

13 POPULATION AND HUMAN HEALTH

- 13.1 In accordance with the requirements of Article 4(2)(a) of the EIA (Wales) Regulations 2017 and recommendations made within the scoping opinion provided by the Planning Inspectorate in February 2018, this chapter of the Environmental Statement addresses the potential for significant effects on the population and human health.
- 13.2 Photovoltaic (PV) technologies and solar inverters are not known to pose any significant direct health risks. That said, indirect potential impacts to population and human health may exist in the form of potential injury during the relatively short construction period (including those relating to construction traffic and noise) and the potential risk of injury to those on site relating to contact with high voltage equipment.
- 13.3 Potential impacts have been identified and described prior to providing an assessment of the level of risk posed by these impacts.

IDENTIFICATION OF POTENTIAL IMPACTS

- 13.4 Drawing upon the various technical assessments undertaken throughout this document and engagement with key consultees, the following may have potential impacts which warrant further assessment from a population and human health perspective:
- Potential injuries caused during construction phase – including risks resulting from site traffic
 - Potential risk of injury associated with noise during the construction phase
 - Potential risk of injury caused by electric shock (associated with transmission of electricity)

ASSESSMENT OF POTENTIAL IMPACTS

- 13.5 Having identified the above potential impacts which could reasonably be considered to pose a risk to human health, each has been considered in turn to assess the overall significance of the impact and determine how these could be avoided or mitigated.

Risk of injury during the Construction Phase associated with increased road traffic

- 13.6 During the construction phase all solar panels, inverters and associated infrastructure will need to be delivered to the site. As such, during the temporary Construction Phase, there is potential for increased risk of injury associated with vehicle traffic.
- 13.7 A detailed Construction Traffic Management Plan (CTMP) has been prepared, which explains how deliveries to the site will be managed. The CTMP (at Appendix 2.1) includes a package of measures

designed to control and mitigate the impact of construction related traffic to ensure the safety of those on and off site.

- 13.8 Construction (and decommissioning) traffic will adhere to a strict construction traffic route set out in the CTMP. From the M4's junction 23A, construction traffic will follow the A4810, turn left onto North Row and left again onto Green Street before accessing the site. Departing traffic will follow the same route back to the M4. Construction traffic will follow a specified route between the M4 and the site's construction traffic access at Green Street.
- 13.9 All deliveries to site will be spread over the duration of the construction period and the overall traffic volume that will use the route to and from the site is considered to be low. The construction traffic will, at most, result in an additional 38 daily vehicle movements. This equates, on average, to around 5 to 6 additional vehicle movements per hour (based on an 8-hour day).
- 13.10 The existing access will be improved to allow for the largest vehicles anticipated during the construction period, articulated lorries, to maneuver easily into and out of the site, to ensure that HGVs can safely access the site directly without needing to complete any complicated maneuvers in the road. In accordance with CTMP, suitable road signage would also be erected.
- 13.11 The combination of the above measures will mean that the site traffic can be safely managed without causing any significant adverse impacts on road safety.

Risk of injury relating to noise

- 13.12 Noise predictions have been undertaken to provide an estimate of the noise emissions from the Site during the construction works at the nearest receptors. From these predictions it has been possible to determine whether the adopted target noise criterion of 65 dB $L_{Aeq,T}$ is likely to be met during the noisiest stages of the works.
- 13.13 Construction noise predictions have been based on the construction noise assumptions on the plant to be used and the source noise data provided in BS5228.
- 13.14 The assessment identified that, noise levels are not predicted to exceed the adopted 65 dB(A) limit when works are undertaken at the closest point of the works to the closest off-site sensitive receptor. Consequently, it is concluded that this will not present an adverse impact to human health and mitigation measures are not considered necessary.
- 13.15 With regards to noise associated with Construction Phase traffic, as outlined above, all construction trips will be directed from Junction 23A of the M4 motorway, along the A4810 distributor road and south to Green Street, to the east of the village of Redwick, from where access to the site will be gained.
- 13.16 The routing away from the village of Redwick will minimise the level of exposure to changes in traffic noise, as a result of construction activities, which will largely be diluted within the daily

variations in traffic flow along those routes. As such, no adverse risk to human health has been identified

Risks associated with transmission of electricity

- 13.17 The proposed project has the potential to generate large volumes of electricity. As such, a potential risk of injury associated with transmission of electricity exists to anyone accessing any of the electrical infrastructure on site (such as inverters or transformers); or otherwise coming into contact with high voltages.
- 13.18 During the construction phase, installation will be undertaken by a qualified contractor in accordance with the appropriate guidance and regulations required for an electrical installation of this scale. In addition, further guidance will be set out within the Construction and Environmental Management Plan (CEMP) for the proposed development.
- 13.19 During operation, personnel accessing the above equipment will be adequately trained with regards to working safely in this field, thereby mitigating this risk.
- 13.20 Physical boundaries across the site represented by the reens, ditches and fences will prevent unauthorised access to the proposed development, reinforced by security measures including CCTV and relevant signage.
- 13.21 In conclusion, the combination of the above measures will mitigate the risks to site users such that it presents no adverse impact to human health.