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TECHNICAL NOTE

LVIA

Proposed Grid Connection Route alteration

Co. Cork

Prepared by Macro Works Ltd

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LVIA | TVIA | Landscape Design | Visibility Analysis | Glint and Glare | Verified Photomontages | CGI | Shadow Flicker Analysis

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1. TECHNICAL NOTE – LVIA

1.1 INTRODUCTION

Macro Works undertook an LVIA for the original permitted Ballinrea Substation and Grid Connection (An Coimisiún Pleanála planning ref: 317706). This technical note is prepared in support of a request to An Coimisiún Pleanála to alter the permitted SID scheme in accordance with Section 146B of the Planning and Development Act 2000, as amended.

The purpose of the technical note is to assess any changes brought about from the proposed realignment of a section of circa. 370 of the previously permitted 110kV underground grid connection route between the existing Raffeen 220 kV substation and the permitted onsite 110kV substation within the permitted planning boundary of Ballinrea Solar Farm.

This technical report has been prepared to demonstrate that the proposed amendments of the consented grid connection will have no impact in relation to conclusions of the Landscape and Visual Impact Assessment (LVIA) prepared for the consented development.

1.1.1 Statement of Qualifications

This technical note was prepared by Macro Works Ltd of Cherrywood Business Park, Loughlinstown, Dublin 18; a consultancy firm specialising in Landscape and Visual Assessment and Glint and Glare Assessments. Macro Works' relevant experience includes assessment of potential reflectance effects from over 200 solar installation, both ground-based and roof-mounted.

1.1.2 Details of Permitted strategic infrastructure development

The development of a 110 kV substation, grid connection and associated infrastructure at Ballinrea, Co. Cork has previously been granted permission by An Bord Pleanála as 'Strategic Infrastructure Development' (SID) under the provisions of Section 182A of the Planning and Development Act 2000 as amended (Case Number ABP-317706-23).

The permitted development comprises the following;

- *The construction of a permanent 110 kV electrical substation in the townland of Ballinrea at the site of the permitted Ballinrea Solar Farm (PI Ref. 17/6784, ABP Ref. PL04.303013). The proposed 110kV electrical substation includes 2 no. single storey control buildings with welfare facilities, associated electrical plant and apparatus, security fencing, entrance gate, fire wall, 4 no. lighting columns, 1 no. telecoms pole (c. 20.7m above ground), 7 no. lightning masts (c. 18m above ground), underground cabling, wastewater holding tank, watermains connection, site drainage; and all ancillary works;*
- *1 no temporary construction compound with temporary site offices and staff facilities, in the townland of Ballinrea;*
- *Realignment of the permitted internal access track permitted under PI Ref. 17/6784, ABP Ref. PL04.303013 and the provision of a new internal cable maintenance track;*
- *Temporary alterations to the site entrance for construction phase and reinstatement of same post-construction;*
- *110kV tail fed underground electricity interconnection cables c. 6.25km in length and associated fibre cable connecting the proposed 110kV Substation at Ballinrea to the existing 220kV Raffeen Substation with underground ducting, 9 no. joint bays, communication chambers and associated site development and reinstatement works;*
- *A new 110kV cable bay, electrical equipment, the provision of a new cable maintenance track and ancillary works at the existing 220kV Raffeen Substation compound;*
- *All associated site development works, landscaping and apparatus.*

The 110kV substation and grid connection to Raffeen 220kV substation facilitate the connection of two permitted solar farms in the local area to the national grid;

- Ballinrea Solar Farm – Planning Ref. No. 17/6784 & ABP-303013-18, as subsequently modified by Planning Ref. No. 23/4563 & ABP-318915-24;
- Ballinvuskig Solar Farm – Planning Ref. No. 19/5371 & ABP-305186-19, as modified by Planning Ref. No. 23/41837 & ABP-318925-24.

1.1.3 Proposed alterations to the permitted SID scheme

The proposed amendment comprises the relocation of c. 370m of the permitted 110kV grid connection from the public road (L2473 Shannonpark Road) to adjacent consented third party lands.

The underground cable will leave the Shannonpark road, passing through an existing entrance onto consented third-party lands (Folio no. CK77185F) for approximately 370m before joining existing ducting at the M28 crossing in the east (as per the permitted SID route). The proposed works include the relocation of one joint bay (Joint Bay 06) to the consented third-party lands. A corridor of c. 5-10m in width will be required to accommodate the cable trenching works and installation of the joint bay.

The underground cable works will consist of the installation of 6 No. ducts in an excavated trench to accommodate 3 No. power cables, 2 No. fibre communications cables and 1 No. earth continuity conductor.

The altered grid route will be mainly through agricultural lands, and will require removal of c. 100m of scrub in proximity to the M28 crossing (refer to Drawing no. 300101179-DR-802 and 300101179-DR-803).

Once the cable trenching is complete the ground will be reinstated with an access track c. 3m in width. This is required as per Eirgrid specifications to permit future access to the joint bay (refer to drawing no. 300101179-DR-807).

Details with regards the method of construction for the permitted cable grid route and substation were provided in the Construction Methodology, prepared by the TLI Group (Report ref 05887-R04-01, June 2023). TLI have prepared an addendum report to accompany this alteration application. Note that there will be no changes to the methodology for constructing the cable or joint bay in the proposed offroad sections.

1.2 ASSESSMENT OF POTENTIAL EFFECTS – LVIA

The summary of the consented grid connection development concluded that there would be no significant landscape and visual effects. Indeed, the most notable landscape and visual effects relate to the substation aspect of the proposed grid connection application. With regard to the underground cabling, the report stated that *“the grid connection works will result in minor construction-stage landscape and visual effects, but these will cease once the development is operational, as the vast majority of the grid connection (cable route) is buried underground.”*

With regard to the amendment application, it is proposed that a section of the consented grid route will be realigned from the local road corridor into third-party lands (refer to Figure 1 below).

The realignment of the underground connection cabling will result in some vegetation clearance where the underground cable route passes through third party lands. C. 100m scrub to the north of the roadside hedgerow will need to be removed to allow the cable trench to be constructed. No sections of hedgerow will be removed as the underground cables utilise existing agricultural field entrances or gaps in the existing hedgerow vegetation. Otherwise, the landscape and visual effects set out in the permitted application remain much the same. Indeed, the most notable effects from underground cable connections relate to the construction stage, where there will be localised landscape and visual effects generated by excavated materials to facilitate the proposed underground cabling. Nonetheless, these effects tend to be highly localised to the immediate surroundings of the works. In this instance, the realigned works are likely to be more screened than those proposed as part of the permitted application, as they will be located behind the roadside hedgerow as opposed to within the local road corridor.

Overall, it is not considered that the realignment of the proposed works, which comprise a section of some c. 370 linear metres, will generate any effects beyond those already stated in the consented application.



Figure 1: Location of the proposed realigned grid connection cables

1.3 CONCLUSION

Overall, it is considered that proposed realignment of the consented grid connection route will result in similar effects to what is stated in the consented grid connection application (An Coimisiún Planeála planning ref: 317706). Thus, the conclusions of the LVIA remain unchanged and no significant impact are anticipated.