

SSE Tarbert Next Generation Power Station

Environmental Impact Assessment Report (EIAR)
Volume I
Chapter 04 Existing Site and Conditions

SSE Generation Ireland Limited

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Table of Contents

4.	Existing Site and Conditions	4-1
4.1	Introduction	4-1
4.2	Site Location	4-1
4.3	The Proposed Development Site.....	4-2
4.4	The Surrounding Area	4-2
4.5	Site History	4-2
4.6	Potential Environmental Sensitivities / Receptors	4-11
	References	4-15

Tables

Table 4.1: Site Planning History	4-3
Table 4.2: Planning Search within 5km of the Site.....	4-6

Appendices (EIAR Volume II)

No Appendix

Figures (EIAR Volume III)

Figure 4.1: Site Setting
Figure 4.2: Site Aerial
Figure 4.3: Constraints Plan
Figure 4.4: Planning search within 5km of the Site

4. Existing Site and Conditions

4.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) describes the Proposed Development Site and its location and setting, details of the surrounding area, site history and environmental receptors for the purpose of complying with Article 5(1)(a) of the EIA Directive.

For the purposes of the EIAR, the following terms are used to describe the Proposed Development:

- **The Proposed Development** – also referred to as ‘Tarbert Next Generation Power Station’ relates to the 1 no. Open Cycle Gas Turbine (OCGT) plant, fuel storage and unloading facility, water storage tanks, surface water drainage system, electrical grid connection to substation and all associated ancillary development, site works and services, for which planning permission is being sought, which will be submitted to ABP for determination. Full details are included in EIAR Chapter 5.
- **‘The Proposed Development Site’** – also known as ‘the red line boundary’ or ‘planning application boundary’ relates to the area where the Proposed Development is located as delineated by the red line boundary. Refer to EIAR Volume III Figure 1.1.
- **‘Tarbert HFO Power Station’** – is the existing power station built in the 1960’s which runs on heavy fuel oil (HFO), which will cease operating at the end of December 2023.
- **‘SSE Tarbert’** – relates to the wider Tarbert power station site which includes the Tarbert HFO Power Station (which will cease operating at the end of December 2023), the Temporary Emergency Generation (TEG) Power Plant (under construction), the National Oil Reserves Agency (NORA) mainland tank farm and the existing jetty facility; and
- **‘The TEG (Temporary Emergency Generation) Site’** – relates specifically to 3 no. OCGT plant with a combined output of 150MW under construction and which will be temporarily installed on an area of land within the SSE Tarbert Site (Planning Ref. ABP-315838). This plant will commence decommissioning in 2028/2029.

4.2 Site Location

The Site is situated at the SSE Tarbert Site, in the townland of Tarbert Island, Co. Kerry, Ireland (Irish Grid Reference X; 475237; Y: 5826671). The entire SSE Tarbert Site is located within the administrative area of Kerry County Council (KCC). The Proposed Development Site is bordered to the north, east and west by the Shannon Estuary. The existing Tarbert HFO Power Station, the island tank farm and a section of the 220Kv electrical substations are within the Proposed Development Site. The TEG Site and a National Oil Reserves Agency (NORA) mainland tank farm are located to the west and south-west of the Proposed Development Site boundary.

This chapter is supported by Figures 4.1 to 4.4 in EIAR Volume III.

4.3 The Proposed Development Site

The Site is within the boundary of the SSE Tarbert site. The Site comprises predominately brownfield land, a water reservoir, HFO pipelines, roads, car parks, chemical storage areas, fuel storage including the island tank farm and other low-level buildings associated with the existing Tarbert HFO Power Station main building.

Ground levels on the southern portion of the Proposed Development Site slope westwards from approximately 4.18m Above Ordnance Datum (AOD) in the east to 5.63m AOD in the west. The Site is 16.24ha and encompasses land within the SSE Tarbert site (the blue line boundary) which is an area of 42ha. Under the management of the Applicant.

The Proposed Development Site is accessed from the existing SSE Tarbert entrances off the N67 and will function independently of both the existing Tarbert HFO Power Station and the TEG Site. The N67 connects Co. Kerry with Co. Clare and Co. Galway via the Tarbert – Killimer ferry crossing, running in a north-west to south-east direction.

4.4 The Surrounding Area

The location of the Proposed Development Site is shown in Figure 4.1 and the general surroundings on Figure 4.2 (refer to EIAR Volume III). The following text includes details of the relevant features in relation to the Proposed Development Site:

- Within – Areas of hardstanding, outbuildings which vary between storage sheds and workshops, the existing Tarbert HFO Power Station, the island tank farm, staff car parking and visitor's car parking area, the northern and southern site entrances, part of the EirGrid 220kV electrical transmission substation, and the power station reservoir.
- North – Tarbert Lighthouse and the Shannon Estuary.
- East – the N67 National Secondary Road and the Shannon Estuary.
- South-east – the Tarbert – Killimer ferry terminal, the N67 National Secondary Road, and residential receptors.
- South – the TEG Site, a lagoon draining the Shannon Estuary and agricultural lands further south on the mainland.
- South-west – the TEG Site and the National Oil Reserves Agency (NORA) tank farm; and
- West – the Shannon Estuary.

4.5 Site History

The Tarbert HFO Power Station at SSE Tarbert was developed in the 1960's as a 626 MWe Heavy Fuel Oil (HFO) fired power plant, which had been operational since 1969. The SSE Tarbert Site is located on the southern shore of the Shannon Estuary, on Tarbert Island, originally agricultural land and made land (i.e., infilled/reclaimed land), connected to the mainland via a causeway.

There are four generating units at the Tarbert HFO Power Station, two with a capacity of 57 MWe each and two with a capacity of 256 MWe each. The Tarbert HFO Power Station was constructed in two stages, units one and two commissioned in 1969 and units three and four commissioned in 1976 and 1977 respectively. Units three and four were refurbished in 2003 and 2004 and are fuelled by HFO with both Gas Oil and propane used as a start-up fuel. Each of the units are independent and consist of a boiler, steam turbine and auxiliary plant.

There are a number of fuel storage tanks on and adjacent the SSE Tarbert Site. The 'Island Tank Farm' which is within the Site, comprises four HFO tanks (refer to Figure 4.2, EIAR Volume III), each with the capacity of 25,000 tonnes. At present, only two of these tanks are in use while the other two are currently not used. The 'Mainland Tank Farm' located 350m to the west of the Site includes four tanks these are not related to the power generation which occurs at SSE Tarbert and are under the control of the National Oil Reserves Agency (NORA) providing a national reserve.

The existing Tarbert HFO Power Station employee numbers have decreased over the years and there will be 14 staff employed on the SSE Tarbert Site as of Q3 2023, providing 24 hours per day, 365 days per year presence to operate and maintain SSE facilities on-site and to remotely control other SSE sites.

Table 4.1: Site Planning History

Planning Applications	Date Submitted	Summary Details	Applicant	Status
23350	31/03/2023	The proposed development will comprise of the following on a site measuring approximately 6.9 hectares: (1) removal of existing cable joint, bay within Tarbert generating station, 220kv switchgear within the existing Tarbert substation compound and associated 220kv cabling; (2) two no. new lengths of 220kv underground cabling measuring approximately 340m each, running between two no. new underground cable joint base in Tarbert generating station and the connection point at Tarbert substation; (3) the new 220kv switchgear bay within the existing Tarbert substation compound comprising associated electrical equipment, including cable sealing ends, insulators, overhead conductors, surge arrestors, lightning masts and lighting poles; and (4) all ancillary site development works	EirGrid Plc.	Not Determined yet (Decision Due Date 07/12/2023)

Planning Applications	Date Submitted	Summary Details	Applicant	Status
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		including temporary construction compound and layout areas, site preparation works and ground levelling as required to facilitate the works. Tarbert generating station is licensed by the environment protection agency (EPA) under the industrial emissions (IE) license (ref: P0607-02). the proposed development includes works located within the i.e., license boundary of Tarbert generating station which is an upper tier establishment to which the chemicals act (control of major accidents hazards involving dangerous substances) regulations 2015 (the COMAH regulations) apply. this planning is accompanied by a natura impact statement (NIS).		
ABP-315838-23	17/02/2023	Application received under Section 4 of the Development (Emergency Electricity Generation) Act 2022 (the Act) for a designated development located at Tarbert Power Station, Tarbert, in the townland of Tarbert Island, Co. Kerry	SSE Ireland Ltd.	Granted Conditional 29/03/2023
18932	27/04/2018	Tarbert Island Tarbert Co Kerry construct a battery storage facility within a total site area of up to 2.278ha, to include 50 no. self-contained battery container units with associated HVAC cooling units, 13 converter and 13 step up transformer, a single storey substation / control building with welfare facilities, a cable route grid connection to the existing ESB substation building, maintenance lighting, security fencing, a CCTV monitoring system, and all associated ancillary infrastructure on lands within	SSE Renewables (Ireland) Limited	Granted Conditional 15/01/2019

Planning Applications	Date Submitted	Summary Details	Applicant	Status
		the Tarbert generating facility. A ten-year planning permission is being sought to construct the development.		
13477	31/07/2013	Alter existing 220Kv station consisting of new single storey control building, new diesel generator building, 3.no single storey modular buildings, 6.no gantry support structures 8 no. control and protection kiosks, 6 no. surge arrestors, 6 no. cable sealing ends, existing compound chain link fence and gates to be replaced with new palisade fence and gates, new holding tank and associated drainage and site works.	EirGrid Plc	Granted Conditional 23/09/2013
972500	04/12/1997	Erection of a sewage effluent treatment plant	Electricity Supply Board (ESB)	Granted Conditional 03/03/1998
921738	26/11/1992	Erect office extension	ESB	Granted Conditional 15/01/1993

4.5.1 Relevant Planning Applications

A review of planning applications within 5km of the Site was completed using the KCC, County Clare and County Limerick Online Planning Systems, and An Bord Pleanála online records, for applications submitted in the last five years. The 5km search area was used due to the rural nature of the area and the existing sparse development, other known developments with the possibility of having cumulative effects with the Proposed Development. Only existing and approved planning applications were considered. Table 4.2 provides details of the planning applications identified by the review.

Table 4.2: Planning Search within 5km of the Site

Planning Application	Date Submitted	Summary Details	Applicant	Status	Distance from the Site
23350	31/03/2023	The Proposed Development will comprise of the following on a site measuring approximately 6.9 hectares: (1) removal of existing cable joint, bay within Tarbert generating station, 220Kv switchgear within the existing Tarbert substation compound and associated 220Kv cabling; (2) two no. new lengths of 220Kv underground cabling measuring approximately 340m each, running between two no. new underground cable joint base in Tarbert generating station and the connection point at Tarbert substation; (3) the new 220kv switchgear bay within the existing Tarbert substation compound comprising associated electrical equipment, including cable sealing ends, insulators, overhead conductors, surge arrestors, lightning masts and lighting poles; and (4) all ancillary site development works including temporary construction compound and a layout areas, site preparation works and ground levelling as required to facilitate the works. Tarbert generating station is licensed by the Environment Protection Agency (EPA) under the Industrial Emissions (IE) License (Ref: P0607-02). The Proposed Development includes works located within the IE License Boundary of Tarbert Generating Station which is an Upper Tier Establishment to which the Chemicals Act (Control of Major Accidents Hazards Involving Dangerous Substances) Regulations 2015 (the COMAH Regulations) apply. This planning is accompanied by a Natura Impact Statement (NIS).	EirGrid PLC	Further Information Requested	Within the site boundary.
EE08.31583 8	17/02/2023	Application received under Section 4 of the Development (Emergency Electrical Generation) Act 2022 (the Act) for a designated development located at Tarbert Power Station, Tarbert, in the townland of Tarbert Island, Co. Kerry.	SSE Generation Ireland Ltd.	Granted Conditional 29/03/2023	0m adjacent Site boundary.
2332	23/01/2023	For development within the Moneypoint Generating Station, Carrowdotia North and Carrowdotia South, Kilimer, County Clare (Eircode V15 R963) which is licenced by the Environmental Protection Agency (EPA) under an Industrial Emissions (IE) Licence (Re P0605-04) and Upper tier COMAH site and therefore falls under the requirements of the Control of Major Accident Hazard Regulations (COMAH) Regulations, 2015.	Electricity Supply Board (ESB)	Granted Conditional 15/03/23.	3.66km north-west.

Planning Application	Date Submitted	Summary Details	Applicant	Status	Distance from the Site
		The development, which will be located at various locations within the station complex, will consist of land-based Site Investigations (SI) works comprising of boreholes and trial pits across the site.			
21549	25/05/2021	<p>A high inertia synchronous compensator (HISC) compound containing 1 no. HISC unit enclosed within a steel clad framed style structure (12.1m max height) and supported by 8 no. electrical equipment containers (containing ancillary power supply products including a static frequency converts, mv switchgear, exciters, lv distribution, control room, welfare and office, main auxiliary and start-up electrical transformers, generator circuit breaker, switchgear equipment, external cooler units and 1 no. back up diesel generator and associated diesel storage tank; (b) 220Kv high voltage gas insulated switchgear (GIS) substation compound containing a GIS substation building with all control and hv equipment within a single storey building (13.2m max height). The building will be surrounded by a compound road and contained within a 2.6m high galvanised steel palisade fence; (c) a battery storage compound containing 5 no. battery storage containers, enclosed in steel containers of dimensions approximately 13m by 2.5m by 3m, housing individual battery components with 2 fitted external HVAC systems for each unit and supported by 13 no. inverter stations, 14 no. auxiliary transformers and control container; (d) 220kv underground cable to the existing adjoining EirGrid substation; (e) associated elements comprising various underground cables and ducts, equipment plinths, boundary security fence, compound lighting and palisade gates and fencing, security lighting, CCTV, internal access roads, hardstanding areas and all necessary foundations works for the above compounds. The planning application is on lands where grid stabilisation facility was previously permitted under planning register no 19/115. Planning permission to construct the development is sought for a period of 10 years. A Natura Impact Statement has been prepared in respect of the Designated Development and accompanies the application.</p>	Donal Murphy Glencloosagh Energy Limited	Granted Conditional 19/07/21	1.7km south- west

Planning Application	Date Submitted	Summary Details	Applicant	Status	Distance from the Site
20850	18/09/2020	For changes to the previously permitted peak power plant development (planning ref. 13/138). It is proposed to change the energy source for the charging of the battery storage system (BESS) containers from diesel to charging off the national grid and to change the permitted layout for electrical equipment based on the consequence of the proposed change in energy source at an area located within the permitted development. It is also proposed to include a small metering enclosure adjacent to the constructed substation building within the permitted development. A five-year planning permission is being sought for the Designated Development.	Kilpadouge Green Energy Ltd	Conditional 12/11/2020.	1.75km south-west
19746	26/09/2019	For development, on a c. 1.8 ha site located within Moneypoint Generating Station, Carrowdotia North and Carrowdotia South, Kilimer, County Clare (Eircode V15 R963) which is licensed by the EPA under an Industrial Emissions (IE) Licence (Ref. P0605-04) and Upper Tier COMAH site and therefore falls under the requirements of the Control of Major Accident Hazard Regulations (COMAH), 2015. The Development, which will be located within a fenced compound c. 0.94ha. will consist of a 300 to 400 MVA (electrical rating) synchronous condenser, including the following elements: a) a generator and Flywheel building (c. 962 sq.m., c.15m high) to house equipment including the generator, flywheel lube oil skid, air compressor and pumps; b) supporting items of plant located within the compound including *cooling equipment (c. 690 sq. m., c. 3m high); c* 7m high modular containers to house electrical and control equipment (total area of c 384sq.m); * a generator step-up transformer (c.150 sq. m, c. 3m high); *c 7m high modular containers to house electrical and control equipment (total area of c. 384 sq.m); *a generator step-up transformer (c.150 sq. m c.8m high), auxiliary transformer (c.48 sq. m., c.3m high); and * an above-ground oil separator and collection pit (c.72sq.m) connections to existing site services networks including electrical, water and wastewater and an underground surface water attenuation tank connecting to existing surface water drains; c) all other ancillary and miscellaneous site works including site clearance; site access, internal roads and development of areas of hardstanding including a maintenance lay-down area; and d) the development will be bounded by a c.3m high chain-link fence. Site access will be by means of a new c. 2.7m high palisade	ESB	Granted Conditional 20/11/2019.	4.24km north-west.

Planning Application	Date Submitted	Summary Details	Applicant	Status	Distance from the Site
		gate accessed from existing roads within the station site. Planning permission is being sought for a duration for a duration of 10 years.			
19115	12/02/2019	The development will consist of a grid stabilisation facility comprising of the construction up to 4 no. rotating stabilizers, 5 no. battery storage containers, 1 no. control room, 2 transformers and ancillary equipment within a site area of approx. 1.46 hectares. It is proposed to connect the Designated Development to the adjacent EirGrid substation by underground cable which will traverse the permitted and under construction peaking plant. The rotating stabilisers will be supported by 10 no. electrical equipment rooms which will contain ancillary power supply products including a static frequency convert (SFC), mv switchgear, exciters and lv distribution, and step-up / down transformers. A heating ventilation and air conditioning system (HVAC) will be attached to each rotating stabiliser, 4 no. auxiliary transformers also proposed. The battery containers will house individual battery components with 2 no. fitted external HVAC system for each. 13 no. inverter stations and 14 auxiliary transformers are proposed for the battery containers. The entire site will consist of various underground cables and ducts, boundary securing fence, compound lighting and palisade gates and fencing, new internal access track, security lighting, CCTV, hardstanding areas and all necessary foundation works. Permission is also sought for 2 electrical transformers (up to 220kv), associated hv equipment and underground electrical grid connection cabling and ducting connecting the development to the national grid at the adjacent ESB/EirGrid substation. Planning permission is sought for a period of 10 years. A Natura Impact Statement accompanies this application.	Glencloosagh Energy Limited	– Granted Conditional 25/10/2019	1.65km south-west
18520	21/06/2018	The development will consist of a c7.5 MW capacity battery storage facility within a secured compound, on a 0.4 Ha site, and will subject to detailed design, commercial and technical considerations, include (a) up to 3 No. battery storage units (each typically comprising a containerised battery (c 12.2m x 2.5m x 3.2m), HVAC (c2.7m x 2.7m), inverter (c. 3m x 3m) and transformer (c 3.3m x 3.3m); (b) a 28 sq. m single-storey switchgear building; (d) ancillary electrical plant including a transformer and var support units; (e) a c.15.6m high lightning mast and c. 18m high SCADA communications mast; (f) a 2.6m high chain-link fence and	ESB	Granted Conditional 24/07/2018	Approximately 4.5km north-west of the Site

Planning Application	Date Submitted	Summary Details	Applicant	Status	Distance from the Site
		vehicular access gates via the existing station road to the south of the site; (g) ancillary site works including site clearance and the installation of site services.			
18392	27/04/2018	Tarbert Island Tarbert Co Kerry construct a battery storage facility within a total site area of up to 2.2278ha, to include 50 no. self-contained battery container units with associated HVAC cooling units, 13 converter and 13 step up transformer container units, associated compound cabling and ducting, a grid transformer, a single storey substation / control building with welfare facilities, a cable route grid connection to the existing ESB substation building, maintenance lighting, security fencing, a CCTV monitoring system, and all associated ancillary infrastructure on lands within the Tarbert generating facility. A ten-year planning permission is being sought to construct the development.	SSE Renewables (Ireland) Limited	Granted Conditional 15/01/2019	Within the Site boundary.
18878	10/09/2018	For a 10-year permission to construct a battery energy storage system (BESS) facility on a total site area of up to 0.6ha that will provide grid balancing services to the Irish electrical grid, to include up to 26 no. self-contained battery container units with associated heating ventilation and air conditioning systems (HVAC), power conversion systems (PCS), step-up transformers, control systems and ancillary electrical components, 1 no. single – storey substation control building and associated electrical infrastructure, 1 no. 110 kv generator transformers, all necessary ground and foundation works, associated compound cabling and ducting, palisade security fencing and lighting, CCTV security cameras, new site access from existing private road, temporary construction compound and all associated ancillary infrastructure and site development works. A Natura Impact Statement is now submitted in support of the application.	Shannon Clean Tech Ltd	Granted Conditional 23/09/2019	1.86km south-west

4.6 Potential Environmental Sensitivities / Receptors

A number of environmental receptors relevant to the assessment have been identified within and outside the Site. All distances given are the shortest distance between receptor and the Proposed Development Site.

Key receptors for each topic area have been identified as part of the assessment process and details are included in the relevant technical chapters (Chapters 7 – 19 of this EIAR). A summary is provided in the following sections.

4.6.1 Residential and Human Health Receptors

There are two residential receptors adjacent (0m) to the Proposed Development Site (refer to Figure 7.4 in EIAR Volume III). The measurements are taken from the closest section of the Site boundary to the perimeter of the receptor (i.e., fence/ hedgerow). These properties comprise:

- Dwelling located off the N67 adjacent to the south of the Site boundary (0m distance).
- Dwelling located off the N67 adjacent to the south of the Site boundary (0m distance); and
- Dwelling located off the N67 approximately 260m south of the Site boundary.

There are three villages or hamlets located in the wider rural area of the Site:

- Tarbert (approximately 1.8km south)
- Kilpadogue (approximately 1.75km south-west)
- Kilmurey (approximately 3.18km south-east)

There are no areas of community land zoned within 100m of the Site.

Potential effects on residential receptors are considered in Chapter 7 (Air Quality), Chapter 10 (Landscape and Visual), Chapter 11 (Noise and Vibration), and Chapter 15 (Population on Human Health).

4.6.2 Designated Nature Conservation Sites

The European sites identified as relevant based on proximity and factors such as the hydrological connectivity and the potential connection to the Site due to mobile Qualifying Interests (QI) / Special Conservation Interests (SCI) that may be associated with the habitats within the Zone of Influence (Zol) of the Proposed Development.

Based on this selection criteria, seven European sites are located within the Zol of the Proposed Development:

- River Shannon and River Fergus Estuaries SPA (004077) – 0km – SPA within Site boundary.
- Lower River Shannon SAC (002165) – 0km – immediately adjacent to Site boundary

- Stack's to Millaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161) – 6.6km south-east
- Moanveanlagh Bog SAC (002351) – 13.9km south
- Blasket Islands SAC (002172) – 89km south-west, 95km hydrological connection
- Kilkieran Bay and Islands SAC (002111) – 70km north, 117km hydrological connection
- Slyne Head Islands SAC (000328) – 106km north-west, 134km hydrological connection.

Potential effects on biodiversity are considered in Chapter 9: Biodiversity of this EIAR and potential effects on European sites are presented in Appendix 9B of EIAR Volume II.

4.6.3 Transport Receptors

The main roads that are surrounding the Site are as follows:

- N67 (National Secondary Road) – connects Co. Kerry with Co. Clare and Co. Galway, running in a north-west to south-east direction, approximately 310m south of the Site.
- N69 (National Secondary Road) – connects Tralee in Co. Kerry with Limerick City running in a northerly direction from Tralee to Tarbert and an easterly direction towards Limerick and vice versa, approximately 2km south of the Site.
- L1010 (Coast Road) – connects with the R551/ N67 in Tarbert and the R551 / R552 in Ballylongford Village, approximately 2km to the south of the Site.

The Proposed Development will be accessed via the existing SSE Tarbert site entrances off the N67 (the main site entrance and the secondary site entrance).

Potential effects on transport receptors are considered in Chapter 14: Traffic and Transport of this EIAR.

4.6.4 Air Quality Receptors

The study area of the assessment of construction dust has been applied within the air quality chapter of this EIAR. The Institute of Air Quality Management (IAQM) guidance (2014) extends the zone of potential impact:

- Up to 350m beyond the Site boundary and 50m from the construction traffic route (up to 500m from the Site entrances) for human health receptors; and
- Up to 50m from the Site boundary and/or construction traffic route (up to 500m from the Site entrances) for ecological receptors.

The potential dust generating activities could potentially occur in any direction relative to the Site depending on meteorological conditions during any randomly occurring event. Receptors are located within a predominantly rural area, the closest residential property being adjacent to the Site boundary, where the baseline dust soiling environment would be expected to be high. The River Shannon and River Fergus Estuaries SPA is adjacent the Site boundary (0m distance) and the Lower River Shannon

SAC is also 0m distance from the Site boundary. However, both ecological receptors are tidal and are regularly submerged by the tide, as a result any dust particles which travel beyond the Site boundary are likely to be routinely washed away with the tide.

There is the potential for impacts and nuisance from construction traffic, clearance demolition, construction dust, earthworks and track out generated during the construction phase of the Proposed Development.

Potential effects on air quality receptors are considered in Chapter 7: Air Quality of this EIAR.

4.6.5 Land and Soil Receptors

The nearest Water Framework Directive (WFD) designated feature is the Lower Shannon Estuary WFD transitional water body (IE_SH_060_0300), which surrounds the Site to the north, east and west.

The Proposed Development is largely underlain by dark grey Shannon Group of undifferentiated mudstones, siltstones, and sandstones. Bedrock outcrops are shown along the shoreline to the north and west. Fault lines are not indicated to be present in the area.

The dark grey Shannon Group bedrock units are assigned Moderate vulnerability to contamination.

The bedrock aquifer underlying the Site is classified by the GSI as a 'Locally Important Aquifer (Li)' where the bedrock is moderately productive only in local zones. Groundwater elevations indicate that groundwater flow on Tarbert Island is radial towards the surrounding waterbodies (AECOM, 2022), with groundwater being brackish/saline (the 2023 site investigation reported groundwater chloride concentrations between 70 and 452 milligrams per litre – EIAR Volume II, Appendix 13A) and likely to be tidally-influenced. The Site is not located in a groundwater source protection area.

A significant portion of the island is underlain by Made Ground, with natural topsoil and subsoils in the surrounding area consisting of till derived from sandstone and shale.

Potential effects on geology and hydrogeology receptors are considered in Chapter 13: Soils and Geology of this EIAR.

4.6.6 Water Environment Receptors

The Site falls within the Lower Shannon Estuary South WFD surface water catchment (CATCH_ID 24) and the Ballylongford WFD Groundwater body (European Code IE_SH_G_030). The Site is in the Ralappane sub-basin and the following surface water bodies are recorded:

- A river waterbody is at 1.7km to the south of the Site and is named Tarbert_010. This waterbody consists of a series of drainage ditches or streams which collate west of Tarbert village in a water source referred to as Doonard Lower, before discharging into the Shannon Estuary at Tarbert.
- A river waterbody (Farranmiller_010) located at 1.8km to the south of the Site.

Potential effects on water environment are considered in Chapter 12: Water Environment of this EIAR.

4.6.7 Cultural Heritage

There are two archaeological assets recorded within the boundary of the Proposed Development Site (refer to EIAR Volume III Figure 8.1). The first is the Tarbert Island Battery (KE003-001) which was demolished when the existing Tarbert HFO Power Station built over it. The second is a burial (KEE003-068) which was uncovered during construction works in May 1965. The burial was located under a flagstone 1.2m below ground level and 5.5m from the shoreline of the Shannon Estuary. Cultural heritage and archaeological assets within a 1km zone from the Proposed Development Site (the area within which assets could experience setting impacts from the Proposed Development) include:

- 2 assets recorded as Protected structures.
- 2 assets recorded as buildings on the national Inventory of Architectural Heritage; and
- 1 asset recorded as Planned Landscapes on the National Inventory of Architectural Heritage.

Potential effects on cultural heritage and archaeology receptors are considered in Chapter 8 of this EIAR.

4.6.8 Landscape Receptors

The Kerry County Development Plan 2022- 2028 subdivides the county into landscape character areas. The Proposed Development is located within landscape type “J – Urban Area”. Adjacent agricultural lands to the south are classified as “C – Pasture with mature hedgerows” and the parcel of woodland around Tarbert House is identified as “G – Deciduous Woodland”, which is considered a valuable resource in terms of both biodiversity and by contributing to a varied, interesting and attractive landscape.

Views experienced from locations such as settlements, recognised routes and popular vantage points used by the public have been included in the assessment. Receptors are the viewers at these locations. The degree to which receptors, i.e., people, will be affected by changes as a result of the Proposed Development depends on several factors.

Potential effects on landscape receptors are considered in Chapter 10: Landscape and Visual of this EIAR.

4.6.9 Noise and Vibration Receptors

The nearest noise sensitive receptors to the Proposed Development Site boundary are (as presented on Figure 4.2, refer to EIAR Volume III):

- Residential properties 245m south from the transformer wall boundary.
- Residential property 505m south from the transformer wall boundary.
- Residential property 1050m south-west from the transformer wall boundary.

Potential effects on noise and vibration receptors, as well as cumulative impacts, are considered in Chapter 11: Noise and Vibration of this EIAR.

