



An
Bord
Pleanála

Inspector's Report Strategic Infrastructure pre application consultation 301174-18

Development	Proposed development of three new STATCOM devices at three existing substation sites
Location	220/110kV Substation at Ballyvouskill, Co. Cork, 220/110kV substation at Ballynahulla, Co. Kerry and 110kV substation at Thurles, Co. Tipperary.
Planning Authority	Cork, Kerry and Tipperary County Councils.
Prospective Applicant(s)	Eirgrid.
Type of Request	Section 182E request for SID Pre-application consultation – whether project is or is not strategic infrastructure development.
Inspector	Philip Green.

1.0 Proposed Development

1.1. Eirgrid propose the following similar development at three separate established substation locations.

- Installation of 100MVAR STATCOMS connected to systems at Ballyvouskill and Ballynahulla and 35MVAR STATCOMS connected to systems at Thurles. Draft layout and typical elevations for each provided. A STATCOM (Static Synchronous Compensation) is a power electronics based device that can inject and absorb reactive power (which can limit the system's ability to transfer real power, affect the voltage and cause network instability) into or from the electricity grid. They are used to increase system stability and power quality and to control reactive power flows in the network and therefore allow increased power transfer capacity without the need for significant traditional network reinforcement. It is noted that this is new technology introduced after significant study and investigation by Eirgrid, is used in other countries successfully and has potential to reduce need for other network reinforcement including new lines and cables and prevents constraints to wind generation. Main components of each include:

- Transformer connecting STATCOM to the transmission grid.
- Thyristor reactors and capacitors (semiconductor based electrical valve used to switch power of electrical circuits)
- Outdoor cooling banks/ assembly. Generally condensing chillers used to cool the controls and valves in the control building.
- Control building (housing controls for STATCOM and valves for switching reactors and capacitors).
- High frequency filtering (not shown) but which may be required dependent on manufacturer and may be installed internally or externally.
- Compound for all above is approx.. 45m x 66m. or 64m. x 31m. (for Thurles) with exact dimensions to be confirmed given new technology involved.

- Details including site location plans, typical layouts, 3D visualisation, images and elevations provided (note again indicative and preliminary details only provided).

1.2. In regard to each of the three separate locations it is noted:

- **Ballyvouskill Co Cork:** Site on Kerry/West Cork border 6km south west of Mill Street. Existing 220/110kV GIS substation on site permitted by Board (VA0008- referred to as VA0006 in submission) in June 2012 and commissioned in 2015. Intended that STATCOM will be installed adjacent to existing substation within indicative site boundary shown. Lands bounded by undulating agricultural grassland to south west and north. Lands to east are commercial forestry. Access is via local road L5226 and there are existing overhead lines connecting to site from the east.
- **Ballynahulla Co Kerry:** Site located 15km southeast of Castleisland and 2km south west of Ballydesmond in Co Cork. There is an existing 220/110kV GIS substation on site permitted by Board (VA0012) in August 2012. Proposed that STATCOM will be located adjacent to existing substation within indicative site boundary shown. Site is on a sloped clearing within an area of commercial conifer forestry. Access is via a gravelled track from the local road network (R577). There is a derelict house to the immediate west (across road) and in close proximity to the Stacks to Mullaghareirk Mountains SPA and access road crosses the Yellow River a tributary of the River Blackwater (3km downstream) a candidate SAC.
- **Thurles Co Tipperary:** Site approx 3km north east of Thurles with an existing 110kV substation on site. Existing substation bounded to south west and east by hedging with small drainage ditch along the southern boundary. Currently anticipated that STATCOM will be installed adjacent to existing AIS substation within indicative site boundary shown. Surrounding lands are generally flat and in agricultural use as pasture. There is a semi derelict house unoccupied across the road from the substation set back from the road by approx. 75m. and existing overhead lines connect to the site from the north east and south east.

- 1.3. Noted that options within the compound at Ballynahulla are being investigated however at Ballyvouskill and Thurles there is insufficient space within the existing compounds and as a result it is proposed to extend them to accommodate the STATCOMs. They will be connected to the existing GIS substations at Ballyvouskill and Ballynahulla by cable and by AIS (busbar) at Thurles. No other works or extensions will be required to the existing substation buildings.
- 1.4. Eirgrid's preliminary view is that neither EIA or AA required however ultimately this will be a matter for the consenting authority and formal screening assessments will be provided with the applications.
- 1.5. Significant levels of renewable generation are expected to be connected to the transmission and distribution systems in the South West and Midlands in the coming years. Anticipated levels of generation and their associated grid connection (primarily via underground cables) have lead and will continue to lead to additional voltage support on the transmission system. This is to be provided via these three new STATCOM devices.
- 1.6. Although three separate projects at three separate locations given their similar nature a single pre application consultation request is being lodged. The projects will be progressed independently of each other either with the Board or with the local authority. If the Board wishes to progress the matter via separate pre application consultation requests with separate files Eirgrid will engage with the Board in the future in this manner.
- 1.7. On the 17 April 2018 the Board wrote to Eirgrid pointing out that a separate pre application consultation request (reference 301173-18 – prospective applicants Redfaze Limited) had been made for a battery storage facility at the Ballyvouskill (or Caherdowney) 220/110kV substation near Millstreet Co Cork which is one of the three substations subject of this current pre application consultation request for STATCOM devices. The Board sought to clarify whether the two proposals were related.
- 1.8. In response Eirgrid made the following points:
 - Eirgrid is not aware of the proposals by redfaze Limited for battery storage at Ballyvouskill or at any other sub station;

- Eirgrid is however aware of a separate planning application to Cork County Council (18482) for a further battery storage facility in the vicinity of the sub station (shown on attached plan). The description of development includes a 110kV sub station and a connection to the existing substation via underground cable;
- This is an application by a private developer and does not constitute transmission grid development. Eirgrid is not party to the planning application. This is in contrast to the proposed STATCOM devices which are necessary in order for Eirgrid to uphold its statutory licence obligations to develop a safe, secure, reliable, economic and efficient transmission system;
- As previously noted the STATCOM devices are necessary to address the significant additional levels of renewable energy generation expected to be connected to the transmission system in the south west. The anticipated levels and their grid connections primarily via underground cables have led and will continue to lead to requirements for additional voltage support on the transmission system and addressed by the STATCOM devices
- The battery storage facility is similar to other demand customer (eg large scale energy users such as data centres) or generator (eg wind farm or solar farm) wishing to connect to the grid;
- Under Eirgrid's statutory obligations it must enter in to agreements with those seeking to use the transmission system and all such requests are processed by its in house connection team under direction from the CER;
- For the Board's information an application by ABO Wind Ireland for a grid connection offer in respect of a 100MW battery storage facility at Ballyvouskill has been submitted but this has not been processed yet;
- It is possible that ABO Wind, Kinbrace Ltd and Redfaze Ltd. Are linked but we have no evidence to support this.

2.0 Applicant's case

- 2.1. Noted that substations at Ballynahulla and Ballyvouskill were permitted by Board under s. 182A. However at that time the developments constituted new infrastructure in greenfield locations.
- 2.2. While of considerable benefit to the network, from a planning perspective the proposed STATCOM are essentially an enhancement of existing substation infrastructure. Eirgrid therefore suggests that development does not fall under s. 182 of the Act.
- 2.3. Similar nature and scale of development not considered strategic infrastructure. These include electrical infrastructure including reactors substations capacitors and transformers. In all the cases the Board concluded that developments were not strategic in nature and referred the proposals to the local planning authority. These included VC 0025, 0026, 0028, 0031, 0034, 0040 and 0070, 000109 and 0110. It is considered that the proposed STATCOMs are similar ancillary electrical infrastructure to these developments.

3.0 Legal Provisions

- 3.1. Under section 182A(1) of the 2000 Act (inserted by section 4 of the 2006 Act) where a person (thereafter referred to as the 'undertaker' intends to carry out development comprising or for the purposes of electricity transmission (hereafter referred to in this section and section 182B as 'proposed development'), the undertaker shall prepare, or cause to be prepared, an application for approval of development under section 182B and shall apply to the Board for such approval accordingly.

Subsection 9 states that

In this section '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.

In section 2(1) of the Electricity Regulation Act, 1999, “transmission” is defined in relation to electricity as meaning

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, from one substation 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.

4.0 **Assessment**

- 4.1. This pre application consultation request relates to three separate proposals for installation of similar STATCOM transmission infrastructure at three entirely separate locations. They are to be implemented as three independent projects. Whilst noting the Executive Officer’s memo on file dated 10th April 2018 which states that a similar approach was taken and accepted by the Board on the pre application consultation for the National Paediatric Hospital (PC0158) with identification of satellite centres I do not consider that this comparison (notwithstanding location in different local authority functional areas) is pertinent. These centres were identified as part of and integral to the operation of the main hospital facility. The three STATCOM projects subject of this current request are not interrelated albeit similar in nature and fulfilling a similar purpose. I consider that given their purpose, nature and scale that the Board can still proceed to a determination on each STATCOM project under the auspices of this single request and can notify its decision to all three relevant local

authorities without need for the formality of three separate consultation requests from Eirgrid. I consider sufficient details have been provided to identify the general location of each stand alone project.

- 4.2. I refer the Board to the separate pre application consultation request for a battery storage facility at the Ballyvouskill sub station under reference 301173-18. This is the subject of a (first) consultation meeting on 14th May 2018. I also note that Eirgrid have made reference to a similar and further planning application for a battery energy storage facility currently with Cork County Council (different siting to the Redfaze proposal). Having regard to the nature of the development subject to this current pre application consultation request for three separate sub stations and to Eirgrid's submissions in regard to the separate and independent nature and purpose of the STATCOM devices proposed by the Transmission System Operator I consider that Eirgrid's request can proceed to determination on its strategic infrastructure status. The Board may however wish to consider deferring its decision on this pre application consultation until it receives a report and recommendation in respect of the status of the Redfaze development (301173-18)
- 4.3. I would have some concern that the details provided with the request are somewhat illustrative and indicative without a complete and definitive identification of the full nature and extent of the proposed works. The STATCOM development would also appear to be new technology for the State's transmission network although Eirgrid have indicated its use in other countries (details not provided). In the circumstances the Board may consider a meeting justified with the proposed applicant to investigate further the nature of and experience gained of such technology. Given however expansion, addition and enhancement proposals to existing transmission infrastructure previously considered by the Board I do not consider this necessary in this instance and proceed with this assessment on the basis of the information available.
- 4.4. The Board will note previous decisions it has made on SI pre application consultation requests in relation to electricity transmission infrastructure under S.182E and involving amendments, additions and expansion of electricity substation infrastructure (including those cases referred to by the prospective applicants). In these cases due to lack of clarity in the interpretation of s.182A and its requirements in regard to developments of such a nature the Board has exercised some discretion

and used the broad definition of the SI Act, “developments of strategic importance to the State”, and the criteria contained in s.37(A)(2) to determine such matters (although not specifically cited in regard to cases coming forward under s. 182A).

- 4.5. I would accept that the proposed development is similar in certain respects to a number of previous proposals in other locations where the Board determined that additional equipment within or expansion or enhancement to established transmission infrastructure (substations and their compounds) did not fall within the scope of section 182A of the Planning and Development Act, 2000, as amended. I consider that the examples cited by Eirgrid are relevant in this regard. Furthermore the information provided although somewhat illustrative on the nature and extent of the works would not indicate a form or appearance of apparatus or structures that would be entirely incongruous within or in proximity to established sub station infrastructure.
- 4.6. I draw the Board’s attention to the statement in EirGrid’s Grid Development Strategy (Strategy Statement 3) to use new technology to optimise the existing grid infrastructure to avoid construction of new lines and cables which puts the upgrading of such facilities clearly in a more strategic planning context. This would be particularly pertinent having regard to the new technology being introduced and its stated purpose. However, I do not consider that such would justify in the circumstances of these cases, and notwithstanding extending the built form of the existing substations (two of which were permitted by the Board under SI legislation), giving the proposed developments, a strategic infrastructure status.
- 4.7. I do not consider that Eirgrid’s reference to their screening decisions in regard to absence of need for EIA or AA to be critical in the statutory determinations to be made by the Board in this instance as to whether or not the proposed developments constitute strategic infrastructure.
- 4.8. Having regard to the nature and scale of the proposed developments and critically their relationship to existing substations, 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 developments consisting of three new STATCOM devices at three existing substation sites at 220/110kV Substation at Ballyvouskill, Co. Cork, 220/110kV substation at

Ballynahulla, Co. Kerry and 110kV substation at Thurles, Co. Tipperary do not fall within the scope of section 182A of the Planning and Development Act 2000, as amended.

5.0 Recommendation

5.1. I recommend that Eirgrid be informed that the proposed developments consisting of three new STATCOM devices at three existing substation sites at the 220/110kV Substation at Ballyvouskill, Co. Cork, the 220/110kV substation at Ballynahulla, Co. Kerry and the 110kV substation at Thurles, Co. Tipperary as set out in the plans and particulars received by An Bord Pleanala on the 14th March 2018 do not fall within the scope of section 182A of the Planning and Development Act 2000, as amended, and that separate planning application should be made in the first instance to Cork, Kerry and Tipperary County Councils respectively.

Philip Green
Assistant Director of Planning

10th May 2018