

SSE Tarbert Next Generation Power Station

Environmental Impact Assessment Report (EIAR)
Non-Technical Summary (NTS)

SSE Generation Ireland Limited

November 2023

Prepared for:

SSE Generation Ireland Limited

Prepared by:

AECOM Ireland Limited
4th Floor
Adelphi Plaza
Georges Street Upper
Dun Laoghaire
Co. Dublin A96 T927
Ireland

T: +353 1 238 3100
aecom.com

Table of Contents

1.	Introduction	1
1.1	Introduction	1
1.2	The Applicant.....	2
1.3	Overview of Proposed Development.....	2
1.4	Environmental Impact Assessment	4
1.5	Planning Application	5
2.	Planning Policy	6
2.1	Introduction	6
2.2	Planning Policy	6
3.	Need and Alternatives.....	7
3.1	Introduction	7
3.2	Need for the Proposed Development.....	7
3.3	Alternatives	7
4.	Existing Site and Conditions	9
4.1	Introduction	9
4.2	Site Location	9
4.3	The Proposed Development Site.....	9
4.4	Site History	10
4.5	Potential Environmental Sensitives / Receptors.....	10
5.	Description of the Proposed Development	11
5.1	Introduction	11
5.2	Main Features of the Proposed Development.....	11
5.3	Construction Phase	13
5.4	Commissioning and Operational Phases	15
5.5	Decommissioning Phase	17
6.	Consultations	18
6.1	Introduction	18
6.2	Strategic Infrastructure Development Pre-Application Consultation	18
6.3	Public Consultation	18
7.	Air Quality	20
7.1	Introduction	20
7.2	Methodology	20
7.3	Potential Impacts	20
7.4	Mitigation Measures	21
8.	Cultural Heritage	22
8.1	Introduction	22
8.2	Methodology	22
8.3	Potential Impact.....	22
8.4	Mitigation Measures	23
9.	Biodiversity.....	24
9.1	Introduction	24
9.2	Methodology	24
9.3	Potential Impacts	24
9.4	Mitigation Measures	26
10.	Landscape and Visual.....	27
10.1	Introduction	27
10.2	Methodology	27
10.3	Potential Effects.....	27
10.4	Mitigation Measures	28

11.	Noise and Vibration.....	29
11.1	Introduction	29
11.2	Methodology	29
11.3	Potential Impacts	29
11.4	Mitigation Measures	30
12.	Water Environment	32
12.1	Introduction	32
12.2	Methodology	32
12.3	Potential Impacts	32
12.4	Mitigation Measures	33
13.	Land and Soils	34
13.1	Introduction	34
13.2	Methodology	34
13.3	Potential Impacts	34
13.4	Mitigation Measures	34
14.	Traffic and Transport	36
14.1	Introduction	36
14.2	Methodology	36
14.3	Potential Impacts	36
14.4	Mitigation Measures	37
15.	Population and Human Health	38
15.1	Introduction	38
15.2	Methodology	38
15.3	Potential Impacts	38
15.4	Mitigation Measures	39
16.	Material Assets.....	40
16.1	Introduction	40
16.2	Methodology	40
16.3	Potential Impacts	40
16.4	Mitigation Measures	41
17.	Climate.....	43
17.1	Introduction	43
17.2	Methodology	43
17.3	Potential Impacts	44
17.4	Mitigation Measures	44
18.	Waste Management.....	46
18.1	Introduction	46
18.2	Methodology	46
18.3	Potential Impacts	46
18.4	Mitigation Measures	47
19.	Major Accidents and Disasters	48
19.1	Introduction	48
19.2	Identification and Assessment of Potential Major Accidents	48
19.3	Identification and Assessment of Potential Disasters	49
19.4	Summary of Conclusions.....	49
20.	Interactions	51
21.	Conclusions	52
22.	References.....	53

Plates

Plate 1.1: Location of the Proposed Development	2
Plate 1.2: Access to the Site	3

Tables

Table 5.1: Development Phases	14
-------------------------------------	----

1. Introduction

1.1 Introduction

This document presents a Non-Technical Summary of the Environmental Impact Assessment Report (EIAR) that has been prepared in relation to a planning application for the proposed Open Cycle Gas Turbine (OCGT) power plant, administrations building and workshop, and ancillary plant, site works and services on land, grid connection and demolition of ancillary buildings associated with the existing Tarbert Heavy Fuel Oil (HFO) Power Station on land within the SSE Tarbert Site (herein referred to as the 'Proposed Development'). The Site of the Proposed Development (herein referred to as "the Site") is located within the boundary of the existing SSE Tarbert Power Station Site ('SSE Tarbert'), in Tarbert, County Kerry (Co. Kerry) (Irish Grid Reference X: 475237; Y: 5826671).

The Site (red line boundary) is an area of approximately 15.18 hectares and includes land within SSE Tarbert, which is an area of 42 hectares in total, under the management of SSE Generation Ireland Limited ("the Applicant").

The Proposed Development will connect to an existing electrical substation on the SSE Tarbert site which is partially within the boundary of the Site.

The EIAR (AECOM, 2023) is presented in four volumes:

- Non-Technical Summary.
- Volume I: Environmental Impact Assessment Report (EIAR) (Main Text).
- Volume II: Appendices.
- Volume III: Figures.

This Non-Technical Summary ("NTS") volume of the EIAR provides an overview of the Proposed Development, the Environmental Impact Assessment (EIA) methodology and the structure of the EIAR.

The NTS is to describe the Proposed Development and provide a summary in non-technical language of the key findings of the EIAR (Volume I) for the benefit of consultees and stakeholders. For the purposes of cross referencing, the figures supplied within the NTS are numbered as per the main report - EIAR (Volume I).

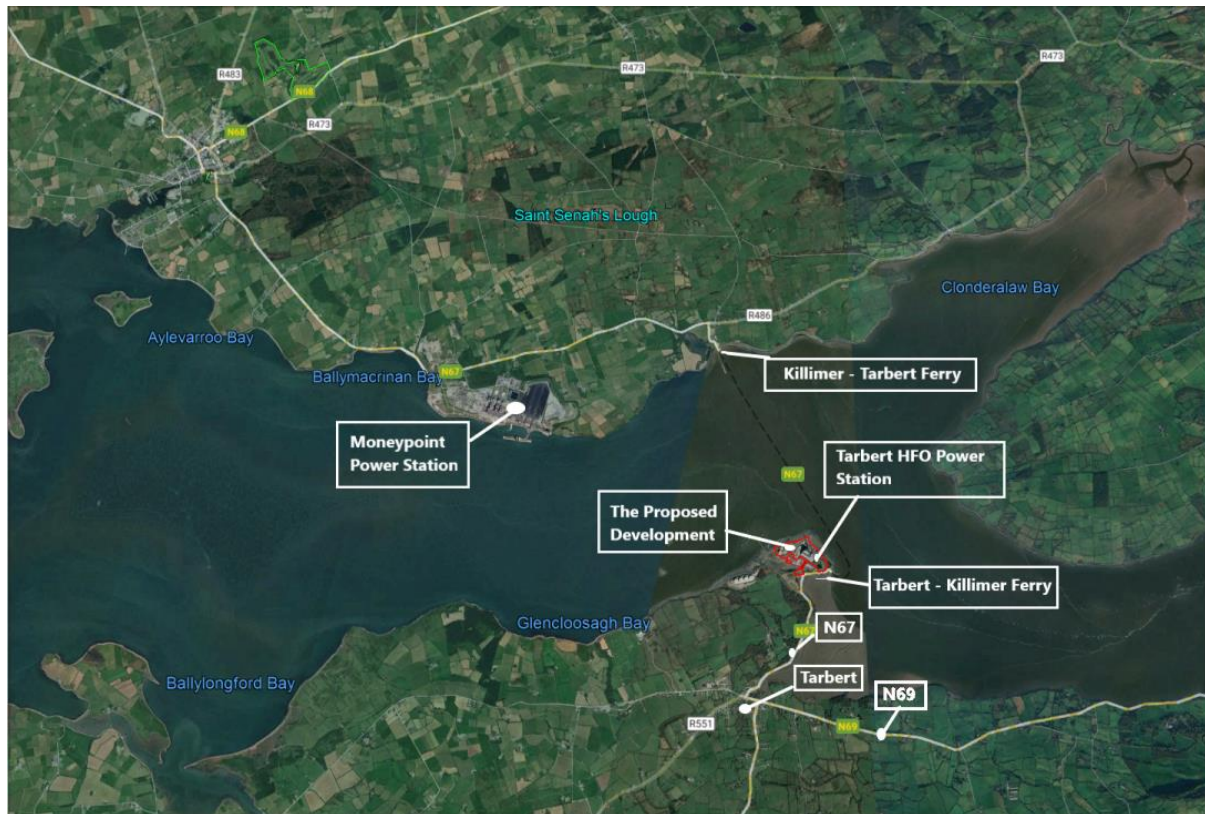


Plate 1.1: Location of the Proposed Development

1.2 The Applicant

The Applicant, SSE Generation Ireland Ltd is an SSE Thermal Generation Holdings Limited company, wholly owned by SSE plc. SSE plc is a leading generator of renewable electricity in the UK and Ireland and one of the largest electricity network companies in the UK. SSE plc develops, owns, and operates low carbon infrastructure to support the zero-carbon transition. This includes onshore and offshore wind, hydro power, electricity transmission and distribution grids, and efficient conventional generation, alongside providing energy products and services for businesses and homes.

1.3 Overview of Proposed Development

1.3.1 Location of the Proposed Development

The Site is located west of the N67 a National Secondary Road in Tarbert.

The Site is located in the townland of Tarbert Island, which is sited approximately 1.8km to the south, Kilpadogue is located 1.75km to the south-west and Kilmurley is located 3.3km to the south-east.

The Site is bounded by Shannon Estuary to the north, west and east. Bordering the Site to the south boundaries are the TEG site and agricultural lands, refer to Plate 1.2 for Site access points.

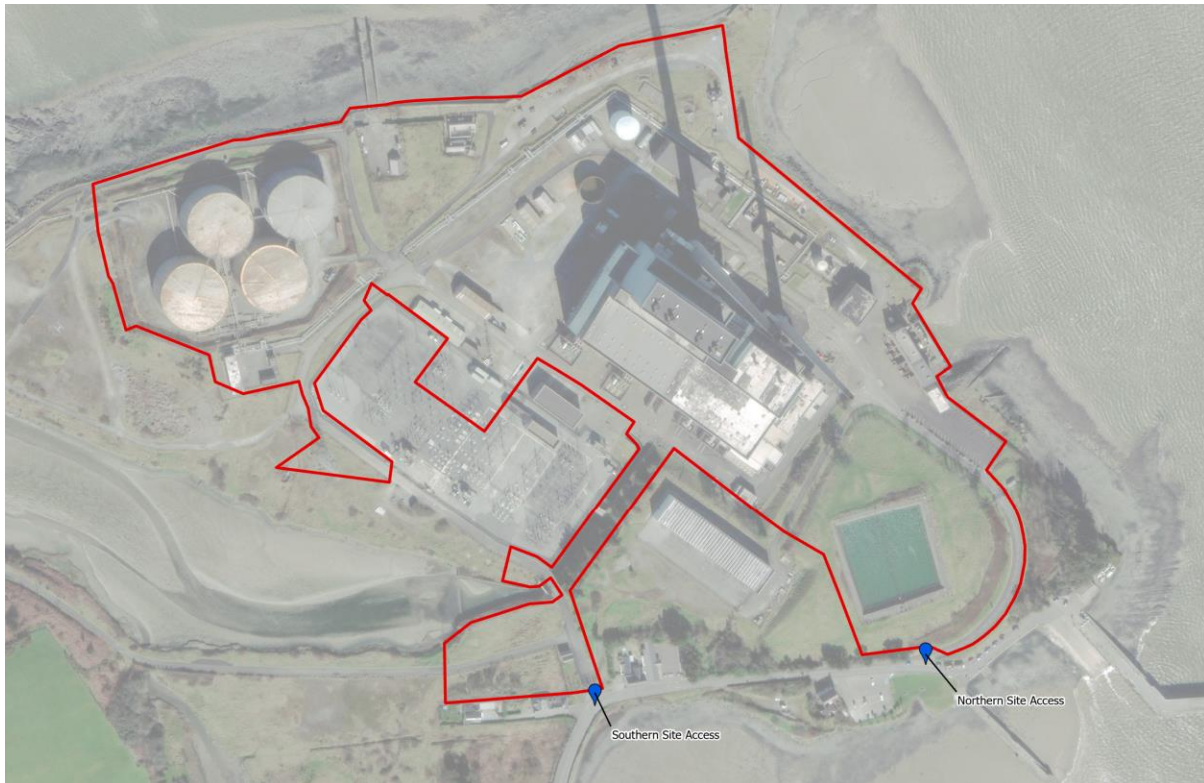


Plate 1.2: Access to the Site¹

1.3.2 Summary of the Proposed Development

The main objectives of the Proposed Development are:

- to support the security of electrical power supply.
- to support the continued expansion of Ireland's renewable generation capacity; and
- to provide support to national electricity grid at times when other electricity generation sources are not sufficient to meet demand.

The Proposed Development includes an OCGT (350MW) plant fuelled by Hydrotreated Vegetable Oil (HVO). The Proposed Development will connect via an overhead cable 75m in length, to an existing electrical substation to the south of the OCGT building within the Site boundary. There will be no alterations to the electricity transmission system outside of the Site as part of the Proposed Development.

To accommodate the Proposed Development, demolition works of ancillary buildings/structures and foundations associated with the existing Tarbert HFO Power Station will be carried out. The Tarbert HFO Power Station will be decommissioned prior to commencement of the construction phase of the Proposed Development

The Proposed Development will be available to operate 24-hours per day, seven days per week with the exception of periods of scheduled and unscheduled outage such as for maintenance activities. It is

¹ Source: EIAR, AECOM 2023

expected the plant will operate as and when required during periods when other sources of electricity generation are not available but will not exceed 1800 operational hours per annum.

1.4 Environmental Impact Assessment

The Environmental Impact Assessment Report complies with the requirements of the EU Environmental Impact Assessment Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU (the "EIA Directive") and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018. The Environmental Impact Assessment Report has been prepared to satisfy the requirements of Schedule 6 of the Planning and Development Regulations 2001 (as amended) ("the Regulations") – 'Information to be contained in Environmental Impact Assessment Report'.

Section 172 of the Planning and Development Act 2000 (as amended) ("the PDA") establishes the requirement for Environmental Impact Assessment. The classes of development where an Environmental Impact Assessment is mandatory are detailed in the Regulations. Schedule 5 of the Regulations sets out thresholds for projects, and if that threshold is equalled or exceeded an Environmental Impact Assessment must be carried out. These are mandatory requirements. Finally, where a project is of a type listed in the Regulations but does not meet or exceed the applicable threshold then the likelihood of the project having significant effects on the environment – as considered against a range of prescribed criteria, must be assessed.

Environmental Impact Assessment provides a system of sharing information about the environment which enables effects to be foreseen and avoided, reduced or mitigated during the design and consenting stages. This protects the environment and informs and improves decision-making. The Environmental Impact Assessment Report presents an objective and concise record of the process and the determination of significant environmental effects.

The Scoping process determines which topics should be included in an EIAR, and the level of detail to which they should be assessed. AECOM has undertaken a Scoping Review (see Appendix 1A EIAR Volume II) to enable the scope of the assessment to be defined. A formal request for scoping under Section 37D of the Act was not made.

Detailed assessment has involved impact analysis according to accepted methodologies and site visits, leading to the evaluation of the significance and magnitude of any direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects on the environment from the Proposed Development.

In summary, this Environmental Impact Assessment Report has compiled, evaluated and presented the significant environmental effects of the Proposed Development. The assessment is designed to take into account environmental factors by detecting likely significant adverse effects, thus leading to the identification and incorporation of appropriate mitigation measures into the design of the Proposed Development. The main steps in the assessment procedure are summarised in Chapter 1 (refer to EIAR Volume I).

1.5 Planning Application

The planning application is accompanied by a Planning Statement, an Environmental Impact Assessment Report (EIAR) and an Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS). An EIA is mandatory for any Strategic Infrastructure Development (SID). SID is described as development which is of strategic economic or social importance to Ireland, the region or local areas and includes developments which would:

- Contribute significantly to meeting any objectives of the National Planning Framework; or
- Contribute significantly to meeting any regional spatial and economic strategy for an area;
or
- Have a significant effect on the area of more than one planning authority.

The Proposed Development planning application documents will be available electronically to interested parties on the EIA Portal and on An Bord Pleanála website.

2. Planning Policy

2.1 Introduction

This section sets out the context governing planning and development for the Proposed Development. It includes a review of the planning policy context at a European, national, regional and local level and other relevant statutory and non-statutory policy documents.

This NTS has been prepared with reference to the following:

- Energy Roadmap 2050.
- Climate and Energy Framework 2030.
- Climate Action and Low Carbon Development Amendment Act 2021.
- Climate Action Plan 2023.
- White Paper – Ireland’s Transition to a Low Carbon Energy Future 2015 - 2030.
- National Planning Framework 2018 - 2040.
- National Development Plan 2021 - 2030.
- EirGrid All Island Generation Capacity Statement 2021 - 2030.
- Policy Statement on Security of Electricity Supply 2021.
- National Hydrogen Strategy 2023
- Southern Regional Assembly - Regional Spatial Economic Strategy 2020 - 2032.
- Kerry County Development Plan 2022 - 2028.
- Limerick Development Plan 2022 – 2028
- Clare County Development Plan 2023 – 2029 Interim Version April 2023

2.2 Planning Policy

The Proposed Development is aligned with European, national, regional, and local energy and climate policy. Considering recent developments in Ireland’s response to climate change, including the *Climate Action Plan 2023* which commits to increase the proportion of renewable electricity to 80% by 2030, it will support the resilient transition of Ireland’s electricity system to renewables. The Proposed Development will operate to support the electricity transmission system at times of peak demand and at times when other electricity generation sources are not sufficient to meet demand.

The Site lies within SSE Tarbert which is on land which is zoned for Economic Development within the Tarbert-Ballylongford Landbank, which is a Strategic Development Location in the Kerry County Development Plan (CDP) 2022-2028.

It will act as a critical component of the SSE Tarbert site, in line with the objectives of the Kerry County Development Plan which seeks delivery of physical infrastructure where needed to support growth and development.

3. Need and Alternatives

3.1 Introduction

This section outlines the need and reasonable alternatives for the Proposed Development.

Consideration of alternatives is an important aspect of the environmental impact assessment process and is necessary to evaluate the likely environmental consequences of a range of development strategies for the Site.

3.2 Need for the Proposed Development

Ireland is in the process of transitioning from a centralised, fossil fuel-based electrical power generation model to a more distributed renewable-based generation system. The European Green Deal frames Europe's response to the challenges of climate change. Consistent with European (EU) policies the Irish Government has committed to achieving a 51% reduction in Ireland's overall Greenhouse Gas (GHG) emissions from 2021 to 2030 (an average 7% per annum reduction in overall GHG emissions), and to achieving a climate neutral economy no later than 2050. The Government's 2023 *Climate Action Plan*² sets out a roadmap to deliver on these climate ambitions.

Among the most important measures in the *Climate Action Plan 2023*, is an increase in the use of electricity across transport and heating to reduce emissions in these sectors. The proportion of electricity generated from renewable sources will be increased to 80% by 2030.

Increasing future reliance on electricity to meet energy needs across transport, domestic and commercial sectors will increase the need for continued security of electricity supply. This is considered a priority at national level and within the overarching EU policy framework in which the electricity market operates.

The Proposed Development will generate 350MW of power when required and will facilitate the integration of more renewable generation into the electricity network, helping to maintain the security of supply and supporting Ireland in its transition to a low carbon economy.

Compared to conventional baseload power plant, Open Cycle Gas Turbine (OCGT) is considered the most appropriate technology for the Proposed Development, due to its low footprint in relation to available area on Site, short construction time and ability to respond quickly to changes in electricity demand by mobilising and achieving full output within a short period of time.

3.3 Alternatives

Alternatives may be described at various levels:

1. 'Do Nothing' Scenario.
2. Alternative Locations.
3. Alternative Technical Solutions.

² DECC (2023).

4. Alternative Layouts and Designs.

5. Alternative Mitigation Measures.

The 'do nothing' scenario is a general description of the evolution of the key environmental factors of the Site and environs if a development / project did not proceed. The 'do nothing' scenario is assessed in Chapters 7 – 19 of EIAR Volume I. The 'do-nothing' alternative was not considered an appropriate alternative, as there is a clear need for the Proposed Development.

The design and location of the Proposed Development was established taking into account the availability of suitable land within the existing SSE Tarbert site, most commercially, technically and environmentally suitable technology to support security of supply, existing site infrastructure and location of and proximity to the existing electrical substation.

The environmental effects of the chosen Proposed Development design option have been appraised alongside the other considerations. Full details of which reasonable alternatives for technology and layout were considered, and their environmental impacts, are presented in Chapter 3 of the EIAR, Volume I.

4. Existing Site and Conditions

4.1 Introduction

This section provides a description of the Site and its location and setting, the surrounding area, Site history and environmental receptors.

4.2 Site Location

The Site is situated at SSE Tarbert, 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 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 Site. The Temporary Emergency Generation (TEG) Site which is currently under construction and relates specifically to 3 no. OCGT plant with a combined output of 150MW temporarily installed on an area of land within the SSE Tarbert Site (Planning Ref ABP-315838) and a National Oil Reserves Agency (NORA) mainland tank farm are located to the west and south-west of the Site, within SSE Tarbert.

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.

The following text includes details of the relevant features in relation to the 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 ESB 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.

4.4 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 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.

4.5 Potential Environmental Sensitives / 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 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) and within EIAR Chapter 4.

5. Description of the Proposed Development

5.1 Introduction

This section provides a description of the main features of the Proposed Development which is an Open Cycle Gas Turbine (OCGT) plant, including associated plant, equipment and infrastructure at the existing SSE Power Station, Tarbert, Co. Kerry.

In order to ensure a robust assessment of the likely significant environmental effects of the Proposed Development, an EIAR (Volume II) has been prepared.

5.2 Main Features of the Proposed Development

The Proposed Development comprises an Open Cycle Gas Turbine (OCGT) generator and all associated ancillary connection infrastructure, site works and services.

The Proposed Development will consist of the following main components:

- OCGT power plant (350MW) and associated building (40m x 57m x 30m high) including air intake.
- Emissions stack 55m in height (external diameter 9m) with continuous emissions monitoring systems (CEMS) platform.
- Selective Catalytic Reduction (SCR) with air intake filters, dilution fans, and skid.
- Generators fin fan coolers (OCGT) (23m x 6.4m x 6m high).
- Lube oil fin fan coolers (7m x 7.5m x 5m high).
- One unit transformer and one grid transformer with a firewall (20m x 0.6m x 15m high) separating.
- Fire suppression skid.
- Aqueous ammonia tank (2.5m diameter x 5m length).
- Propane gas tank and compound (2m diameter x 4.6m length).
- Demineralised water treatment plant (15m x 30m x 12m high).
- Demineralised water tanks (23m diameter x 18m high) (2 No. x 7,500m³ capacity).
- Raw water and fire storage water tank (21m diameter x 17 high) (5,900m³ capacity).
- Fire water module (10m x 10m x 8m high).
- HVO fuel storage tanks 3 No. tanks in total, 1 x 1500m³ capacity (14m diameter by 10m high) and 2 x 4,400m³ capacity (20m diameter x 14m high) with two unloading bays.
- Fuel polishing and transfer system building (20m x 15m x 8m high).

- HVO pipework (approximately 200m) underground in culverts
- Electrical connections from main transformer (unit) to an existing 220Kv substation (75m overhead cables).
- New wastewater treatment plant (underground).
- Administration building and workshop (40m x 13m x 5m high).
- Stores (25 x 12.5m x 10m high).
- Carparking (eight x spaces to the front of the administration and workshop building totalling 100m²).
- Flood defence wall and gates; and
- Demolition works (removal of existing buildings).

The various components of the Proposed Development are contained within the Site (red line boundary) and are shown on the following Planning Drawings submitted with this application, for an overview of the Proposed Development:

- 60695232-TBT-DR-001 – Proposed Site Plan
- 60695232-TBT-DR-002A – Proposed existing site elevations
- 60695232-TBT-DR-002B – Proposed site elevations A, B, C, D
- 60695232-TBT-DR-002C – Proposed site elevations (without flood wall) – A, B, C, D
- 60695232-TBT-DR-004 – Existing site plan – proposed buildings to be demolished
- 60695232-TBT-DR-005 – Site services layout
- 60695232-TBT-DR-009 – Proposed admin building, workshop, plan, elevations and sections
- 60695232-TBT-DR-011- Proposed Demin water plant, plan, elevations and sections
- 60695232-TBT-DR-013 – Gas turbine unit, plan, section and elevations
- 60695232-TBT-DR-015 – Fuel tanks, plan, elevations and sections
- 60695232-TBT-DR-016 – HV connection and transformers, plan and elevations
- 60695232-TBT-DR-019 – Proposed flood defence sections
- 60695232-TBT-DR-020 – Proposed flood defence structures
- 60695232-TBT-DR-022 – Proposed Lighting overall plan

The following demolition works, and removal of ancillary buildings/structures and foundations associated with the existing Tarbert HFO Power Station will be carried out as part of the Proposed Development:

- Carpenters workshop (1200m³).
- Boiler ash and brickwork

- Water treatment plant (9500m³).
- Wastewater treatment plant
- Demin tank
- Fuel lines
- Contractor / Canteen building (3300m³).
- Boiler wash open top storage tank (5,500m³).
- Mechanical workshop
- Chemical storage bund(175m³).
- Shot blasting shed.
- Lube oil store (2800m³); and
- Site toilets (300m³).

The proposed OCGT facilitates fast plant start-up durations and can provide response capability in a timely fashion to support sudden fluctuations in electricity supply to the electricity grid and to support security of supply. The Proposed Development will not exceed 350MW net electrical output, and this will be controlled through a plant management system.

The proposed technology consists of a gas turbine generator being installed within a building 40m by 57m with a height of 30m. The gas turbine is connected to the generator on-site.

A localised control module will be provided for the OCGT associated gas turbine power, electrical, and instrumentation, connected to the administration building proposed to be constructed to the west of the OCGT unit.

The OCGT will be fitted with selective catalytic reduction (SCR) technology that will reduce nitrogen oxides (NO_x) emissions from the gas turbine.

5.3 Construction Phase

The construction phase of the Proposed Development will comprise:

- Site clearance including demolition of existing structures and services.
- Temporary construction and laydown areas (hardstanding), open storage areas, temporary facilities and plant storage areas.
- Construction compound including the staff offices and welfare facilities.
- Ground preparations and other civil works, e.g., foundations and new buildings.
- Mechanical and electrical works associated with new plant build.
- Temporary vehicle parking facilities.
- Security fencing/gates.
- Lighting and signage; and
- Commissioning and testing of plant.

The construction equipment required for these works will vary depending upon activity but will include cranes, generators, excavators, loaders, trucks, trailers, vans, piling rig etc.

Foundation construction will require piling, the piling technique assessed within this EIAR involves the use of a hydraulic hammer rig (refer to Chapter 11, EIAR Volume I for the assessment). The piling technique will involve a hydraulically accelerated piling hammer to drive load-bearing piles or assist pile driving to a depth of between 10 – 15m dependent upon the structural loading required of each proposed OCGT component. The precise size and configuration of piles will be finalised by an appointed contractor and will be within the parameters set out in this planning application.

5.3.1 Construction Environmental Management Plan (CEMP)

A Construction Environmental Management (CEMP) has been prepared as part of this planning submission. The CEMP will be a key construction contract document and will be implemented in full by the appointed contractor. The CEMP will be reviewed and expanded by the appointed Contractor following planning, prior to the main construction works to account for any relevant conditions attached to the planning permission and in consultation with Kerry County Council. The CEMP can be found in Appendix 5A, Volume II.

The CEMP will detail the Contractor’s overall management and administration of the works.

5.3.2 Demolition Works

As part of the construction phase and site preparation, the works will include the demolition and removal of ancillary buildings/structures associated with the existing Tarbert HFO Power Station as follows (but not the Tarbert HFO Power Station building).

5.3.3 Construction Phase Programme

The construction phase of the Proposed Development is anticipated to be 29 months. **Table 5.1** shows the development phases planned during the construction process.

Table 5.1: Development Phases

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
Activities	Mobilisation and Site Prep																													
	Demolition Works																													
	Construction Works																													
																									Fuelling and Commissioning					

Construction Hours

Construction phase works will take place between the hours of 0700 to 1900 hours (Monday to Friday) and 0800 to 1500 hours (Saturday). No works will take place on Sundays or Bank Holidays.

Construction works outside these hours will only take place in exceptional circumstances (i.e., for specific engineering works), and this will be agreed in advance with Kerry County Council. It is likely that some construction phase works will also be required to be for 24 hours, for limited durations. In

these exceptional cases, Kerry County Council may permit works to proceed outside the above times / days. This will be subject to written agreement with Kerry County Council.

Site Access and Security

The Proposed Development construction traffic will use both the existing main SSE Tarbert gated entrances (northern entrance) to the Site and the southern access off the N67 Road.

It is anticipated that the extent of Heavy Goods Vehicle (HGV) movements will vary throughout the construction phase works, in response to the specific construction activities taking place.

Months 12 to 22 will observe the highest number of staff vehicle arrivals on Site, HGV movements are expected to peak in Months 28 – 29.

The Site will be securely fenced and monitored at all times by CCTV.

Staffing

Levels of employment will vary throughout the construction phase. The peak work force is expected to be up to 200 personnel per day estimated to be over an 11-month period during the construction programme, with varying degrees of personnel associated with the other 18 months of the programme including the site set up, mobilisation, demobilisation and commissioning.

Construction Compounds

The location of the construction compounds will be entirely within the Site. The construction compounds will be secured with temporary fencing and will accommodate employee parking throughout the construction period and will include additional laydown facilities, staff welfare facilities and temporary services on the Site.

The construction compounds will not be for long-term storage of materials but will be for the duration of the construction phase only.

A lighting arrangement will be provided to ensure a safe work environment for construction staff. Lighting will be sufficient to ensure the safety, health and welfare of persons working on Site and will be cowled to contain light to within the working areas of the Site.

Health and Safety (H&S)

A detailed construction phase H&S Plan will be prepared by the appointed Contractor in advance of any works commencing on-site. This H&S Plan will operate in line with the International Standards Organisation (ISO) 18001 and ISO 14001³. The H&S Plan will apply to any persons working on the Site and in respect of passing pedestrians, motorists or other transport carriers.

First aid facilities, for the use of all construction staff, will be provided in the form of a fully provisioned first aid area within the Site office.

The Proposed Development will comply with all H&S legislation and Regulations.

5.4 Commissioning and Operational Phases

Environmental Licence

³ ISO 18001 - Occupational Health and Safety Management System (OHSMS) and ISO 14001 - Environmental Management System (EMS).

The Proposed Development will comply with the requirements of the Regulations for Large Combustion Plants⁴. An Industrial Emissions Licence will be in place for the operation of the Proposed Development. Any impacts of emissions to air, soil, surface and groundwater, and effects on the environment and human health, will be minimised and avoided where possible.

The SSE Tarbert Environment Management System will be amended to include the Proposed Development.

Start-Up and Shutdown

The Proposed Development will start-up and shutdown in response to the requirements of the electricity grid operator (EirGrid) request for power to the grid. This will happen under the supervision of SSE Tarbert personnel.

The Proposed Development is specifically designed to start-up, shutdown and change its output rapidly in response to the requirements for power from the electricity grid.

Fuel

The Proposed Development will run on Hydrotreated Vegetable Oil (HVO), which is a type of biofuel that is produced by processing waste feedstocks to create a fossil-free alternative to distillate-oil in accordance with European Union (EU) sustainability standards. Biofuels provide a transitional step away from fossil fuels and towards low-carbon electricity. It has lower greenhouse gas emissions profile across its lifetime when compared to alternatives such as diesel combustion.

SSE is committed to sourcing HVO that is third party Certified to Renewable Energy Directive II (RED-II) under the International Sustainability and Carbon Certification (ISCC). HVO will be sourced from 100% waste feedstocks, the raw materials for which are grown on a seasonal basis. Supplied HVO will comply with the RED II (Directive (EU) 2018/2001) which provides specific sustainability criteria and the carbon intensity of individual biofuels, including an assessment of the feedstocks used and the emissions from its production, processing and supply, it will be certified accordingly by a third party. There is an existing HVO supply chain and infrastructure in Ireland which the Proposed Development will utilise.

Commissioning Phase

The commissioning phase is similar to the operational phase. The commissioning phase takes place in two phases:

- Construction completion works phase: include electrical testing, pipe work testing and safety checks testing.
- Commissioning phase: takes place once HVO is available at the Site and the Proposed Development is ready for operating. It involves operating the OCGT facility with fuel and verifying that the technology functions correctly.

Operational Phase

During the operational phase, the Proposed Development will be operated maintained and managed by SSE Tarbert personnel, as and when required.

⁴ EU (Large Combustion Plants) Regulations 2012, S.I. No. 566 of 2012

There will be a high degree of automation with the Proposed Development, with all processes controlled from the central control room in the new administration building.

Routine maintenance will be carried out in accordance with the maintenance procedures provided by the contractor and manufacturer. During this time the Proposed Development will be shut down to allow the inspection to be completed (by the manufacturer's personnel).

5.5 Decommissioning Phase

It is expected that the Proposed Development will have a design life of at least 25 years after commissioning. After 25 years in operation, the Proposed Development will either be upgraded to extend its operational life or it may be decommissioned, depending on the national grid requirement. A decision on whether to extend the operational lifetime or to decommission the Proposed Development will be expected to be made before the equipment reaches 25 operational years.

6. Consultations

6.1 Introduction

This section details the consultation undertaken prior to submission of the planning application and Environmental Impact Assessment Report.

6.2 Strategic Infrastructure Development Pre-Application Consultation

A pre-application consultation request was submitted to ABP on the 11 of April 2023 to commence pre-application consultation and the request provided an overview of the Proposed Development including:

- The Proposed Development's heat output will be 300MW or more. As the Proposed Development comprises an industrial installation for the production of gas, steam or hot water with a heat output of 300MW or more, it constitutes 'Seventh Schedule' development under the PDA).
- It is considered that Proposed Development constitutes SID under the terms of Section 37A(2)(a) of the PDA as it is of strategic economic importance to the State and the region in which it is situated.
- Furthermore, with reference to Section 37A(2)(b) of the PDA, it was highlighted that the Proposed Development - by helping to maintain security of supply and facilitating the integration of more renewable generation into the electricity network - will contribute significantly to the fulfilment of national and regional objectives to deliver a "secure and reliable electricity network".

Following the submission of the request, a meeting was held with the representatives from the Applicant, their consultants and ABP on the 28 of August 2023.

The Board concluded, on the 16 October 2023, that under Section 37B(4)(a), the Board was of the opinion that the Proposed Development is within the scope of paragraphs 37A(2)(a) and (b) of the Act:

"Accordingly, the Board has decided that the proposed development would be strategic infrastructure within the meaning of section 37A of the Planning and Development Act 2000, as amended. Any application for permission for the proposed development must, therefore, be made directly to An Bord Pleanála under section 37E of the Act".

In addition, an information sharing session was held with officials from Kerry County Council (KCC), AECOM (Environmental team), Gravis Planning and SSE on 03 July 2023. The briefing outlined an overview of the Proposed Development and project programme.

6.3 Public Consultation

An SSE Thermal led public consultation was held between 10 July and 02 August 2023 to provide members of the public with information on the Proposed Development.

The dedicated Community Liaison Officer for the project went door-to-door on 28 April 2023 to households in close proximity to the existing Tarbert Power HFO Station in addition to the town of Tarbert to introduce himself and highlight the forthcoming consultation related to the Proposed Development.

A newsletter was circulated to households (week commencing 03 July 2023) in close proximity to the existing Tarbert HFO Power Station, the town of Tarbert and the surrounding area which provided an overview of the Proposed Development alongside advertising in-person and online consultation activities. A copy of the newsletter was provided to local political stakeholders in advance of its circulation. A press release providing an overview of the Proposed Development and consultation activities was issued to local media publications either side of the Kerry-Limerick border on the same week. In addition to the aforementioned press release issued on week commencing 03 July, paid advertising was taken out with The Kerryman, Kerry's Eye and The Weekly Observer newspapers on week commencing 10 July to further promote in-person and online consultation activities. The public consultation took the form an online virtual consultation room and in-person staffed exhibitions. Both the online virtual consultation room and in-person events presented plans and project information for the Proposed Development on 'roll-up' banners. The virtual consultation room was launched on 10 July, while in-person events were held on 18 and 19 July 2023 as follows:

- Tarbert Community Centre (1730 – 2100hrs on 18 July 2023),
- Listowel Arms Hotel (1730 – 2100hrs on 19 July 2023).

6.3.1 SID Statutory Consultation and Public Notices

In accordance with the requirements of ABP and Article 214 of Regulations of the PDA the applicant has notified the public of this application by means of:

- Site Notices: Site notices have been erected on the relevant lands. The location of these notices are shown on the submitted planning application drawings. A copy of the notice is included in the planning application pack.
- Newspaper Notices: Newspaper notices have been published in two newspapers in circulation in the area. A copy of the newspaper notice is included in the application pack.

In addition, an application website (www.ssetarbertnextgen.com) has been set up, which is referenced in the public notices and contains a full set of the submitted application documents for ease of inspection by members of the public.

7. Air Quality

7.1 Introduction

Air Quality Chapter 7 of the EIAR, Volume II (AECOM, 2023) assesses the potential for the construction, operation and decommissioning of the Proposed Development to have an effect on local air quality.

7.2 Methodology

The construction and decommissioning phase assessment follows industry standard guidance published by the Institute of Air Quality Management (IAQM, 2014): Guidance on the assessment of dust from demolition and construction. The assessment identifies the risk of dust emissions occurring, based on the scale and nature of construction activities, and the likelihood of those emissions impacting on relevant sensitive receptors, based on the number of sensitive receptors present and their proximity to the works. Once the risk and likelihood of impact is determined, the guidance lists an array of suitable dust and particulate control measure that could be implemented to mitigate the impacts to the extent that any effect is not significant.

The operational phase assessment follows industry standard guidance published by the Environmental Protection Agency (EPA) (2020) - Dispersion Modelling from Industrial Installations Guidance Note (AG4) and quantifies emissions to air associated with the operation of the Proposed Development using Advanced Dispersion Modelling System software (ADMS 6). The additional emissions associated with the operation of the Proposed Development and their contribution to the concentrations of pollutants experienced by nearby air quality sensitive receptors are quantified and compared to the relevant air quality standards.

An emissions release height assessment has been undertaken, whereby the methodology described was undertaken assuming a number of proposed stack heights (refer to Section 7.4.2.1 of Chapter 7, Volume I of this EIAR), to inform the determination of the stack height for the Proposed Development that will not cause a significant effect to occur at any receptor and will encourage good dispersion. A stack height of 55m is proposed for the proposed OCGT. Releasing emissions from a height of 55m provides a relatively low concentration of pollutant at the location of maximum impact within the model domain.

7.3 Potential Impacts

During the construction and decommissioning phase, there is a negligible to low risk of potential dust impacts occurring due to the scale of the construction works, limited number of sensitive receptors in close proximity to the works and the mitigation measures included into the design of the Proposed Development. No specific mitigation has been identified as necessary for the construction phase of the Proposed Development however certain measures will be implemented as part of best practice. No significant effects have been identified.

For human health receptors during the operation phase, the assessment has determined that there will not be a significant effect on local air quality. The assessment has identified several incidences of moderate impacts at human receptors in both the Proposed Development Scenario and the Cumulative

Developments Scenario. The Proposed Development sources are limited to the proposed OCGT, at the proposed 1800 hours of annual operation. The cumulative sources included within this assessment are the TEG plant, Moneypoint Power Station and the sources outlined as part of the Proposed Development. The data has been obtained from licences and stack emissions monitoring reports. This, however, does not indicate a significant impact, owed to the good overall air quality in the vicinity of the Site.

The impacts at ecological sites in both scenarios are predicted to be not significant.

7.4 Mitigation Measures

During the construction phase, a number of best practice dust control measures will be implemented to mitigate dust and particulate emissions. These are set out within the Construction Environmental Management Plan.

Mitigation measures for operational phase emissions have been incorporated into the Proposed Development design by the quantification of an appropriate emissions release height which is 55m.

8. Cultural Heritage

8.1 Introduction

Cultural Heritage Chapter 8 of the EIAR, Volume II (AECOM, 2023) describes the cultural and heritage, archaeological and architectural environment and assesses the effects of the Proposed Development on existing cultural heritage assets.

8.2 Methodology

Assessment has been guided by *Historic England Historic Environment Good Practice Advice in Planning: Note 3 (Second Edition) – The Setting of Heritage Assets*¹. The Setting of Heritage Assets provides guidance on setting and development management, including assessing the implications of development proposals, and is considered current best practice as a counterpart to which has not yet been produced in the Republic of Ireland.

Designated heritage assets (National Monuments and Protected Structures) within 3km of the Site were assessed. Designated heritage assets with potential direct lines of sight outside this 3km study area were also examined up to a distance of 5km. Non-designated heritage assets including recorded monuments, structures and designed landscapes recorded by the National Inventory of Architectural Heritage within 1km of the Site were also assessed.

8.3 Potential Impact

Cultural Heritage Chapter 8 of the EIAR, Volume II (AECOM, 2023), assessment has determined that the Proposed Development is located within this industrial setting, which has been previously disturbed by the construction of the existing Tarbert Heavy Fuel Oil Power Station. Any archaeological remains which may have been present will have been destroyed during these historic works associated with the construction of the power station. No archaeological mitigation is required.

The Proposed Development will create additional noise, dust, vibration and visual intrusion from the construction related activity including traffic using the adjacent road which is the only access to the Site. The presence of Tarbert Demesne (NIAH 2051) will screen the additional noise, dust and vibration from construction activities on Site from heritage assets. Additionally, the road serving the Tarbert-Killimer ferry terminal is subject to large volumes of traffic, including coaches, using the ferry. The settings of these heritage assets are already subject to impact from this traffic.

The additional traffic will be temporary and only associated with the construction phase. It will not affect the ability to understand or appreciate heritage assets and the change to setting will be such that the special interests or qualities of these assets will not be affected and there will be No Impact.

Significant effects for the operation of the Proposed Development derive from changes to the setting of heritage assets. These largely mirror the effects assessed for the permanent presence of the Proposed Development as detailed in the assessment of the construction phase. There will be no change to the effects assessed for the designated assets identified during the construction phase within the wider

study area due to the permanent presence of the Proposed Development during the operational phase or its operation.

8.4 Mitigation Measures

During the construction phase procedures will be adopted, as described in the Construction Environmental Management Plan (EIAR Volume II Appendix 5A), to reduce the impact of noise, dust and vibration during construction. Toolbox talks will be undertaken when necessary to inform construction supervision staff and site operatives of the requirements.

Appropriate measures will be implemented at construction phase to avoid or reduce adverse visual impacts, refer to Chapter 10 Landscape and Visual, Volume I of this EIAR. No further mitigation will be required at the operational phase.

Temporary effects arising from the process of decommissioning of the Proposed Development are considered to be of a similar nature and duration to those temporary effects arising from the construction process and therefore have not been considered separately.

9. Biodiversity

9.1 Introduction

Biodiversity Chapter 9 of the EIAR, Volume II (AECOM, 2023) describes the potential impacts and effects of the Proposed Development on biodiversity.

An Appropriate Assessment (AA) Screening for the potential for adverse effects on the integrity of European sites as a result of the Proposed Development has been undertaken and is provided within the *Appropriate Assessment Screening and Natura Impact Statement (NIS) Report*⁵ (refer to Appendix 9B, EIAR Volume II).

9.2 Methodology

An assessment of impacts and effects on all relevant habitats and species was undertaken following baseline data gathering following industry-standard best practice guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM).

Only those ecological features that are 'important' and that could be significantly affected by the Proposed Development require detailed assessment. This is consistent with the EIA Directive (Directive 2011/92/EU as amended by Directive 2014/52/EU) which requires investigation of likely significant effects, as accordingly emphasised by the Environmental Protection Agency (EPA) guidelines.

9.3 Potential Impacts

9.3.1 Nature Conservation Designations

There are two international nature conservation designations within the Zone of Influence (ZoI) of the Proposed Development and two statutory nationally designated sites within 2km of the Proposed Development. Some of these designations have overlapping or entirely coincident boundaries. The ZoI of the Proposed Development is the area over which ecological features may be subject to significant effects as a result of its construction, operation, decommissioning and / or associated activities. The ZoI can extend beyond the boundary of the Site, for example where there are hydrological links extending beyond the Site.

There are three European sites within 15km of the Site; River Shannon and River Fergus Estuaries SPA (Special Protection Area), Lower River Shannon SAC (Special Area of Conservation) and one proposed Natural Heritage Areas (pNHA); Tarbert Bay.

Tarbert Bay pNHA has overlapping boundaries with River Shannon and River Fergus Estuaries SPA (which is considered in the Appropriate Assessment Screening report). Moreover, the features for which they are designated are also special conservation interests (SCI) of the aforementioned SPA. Therefore, impacts and effects on these proposed Natural Heritage Areas (pNHAs) will be identical to those reported for the SPA.

As part of the Appropriate Assessment (AA) for the Proposed Development, River Shannon and River Fergus Estuaries SPA and Lower Shannon River SAC were determined to be within the Zone of

⁵ AECOM (2023).

Influence (Zol) of the Proposed Development therefore, any potential for likely significant effects on the qualifying features of these sites was investigated within the Appropriate Assessment Screening. It was determined through this exercise that the possibility of likely significant effects from the following impacts could not readily be discounted without further detailed appraisal and were therefore the subject of the 'Appropriate Assessment' stage (Nature Impact Statement (NIS)):

- construction of the Proposed Development, specifically with regard to the potential for impacts associated with noise and visual disturbance to bird SCI of the SPA and aquatic Annex II species of the SAC.

Owing primarily to the results of the noise modelling assessment, limited numbers and distribution of special conservation interest (SCI) bird species in the zone of influence of the Proposed Development, and the location whereby the OCGT infrastructure of the Proposed Development will be constructed, disturbance during construction, operational and decommissioning stage was concluded to be insignificant in terms of disturbance to bird SCI of the SPA.

The visual disturbance of SCI bird species could be caused by the presence and activities of personnel, plant and machinery during the construction, operational or decommissioning phases.

Areas where the wintering bird activity was recorded the habitat is screened from the Proposed Development by existing topography, vegetation and buildings including the large existing Tarbert Heavy Fuel Oil Power Station building. Vehicles accessing the Site will do so along an existing public road, to which birds can be expected to be habituated. It is therefore considered unlikely that any visual disturbance of birds using the habitats will occur. During the operational phase, the presence of personnel and vehicles will be much reduced when compared to construction / decommissioning.

In terms of disturbance by illumination, the Site is already illuminated throughout the night, particularly around the existing Tarbert Heavy Fuel Oil Power Station building. The closest areas of coastline to the main development area, to the north and north-east of the Site, have the lowest screening from the construction works area, but also recorded very few SCI birds. Therefore, any illumination of these areas is unlikely to adversely impact foraging or roosting birds, given that these areas are not well used by birds and there is abundant alternative habitat in the vicinity which will not be impacted by illumination.

It is thus concluded that there will be no significant effect from visual disturbance of SCI birds during the construction and operation phase of the Proposed Development.

Construction phase noise, vibration and visual disturbance impact on Annex II QI species of the SAC was assessed. Disturbance of QI fish species as a result of the transfer of noise from air into water is not considered to be likely. The primary concern is therefore ground-borne noise / vibration. No studies have been undertaken to provide data on how sound and pressure waves dissipate through the ground before reaching water, and how effectively these waves will then be transmitted to the water. As the potential impacts of piling on underwater noise and vibration remain unknown, a precautionary approach to this assessment is necessary. It is therefore assumed that some level of disturbance could

be caused. However, this is considered likely to be low as the transfer of sound / vibration to the estuary will be reduced at distances of even up to 20m, and negligible at 50m (BS5228-1:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites*' (BS5228)), and noise / vibration levels are consequently not expected to be substantial within the Shannon Estuary.

Dolphins and otters, which are both predatory animals and may therefore receive some benefit from increased illumination, are not considered to be particularly sensitive to artificial illumination of watercourses or (in the case of otter) riparian habitat.

There will be no adverse effect on any QI species during the construction or decommissioning phases.

The plans and projects identified within the in-combination assessment and their corresponding Appropriate Assessment Screening / Natura Impact Statement reports (where available) were assessed in-combination with the impacts assessed within the Natura Impact Statement of the Proposed Development. Consequently, it was concluded that there will be no adverse effect on the integrity of River Shannon and River Fergus Estuaries SPA and Lower River Shannon SAC from the Proposed Development in-combination with any of the plans / projects identified in the Natura Impact Statement report.

It was therefore concluded, in view of best scientific knowledge and on the basis of objective information, that the Proposed Development will have no adverse or significant effects on Site integrity of any European site, either alone or in-combination with other plans or projects during construction or operational phase of the Proposed Development.

9.4 Mitigation Measures

A range of general mitigation measures will be implemented as detailed in the **Chapter 9** (Biodiversity) of the EIAR AECOM 2023, **Volume II** and within the Natura Impact Statement (*Appropriate Assessment Screening and Natura Impact Statement Report*⁶, submitted with this planning application).

Provided the mitigation measures are implemented, it is considered that the Proposed Development will have no adverse effects on the integrity of any European site, either alone or in-combination with other plans or projects.

⁶ AECOM (2023).

10. Landscape and Visual

10.1 Introduction

Landscape and Visual Chapter 10 of the EIAR, Volume I (AECOM, 2023) describes the landscape and visual potential effects of the Proposed Development.

The landscape and visual impact assessment describes the potential effects of the Proposed Development on the character of the landscape and on views within the study area and evaluates whether these effects are significant. Landscape effects are the result of physical changes to the fabric of the landscape resulting from new development. Visual effects relate closely to landscape effects but concern changes in views.

10.2 Methodology

The methodology used for the assessment follows national and European good practice industry guidelines. It also refers to the Kerry County Development Plan 2022-2028 and associated studies for existing descriptions of landscape character, designated landscapes, objectives and the location of scenic routes. A 10km radius from the boundary of the Site was defined as study area. This was informed by desktop analysis and on-site surveys.

10.3 Potential Effects

Locations that are affected during the construction include open views of the Site, views across the Shannon Estuary, and views along the local road network where construction traffic will travel within Counties Kerry and Limerick.

Construction effects on the landscape character will be temporary, short term and reversible. Construction will visually affect views at a local level. However, it will not alter the landscape character considering the existing industrial nature of the setting. Outside of the Site, indirect effects of construction works will not result in the permanent loss of key features such as the overall landscape structure.

During the operation phase, the Proposed Development will slightly intensify the existing industrial character of the Site but not alter the landscape character locally or in the wider study area due to its scale, nature and location. Outside of the site boundary, the seascape character will not alter due to the nature, scale and location of the Proposed Development. The Proposed Development is only a small component in the overall size of the seascape character area and type.

The main visual receptor groups are residents, vehicle travellers including ferry / ship passengers, workers and visitors. Residents will have the highest sensitivity to change than road users or ferry passengers. Road users and workers will focus mainly on traffic or their commercial tasks and not primarily on available views. Ferry / ship passengers will see the Proposed Development in conjunction with the prominent existing Tarbert HFO Power Station and Moneypoint Power Station structures.

A desktop planning history search using Kerry County Council (KCC), Limerick County Council (LCC), Clare County Council (CCC), and ABP Online Planning Systems noted a number of relevant planning

applications which could combine with the Proposed Development to create a cumulative impact on landscape assets and visual amenity.

10.4 Mitigation Measures

The principal visual mitigation measures for the Proposed Development is inherent in the design of its architecture and its colour scheme. With the primary objective to minimise the visual impact of the built structures and to allow the buildings to be as obtrusive as feasible against their backdrop, the proposed colour scheme was drawn from colours found in the surrounding local landscape, the range is all within muted light grey and green spectrum.

A range of mitigation measures will be implemented as part of good lighting design practice, refer to Chapter 10 Landscape and Visual Impact, Volume I of this EIAR.

11. Noise and Vibration

11.1 Introduction

Chapter 11 Noise and Vibrations of the EIAR, Volume II (AECOM, 2023) assesses the potential noise and vibration effects associated with the Proposed Development.

No significant ground borne vibration sources are identified during the operational phase.

11.2 Methodology

The study area for assessment of on-site construction (and decommissioning) noise and vibration and operational noise is defined as an area extending from the Site up to and including the nearest most exposed sensitive receptor locations. If compliant levels of noise and vibration are predicted at the nearest most exposed sensitive receptor locations, it follows that compliant levels will be achieved at all other locations.

The baseline acoustic environment has been determined via several long-term surveys conducted in and around the Site. There are various residential and ecological receptors in the vicinity of the Site. Noise and vibration impacts affecting residential receptors are covered in Chapter 11 Noise and Vibration, Volume I of the EIAR. Noise and vibration impacts affecting ecological receptors are covered in Chapter 9 Biodiversity, Volume I of the EIAR. The following summarises the noise and vibration chapter.

11.3 Potential Impacts

Noise and vibration emissions from the Proposed Development will occur in three distinct phases: construction, operation and decommissioning.

Construction Phase (and Decommissioning)

During the construction phase, noise levels are expected to vary depending on the work being carried out. Noise levels will likely be highest during the initial enabling period whilst louder activities such as earthworks and piling take place. As the construction phase develops, noise levels are expected to reduce as less noisy works (plant installation, internal works within structures) take over.

Predicted construction levels were shown to be comparable to the existing ambient sound levels and to meet the nominated assessment criteria under a number of worst-case assumptions in calculation of noise level method and the selected assessment criteria. The assessment determined that with regards construction phase noise levels generated by:

- On-site activities no significant adverse effects are expected at residential noise sensitive receptors (NSR) positions with the exception of noise sensitive receptor one (NSR1 and NSR2) in the peak month (month 7). This effect can be mitigated. In accordance with Environmental Protection Agency Guidelines (2022), the impacts will be defined as not significant and short-term.

- The exceedance at NSR1 and NSR2 during the peak month at worst unmitigated the significance of the adverse effect is *above not significant but lower than slight and short-term*.
- Construction traffic will have a *negligible impact (not significant)* on existing road traffic noise levels during the construction phase. In accordance with EPA Guidelines (2022) these increases will be defined as *imperceptible and short-term*.

During decommissioning, potential impacts and associated effects arising during the decommissioning phase are not anticipated above and beyond those already assessed during the construction phase.

Operational Phase

During the operational phase, sound will be emitted principally from the top of the 55m tall chimney stack, the air inlets and the transformers. Emissions during the operational phase will be subject to fixed permitted limits, which are more stringent during the night-time.

To determine the impact of the Proposed Development on existing receptors in the area in the night-time, a 3D sound model was constructed using acoustic modelling software⁷. This model was used to determine potential exceedances of the nominated criteria and investigate the mitigation measures required to reduce operational plant emissions to compliant levels. Assessment of operational levels determined:

- For operational plant, considering numerical assessment, adoption of mitigation, cumulative and contextual factors, significant impacts associated with operational phase noise levels resulting are not expected at NSR 2 and NSR 3. In accordance with the EPA Guidelines the impacts will be defined as not significant, long-term but reversible. At NSR1 the night-time criterion is exceeded by 10dB which would be considered significant depending on the context.
- There will be minimal traffic associated with the Proposed Development operations and therefore no notable increase in operational traffic will be expected and a detailed assessment has not been undertaken.

No significant cumulative impacts are expected to arise from the Proposed Development, either during construction/ decommissioning or operational phases.

11.4 Mitigation Measures

Mitigation requirements for potential impacts will be implemented as follows:

Construction Phase

- Careful programming of site works and adoption of good practice measures. Listed in Section 11.6 of Chapter 11 (Noise and Vibration), Volume II of the EIAR.

Operational Phase

- Operational phase noise impacts will be mitigated via the inclusion of mitigation measures such as attenuators, silencers, careful plant item selection and enclosures.
- A Commitment to adopt the Noise Guidance four (NG4) operation noise limits as requirements within the final design, including the need to address distinctive acoustic characteristics of

⁷ CadnaA 2021 MR2

tonality and impulsivity and application of best available techniques (BAT) at procurement and through detailed design stage.

- A commitment has been made to ensure the final design of the development complies with the relevant operational phase noise limits. This will be confirmed via an appropriate noise monitoring regime as part of the licencing.

Post mitigation, no significant residual impacts are expected.

12. Water Environment

12.1 Introduction

Water Environment Chapter 12 of the EIAR, Volume II (AECOM, 2023) identifies and evaluates the likely significant effects on the water environment arising from the Proposed Development. The assessment identifies the residual effects arising from the finalised design considering mitigation measures.

Information relating to regional, local and site conditions was assessed using publicly available datasets and a Site-Specific Flood Risk Assessment carried out at the Site, refer to Appendix 12A, Volume II of the EIAR.

12.2 Methodology

A qualitative assessment of the likely significant effects on the water environment has been undertaken, using the source-pathway-receptor approach.

The first stage in applying the Source-Pathway-Receptor model is to identify the causes or 'sources' of potential impact from a proposed development. The next step in the model is to undertake a review of the potential receptors, that is, the water environment receptors that have the potential to be affected. The last stage of the model is, to determine if there is a viable exposure pathway or a 'mechanism' linking the source to the receptor.

The assessment of the likely significant effects is qualitative and considers construction, operational and decommissioning phases, as well as cumulative effects with other developments.

12.3 Potential Impacts

The potential construction, operational and decommissioning phase impacts to the water environment from the Proposed Development were assessed. Potential impacts identified from the construction and decommissioning phase included sedimentation of surface water features from construction works; pollution of surface waters from accidental spills and leaks of fuels and chemicals; and alteration of pH in surface water features associated with the use of concrete and lime.

The potential operational phase impacts identified included the potential increase in volume and rate of surface water run-off from new impervious areas and process water and water treatment plant discharges.

None of the identified potential impacts were found to be significant. Considering the CEMP, which includes flood defence infrastructure monitoring and maintenance, surface water flooding as well as accidental spillages and leaks are considered unlikely to occur and should they occur are likely to be temporary. The Proposed Development will not result in the deterioration of any water body's status under the Water Framework Directive (WFD), nor will it jeopardise the achievement of any water body achieving good ecological status under the WFD.

The site-specific FRA included two stages; the 'Stage 1 – Flood Risk Identification' determined negligible risk of flooding to the Proposed Development from fluvial and groundwater sources. However, it did

identify the potential flow flood mechanisms associated with coastal and pluvial events could impact the Proposed Development, which were further assessed in the 'Stage 2 – Initial Flood Risk Assessment'. The study estimates that the Proposed Development and surrounding area will be inundated during peak tide levels for all Climate Change future scenarios indicating the risk of flooding is very high.

12.4 Mitigation Measures

A number of mitigation measures that are standard good practice for development of this type, and which are required to comply with environmental protection legislation, will be implemented, under the following categories:

- sedimentation of surface water features.
- fuel and chemical handling.
- control of concrete and lime; and
- surface water and flood risk.

A Construction Environmental Management Plan (CEMP) has been prepared for the Proposed Development, which includes a number of mitigation measures with regards to water. The Construction Environmental Management Plan will be updated by the Contractor for the Proposed Development to reduce potential environmental impact.

Taking account of mitigation measures proposed the potential impact is considered to be a negligible impact to a medium sensitivity environment and the significance of the effects has been assessed as imperceptible. Cumulative impacts were not considered to be significant.

13. Land and Soils

13.1 Introduction

Land and Soils Chapter 13 of the EIAR, Volume II (AECOM, 2023) identifies and evaluates the likely significant effects on the land and soils arising from the Proposed Development. The assessment identifies the residual effects arising from the finalised design considering mitigation measures.

13.2 Methodology

The study area with regard to land and soils encompasses the entire area within the red line boundary of the Site. Information relating to regional, local and site conditions was assessed using publicly available datasets and review of a soil and groundwater investigation carried out at the Site. The sensitivity of the existing environment identifies the ability of the receptor to respond to potential effects. Receptors have been identified during the baseline study and a qualitative assessment has been used to assign a sensitivity rating from low to extremely high. Assigning a sensitivity rating considers an attribute's likely adaptability, tolerance, and recoverability, as well as their designation. The methodology used for describing the potential environment effects considers the 'quality' of the effects (i.e., whether it is adverse or beneficial), the 'probability' of the event occurring and the 'duration' of the effects.

With regards to natural resource use, the materials themselves have been identified as the sensitive receptors. Consuming materials impacts upon their immediate and (in the case of primary materials) long-term availability; this results in the depletion of natural resources and adversely impacts the environment.

13.3 Potential Impacts

The potential construction and operational phase impacts to land, soils and geology from the Proposed Development were assessed.

Potential impacts identified from the construction phase included impacts to soil and groundwater quality from accidental spills and leaks, use of concrete and lime, and excavation and infilling, and the use of natural resources.

The potential operational phase impacts identified included accidental spills and leaks from fuel storage impacting soils and groundwater.

None of the identified potential impacts were found to be significant.

13.4 Mitigation Measures

Mitigation measures associated with both the construction and operational phases of the Proposed Development have been embedded within the design and proposed based on the assessment. These mitigation measures may also interact with water aspects of the development. A number of mitigation measures designed to avoid, reduce, or offset any potential adverse geological impacts identified will be implemented under the following categories:

- fuel and chemical handling, transport and storage.

- control of soil excavation and fill placement work.
- sources of fill and aggregates; and
- control of concrete and lime.

A Construction Environmental Management Plan (CEMP) has been prepared for the Proposed Development, which includes a number of mitigation measures with regards to land and soils. The CEMP will be updated by the Contractor for the Proposed Development to reduce potential environmental impact. The Construction Environmental Management can be found in Appendix 5A, Volume II of the EIAR.

Taking account of mitigation measures proposed the potential impact is considered to be a negligible impact to a medium sensitivity environment and the significance of the effects has been assessed as imperceptible. Cumulative impacts were not considered to be significant.

14. Traffic and Transport

14.1 Introduction

Traffic and Transport Chapter 14 of the EIAR, Volume II (AECOM, 2023) presents the likely traffic and transport impacts associated Proposed Development.

14.2 Methodology

A desktop assessment was undertaken to identify the policy and best practice guidance that is relevant to traffic and transport, to describe the baseline traffic conditions, and to identify the potential impacts of the Proposed Development upon the surrounding road network. To inform the baseline traffic conditions, traffic surveys were undertaken.

The assessment is undertaken in accordance with the requirements of the Environmental Protection Agency (EPA) 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' (May 2022).

To assist in determining the impact of the Proposed Development on the surrounding road network, the guidance has also been adhered to: Transport Infrastructure Ireland (TII) standard 'PE-PDV-02045, Traffic and Transport Assessment Guidelines'.

14.3 Potential Impacts

The construction phase of the Proposed Development will be up to 29 months.

Capacity assessments were undertaken on critical highway links in the vicinity of the Site at future years including traffic growth on the adjacent road network and development traffic. The results indicate that these links can operate within capacity and can accommodate the traffic associated with the Proposed Development.

The anticipated level of construction traffic has been based on the expected construction methodology provided by SSE. Traffic volumes associated with the Proposed Development are relatively low in numbers and relate primarily to the delivery of construction equipment, materials, and construction operations.

A Construction Traffic Management Plan (CTMP) has been prepared as part as this planning application, refer to Appendix 14B, EIAR Volume II. The Construction Traffic Management Plan has indicated that all construction traffic associated with the Proposed Development (heavy haul, general delivery, and site operatives) will arrive via the N69 and N67 and other National/ Regional Roads.

The operational phase was scoped out of the assessment as minimal operational traffic will be generated. The Proposed Development is predicted to have a *negligible* impact on the surrounding road network, this is also representative of predicted decommissioning effects.

14.4 Mitigation Measures

The implementation of the CTMP by the Contractor will minimise the potential for traffic and transport impacts during construction phase activities and the residual impact will be *not significant* and *temporary*.

15. Population and Human Health

15.1 Introduction

Population and Human Health Chapter 15 of the EIAR, Volume II (AECOM, 2023) describes the potential effects of the Proposed Development on population and human health. It defines the study area; the methodology used for developing the baseline and impact assessment; provides a description of the baseline environment in relation to population and human health; and presents the findings of the impact assessment.

Impacts on population and human health have potential to arise from various aspects of the Proposed Development. The following chapter provides an assessment of impacts on:

- land use.
- access and severance between local residents and community resources.
- economic activity and employment; and
- human health and wellbeing.

This chapter has been prepared with reference to a number of guidance notes.

15.2 Methodology

The study area for the population and human health assessment used for the baseline analysis and assessment comprises the Listowel, Newcastle West and Kilrush Local Electoral Areas (LEAs), as this is where the majority of population and human health effects are likely to occur. However, there is potential for effects to occur on receptors outside of this area such as employment effects for which the study area is Co. Kerry, Co. Limerick, and Co. Clare. It is also not always possible to determine the catchment area for community facilities as residents of an area may utilise facilities located within different districts, counties, or regions without regard for statutory boundaries. In addition, this assessment refers to the findings of other EIAR chapters which have different study areas; for example, Chapter 17(Climate) of this EIAR considers effects of the Proposed Development on the global climate.

15.2.1 Key Limitations and Assumptions

This population and human health assessment is based on professional judgement and considers both the negative and positive impacts that the Proposed Development can have upon existing and surrounding receptors. It provides a broad, high-level indication of effects, reporting on the potential effects to people and the local community.

It draws upon other specialist topic inputs to aid the assessment of the impact of the Proposed Development on population and human health receptors.

15.3 Potential Impacts

The construction phase of the Proposed Development will have a slight positive effect on the local employment workforce due to the number of construction workers required. It will also lead to an

undetectable negative effect on severance between the local population and the facilities that they use, during the construction phase, due to the construction traffic accessing the Site.

No impacts were identified on land use during the construction phase.

The Proposed Development will also lead to the following impacts on human health during the construction and decommissioning phase:

- A neutral human health impact on access to open space and nature due to no significant effects expected in regard to noise, air quality, or traffic.
- A neutral human health impact on access to healthcare services and other social infrastructure due to no significant effects expected in regard to traffic and transport.
- A neutral human health impact on air quality, noise, and neighbourhood amenity due to no significant effects expected in regard to noise or air quality.
- A negative human health impact from a climate change perspective. Construction of the Proposed Development will produce greenhouse gas emissions.

The operational phase of the Proposed Development will not lead to any impacts in regard to land use, employment, or severance, mostly because the Proposed Development is planned on a pre-existing site where operations are already occurring.

The Proposed Development will lead to the following impacts on human health during the operational phase:

- A neutral human health impact on access to open space and nature due to no significant effects expected in regard to noise, air quality, or traffic.
- A neutral human health impact on access to healthcare services and other social infrastructure due to no significant effects expected in regard to traffic and transport.
- A neutral human health impact on air quality, noise, and neighbourhood amenity due to no significant effects expected in regard to noise or air quality.
- A negative human health impact from a climate change perspective. Operation of the Proposed Development will produce greenhouse gas emissions.

15.4 Mitigation Measures

A Construction Environmental Management Plan has been prepared as part of the planning application. In advance of work starting on-site, the appointed Contractor will as appropriate, expand and update the CEMP in consultation with Kerry County Council to ensure that there are no impacts on any vector that will pose a risk to human health.

No additional mitigation measures related to Population and Human Health are proposed during the operation of the Proposed Development, however mitigation for air quality, noise and vibration, traffic and transport and climate, are discussed in EIAR Volume I Chapter 7 (Air Quality), Chapter 11 (Noise and Vibration), Chapter 14 (Traffic and Transport) and Chapter 17 (Climate). No significant residual effects have been identified.

16. Material Assets

16.1 Introduction

Material Assets Chapter 16 of the EIAR, Volume II (AECOM, 2023) presents an assessment of the potential impacts of the Proposed Development on material assets.

Material assets are resources that are valued and essential to the Site and the surrounding area. Material assets can be described as “built services” (*i.e.*, utility networks such as gas, electricity, telecommunications, water supply infrastructure and sewerage), “waste management” and “infrastructure” (roads and traffic)⁸.

This section will consider the potential impact to built services, (*i.e.*, telecommunications, water supply infrastructure), as well as land use (on the Site). The potential impact on the traffic and transport and waste will be assessed in other sections of the EIAR respectively.

16.2 Methodology

A desktop assessment was undertaken to determine the baseline existing land use and utility arrangements within the study area which could be impacted as a result of the Proposed Development.

There is no specific set of Environmental Impact Assessment guidelines for the assessment of material assets. For this reason, the methodology used to assess the impact on built services is in accordance with a number of best practice guidelines, refer to Section 16.3 of Chapter 16 Material Assets, Volume I of the EIAR.

The study area is the Site, as well as the surrounding area (within 200m) in relation to land use and the utilities network that could be impacted by the Proposed Development.

As the Site lies within the administrative area of Kerry County Council, it is subject to the land use policies and objectives of the Kerry County Development Plan 2022-2028.

As the Site is located within the boundary of SSE Tarbert, there a number of underground services and existing drainage networks which transverse the Site.

16.3 Potential Impacts

The land use on the Site is industrial, as it is associated with the Tarbert Heavy Fuel Oil Power Station. Therefore, there are no potential impacts associated with the change of land use.

Construction and Decommissioning Phase

During the construction phase there is the potential for a limited short outage to a number of utility networks such as water and electricity, to allow for the new connections associated with the Proposed Development. These outages will be temporary, and the magnitude of impact will be minor.

During the construction phase a temporary water supply for construction works will be provided through an existing Irish Water mains connection on-site. There is the potential for a limited short outage of a

⁸ EPA (2022).

water supply to allow for this connection. However, this will be temporary, and the magnitude of impact will be minor.

During the construction phase foul water will be collected and periodically removed from the Site by road tanker, to a licensed water treatment plant. As this control measure will be incorporated into the Site set-up, additional mitigation measures are not required.

During the construction phase, a number of construction activities have the potential to release sediment and cause unacceptable sediment levels in the catchment area. Run-off containing large amounts of suspended solids could potentially adversely impact on surface water. The impact is considered to be negative, should it occur, but will be temporary in duration.

During the construction phase, the Proposed Development will not lead to any impacts in regard to land use mostly because the Proposed Development is planned on a pre-existing site where operations are already occurring.

Operational Phase

During the operational phase, the existing substation (electricity) and telecommunications at the Site already exists and only a connection is required. The magnitude of impact will be 'no change'.

During the operational phase, water will be supplied to the Site via the existing Irish Water mains connection into the reservoir on the SSE Tarbert site.

During the operational phase, process wastewater (from the production of demineralised water) will be discharged to the surface water drainage system. This discharge will be regulated and monitored under the Industrial Emissions Licence.

During the operational phase, a foul water holding tank will be provided at the administration / workshop and stores building this will flow northwards into the proposed new wastewater treatment plant. This will discharge into the existing outfall 8/9 to the north of the Site.

During the operational phase, surface water run-off will be generated from all hard surfaces which are exposed to rainwater or to which water is applied during wash down. This will include all roads, roofs, and other impermeable surfaces. However, surface water is collected by means of the underground drainage network and will pass through an oil interceptor prior to being released, under the terms of the Industrial Emissions Licence.

The operational phase of the Proposed Development will not lead to any impacts in regard to land use mostly because the Proposed Development is planned on a pre-existing site where operations have been occurring.

16.4 Mitigation Measures

A Construction Environmental Management Plan (CEMP) has been prepared as part of this planning submission. The Construction Environmental Management Plan will be updated by the Contractor in consultation with Kerry County Council, before any construction works commence.

Although no significant effects are predicted, the following best practice measures will be implemented by the Contractor during the construction phase:

- Works during the construction phase, including service diversions and realignment will be carried out in accordance with relevant guidance documents, including Gas Networks Ireland's publication '*Safety advice for working in the vicinity of natural gas pipelines*'; the ESB's *Code of Practice for Avoiding Danger from Overhead Electricity Lines*', and the Health and Safety Authorities (HSA) '*Code of Practice for Avoiding Danger from Underground Services*'.
- The Contractor will be obliged to put measures in place during the construction phase to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with the relevant service provider and local authority. When service suspensions are required during the construction phase, reasonable prior notice will be given to the residents in the area. The disruption to services or outages will be carefully planned so the duration is minimised. The timing of local domestic connections will be addressed between the Contractor and the local community at the detailed design stage.

During the operational phase, routine maintenance will be carried out in accordance with the maintenance procedures provided by the contractor and manufacturer. There will be no requirement for additional mitigation measures during the operational phase.

All material assets after mitigation will have a Neutral or Not Significant residual effect once mitigation measure including those within the CEMP are taken into account.

17. Climate

17.1 Introduction

Chapter 17 of the EIAR, Volume I (AECOM, 2023) presents assessment of climate change over two categories as required by the Regulations⁹ and in line with the Institute of Environmental Management and Assessment (IEMA) guidance for climate change mitigation¹⁰ and adaptation¹¹;

- **Lifecycle GHG Assessment:** assessment of the impact of Greenhouse Gas (GHG) emissions, arising over the life of the Proposed Development, on the climate.
- **Climate Change Resilience (CCR):** assessment of the vulnerability and resilience of the Proposed Development to the projected impacts of climate change.

17.2 Methodology

17.2.1 Lifecycle GHG Assessment

The study area for the Green House Gas (GHG) assessment, considers all direct and indirect GHG emissions that may arise—from the construction, operation, and decommissioning of the Proposed Development. This includes direct emissions arising onsite e.g., from the combustion of fuel used in construction plant as well as indirect emissions from activities offsite that are sufficiently linked to the Proposed Development, such as transport of materials, waste and workers and embedded carbon in construction materials and products.

This assessment has been conducted in line with IEMA guidance on Assessing Greenhouse Gas Emissions and Evaluating their Significance, PAS 2080 Carbon Management in Infrastructure and the ISO 14064 standard.

The global climate has been identified as a sensitive receptor for the Green House Gas (GHG) assessment and a lifecycle approach to calculating the GHGs has been adopted.

17.2.2 Climate Change Resilience

The methodology in this chapter has been developed in line with appropriate industry guidance for assessing climate change resilience and adaptation such as IEMA's EIA Guide to Climate Change Resilience and Adaptation and in accordance with the EU Commission Notice (2021/C 373/01) Technical guidance on the climate proofing of infrastructure in the period 2021-2027.

The assessment includes all infrastructure and assets associated with the Proposed Development. It assesses the resilience against both gradual climate change i.e., chronic climate-related hazards and the risks associated with an increased frequency of severe weather events i.e., acute events.

⁹ European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018)

¹⁰ IEMA (2022).

¹¹ IEMA (2020).

17.3 Potential Impacts

17.3.1 Lifecycle GHG Assessment

SSE is committed to sourcing HVO that is third party Certified to RED-II under the ISCC. HVO will be sourced from 100% waste feedstocks, the raw materials for which are grown on a seasonal basis so there is no long-term “carbon-debt”. Supplied HVO will comply with RED-II standards, which provides specific sustainability criteria and the carbon intensity of individual biofuels, including an assessment of the feedstocks used and the emissions from its production, processing and supply, and will be certified accordingly by a third party. The Proposed Development will utilise the existing HVO supply chain and infrastructure in Ireland.

Emissions factors for HVO have been sourced from the UK DESNZ Government Conversion Factors for Company Reporting for Greenhouse Gas Emissions (2023).

Greenhouse Gas emissions, arising from the construction and operational activities, and embodied carbon in materials of the Proposed Development, have been calculated by multiplying activity data by a relevant emission factor:

$$\text{Activity data} \times \text{Greenhouse Gas emissions factor} = \text{Greenhouse Gas emissions in mass of CO}_2\text{e}$$

In summary, the total Greenhouse Gas emissions from constructing the Proposed Development are estimated to be 10,399 tCO₂e. The GHGs from operating the Proposed Development over its 25-year life are estimated to be 1,533,021 tCO₂e. Annual emissions are expected to be approximately 61,321 tCO₂e. with the assumed operational hours of 1800 hours/year. As detailed, the Proposed Development plays a key role in the decarbonisation of industry to assist Ireland to achieve net zero emissions by 2050. Therefore, when viewed in the broader context of Irish energy and Greenhouse Gas policy, the Proposed Development can be said to be ‘*Minor Adverse*’ and therefore ‘*Not Significant*’.

17.3.2 Climate Change Risk and Resilience

CCRA risk assessment identified total of 11 climate change risks for the construction and operation stages of the Proposed Development. Due to the similarity of the two future baseline scenarios to 2060, the same climate change risks were identified for each scenario.

The medium risk identified related to the vulnerability of the Site is situated within to inundation from coastal flooding from the Shannon estuary. The Proposed Development falls within Flood Zone A for tidal/coastal flooding (EIAR Chapter 12: Water Environment), meaning there is a high probability of coastal flood events within the Site boundary. This indicates that flood defence measures above standard practice are required for appropriate flood risk mitigation.

In summary, the climate change risk and adaptation assessment illustrate that climate change risk does not present a significant risk to the Proposed Development assuming all proposed adaptation measures are successfully implemented.

17.4 Mitigation Measures

During the Construction phase the following mitigation measures will be implemented:

- Prepare a register of vulnerable construction assets.

- Inspection of vulnerable construction assets after a hot day.
- Implement measures to combat extreme heat conditions (e.g., avoid working on hot summer days, appropriate sun protection, training for identifying heat illness and for working in hot conditions, work in shaded areas, plan major activities for cooler parts of the day, wear loose fitting/breathable clothing).
- For extreme rainfall forecasts, construction plants will be secure and stored at higher ground levels.
- Critical construction equipment will be stored at higher ground levels.
- Omit any topographic low points and install drainage to mitigate the risk of surface water flooding.
- For a complete list of adaptation measures identified for the Proposed Development, refer to Appendix 17A, EIA Volume II.

During the Operation phase the following mitigation measures will be implemented:

- Prepare and implement a storm water management plan.
- Storage of pollutant material will be adequately protected from extreme weather and flood damage.
- Minimise maintenance during extreme weather events (e.g., strong winds).
- Maintenance of the drainage system to be included within general site management.

18. Waste Management

18.1 Introduction

Waste Management Chapter 18 of the EIAR, Volume II (AECOM, 2023) reports the findings of an assessment of the effects of the Proposed Development on waste management and sets out the relevant aspects of the current state of the environment and the future receiving environment.

For the purpose of the Environmental Impact Assessment Report, waste is defined as per the European Waste Framework Directive as *'any substance or object which the holder discards or intends or is required to discard'*¹².

Legislation, policy and guidance relevant to the chapter was considered during the assessment, refer to Chapter 18 Waste Management, Volume I of the EIAR,

18.2 Methodology

The study area for assessing the impacts of the Proposed Development on waste arisings and estimated waste management capacity comprises the whole of Ireland, due to the need to consider all available waste management infrastructure capacity.

Waste management capacity was approximated from national waste arisings, since data for national waste management capacity is not readily available.

18.3 Potential Impacts

The potential impacts of the Proposed Development with regards to waste are the effects that waste arisings generated on-site will have on the capacity of waste management infrastructure in the study area and on meeting national targets for waste recovery.

Construction Phase

Total estimated waste arising from the construction of the Proposed Development will account for <5% of national waste arisings (for the relevant categories of waste), this is assessed to result in a *slight (not significant)* effect and sufficient management capacity is expected to be available.

A total waste recovery rate of 78% in line with the national performance is likely to be achievable for non-hazardous construction and demolition waste (C&D) (excluding naturally occurring soil and stones (Waste Code 17 05 04)) managed off-site. The majority of the good and best practice recovery rates for the main construction materials provided the Waste and Resources Action Programme are in excess of 90%.

The Proposed Development is therefore likely to achieve 60-89% or 90-99% overall material recovery / recycling (by weight) of non-hazardous C&D waste excluding naturally occurring material defined in category 17 05 04 in the List of Wastes. This is assessed to result in a *slight (not significant)* effect.

¹² European Parliament and The Council of the European Union (2008).

Operational Phase

Operational waste impacts from the Proposed Development are expected to be *negligible* and will be limited to occasional disposal, maintenance, and repair. Operational waste impacts were therefore scoped out of the assessment.

Decommissioning Phase

The Proposed Development has a design life of 25-years' operation and as such, it is not possible to identify at this stage either the waste management routes or specific facilities that will be used, as these are liable to change over such a timescale.

Where decommissioning takes place, all above-ground components associated with the Proposed Development will be disassembled and removed from the Site, the waste types generated from this are likely to be similar or of a lesser magnitude than the construction effects. However, prior to removal of plant, all residues and operating chemicals will be cleaned out for the plant and disposed of at a suitably licenced facility.

18.4 Mitigation Measures

The Resource and Waste Management Plan (RWMP) and Construction Environmental Management Plan (CEMP) include design and construction measures that apply the waste hierarchy principles and minimise effects on waste. These measures will be implemented in full to achieve the recovery rates noted. As no significant waste effects have been identified, no further or additional mitigation or monitoring of significant effects is proposed.

19. Major Accidents and Disasters

19.1 Introduction

Chapter 19 of the EIAR, Volume II (AECOM, 2023), this section presents the likely significant negative effects arising from potential major accidents and natural disasters (MA&Ds) significant to the Proposed Development.

It is a requirement of all Environmental Impact Assessment Reports (EIARs) to incorporate a section which identifies and describes the potential major accidents and natural disasters which could occur at the Proposed Development. These types of events have a very low probability of occurring, but if they do, the impact could be significant, with consequences such as serious harm to people and / or widespread damage to property and the environment.

19.1.1 Definition of Terms

Major accidents typically include incidents such as a serious fire or an explosion. Disasters include naturally occurring events, such as earthquakes, landslides, and flooding.

The Proposed Development will be constructed within the boundary of the existing SSE Tarbert site, which has been in operation for many years. The new facilities which comprise the Proposed Development will not operate continuously; it will only be operated when other sources of electricity generation are unable to meet demand.

19.2 Identification and Assessment of Potential Major Accidents

Review of the potential accident scenarios which involves the substances used during the construction and operational phases was carried out. The assessment included identifying the means by which a loss of containment may occur and assessing the likely significance of a release on human health, safety and the environment. The hazard codes of each substance are listed in accordance the Classification, Labelling and Packaging (CLP) Regulation (EC) No. 1272/2008.

The conclusions of the assessment of substances are that the main substances which will be present at the Proposed Development with the potential to initiate a credible Risk Events are HVO, Distillate, Fuel and Liquefied Petroleum Gas (LPG). The distillate fuel will not be used as part of the Proposed Development but will be stored on the SSE Tarbert site to be used as fuel for the TEG plant, which is expected to be operational from 2024 until 2028/2029, and therefore will overlap with the construction of the Proposed Development

There are well established engineering design, manufacturing, and construction standards for the specification of equipment and pipework on facilities such as the Proposed Development which store and use hazardous substances. Operational, inspection and maintenance procedures will all be in place following construction to ensure that the risk of a loss of containment is reduced to the very low levels which are required for compliance with legislation.

The risk of an accidental release resulting in a fire and / or explosion is reduced to very low levels by a network of heat, smoke and fire detectors and fire suppression such as water spray and inert gas systems which will be used where appropriate onsite.

During the initial construction phase and the eventual decommissioning phases of the Proposed Development, the primary hazardous substances will not be present. There are however potential major accidents associated with these phases, such as accidental contact with high voltage electrical systems by construction workers. These risks will be reduced and managed by very detailed risk assessments included within construction plans, therefore are not specifically defined as Risk Events.

19.3 Identification and Assessment of Potential Disasters

The conclusions of the assessment of substances contained on site (HVO, Distillate Fuel and LPG) that the only material will have the potential to initiate a credible major accident scenario is HVO.

HVO and Distillate Fuel are both diesel like fuels with similar properties as such the credible major accident scenarios associated with each one the same. Such scenarios comprise of; of an accidental release of HVO into the Shannon Estuary, has been defined as Risk Event 1. The credible scenarios of related to fires and / or explosions and has been termed Risk Event 2. The credible scenarios of possibility of a road accident involving an HDV carrying HVO or Distillate Fuel HVO has been termed Risk Event 3. There is a credible major accident scenario related to LPG which refers to fires and / or explosions, this has been defined as Risk Event 4.

Although distillate fuel is not required for the Proposed Development, it will be stored on the SSE Tarbert site to be used as fuel for the TEG plant which is expected to be operational from 2024 until 2028/2029, and therefore will overlap with the construction and operational phases of the Proposed Development.

This assessment has identified one scenario where an incident such as a fire and / or explosion occurring at the NORA controlled Mainland Tank Farm adjacent to the Proposed Development could escalate and have an impact at the new facilities. This 'Domino Effect' scenario has been defined as Risk Event 5.

The Tarbert HFO Power Station is regulated in accordance with the Chemicals Act Regulations¹³ as a "Upper Tier Installation". The Proposed Development will not change the facility category as an "Upper Tier Installation". The Upper Tier categorisation requires detailed safety information to be provided to the Regulatory Authorities, to demonstrate that all measures necessary have been taken on site to reduce risk. A preliminary technical report has been produced to support the Proposed Development, which contains a risk assessment of the modifications proposed to SSE Tarbert. The conclusions of this assessment demonstrate that the level of risk on and off site is at a level which has been defined by the Regulatory Authority as acceptable.

19.4 Summary of Conclusions

A total of five (5) reasonably foreseeable, major accident and / or disaster scenarios (Risk Events) have been identified for the Proposed Development. These include events associated with an accidental

¹³ Chemicals Act (Control of Major Accident Hazards) Regulations.

release of HVO or distillate (stored on the SSE Tarbert site in relation to the TEG project) which could be caused by incidents such as impact damage or mechanical failure. A release of HVO could result in a fire and / or explosion and a significant release of oil which reached a sensitive site such as Shannon Estuary, could result in harm to the environment. Expanding the process equipment on site and increasing the quantity of diesel stored, could increase the severity of an incident such as a fire at the Site.

The nature of these substances, which are classified as flammable, means that the hazards associated with their use cannot be entirely eliminated. The risks of storing and using these materials will therefore be reduced to a level which the Regulatory Authorities consider is 'as low as reasonably practicable' (ALARP).

The Risk Events have been assessed using specialist modelling software to support a notification required to be submitted to the Regulatory Authorities on the Proposed Development. This assessment demonstrates that the residual risk both on and offsite, is acceptable. That is, 'as low as reasonably practicable' has been demonstrated.

The Site will comply with all applicable safety legislation, national and international design standards, and other control measures, which will be adopted at the Proposed Development.

20. Interactions

Chapter 20 of the EIAR, Volume II (AECOM, 2023) evaluates the potential interaction of effects described within the EIAR, which the Proposed Development may have on the receiving environment and sensitive receptors.

The interaction of effects within the Proposed Development in respect of each of the environmental factors, listed in the EIA Directive, have been identified and addressed in detail in the respective chapters in this EIAR.

This section, however, presents a summary of each assessment of the interaction (interrelationship) of impacts from the Proposed Development between the various environmental factors.

Interactions (or inter-relationship) of effects identified from the Proposed Development are identified between the following environmental aspects:

- Population and Human Health
- Biodiversity
- Land and Soils
- Water
- Air Quality
- Climate
- Noise and Vibration
- Material Assets
- Cultural Heritage
- Landscape and Visual
- Traffic and Transport
- Waste Management
- Major Accidents and Disasters.

All potential effects arising from the interactions were identified early in the design process and in preparation of the EIAR and were therefore addressed in the design of the Proposed Development, in addition to the impact assessment studies. As a result, any potential effects were either avoided through design measures or have been addressed through specific mitigation and monitoring measures within respective chapters within this EIAR.

No additional mitigation or monitoring measures are proposed in this section.

21. Conclusions

Embedded mitigation measures have been incorporated into the design of the Proposed Development throughout the design process.

The Environmental Impact Assessment Report (Volume II) explains the findings of the Environmental Impact Assessment process that has been undertaken for the Proposed Development.

A number of environmental impact avoidance, design, and mitigation measures have been identified to mitigate and control environmental effects during construction and operational phases of the Proposed Development. The embedded environmental controls and all mitigation and monitoring measures detailed herein are included in the Construction Environmental Management Plan can be found in Appendix 5A, Volume II of the EIAR.

These will be secured through appropriate requirements and other controls within the planning consent for the Proposed Development. There are no significant residual effects predicted for the Proposed Development.

22. References

- AECOM (2023). *Appropriate Assessment Screening and Nature Impact Statement (NIS) Report*.
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2019). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1 – Updated September 2019*.
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2021). *Advisory Note: Ecological Assessment of Air Quality Impacts*.
- Clare County Council (CCC) (2023). *Clare County Development Plan 2023-2029*
- Climate Ireland (2022). *Climate Data Explorer*. Available at: <https://www.climateireland.ie/#!/tools/climateDataExplorer>
- Department of Communications, Climate Action and Environment (DECC). (2015). *The White Paper: Ireland's Transition to a Low Carbon Energy Future 2015-2030*.
- Department of Housing, Planning and Local Government (DHPLG) (2018). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*.
- Department of the Environment, Climate and Communications (DECC) (2023). *Climate Action Plan 2023 - Changing Ireland for the Better*.
- EirGrid Group -Strategy 2020-50: *Transform the Power System for Future Generations*
- EirGrid/SONI (2022). *Ireland Capacity Outlook 2022 – 2031*.
- EirGrid Group (2011). DS3 Programme. Available at: <https://www.eirgridgroup.com/how-the-grid-works/ds3-programme/>
- Environmental Protection Agency (EPA) (2022). *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- European Commission (EC) (2011). *Energy Roadmap 2050*.
- European Commission (EC) (2017). *Environmental Impact Assessment of Projects, Guidance on the preparation of the Environmental Impact Assessment Report*.
- European Public Health Association (EUPHA) (2019). *Addressing Human Health in Environmental Impact Assessment*.
- Government of Ireland (GOI) (2018). *National Planning Framework (NPF) - Project Ireland 2040*.
- Government of Ireland (GOI) (2021). *National Development Plan 2021-2030*.
- Government of Ireland (GOI) (2022). *Climate Action Plan 2023 - Changing Ireland for the Better*.
- Highways England (2020). *Design Manual for Roads and Bridges: Population and Human Health*.
- HM Treasury (2022). *The Green Book*.
- Institute of Environmental Management and Assessment (IEMA) (2017). *Health in Environmental Impact Assessment 2017*.
- Institute of Environmental Management and Assessment (IEMA) (2020). *IEMA Guide to Materials and Waste in Environmental Impact Assessment*.
- Institute of Environmental Management and Assessment (IEMA) (2020). *Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation*.
- Institute of Environmental Management and Assessment (IEMA) (2022). *Assessing Greenhouse Gas Emissions and Evaluating their Significance*.
- Institute of Public Health Ireland (IPHI) (2021). *Health Impact Assessment Guidance: A Manual*.
- International Association for Impact Assessment (IAIA) (2019). *Addressing Human Health in Environmental Impact Assessment As per EU Directive 2011/92/EU amended by 2014/52/EU CONSULTATION DRAFT November 2019*.

Kerry County Council (KCC) (2022). Kerry County Development Plan 2022-2028

Limerick County Council (LCC) (2022) Limerick Development Plan 2022-2028.

Landscape Institute (UK) & IEMA (2013). *Guidelines for Landscape and Visual Impact Assessment (GLVIA)*, 3rd Edition.

National Hydrogen Strategy, Section 4, Transportation, Storage and Infrastructure.

NHS London Healthy Urban Development Unit (2019). *HUDU Planning for Health: Rapid Health Impact Assessment Tool*.

Project Ireland 2040 – *National Planning Framework, DHPLG*.

Southern Regional Assembly (2020). *Regional Spatial and Economic Strategy for the Southern Region*.

