

RELEVANT REPRESENTATION ON THE PROPOSED MORGAN AND MORECAMBE OFFSHORE WIND FARMS TRANSMISSION ASSETS DCO

PLANNING INSPECTORATE REFERENCE NUMBER: EN020028

This submission is on behalf of Newton with Clifton and Freckleton Parish Councils in Responses to Applicants Deadline 3 Comments regarding a possible alternative route

References [REP3-088](#) - Responses to the Examining Authority's Written Questions, REP3-069 - S_D3_12 Green Belt Technical Note - Rev F01; & REP3-077- Any further information requested by the Examining Authority under Rule 17 of the Examination Rules & REP3-052 - S_D3_2 Applicants' Response to IP submissions received at Deadline 2 - Rev F01

1. Short Summary – An Obviously Material Alternative Route

We know, using NESO cost data published by the IET (A Comparison of Electricity Transmission Technologies; Costs and Characteristics) that a saving in the region of £900m can be made (REP2-064), and this would be further increased if the same alternative route was also used for Mooir Vannin. We know that there is enough capacity in the current transmission lines to accommodate all three offshore wind farms at typical generating efficiency of around 40% (Ref: Digest of UK Energy Statistics, DESNZ (for 2019-2023, published July 2024).

For this to happen, it requires using the land readily available, and wanted to be used for this purpose by its landowner, at Hillhouse for substations (REP1-187).

Finally, it appears that National Grid has so far failed to understand the opportunities flowing from using Hillhouse, a Technology Enterprise Zone (TEZ).

2. Obviously Material Alternative Route - Introductory Comments

The Applicant's response in REP3-052 and NGET's response in REP3-088 rely on the output of the Holistic Network Design Review (HNDR) process. We are aware that a substation at Stanah, or nearby, has been considered in the past on a number of occasions, (see REP2-059 from LALC EWG) e.g. the National Grid Input to UK Offshore Energy SEA [Strategic Environmental Assessment] (2008) Section 3 Region Sea 6 Table 40¹, reproduced on page 3 of this note, associated a variety of projects whose power outputs required connection at substations close to the Irish Sea. Indeed, Walney 2 wind farm is connected to its onshore substation on Hillhouse and hence to the Stanah substation, as an example of one that is now in operation using this site.

This reference also refers to land availability and this seems to weigh all further debate against the idea, despite the obvious attraction of being close to the coast. What has happened since is that Hillhouse has been created as a 138 hectare Enterprise Zone standard and land is available for development, specifically targeted at energy projects.

¹ OES_NatGrid_OnshoreETS.pdf

This does not appear to have been recognised when the HNDR was undertaken, and although the Applicant asked for four connection points to be considered, which included Stanah, they were only offered Penwortham by NESO. The HNDR is absolutely silent on the subject of Stanah, continuing to suggest that it had not been considered consistently and there is no evidence of a consistent comparative assessment by the Applicants against a hypothetical connection 30km inland at Penwortham and at a coastal connection near Stanah with its already established route to Penwortham.

The central concern to us is whether the need to impact the communities, economy, consumers, environment and protected areas has been properly assessed with reasonable alternatives, especially since the need to deliver green energy to the National Grid itself is not contested.

The key question remains: has this goal been accomplished compliantly in the most efficient coordinated, economic, least harmful manner?

Despite various assertions and statements, the Applicant has yet to show the conclusive and necessary evidence to support their claims and cannot do so until obviously material alternatives—particularly those leveraging existing facilities—have been demonstrably ruled out. There is still no published evidence to substantiate the consistent and complete assessments needed to arrive at the conclusions reached, despite the opportunities given to the Applicants.

We have heard evidence of the multiple social, aviation, environmental and cost impacts to the local area of the current proposal. All of the cumulative effects of these incremental impacts can be avoided by use of existing infrastructure and this route, at a stroke.

In addition, an informed cost assessment as presented in REP2-064 Table 1 indicated a potential saving of circa £900m for the use of existing transmission infrastructure, even allowing for the new substation required at Hillhouse.

From the responses in REP3-052, additional transmission capability could clearly be provided based on demand, either by upgrading existing line infrastructure or constructing new lines. While these options would be part of a consistent comparative assessment, they are likely to be more economical than installing now up to three sets of separate underground cables for each wind farm if Mooir Vannin is included. The IET published evidence (see para 1 of this note) and the statements in the NESO plans of 2024² it would be concluded that, even if a new single overhead line is needed, it would be significantly cheaper than the current proposals, especially if a third wind farm is to be added. It clearly makes much more economic and environmental sense to upgrade the existing overhead line between Stanah and Penwortham and have short underground lines from the coast to Stanah than building three separate underground lines all the way to Penwortham.

3. Specific Response to NGET Comments in REP3-088 Q1.2.1

a. National Grid input to the Offshore Energy SEA 2008

Section 3 of the above document provides evidence of the considerations that were given by National Grid to the onshore connection points in the Northwest region. Table 40 of National Grid Input to UK Offshore Energy SEA (2008) (enclosed here at Figure 1) provides the evidence of what upgrades would be necessary at Stanah to satisfy the then predicted power requirement. It confirms the 400kV

² NESO – Clean Power 2030 – Advice on achieving clean power for Great Britain by 2030, section 5.2 page 70

connection to the grid and that upgrade of the substation would be required as it was primarily an energy distribution use.

Significantly, in table 1 it states that Stanah is in an urban area, adjacent to an industrial area – an ex-chemical works and brownfield area. It further states that the substation is enclosed on **three** sides by domestic housing and a caravan park and states **the distance to an accessible coastline is 4km, directly to the west.**

Since 2016, the brownfield site at Hillhouse has been designated as a Technology Enterprise Zone, with special preference for energy related projects and has been a key part of Wyre Borough Council's Approved Local Plan for re-development. So the issues listed as problematic by National Grid, use of the brownfield site and available space, have effectively been removed, as confirmed in REP1-187 supplied by NPL Group Ltd, the site management organisation and by REP3-077 provided by Bourne Ward Councillor of Wyre Borough Council who support the use of the Hillhouse facility.

Table 1

Table 40: Stanah Local Connection Work	
Existing Configuration	Outdoor 400kV AIS Transformers Feeders
Local Environment	Urban area, adjacent to industrial area – ex-chemical works, brownfield areas. Substation enclosed on 3 sides by domestic housing and a caravan park. Site is <0.5km from the River Wyre which is RAMSAR and SSSI designated.
Onshore Transmission Works & Issues	Need to introduce 400kV GIS substation, site issues to create in space desired. Issues of co-ordination with offshore transmission owner, access routes, future development constraints, planning permissions. System outage issues to permit construction/connection
Offshore Transmission Works & Issues	Space for equipment, may require location of installation on brown-field land North West of substation. Issues of land availability, Cable access routes, program, planning permission and noise levels.
Approximate Length of Cable Route from Coast	~4km directly west to coastline
Impact of Varying Levels of Installed Capacity	2 substation bays required for developments up to 1.1GW, given technology and optimisation assumptions used
Indicative Onshore Transmission Costs	£30m
Estimated Timescales for 'Local' Onshore Transmission Work	5 years

The site had been shortlisted for a number of energy projects as a connection point, including the Celtic Array and Moorside Nuclear Power Station in Cumbria which did not go forward, so it becomes clear that National Grid, hence NGET, considered Stanah as a core connection point and even more so when associated with the available space to the north.

One can only speculate why this corporate knowledge was not passed into the HNDR process, where there is absolutely no mention of the site in that report.

The HNDR original recommendation was that “recommended design the two wind farms share a cable route corridor but there is no electrical connection between them offshore. In this design R4_6 connects directly to an offshore platform at the R4_5 site. The two wind farms would then use a shared export cable to export power to shore, connecting at Penwortham.” What is now offered now by the Applicants does not comply with

the initially assessed proposal that was accepted by NESO as the output of the HNDR.

b. An Alternative Option for Connection

It can be shown that there is sufficient capacity in the existing Grid Transmission Lines to accommodate a number of wind farms in the Irish Sea, (See REP2-064) especially when running at

their normal output capacity, typically 40% of the stated maximum output. (See Ref: Digest of UK Energy Statistics, DESNZ (for 2019-2023, published July 2024).

The circuit that connects to Stanah can carry this load, as it stands, without modification of the existing transmission line. We agree that the current Stanah substation does not have the required level of capability, in this respect. Neither does Penwortham as indicated by the answers to the questions by the Examining Authority. However, immediately adjacent to Stanah, is the Hillhouse TEZ, which has space in abundance for such installations, each comprising of a new substation and the necessary duplex switch gear. The quoted savings from use of this route accounted for such a new facility as the assumption that the equipment otherwise destined for Penwortham would be installed instead at Stanah. Table 1 suggests onshore transmission costs of £30m in 2008 for Stanah. This should be compared with the £900m-£1.3bn costs of three independent projects trenching 30km inland to Penwortham (using the IET data).

Examination of the NESO Security & Quality of Supply Standard (SQSS) does not preclude a single transmission line, provided it is supported by adequate redundancy in the switch gear and power quality control equipment at the substation where the power is to be input to the transmission system.

The NGET response to the Examining Authority's question Q1.1.6 implies that an engineering solution, as proposed, would be possible even if a new transmission line was needed at some point in time but this has not been assessed nor has it been costed for comparison with the proposed solution, which now involves two sets of 30km cables for each independent project together with two independent substations, i.e. Morgan and Morecambe.

If Mooir Vannin is to be added to the picture, then the predicted savings increase further, as this project would add another trench system similar to Morgan if trenched technology is used. Overhead lines have far more capacity for power carriage and at significantly reduced costs. But in doing this, the changes in power flows resulting from the Heysham nuclear plant's closure starting in 2028 and completed in 2030 with a loss of up to 2.4GW of base load and the consequent freeing up of transmission network capacity should be accounted for. In addition at this point, the reactors become energy users for a considerable period, whilst controlling their cooling processes.

All that is really required is a consistent re-assessment of a connection point as part of the Stanah complex, by NESO, combined with a properly worked out engineering solution taking account of the emergent environment that has deviated from the assumptions of the HNDR involving Morgan and Morecambe projects, plus consideration needs to accommodate the Mooir Vannin project to deliver an efficient, coordinated and economic system of energy transmission as required by the Electricity Act 1989 Section 9. Currently, it would appear that the parties are in breach of that duty.

c. Sustainable Business Enabler/Opportunities

Any excess power that is not required by the Grid would be able to be employed locally at Hillhouse, where there are plans being drawn up for the manufacture and storage of green hydrogen. This would be in line with NPS EN-1 Section 2.3.

The Hillhouse TEZ site has a legacy of over 100 years of chemical works activity and some historical contamination is known of. Further large areas of development over and taking account of any contamination, such as that involved in hosting substations, will enhance the environment on the site.

Currently, the local MP for Fleetwood & Blackpool North and Wyre Borough Council, in partnership with the owners and users of Hillhouse are actively pursuing the development opportunities that the Hillhouse site affords, including the site use for generation of green hydrogen to act as an energy storage or alternative source of power generation and/or possible location of future power sources, using the Hillhouse site for these purposes.

This is seen as a key enabler to regeneration projects for the Northwest of Lancashire as a whole.

This option would enable excess energy to be stored for long periods and then be used when there are shortages of wind or solar power, such as in the periods of 'dunkelflaute', as often experienced in our winter months.

4. Cost Benefits of the Alternative Route

The assessment of the cost benefit overall by shifting the permitted connection point away from Penwortham has already been estimated at approximately £904m using the independent IET report data. This is presented in REP2-064

What has not been accounted for yet is the removal of the need for such extensive development of the Penwortham site.

This site and its access issues to the northwest around Preston and the Ribble crossing points appear to be somewhat crowded with all the buried cables required and perhaps complicated with consequent safety implications, as was heard during the last Issue Specific Hearings 2 and 3, with the existing gas pipelines.

The NGET REPs3-088 highlights a number of projects at pages 8-0 that will require development activity at Penwortham. This is such that NGET propose to undertake compulsory acquisition of additional land. The list of developments in REP3-088 included provision for Morgan and Morecambe projects, but was silent on how the Mooir Vannin project was to be incorporated. The use of Stanah as a connection point in conjunction with the availability of land at the HTEZ site for the functionality of the substation to be extended, will remove the need for the land otherwise allocated at Penwortham for the Morgan & Morecambe projects, as well as removing the as yet unresolved accommodation of Mooir Vannin. In turn the adverse impacts of the proposal for NGET to undertake compulsory acquisition of land in the South Ribble designated Green Belt would be diminished, if not extinguished.

Use of the Hillhouse Site for all three of the Irish Sea Windfarm projects proposed to land on the shores of the Fylde Coastal Plain would appear to offer a beneficial approach, with less adverse environmental, community and economic impacts, whilst delivering an efficient coordinated and economic system of electricity transmission.

Such a choice also removes, at a single stroke, all of the adverse issues which appear to be intractable at present, from the bird-strike problem, severe residual Highways safety risks, the community impacts of the development over critical Green Belt and protected species both on land and off-shore, and all the issues around the need for relocation of wild-life and the bio-diversity net gain issues.

5. Conclusions

It is essential that the decision regarding the choice of Penwortham as a single point of connection be revisited urgently, given the range of issues that appear with implementation of the Applicants' current proposals and the existence of a material alternative route of transmission from generator to consumer via Stanah, HTEZ, Penwortham and beyond.

The indicative savings of £904m to the consumer are considerable and are set to increase further if the Mooir Vannin project is added to the equation.

The current Application shows itself to fail the NPS defined criteria by

- a. Not complying with the stated requirements defined in NPS EN1 Paras 5.4, 5.5, 5.11 and 5.13, and EN5 Para 2.5 in relation to target costs, impacts on Greenbelt and others, not considered within this specific representation
- b. Not to be coordinated as the single project that was originally envisaged to ensure compliance with the HNDR and accepted on that basis by NESO
- c. Utilisation of land allocated as Green Belt, protected sites or sites of special interest unnecessarily
- d. Failing to be coordinated in their design or build, with consequent very adverse impact on the local communities along the routes over an increased implementation period
- e. Increasing cost to the end consumer by £904m for just these two projects, alone

Further, every one of the contentious issues that result from these proposals from the Morgan & Morecambe projects' transmission assets application submission, including the safety critical bird-strike scenario, can be mitigated by adoption of a route that maximises the use of existing transmission infrastructure, i.e. the already Established Northern Route via Stanah/HTEZ to Penwortham and beyond at the lowest cost to consumers.

This applies to both the offshore routing impact and the proposed trenching across the Fylde by the hypothetical routes proposed by both projects.