



An
Bord
Pleanála

Inspector's Report ABP 316011-23

Development

Synchronous condenser development and connection to the Srahnakilly 110kV substation, via a 110kV underground cable.

Location

Lands within the Oweninny wind farm in the townland of Croaghaun West, Co. Mayo.

Planning Authority

Mayo County Council

Type of Application

Pre-application consultation

Prospective Applicant

Bord na Mona Powergen Ltd.

Inspector

Pauline Fitzpatrick

1.0 Introduction

- 1.1. The Board received a request on 10th March 2023 from Bord na Mona Powergen Ltd. to enter into pre-application consultations under Section 182E of the Planning and Development Act, 2000, as amended, in relation to a proposed synchronous condenser development and connection to the Srahnakilly 110kV substation, via a 110kV underground cable on lands within the existing Oweninny wind farm in the townland of Croaghaun West, Co. Mayo.

2.0 Site Location and Description

- 2.1. The site is within the Oweninny windfarm c.3.5km to the north-east of Bellacorick and c.13km east of Bangor Erris. Phase 1 of the windfarm is complete comprising of 29 turbines. Construction on phase 2 entailing 31 turbines is complete and is currently being commissioned. An application has been received by the Bord for Phase 3 comprising of 18 turbines (ref. ABP 316178-23).
- 2.2. The proposed synchronous condenser compound will be located adjacent to the Srahnakilly substation which is c.1.35km east of L52925. Access is via the Oweninny wind farm entrance off the N59 to the south.
- 2.3. The subject site comprises of cutaway bog.

3.0 Proposed development

- 3.1. The proposal entails the provision of a synchronous condenser and underground 110kV connection to the adjoining substation.
- 3.2. The optimal design of the synchronous condenser is under review but an indicative layout is provided in drawing no. 220946-10. Section and isometric drawings have also been provided (drawing nos. 220946-11 and 220946-12). The estimated footprint of the compound is 800 sq.m. (100 metres by 80 metres).
- 3.3. The location will be immediately to the west of the existing Srahnakilly 110kV substation with a proposed underground 110kV connection between the two of approx. 100 metres in length.

- 3.4. There is space available in the substation to build out the required 110kV infrastructure and the cable will connect into the spare bay space available. Any new equipment and/or works associated with facilitating this connection will be within the existing boundary of the substation compound, subject to ESB Networks/EirGrid requirements.

4.0 Planning History

PA.16. PA0029 – permission granted in June 2016 for 61 turbines, anemometer masts, 2 no substations, visitor centre and other ancillary and related works.

PM0011 – Section 146B alterations providing for modification of the approved 3.7km connection between the wind farm substation and the national electricity grid from the approved part overhead and part underground circuit to a fully underground circuit. The Board determined that the alterations would not be material and that the permitted development be altered.

ABP 307261-20 – Section 146B alterations to the permitted windfarm including omission of substation and ancillary modifications. The Board determined that the alterations would not be material and that the permitted development be altered.

ABP 309043-20 – Section 146B alterations to permitted windfarm entailing construction of a supplementary delivery route to bypass the Western Way Bridge on the N59. The proposed works were intended to further facilitate abnormal loads being delivered to the wind farm. The alterations were determined to be material by the Board. Following compliance with the relevant legislative provisions on foot of this determination, the Board decided to alter the permission subject to conditions.

ABP 316178-23 – current application with the Board for phase 3 of the Oweninny windfarm comprising of 18 turbines.

5.0 Precedent Cases

ABP 315859-23 – current Section 146B request before the Board as to whether grid stability service development comprising synchronous condenser compound and 110kV underground electricity connection at Aughinida, Macroom, Co. Cork is SID. No determination made at time of writing this report.

ABP 311993 – 22 - The Board determined on 17/01/22 that a grid connection to a Battery Energy Storage System (BESS) and Synchronous Condenser (Sync Con) at Lough Ree Power Station, Lanesborough, Co. Longford and a 110kV underground cable connection between the proposed BESS units and the proposed Sync Con units and bays within a permitted 110 kV GIS substation compound is not SID.

ABP 311992-22 – The Board determined on 17/01/22 that a grid connection to a Battery Energy Storage System (BESS) and Synchronous Condenser (Sync Con) at West Offaly Power Station, Shannonbridge, Co Offaly and a 110kV underground cable connection between the proposed BESS units and the proposed Sync Con units and bays within a permitted 110 kV GIS substation compound is not SID.

ABP-311031-21 – The Board determined on 21/10/21 that a 220kV underground cable and on-site GIS building to facilitate the operation of a synchronous compensator compound and associated ancillary equipment at Killeena, Knockraha Co. Cork is not SID.

ABP-310828-21 – The Board decided on 21/10/21 that the installation of a synchronous compensator compound and ancillary equipment is not SID. The subject development included a 220kV substation and connection to the existing Belcamp 220kV substation in Dublin 17.

ABP-310256-21 - The Board decided on 10/09/21 that the proposed development of an underground cable and on-site 220kV substation to facilitate the operation of a synchronous compensator compound at Windgates, Co. Kildare is not SID.

ABP-302647-18 – The Board decided on 20/03/2019 that a 110kV/220kV cable and transformer required to facilitate the operation of four rotating stabilisers, five battery storage units, ten electrical houses, control container and associated works at Glencloosagh, Co. Kerry is not SID

ABP-301236-18 – The Board determined on 30/05/2018 that equipment ancillary for the purposes of connecting a proposed BESS to the national grid at Poolbeg, Dublin 2 is not SID.

6.0 Prospective applicant's case

The case made can be summarised as follows:

- The large power generation stations provide synchronous electricity generation which means they maintain the electrical system frequency, also known as grid stability, in the event of grid disturbance. As the electricity system transitions towards net zero, the number of traditional fossil fuel based generators will reduce as more variable renewable electricity sources are connected. These sources such as wind and solar cannot provide the same grid stability. This results in carbon intensive traditional generators being dispatched to stabilise the grid even where there are sufficient renewables to meet demand.
- To achieve the 80% renewable electricity target set in the Climate Action Plan the electricity system will need to be capable of operating with System Non-Synchronous Penetration (SNSP) levels of up to 95%. The power system will require Low Carbon Inertia Services (LCIS).
- A synchronous condenser is a machine with no load attached and takes power from the grid to operate. Its purpose is to replace inertia from thermal generation, regulate voltage, improve short circuit strength of the local grid and provide grid stability to the national electricity grid. It will deliver low carbon inertia on a standalone basis.
- LCIS are ideally located in areas with low power system strength and high renewable electricity generation.
- It is considered that the proposed development does not fall within the scope of Section 182A(1) of the Act for the following reasons:
 - The synchronous condenser is not a source of electricity generation and, as such, cannot be defined as a power plant.
 - Whilst it may be considered of some strategic importance in terms of stability services it will provide to the grid, it does not fall within the definition of transmission as set out section 2(1) of the Electricity Regulation Act 1999. It is not a system which consists, wholly or mainly of high voltage lines and electric plant and which is used for conveying

electricity from a generating station to a substation, from one generating station to another, from one substation to another or from any interconnector or to final customers.

- The proposed grid connection to the Srahnakilly substation immediately adjacent is solely for the use of the synchronous condenser. The 110kV connection is tail-fed and, therefore, will not act as a mode on the power system and would not function as part of the national grid. It does not transport electricity from a generating station to the national grid.
- Precedent has been set where comparable development have been determined by the Board as not being SID.

7.0 Legislative provisions

- 7.1. Section 182A(1) of the Planning and Development Act, 2000 (as amended) requires that where a person (referred to as the 'undertaker') intends to carry out development comprising or for the purposes of electricity transmission, the undertaker shall prepare an application for approval of the development to the Board.
- 7.2. Section 182A(9) of the Act states that 'transmission', in relation to electricity, shall be construed in accordance with section 2(1) of the Electricity Regulation Act 1999 but, for the purposes of this section, the foregoing expression, in relation to electricity, shall also be construed as meaning the transport of electricity by means of –
- (a) a high voltage line where the voltage would be 110 kilovolts or more, or
 - (b) an interconnector, whether ownership of the interconnector will be vested in the undertaker or not.
- 7.3. Section 2(1) of the Electricity Regulation Act, 1999 defines transmission as follows:
- "the transport of electricity by means of a transmission system, that is to say a system which consists, wholly or mainly, of high voltage lines and electric plant and which is used for conveying electricity from a generating station to a substation, from one generating station to another, or to or from any interconnector or to final customers but shall not include any such lines which the Board may, from time to time, with the approval of the*

Commission, specify as being part of the distribution system but shall include any interconnector owned by the Board.”

7.4. Electric plant is defined as follows:

“any plant, apparatus or appliance used for, or for purposes connected with, the generation, transmission, distribution or supply of electricity, other than –

(a) an electric line,

(b) A meter used for ascertaining the quantity of electricity supplied to any premises, or

(c) an electrical appliance under the control of the consumer.

8.0 **Assessment**

8.1. The development comprises of a synchronous condenser and underground 110kV connection to the adjoining substation on lands within the Oweninny wind farm. Whilst the optimal design of the synchronous condenser is under review the estimated footprint of the compound is 800 sq.m. (100m. x 80m) with indicative drawings given of its layout and design. The location will be immediately to the west of the existing Srahnakilly 110kV substation with an underground connection between the two of approx. 100 metres in length. The purpose of the development is to provide grid stability and grid support services to the national electricity grid. It delivers inertia on a standalone basis thereby eliminating the need to bring on a conventional power plant for its inertia and reserves, only.

8.2. The proposed synchronous condenser is not a source of power. Its purpose is not to convert electricity to mechanical power or vice versa but rather to adjust and stabilise conditions on the grid. It draws a small amount of power from the grid to maintain its speed and would, therefore, be classified as a demand rather than a supply connection. It does not generate or lead to the conveyance of electricity. Therefore, the synchronous condenser does not fall within the definition of “transmission” as set out in the Electricity Regulation Act, 1999 or “energy transmission” as referred to in Section 182A of the Planning and Development Act, 2000, as amended, that is to say it is not a system which consists, wholly or mainly, of high voltage lines and

electric plant and which is used for conveying electricity from a generating station to a substation, from one generating station to another, from one substation to another or from any interconnector or to final customers.

- 8.3. The proposed underground grid connection is to be 110kV. Whilst section 182A(9) of the Planning and Development Act, 2000, as amended, refers to high voltage lines of 110kV or more, that subject of this request is solely for the use of the condenser. The connection is 'tail fed'. It will not act as a mode on the power system, will not function as part of the national grid and will not transport electricity. It, therefore, does not come within the definition of transmission as detailed above. I note the planning precedent in this regard and refer the Board to its determinations on comparable proposals summarised in section 5 above in which it concluded that they did not constitute SID.
- 8.4. The development subject of the request is not a class of development as set out in Schedule 7 of the Planning and Development Act, 2000, as amended, for the purposes of section 37A. The Board will note previous decisions it has made on SID pre-application consultation requests in relation to electricity transmission infrastructure under Section 182E involving amendments, additions and expansion of electricity infrastructure. The Board has exercised some discretion and used the broad definition of the Planning and Development (Strategic Infrastructure) Act 2006, "developments of strategic importance to the State", and the criteria contained in section 37(A)(2) to determine such matters.
- 8.5. Section 37(A)(2) lists 3 requirements of which one or more must be met to constitute strategic infrastructure. It should be noted that the criteria listed under section 37(A)(2) are not repeated under section 182(A), however they do provide a useful reference regarding the nature, importance and extent of a proposed development which is to be regarded as Strategic Infrastructure Development. In this context I note the modest scale of the works located on private lands within the Oweninny wind farm site. Having regard to the precedent set by the Board on similar cases as summarised in section 5 above, I submit that the proposal is not a critical link for other strategic developments in the area and is not of strategic economic or social importance to the State or Region. It will provide a standalone ancillary service to the grid, only. The National Planning Framework recognises that new energy systems and transmission grids will be necessary to harness the potential of

renewable energy. Furthermore, the Regional Spatial and Economic Strategy supports the reinforcement and strengthening of the electricity transmission and distribution networks. However, the proposed development is not of a scale or of such importance that it would contribute substantially to the fulfilment of the objectives of the NPF and RSES. The proposal will be located within the catchment of a single planning authority (Mayo County Council) and will not have a significant effect on same.

- 8.6. Having regard to the nature and scale of the proposed development as described, to the stated purpose of the 2006 Act as set out in the long title, and to the general description and scale of strategic infrastructure development set out in section 37A(2), I conclude that the proposed development consisting of a synchronous condenser and 110kv underground grid connection to the adjoining Srahnakilly 110kV substation does not fall within the scope of section 182A of the Planning and Development Act 2000, as amended.

9.0 Recommendation

I recommend that Bord na Mona Powergen Limited be informed that the proposed development comprising the installation of a synchronous condenser and connection to the Srahnakilly 110kV substation via a 110kV underground cable at Croaghaun West, Co. Mayo, as set out in the plans and particulars received by An Bord Pleanála on the 13th day of March, 2023, does not fall within the scope of section 182A of the Planning and Development Act, 2000, as amended, and that a planning application should be made in the first instance to Mayo County Council.

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.



Pauline Fitzpatrick

Senior Planning Inspector

4 **May, 2023**