated option that resolves capacity constraints in Sizewell Generation Group, SC2 (Kent) and as set out in **Chapter 12 of APP 320** contributes to the resolution of deficits on the EC5 and LE1 boundaries, where deficits are in excess of a single transmission being beyond the 5000Amp 6,930MVA double circuit solution.
- 3.6.7 The Proposed Project is a coordinated, efficient and economical solution, resolving multiple deficits in generation groups and boundaries, and which is designed to satisfy the Applicant's Electricity Act 1989 duties and licence obligations, as set out above and consistent with NPS EN-5. SEA Link enjoys strong national policy support as set out above.
- 3.6.8 As set out above, the assumptions underpinning the Clean Power 2030 report remain valid and the Proposed Project remains "*critical*" as set out in that report (page 34 of the main report and Section 2.4 (page 8) of Annex 2).
- 3.6.9 The Proposed Project will reinforce the national network to accommodate new generation connections (as confirmed in Clean Power 2030) and will also reinforce the network to ensure that it is sufficiently resilient and capacious to reliably supply present and/or anticipated future levels of demand as set out in paragraph 3.3.78 of NPS EN-1. To the extent that the 2026 NPS are an important and relevant consideration, the need case for the Proposed Project is reinforced by the inclusion of the Clean Power Mission in the 2026 NPSs.
- 3.6.10 Contrary to SEAS' representations, 'locational need' has been clearly demonstrated in accordance with paragraph 3.3.78 of NPS EN-1, and the Proposed Project is also strongly supported by policy in NPS EN-1 recognising the "*urgent need for new electricity network infrastructure to be brought forward at pace to meet our energy objectives*" (paragraph 3.3.65). The Proposed Project is Critical National Priority (CNP) Infrastructure. It benefits from the presumptions in favour of granting consent in NPS EN-1, both the presumption which applies for energy NSIPs generally (paragraph 4.1.3) and the specific presumption which applies in respect CNP infrastructure (paragraph 4.1.7, whereby "*For projects which qualify as CNP Infrastructure, it is likely that the need case will outweigh the residual effects in all but the most exceptional cases*").

Appendix A The Applicant's Responses to Deadline 4 Submissions

A.1.1 In accordance with **Question 2GEN1** of the Examining Authority's second written questions (ExQ2) the Applicant provides, below, a response to SEAS' submissions **REP3-144**, **REP4-156** and **REP4-238**.

A.2 SEAS - REP3-144

Why the Application is wrong to rely on NESO Clean Power 2030 identification of Sea Link as "critical" (as assumptions relied on there out of date and have fallen away)

A.2.1 For the reasons set out above, it is not correct to say that the assumptions underpinning Clean Power 2030 have been overtaken by events. Neither Five Estuaries nor Rampion Extension Offshore Windfarms ever had a contracted connection to Sea Link, and this was well known at the time that Clean Power 2030 was published. The Applicant's view is that the reasoning behind its answer to Written Question 1GEN49 (working hours) remain valid.

The collapse of the NESO CP 2030 claim of "critical" for Sea Link, sits on top of the collapse of the Applicant's "need" case for Sea Link generally

A.2.2 For the reasons set out above, it is entirely incorrect to suggest that Clean Power 2030's analysis that Sea Link is "*critical*" is no longer valid. SEAS is also incorrect to say that the Applicant's need case for Sea Link generally has 'collapsed'. It is understood that this assertion from SEAS is based on the Sizewell Generation Group gap reducing to 352MW and SEAS' suggestion of reconductoring or a new OHL as an alternative solution. For the detailed reasons set out above, neither of these points in any way undermines the need case for Sea Link.

A.3 SEAS - REP4-156 and SEAS - REP4-238

SEAS believes it is an issue of national importance that a project that will otherwise take (and sadly waste) c.£2.5bn of taxpayer/billpayer money on an issue that can be readily resolved at a cost of less than £60m, is properly examined as to its actual (lack of) need and (lack of) value for money.

A.3.1 As set out above, it is simply not possible to carry out an "inexpensive reinforcement of existing infrastructure" (as suggested by SEAS) as the relevant circuits are already at capacity. It is important to note that the Sea Link need case analysis already accounts for planned uprating of the existing Sizewell to Bramford circuits that is required to connect Sizewell C.

A.3.2 Even if such a solution were available, contrary to the Applicant's expert view that it is not, this would only solve one aspect of the range of ongoing issues within the electricity network that the Proposed Project will address.

A.3.3 National Grid is regulated by Ofgem, the electricity and gas markets regulator, to ensure value for money for consumers, and is required under Section 9(2) of the Electricity Act 1989 "to develop and maintain an efficient, co-ordinated and economical system of

electricity transmission". Clearly ignoring a solution available at such a lower cost would be a breach of this legal obligation. In fact, as set out above, Ofgem in its 19 November 2025 Early Construction Funding (ECF) decision recognised the "important role" that Sea Link would play (para. 2.1, quoted in full above).

The Applicant's claim that Sea Link is "critical", based on NG ESO statements, now continued by NESO

- A.3.4 The characterisation of the Proposed Project as 'critical' is well founded, being supported by both the 'Critical National Priority' for new infrastructure set out in the 2024 NPS EN-1, and as well as the identification of the project as 'critical' in Clean Power 2030 and the subsequent UK Government "Clean Power Action Plan" policy paper. The assumptions underpinning Clean Power 2030 remain as robust as when the document was published in November 2024.

The Applicant's claims for Sea Link "need" based on "Sizewell Group" "need" in a worst case scenario

- A.3.5 Notwithstanding that addressing the Sizewell Group is only one of the issues that the Proposed Project will address, the scenarios that have been modelled in support of the Proposed Project are in accordance with the requirements of NETS SQSS.

The Applicant's claim that Sea Link is required to enable the export of electricity from Kent to Suffolk, at times of high interconnector inflows into Kent

- A.3.6 As set out above, in a worst case fault in Kent scenario, the Sea Link HVDC would export energy from Kent to East Anglia, as all circuits in East Anglia would be available as required by the NETS SQSS design standards.

The Applicant's claims the Proposals are needed to deal with a (restricted) ability to export power generated in the seas off East Anglia, and in East Anglia, to elsewhere in the UK and in particular that there is an export requirement of 9.7GW across the EC5 network boundary, which currently cannot be met.

- A.3.7 As set out above, the Proposed Project remains critical for the needs case requirements of the Sizewell Generation Group, and the EC5, LE1 and SC2 boundaries as set out in the Strategic Options Back Check Report [APP 320] "Needs Case".

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