

Morgan and Morecambe Offshore Wind Farms Transmission Assets

DCO Application Reference EN020032

Newton with Clifton and Freckleton Parish Councils

Commentary on The Applicants' Submission at Deadline 1 on 20 May 2025 for Issue

Specific Hearing 1 Action Points 6, 8, 9, 19, 26 and 28 – REP1-039

We thank the Examining Authority for the opportunity to comment further on the Applicants' response to issues raised at the Issue Specific Hearing 1, taking into account further information that has become available and which we believe is pertinent to the argument we have previously made before the Authority.

The Applicant has provided a lengthy exposition to support their assertions, but we would note the following issues:

- 1) At the outset, the Holistic Network Design Report (HNDR) states at 5.1.16, the Applicants proposed a solution whereby connections would share a land substation site and landfall of cable corridors, which NESO adopted in preference to any alternatives.

This is not what we currently see in this application which is for two projects installing cables independently and feeding two distinctly separate substations (see [REP1-083](#) Lancashire Association of Local Councils Fylde Area Committee Energy Working Group submission at Deadline 1). There is no evidence that there has been a re-appraisal of the designs by the Applicants or NESO, whilst this option clearly increases adverse impacts to communities, project risks and unnecessary costs.

- 2) The Applicants state that it was NESO who decided the connection point, see para 1.3.1.3 of [REP1-083](#), but no evidence is provided for this, and nowhere is there evidence offered that the option for Hillhouse/Stanah was ever fully considered by either the Applicant or NESO.

Early developments of wind energy projects in the Irish Sea saw Stanah as the more favourable point for connection compared to Penwortham, being the closest substation to the Irish Sea which did not need to interfere with protected shore areas or offshore areas.

Surprisingly, the HNDR is silent on the subject entirely. It is unclear as to whether the grounds for an earlier rejection based on space and access constraints, dating back to 2008 and clearly in reference to Moorside in Cumbria, were refreshed following the declaration of the EZ at Hillhouse, which then offered plenty of space and access for developments of this nature.

- 3) There has been no recognition of the 400kV line that already links the existing substation at Stanah via a T-junction to the National Grid transmission lines that travel south from the Middleton substation at Heysham to the substation at Penwortham. An informal assessment of the line capability would indicate that, whilst obeying the requirements of the Security and Quality of Supply Standard (SQSS) set by Ofgem, the line can carry a power load of approximately 6.9GW. It is recognised that the Stanah substation is currently too small, but there are up to 138 hectares available adjacent to the site for its expansion. Contrast this with problems connecting at Penwortham identified by NGET and outlined below.

We note that it is the SQSS that defines the Power Quality requirements that have to be achieved to couple a new source of power to the National Grid, which determines the design and characteristics of the substations which provide this power. It is of note that the SQSS requires the substation to be as close to the Grid as possible. As Stanah already has an appropriate Grid connection, this distance can be fully met at any site on Hillhouse.

- 4) As indicated by [REP1-039](#), no mention is made by the Applicants or NESO of the requirements placed on any solution that it is efficient and cost-effective (see section 163(1)(c) of the Energy Act 2023 (NESO is called ISOP in that Act)). Clearly, maximising use of existing infrastructure and sites with adequate development space will be more effective in achieving these objectives. The initial estimate of savings, which allowed for additional work to bring the Stanah/Hillhouse site up to the required standard and an element of addition cabling on the existing power lines, showed as saving of approximately £450m. Following the issue of the latest IET data, the same assessment technique has been repeated and the forecast saving is now approximately £904m. This means that Stanah is an 'obviously material' alternative not just in planning terms but also when NESO and Ofgem exercise their statutory functions.
- 5) NGET have provided information in [REP1-089](#) which identifies serious clashes between this application and the proposed alterations and connections at Penwortham, some of which are yet to be approved by Ofgem and may need to change. The planned Penwortham Development for National Grid purposes includes a supply from the site to Network Rail, which conflicts with the Applicants' Statements to date. Further, other parts of the site are to accommodate a series of battery installations that add to the National Grid system stability.

In summary, there is still no justification for ignoring the Hillhouse/Stanah alternative and worse, the plan shows no consideration for either proposed National Grid developments at Penwortham or the East Irish Sea Transmission NSIP project which is also advertising that it is looking to connect at Penwortham 2032-2033.

There remains no evidence presented of any consistent, complete, comparative assessment for the implications for consumers of the whole system of connecting generation assets, whether that be via Stanah to Penwortham and beyond utilising provisioned infrastructure or a 30km land route connecting new cable infrastructure directly to Penwortham. This therefore shows no compliance with the requirement for efficiency or economy, for the lowest cost to the consumer that is deliverable and avoids adverse impacts to the environment and communities, as required by the Offshore Transmission Network Review (OTNR) and the HNDR.

Any option that does this under any other circumstances that avoids having to construct 60km or unnecessary new cabling with savings in time, risk and £904m (see appended Table) would logically be an obviously material alternative.

A further advantage would be that adoption of Hillhouse would allow for decoupled build plans with no further impact.

Comparative Assessment of Costs Between Northern Route via Hillhouse Stanah and the Morgan & Morgan Applicants' (M&M) Proposals

The following tables show a Comparative Assessment of Costs Between a Northern Route via Hillhouse Stanah and the Morgan & Morecambe Applicants' (M&M) Proposals.

This utilises the costings in the recently published independent report by the Institute of Engineering and Technology (IET) "A Comparison of Electricity Transmission Technologies: Costs and Characteristics An independent report by Mott MacDonald in conjunction with the IET"

Link - https://www.theiet.org/media/axwkktkb/100110238_001-rev-j-electricity-transmission-costs-and-characteristics_final-full.pdf

Including provision for a reconductoring of the existing 400kV twin circuit Overhead Line between Stanah and Penwortham substations, **savings of some £904,000,000 for investors , developers and consumers**, in comparison to the proposals by the Morgan and Morecambe project Applicants entirely new infrastructure approach.

Table 1 : Comparative Assessment of Costs Between Northern Route via Hillhouse Stanah and the Morgan & Morgan Applicants' (M&M) Proposals

IET 2025 Report Link – Costings below use data from this report -

A Comparison of Electricity Transmission Technologies: Costs and Characteristics An independent report by Mott MacDonald in conjunction with the IETLink -

https://www.theiet.org/media/axwkktkb/100110238_001-rev-j-electricity-transmission-costs-and-characteristics_final-full.pdf

1	Route	Trenches/ Pylon Lines	km		Transmission Mode	IET 2025		Cost £m / km	Total Cost £m	Cum Cost £m	Ref	Morecambe £m	Morgan £m
2	Northern Route – Penwortham-Stanah-Hillhouse- Irish Sea					Cost £m	Km						
3	Irish Sea- RB-Hillhouse Boundary - Morecambe	1	2	Low	Underground	£44.32	3	£14.77	£29.55		C	£29.55	
4	Irish Sea- RB-Hillhouse Boundary – Morgan	1	2	Med	Underground	£73.84	3	£24.61	£49.23		D		£49.23
5	into Hillhouse – Morecambe	1	0.6	Low	Underground	£44.32	3	£14.77	£8.86		C	£8.86	
6	into Hillhouse – Morgan	1	0.6	Med	Underground	£73.84	3	£24.61	£14.77		D		£14.77
7	Across Hillhouse before Converter – Morecambe	1	0.85	Low	Overhead	£7.73	3	£2.58	£2.19		A	£2.19	
8	Across Hillhouse before Converter – Morgan	1	0.85	Med	Overhead	£9.17	3	£3.06	£2.60		B		£2.60
9	Across Hillhouse after Converter – Morecambe	1	0.85	Low	Overhead	£7.73	3	£2.58	£2.19		A	£2.19	
10	Across Hillhouse after Converter – Morgan	1	0.85	Med	Overhead	£9.17	3	£3.06	£2.60		B		£2.60
11										£111.98			
12	Stanah to Penwortham	1	23.5		Reconductor	£89.90	75	£1.20	£28.17		G		£28.17
13										£140.15			
14													
15	Hambleton – Heysham	1	25.9		Reconductor	£89.90	75	£1.20	£31.05		G		
16										£171.20			
17													
18	M&M Proposal												
19													
20	St Annes to Penwortham – Morecambe	1	30		underground	£195.80	15	£13.05	£391.60		E	£391.60	
21	St Annes to Penwortham – Morgan	1	30		underground	£326.51	15	£21.77	£653.02		F		£653.02
22										£1,044.62			
23													
24									£m	2 trench sets			
25	Irish Sea-RB-HTEZ-Penwortham – NO Reconductoring									£932.64		£348.81	
26	Saving Irish Sea-RB-HTEZ-Penwortham incl Reconductoring Stanah-Penwortham									£904.47			£555.66
27	Irish Sea-RB-HTEZ-Penwortham incl Reconductoring Stanah-Penwortham & Hambleton–Heysham									£873.42			
												checksum	£904.47

Table 2 : References for Data Extracted from IET Document and used as analogues in the Morgan & Morecambe routing cost comparison assessment above.

Ref	IET Page		Ref	Total Build Cost £m	km	'£m/km	Analogue
Overhead							
A	Page 40	Overhead Line – 3 km – Low Rating (2,494 MW)	A	£7.73	3	£2.58	Across HTEZ
B	Page 41	Overhead Line – 3 km – Medium Rating (4,988 MW)	B	£9.17	3	£3.06	Across HTEZ
Underground							
C	Page 51	Underground Cable Buried – 3 km – Low Rating (2,494 MW)	C	£44.32	3	£14.77	Irish Sea-RB-HTEZ
D	Page 52	Underground Cable Buried – 3 km – Medium Rating (4,988 MW)	D	£73.84	3	£24.61	Irish Sea-RB-HTEZ
E	Page 54	Underground Cable Buried – 15 km – Low Rating (2,494 MW)	E	£195.80	15	£13.05	St Annes-Penwortham
F	Page 55	Underground Cable Buried – 15 km – Medium Rating (4,988 MW)	F	£326.51	15	£21.77	St Annes-Penwortham
Reconductoring							
G	Page 106	Reconductoring Using HTLS – 75 km – Additional Capacity of 2,494 MW	G	£89.90	75	£1.20	Stanah-Penwortham