

Laois-Kilkenny Reinforcement Project

Environmental Impact Statement

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Glossary of Terms

Bay: A bay is a connection point to a busbar, and comprises switchgear and measurement equipment.

Biological Oxygen Demand (BOD): The BOD of water is the amount of dissolved oxygen needed by aerobic biological organisms in a body of water to break down organic material present in a given water sample at certain temperature over a specific time period.

Busbar: An electrical conductor, maintained at a specific voltage and capable of carrying a high current, usually used to make a common connection between several circuits in a system.

Circuit: A line or cable, including associated switchgear, which carries electrical power.

Capacitor Bank: A capacitor (originally known as condenser) is a passive two-terminal electrical component used to store energy in an electric field.

dB(A) : For planning purposes, noise is measured in dB(A), i.e. decibels on the "A" scale. This scale simulates the response of human hearing to sound and the "A" filter is specified for use in assessing noise levels by International Standards.

Demand: Peak demand figures refer to the power that must be transported from grid connected generation substations to meet all customers' electricity requirements. These figures include transmission losses.

Dissolved Oxygen (DO): Dissolved oxygen refers to the amount of oxygen dissolved in water. It is used up in the decomposition of organic wastes and by animal respiration and is essential to all normal forms of aquatic life. The minimum DO required to support a balanced population of desirable aquatic flora and fauna is widely considered to be 5mg/l. The saturation DO levels at 15°C and 25°C in freshwater are 10.2mg/l and 8.4mg/l respectively.

Frequency of 50-Hertz (Hz): Fields alternate direction and intensity back and forth (50 times each second).

Grid: A meshed network of high voltage lines and cables (400kV, 220kV and 110kV) for the transmission of bulk electricity supplies around Ireland. The grid, electricity transmission network, and transmission system are used interchangeably in Planning and Environmental Reports.

Ha: Hectare (100m x 100m)

km: Kilometre (One thousand metres)

kV: Kilovolt (One thousand volts)

LV: Low Voltage (220V network)

mg/l: In the measurement of water quality parameters such as dissolved oxygen, the metric expression milligrams per litre (mg/l) is equivalent in volumetric terms to ppm.

MV: Medium Voltage (10kV/20kV network).

MVA_r: Volt-Ampere reactive (VA_r) - unit of reactive power. 1 MVA_r = 1,000,000 VA_r

MW: Megawatt (One million Watts).Laois-Kilkenny Reinforcement Project Planning Report

Power Flow: The flow of "active" power is measured in Megawatts (MW). When compounded with the flow of "reactive power", which is measured in MVAR; the resultant is measured in MegaVolt-Amperes (MVA).

Salmonid Waters: The EC Directive on the quality of freshwater in order to support fish life states that salmonid waters are those which support or become capable of supporting fish belonging to species such as salmon, trout, grayling and white fish.

Shunt Reactor: These are used in high voltage transmission systems to stabilise the voltage during load variations. A traditional shunt reactor has a fixed rating and is either connected to the power line all the time or switched in and out depending on the load.

Switchgear: A combination of electrical disconnects and/ or circuit breakers used to isolate equipment in or near an electrical substation.

Tesla: The tesla (symbol T) is the SI derived unit of magnetic flux density, commonly denoted as B, (which is also known as "magnetic field").

Transformer: An item of equipment connecting equipment at two different nominal voltages.

Windscreen surveys: Systematic observations made from a within or adjacent to a vehicle.

List of Abbreviations

A	Amperes
AA	Appropriate Assessment
AADT	Annual Average Daily Traffic
ABP	An Bord Pleanála
AC	Alternating Current
ACA	Architectural Conservation Areas
AIS	Air Insulated Switchgear
ALS	Amyotrophic Lateral Sclerosis
AOC	Area of Concern
AP	Athy - Portlaoise
BC	Ballyragget - Coolnabacky
BK	Ballyragget - Kilkenny
CGS	County Geological Sites
cm	Centimetre
CHS	Cultural Heritage Site
CO²	Carbon Dioxide
CSO	Central Statistics Office
DC	Direct Current
DED	District Electoral Divisions
DMRB	Design Manual for Roads and Bridges
DO	Dissolved Oxygen
DoEHLG	Department of Environment, Heritage & Local Government
EC	European Commission
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ELF	Extremely Low Frequency
ELV	Emission Limit Value
EMF	Electric and Magnetic Fields
EMF RAPID	Electric and Magnetic Fields Research and Public Information Dissemination
EMP	Environmental Management System
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
ER	Environmental Report
EU	European Union
GHz	Gigahertz
GIS	Geographic Information System
GIS	Gas Insulated Switchgear
GQA	General Quality Assessments
GSI	Geological Survey of Ireland
Ha	Hectares
HPA	Health Protection Agency
HV	High Voltage
Hz	Hertz
IARC	International Agency for Research on Cancer

ICES International Committee on Electromagnetic Safety
ICNIRP International Commission on Non-Ionizing Radiation Protection
IEEM Institute of Ecology and Environmental Management
IGI Institute of Geologist of Ireland
IWEA Irish Wind Energy Association
km Kilometre
kV/m Kilovolts Per Metre
LCA Landscape Character Areas
LCT Landscape Character Types
LI Locally important aquifer, which is Moderately Productive only in Local Zones
LM Locally Important Aquifer - Bedrock which is Generally Moderately Productive
m Metres
MDC Moneypoint – Dunstown - Coolnabacky
m/s Metres/Second
m³ Cubic Metres
m³/s Cubic Metres Per Second
mg/l Milligrams Per Litre
mm Millimetres
mOD Metres Above Ordinance Datum
MPEs Maximum Permissible Exposures
µT microTesla (10⁻⁶ Tesla)
mT milliTesla (10⁻³ Tesla)
NHA Natural Heritage Area
NIAH National Inventory of Architectural Heritage
NIS Natura Impact Statement
NPWS National Parks and Wildlife Service
NRA National Roads Authority
OHL Overhead Line
OPW Office of Public Works
OSI Ordnance Survey Ireland
PE Potential Evapotranspiration
PM10 Particulate Matter
pNHA Proposed Natural Heritage Areas
PPM Parts Per Million
RMP Records of Monuments and Places
RPS Registered Protected Structures
cSAC Candidate Special area of Conservation
SF6 Sulphur Hexafluoride
SMR Site and Monuments Record
SPA Special Protection Area
UGC Underground Cable
V/m Volts per Meter
WFD Water Framework Directive
WHO World Health Organisation
WWTP Wastewater Treatment Plants
ZVI Zone of Visual Influence