

## LIST OF ABBREVIATIONS / ACRONYMS

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%	Percentage
°C	Degrees Celsius
µSv	Micro Sieverts
AADQ	Annual Authorized Discharged Quantities
ABWR	Advanced Boiling water Reactor
ABI	Agulhas Biodiversity Initiative
ACER	ACER (Arica) Environmental Consultants (Pty) Ltd
AFB	Air Force Base
AGR	Gas Cooled Reactor
AIDS	Acquired Immuno Deficiency Syndrome
ALARA	As low as reasonably achievable
AMSL	Above Mean Sea Level
ANS	American Nuclear Society
AP1000	Advanced Passive, form of an advanced pressurised water reactor
APPA	Atmospheric Pollution Prevention Act (No. 45 of 1965)
Ar	Argon
ARC	Agricultural Resource Centre
Arcus GIBB	Arcus GIBB (Pty) Ltd
AsgiSA	Accelerated and shared Growth Initiative for South Africa
ALARA	As Low As Reasonably Achievable
B&B	Bed and Breakfast
BID	Background Information Document
BMP	Best Management Practise
BWR	Boiling Water Reactor
CAPE	Cape Action Plan for People and the Environment
CARA	Conservation of Agricultural Resources Act (No. 43 of 1983)
CCGT	Combined Cycle Gas Turbine
CDC	Coega Development Corporation
CDM	Clean Development Mechanism
ECO	Environmental Control Officer
CCGT	Combined Cycle Gas Turbine
CFB	Cape Fold Belt
CFR	Cape Floristic Region

CGA	Cooperative Governance Agreement
CGS	Council for Geoscience
CIGS	Copper-Indium-Gallium-diSelenide
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CSIR	Council for Science and Industrial Research
CSP	Concentrating Solar Power
CV	Coefficient of variation / <i>Curriculum vitae</i>
dB(A)	decibel
DBA	Design Basis Accidents
De Beers	De Beers Consolidated Mines
DEA&DP	Department of Environmental Affairs and Development Planning (Provincial Government Western Cape)
DEA	Department of Environmental Affairs (National Government)
DEAET	Department of Economic Affairs Environment and Tourism (Eastern Cape)
DEAT	Department of Environmental Affairs and Tourism (Now the DEA)
DEIR	Draft Environmental Impact Report (previous version of this report provided for public comment in March 2010) – the current version of the report is referred to as the Revised Draft EIR
DMA	National Disaster Management Act (No. 57 of 2002)
DME	Department of Minerals and Energy (National Government)
DOE	Department of Energy (National Government)
DOL	Department of Labour (National Government)
DPW	Department of Public Works (National Government)
DSM	Demand Side Management
DSR	Draft Scoping Report
DTEC	Department of Tourism, Environment and Conservation (Provincial Government Northern Cape)
DWA	Department of Water Affairs (National Government)
DWAF	Department of Water Affairs and Forestry (Now DWA)
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
ECTB	Eastern Cape Tourism Board
EDG	Emergency Diesel Generator
EEU	Environmental Evaluation Unit
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report

ELA	Earthlife Africa
ELC	Environmental Liaison Committee
EMF	Electromagnetic Frequencies
EMP	Environmental Management Plan
EN	Endangered
EPR	European Pressurised Reactor also known as Evolutionary Power Reactor
EPRI	Electric Power Research Institute
EPSOC	Emergency Planning Steering and Oversight Committees
EPZ	Emergency Planning Zone
Eskom	Eskom Holdings Limited
EUR	European Utility Requirements
FBC	Fluidised Bed Combustion
FGD	Flue gas desulphurisation
FGM	Focus Group Meeting
FOB	Fish on Board
FSR	Final Scoping Report
GCR	Gas Cooled Reactor
GDP	Gross Domestic Product
GFR	Gas-cooled Fast Reactor
GHG	Green House Gas
GN	Government Notice
GW	Gigawatt
GWh	Gigawatt hours
H <sub>2</sub> O	Dihydrogen oxide (water)
Ha	Hectare
HBD	Headland Bypass Dune
HEU	High-Enriched Uranium
HIV	Human Immuno-deficiency Virus
HLW	High Level Waste
HPa	Hectopascal
HRSG	Heat Recovery Steam Generator
HSE	Health, Safety and Environment
HTR	Pebble Bed High Temperature Reactor
HV	High Voltage
I&APs	Interested and affected parties
IAEA	International Atomic Energy Agency
IAIA	International Association for Impact Assessment
ICM	Integrated Coastal Management

ICRP	International Commission on Radiological Protection
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
IEA	International Energy Agency
IEP	Integrated Energy Plan
IGCC	Integrated Gasification Combined Cycle
IIS	Integrated Investment Strategy
ILW	Intermediate Level Waste
IPP	Independent Power Producer
IRP	Integrated Resource Planning
IRR	Issues and Response Report
IRWST	In-containment Refueling Water Storage Tank
ISEP	Integrated Strategic Electricity Planning
ISO	International Standards Organisation
ISP	Integrated Strategic Perspective
ITP	Integrated Transport Plan
IUCN	International Union for the Conservation of Nature
IUCN SSC	International Union for the Conservation of Nature Species Survival Commission
JOC	Joint Operations Centre
kg	kilogram
Kl	Kilolitre
KLM	Kouga Local Municipality
km	Kilometre
KNPR	Koeberg Nuclear Power Station Reserve
KNPS	Koeberg Nuclear Power Station
KSW	Key Stakeholder Workshop
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt-hour
LCOE	Levelised Cost of Electricity
l/s	Litres per second
LEU	Low-Enriched Uranium
LFR	Lead-cooled Fast Reactor
LILW	Low and Intermediate Level Waste
LL	Long Lived
LLW	Low Level Waste
LOS	Level of Service
LSA	Late Stone Age

LUPO	Land Use Planning Ordinance (No. 15 of 1985)
LWCGMR	Light Water Cooled Graphite Moderated Reactor
m	Metre
M	Magnitude
m <sup>3</sup>	Cubic Metre
m <sup>3</sup> /day	Cubic Metres per day
Ma	Million years before present
MAE	Mean Annual Evaporation
mamsl	metres above mean sea level
MAP	Mean Annual Precipitation
MAR	Mean Annual Runoff
mbgl	metres below ground level
MFMA	Municipal Finance Management Act (No. 56 of 2003)
mg	milligram
MHI	Major Hazardous Installation
MLRA	Marine Living Resources Act (No. 18 of 1998)
MPRDA	Mineral and Petroleum Resources Development Act (No. 28 of 2002)
mS	Millisiemen
MSA	Municipal Systems Act (No. 32 of 2000)
MSL	Mean Sea Level
MSR	Molten Salt Reactor
mSv	Millisievert
MTPPP	Medium Term Power Purchase Agreement
MW	Megawatt
MWe	Megawatt electrical
MWh	Megawatt hour
MWt	Megawatt thermal
MYPD	Multi-Year Price Determination
MZA	Maritime Zones Act (No. 15 of 1994)
N <sub>2</sub>	Nitrogen
N2	National Road 2
NAMA	Nationally Appropriate Mitigation Actions
NBSAP	National Biodiversity Strategy Action Plan
NDM	Namakwa District Municipality
NEA	Nuclear Energy Agency
NE Act	National Energy Act (No. 34 of 2008)
NECSA	National Energy Council of South Africa
NEMA	National Environmental Management Act (No. 107 of 1998)

NEM:BA	National Environmental Management: Biodiversity Act (No. 10 of 2004)
NEM:AQA	National Environmental Management: Air Quality Act (No. 39 of 2004)
NEM:ICMA	National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008)
NEM:PAA	National Environmental Management: Protected Areas Act (No. 57 of 2003)
NEM: Waste Act	National Environmental Management: Waste Act (No. 59 of 2008)
NEPAD	New Partnership for African Development
NERA	National Energy Regulator Act (No. 40 of 2004)
NERSA	National Energy Regulator of South Africa
NGO	Non-governmental Organisation
NHRA	National Heritage Resources Act (No. 25 of 1999)
NIA	National Intelligence Agency
NIERP	National Integrated Energy Resources Plan
NIRP	National Integrated Resources Plan
NKPA	National Key Points Act (No. 102 of 1980)
NSIP	Nuclear Site Investigation Programme
NM	Nautical mile
NMBM	Nelson Mandela Bay Municipality
NNR	National Nuclear Regulator
NNRA	National Nuclear Regulator Act (No. 47 of 1999)
NORM	Naturally Occurring Radioactive Material
NOx	Nitrogen oxides
NPS	Nuclear Power Station
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NRS	Compliance with NRS 047 - Quality of Service
NRWDIA	National Radioactive Waste Disposal Institute Act (No. 53 of 2008)
NRWMA	National Radioactive Waste Management Agency
NSBA	National Spatial Biodiversity Assessment
NSIP	Nuclear Site Investigation Programme
NWA	National Water Act (No. 36 of 1998)
nSv/h	nano Sievert per hour
NT	Near Threatened
O <sub>2</sub>	Oxygen
OCB	Owner Controlled Boundary
OCGT	Open Cycle Gas Turbine
OECD	Organisation for Economic Co-operation and Development

OHS	Occupational Health and Safety
OHSA	Occupational Health and Safety Act (No. 85 of 1993)
PAIA	Promotion of Access to Information Act (No. 2 of 2000)
PAJA	Promotion of Administrative Justice Act (No. 3 of 2000)
PAZ	Protective Action Zone
PBMR	Pebble Bed Modular Reactor
PBMR DPP	Pebble Bed Modular Reactor Demonstration Power Plant
PCS	Passive Containment Cooling System
PGA	Peak Ground Acceleration
PGDS	Provincial Growth and Development Strategy
PHWMR	Pressurised Heavy Water Moderated Reactor
PM	Public Meeting
PoS	Plan of Study
ppm	parts per million
PPP	Public Participation Process
ppt	parts per thousand
PRA	Probabilistic Risk Assessment
PSHA	Probabilistic Seismic Hazard Analysis
PSM	Project Site Manager
PV	Photovoltaic
PWR	Pressurised Water Reactor
PXS	Passive Core Cooling System
RD	Red Data (species)
RED	Regional Electricity Distributors
REFIT	Renewable Energy Feed in Tariff
RPV	Reactor Pressure Vessel
RTS	Return to Service
SA	South Africa
SAAB	South African Association of Botanists
SACNASP	South African Council for Natural Scientific Professions
SADC	South African Democratic Countries
SAHRA	South African Heritage Resource Agency
SAIEES	South African Institute of Ecologists and Environmental Scientists
SANParks	South African National Parks
SANS	South African National Standards
SAR	Safety Analysis Report
SBO	Station Blackout
SCWR	Super-critical Water Reactor

SDF	Spatial Development Framework
SDP	Strategic Development Plan
SEA	Strategic Environmental Assessment
SFR	Sodium-cooled Fast Reactor
SKEP	Succulent Karoo Ecosystem Programme
SL	Short Lived
SM	Site Manager
SMME	Small Medium and Micro Enterprise
SO <sub>2</sub>	Sulphur dioxide
SO <sub>x</sub>	Sulphur oxides
SPMT	Self Propelled Modular Transporter
SSE	Safe Shutdown Earthquake
SSEGM	Safe Shutdown Earthquake Ground Motion
SSHAC	Senior Seismic Hazard Analysis Committee
SSI	Stewart Scott International
SST	Sea Surface Temperature
STD	Sexually Transmitted Disease
SSR	Site Safety Report
STEP	Subtropical Thicket Environmental Programme
t	tonnes (metric)
t/h	tonnes per hour
TAC	Total Allowable Catch
TFTC	Test Flight and Development Centre
TLC	According to the 1996 census, the population of the Humansdorp TLC was 19 953, which was 31.9% of the total population of the KLM.
TMG	Table Mountain Group
TMI	Three Mile Island
TWh	Terawatt hour
TWy	Terawatt year
U <sub>3</sub> O <sub>8</sub>	Uranium oxide
UCG	Underground Coal Gasification
UCT	University of Cape Town
UF <sub>6</sub>	Uranium hexafluoride
UNCLOS	United Nations Convention on the Law of the Sea
UNFCCC	United Nations Framework Convention on Climate Change
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
UPZ	Urgent Protective Zone
US EPA	United States Environmental Protection Agency

US DOE	United States Department of Energy
US NRC	United States Nuclear Regulatory Commission
USA	United States of America
VES	Control Room Emergency Habitability Systems
VHTR	Very High Temperature Reactor
VOCs	Volatile Organic Compounds
VU	Vulnerable
WBFC	Walker Bay Fynbos Conservancy
WCPSDF	Western Cape Provincial Spatial Development Framework
WMA	Water Management Area
WSA	Water Services Act (No. 108 of 1997)
WSDPs	Water Services Development Plans
WWII	World War Two

## GLOSSARY OF TERMS

Term	Definition
<b>Abalone (Perlemoen)</b>	A genus ( <i>Haliotis</i> ) of edible rock-clinging gastropod mollusks that have a flattened shell slightly spiral in form, lined with mother-of-pearl. Perlemoen has been listed as an endangered species on CITES (Convention on International Trade of Endangered Species) by South Africa, and is protected under South African law.
<b>Advection</b>	The horizontal transport of air or atmospheric properties. Commonly used with temperatures, i.e., "warm air advection".
<b>Advection fog</b>	A type of fog caused by the horizontal movement of moist air over a cold surface and the consequent cooling of that air to below its dew point.
<b>Aeolian</b>	Transported and deposited by wind; A rock formed by the solidification of Aeolian sediment is known as an aeolianite.
<b>Alternatives</b>	Different means of meeting the general purpose and requirements of the activity, which may include alternatives to – location, type, design, technology of operational aspects of the activity.
<b>Amphibian</b>	An organism that is adapted to both land and water; these cold-blooded vertebrates (such as frogs, toads, or salamanders) have gilled aquatic larvae and mature into air-breathing adults
<b>Annulus</b>	The distance between two objects
<b>Anomaly</b>	Any departure from the norm, which may indicate the presence of mineralization in the underlying bedrock in geological terms
<b>Aquaculture</b>	The cultivation (farming) of aquatic organisms, such as fish or shellfish, especially for food
<b>Aquifer</b>	A geological formation capable of yielding economic quantities of water.
<b>Archaeology</b>	The scientific study of material remains (as fossil relics, artifacts, and monuments) of past human life and activities
<b>Avifauna</b>	The birds of a particular region or period
<b>Barchanoid</b>	As of dunes;immature mobile transverse dunes, unvegetated
<b>Baseload</b>	This is the minimum amount of power that a power generator must make available to its customers, or the amount of power required to meet minimum demands based on reasonable expectations of customer requirements 24 hours per day, every day of the year. Industrial plants, mines, hospitals, and residential customers all contribute to base load needs.
<b>Baseload power plant/ station</b>	A baseload power station is an energy plant devoted to the production of baseload supply. Base load plants are usually large steam generating plants that cannot be started and stopped quickly or ramped up and down quickly. Since these are some of the least costly plants to operate, they are usually loaded or dispatched close to their maximum power level.
<b>Bathymetry</b>	The measurement of water depth at various places in a

	body of water
<b>Biofilm</b>	A complex structure adhering to surfaces that are regularly in contact with water, consisting of colonies of bacteria and usually other microorganisms such as yeasts, fungi, and protozoa that secrete a mucilaginous protective coating in which they are encased
<b>Biophysical</b>	Environmental processes, ecological functions and natural resource components (biological, physical and geochemical) not directly controlled by, or dependent upon, human activities; natural
<b>Bioregion</b>	An area constituting a natural ecological community with characteristic flora, fauna, and environmental conditions and bounded by natural rather than artificial borders.
<b>Borehole</b>	A borehole is a deep and narrow shaft in the ground used for extraction of fluid or gas reserves below the earth's surface.
<b>Brittle-ductile</b>	Transitional conditions between brittle and ductile or plastic flow.
<b>Calcrete</b>	Also referred to as hardpan, it is calcium-rich, hardened layer or crust in or on soil. It is formed as a result of <u>climatic fluctuations</u> in arid and semiarid regions.
<b>Cenozoic(or Caenozoic)</b>	Last 65 million years; an era of geologic time from the beginning of the Tertiary period (65 million years ago) to the present. Its name is from Greek and means "new life."
<b>Chokka</b>	<i>Loligo vulgaris reynaudi</i> is a large squid belonging to the family <i>Loliginidae</i> . In South Africa it is known as either calamari or chokka, and is a subspecies of <i>Loligo vulgaris</i> , the European squid.
<b>Chlorination</b>	The process of adding the element chlorine to water as a method of water purification
<b>Chlorophyll a</b>	The pigment that makes plants and algae green. Measurement of chlorophyll a is used to determine the quantity of algae in the water.
<b>Coastal current</b>	Any more or less permanent or continuous directed movement of ocean water that flows in one of the Earth's oceans.
<b>Condenser</b>	An apparatus or container for condensing vapour
<b>Control Rods</b>	A rod made of <u>chemical elements</u> capable of absorbing many <u>neutrons</u> without fissioning themselves. They are used in <u>nuclear reactors</u> to control the rate of fission of uranium and plutonium.
<b>Core</b>	A <b>nuclear reactor core</b> is the portion of a <u>nuclear reactor</u> containing the <u>fuel</u> components where the <u>nuclear reactions</u> take place
<b>Cretaceous</b>	The final period of the Mesozoic era, spanning the time between 145 and 65 million years ago.
<b>Critically Endangered</b>	The status of a species that has satisfied the International Union for the Conservation of Nature and Natural Resources (IUCN), also known as the World Conservation Union, criteria that indicate that it faces an extremely high risk of extinction in the wild.
<b>Crustaceans</b>	A class of articulated animals, having the skin of the body generally more or less hardened by the deposition of calcareous matter, breathing by means of gills. (Examples, Crab, Lobster, Shrimp, etc.).
<b>Cultivated (of land or fields)</b>	No longer in the natural state; developed by human care and for human use.
<b>dBA</b>	Environmental noise measurements are measured in terms of dBA. The A weighting aims to correspond to the

	frequency sensitivity of the human ear
<b>Demersal</b>	Dwelling at or near the bottom of a body of water
<b>Desalination</b>	A process that converts seawater or brackish water to fresh water or an otherwise more usable condition through removal of salts and other dissolved solids.
<b>Diffuse attenuation coefficient</b>	Measure of how far the sun's radiance penetrates the ocean at a wavelength of 490 nano metres (nm).
<b>Dispatchable Resource</b>	A resource whose electrical output is available at short notice and can be controlled or regulated to match the electrical energy requirements of the electric system, and is not affected by phenomena such as the time of day or weather conditions. Nuclear power and coal power are both dispatchable.
<b>Dorbank</b>	A hard subsurface soil horizon forms in arid/semi-arid climates, through cementation by silica, often in association with calcium carbonate or iron oxides. It is often reddish-brown in colour, as has been found at Brazil and Schulpfontein.
<b>Dune field</b>	Descriptive of an area with numerous low hills or banks of drifted (wind-borne) sand.
<b>Dune geomorphology</b>	The scientific study of sand <u>dunes</u> and the processes that shape them
<b>Dyke</b>	A discordant intrusive body that is substantially longer than it is wide. Dikes are often steeply inclined or nearly vertical. A dyke is a tabular (sheet-like) igneous intrusion that cuts the surrounding strata at an angle.
<b>Ecotone</b>	A geographic boundary or transition zone between two different groups of plant or animal distributions containing characteristic species of each.
<b>Embayment</b>	An indentation of a shoreline, larger than a cove (small inlet) but smaller than a gulf (arm of a sea or ocean partly enclosed by land).
<b>Endangered</b>	The status of a species that has satisfied the IUCN criteria that indicate that it faces as a very high risk of extinction in the wild.
<b>Endemic</b>	In biology and ecology, endemic means exclusively native to the biota of a specific place.
<b>Environment</b>	The surroundings within which humans exist and include biophysical, social and economic aspects.
<b>Environmental Impact Assessment</b>	An Environmental Assessment is required when an activity(ies) triggers a regulation(s) listed in Government Notices R 386 and R 387 in Government Gazette 28753 dated 21 April 2006. Depending on the activity(ies) either a Basic Assessment (for activities listed in R 386) or a Scoping and Environment Impact Assessment (for activities listed in R 387) is undertaken. The construction of the proposed nuclear power station triggers regulations requiring a Scoping and Environmental Impact Assessment.
<b>Environmental Impact</b>	A positive or negative change to the environment that results from the effect of a construction activity. The impact may be a direct or indirect consequence of a construction activity.
<b>Ephemeral</b>	Short lived. Living or lasting only for a day, as certain plants or insects do.
<b>Erosion</b>	The process of <u>weathering</u> and transport of solids ( <u>sediment</u> , <u>soil</u> , <u>rock</u> and other particles) in the natural environment
<b>Fault</b>	A fault is a fracture or fracture zone, along which

	movement has taken place. Sudden movement along a fault produces earthquakes. Slow movement produces a seismic creep. A fault is a tectonic structure along which differential slippage of the adjacent earth materials has occurred parallel to the fracture plane. It is distinct from other types of ground disruptions such as landslides, fissures and craters. A fault may have gouge or breccia between its two walls and includes any associated monoclinical flexure or other similar geologic structural feature.
<b>Fauna</b>	The animal life of any particular region or time
<b>Fission</b>	The splitting of an atom into at least two other atoms and the release of a relatively large amount of energy.
<b>Flora</b>	The plant life of any particular region or time
<b>Fynbos</b>	The indigenous <u>shrubland</u> or <u>heathland</u> vegetation occurring in the Cape Floristic Region of the <u>Western Cape of South Africa</u> ; occurs mainly in winter rainfall coastal and mountainous areas with a <u>Mediterranean climate</u>
<b>Geohydrology (see Groundwater flow)</b>	A science that deals with the character, source and mode of occurrence of underground water
<b>Generation I</b>	The first nuclear reactors developed in the 1940s and 1950s
<b>Generation II</b>	A <b>generation II reactor</b> is a design classification for a <u>nuclear reactor</u> , and refers to the class of commercial reactors built up to the end of the 1990s.
<b>Generation III</b>	A <b>generation III reactor</b> incorporates evolutionary improvements in design including improved <u>fuel technology</u> , superior <u>thermal efficiency</u> , <u>passive safety systems</u> and <u>standardized design</u> for reduced maintenance and capital costs.
<b>Generation IV</b>	<b>Generation IV reactors</b> (Gen IV) are a set of theoretical nuclear reactor designs currently being researched. Most of these designs are generally not expected to be available for commercial construction before 2030, with the exception of a version of the Very High Temperature Reactor (VHTR) called the <u>Next Generation Nuclear Plant (NGNP)</u> .
<b>Geomorphology</b>	Geomorphology is the study of landforms, including their origin and evolution, and the processes that shape them.
<b>Gneiss</b>	Rock formed by regional metamorphism in which bands or lenticles of granular minerals alternate with bands or lenticles characterised by minerals having flaky or elongate prismatic shapes.
<b>Grabens</b>	A depressed block of land bordered by parallel faults.
<b>Greenhouse gases</b>	Gases that increase the temperature of the earth's surface as defined by the United Nations Framework Convention on Climate Change, which include <i>inter alia</i> chlorofluorocarbons, carbon dioxide, methane and nitrous oxide.
<b>Groundwater flow</b>	The movement of water through openings and pore spaces in rocks below the water table i.e. in the saturated zone. Groundwater naturally drains from higher lying areas to low lying areas such as rivers, lakes and the oceans. The rate of flow depends on the slope of the water table and the transmissivity of the geological formations.
<b>Habitat</b>	The area or environment where an organism or ecological community normally lives or occurs
<b>Hazardous substance</b>	Any substance that is of risk to health and safety, property or the environment. Hazardous substances have been

	classified under the SABS Code 0288: 'The Identification and Classification of Dangerous Goods and Substances'.
<b>Hazardous waste</b>	Any inorganic or organic element or compound that because of its toxicological, physical, chemical or persisting properties, may exercise detrimental acute or chronic impacts on human health or development. Hazardous wastes are classified in accordance with the 'Minimum Requirement for the Handling, Classification and Disposal of Hazardous Waste' published by the Department of Water Affairs and Forestry (1998).
<b>Heavy water</b>	Water containing a significantly greater proportion of heavy hydrogen (deuterium) atoms to ordinary hydrogen atoms than is found in ordinary (light) water. Heavy water is used to lower the energy of neutrons in a reactor.
<b>Hectopascal</b>	Unit of pressure used in meteorology. One hectopascal equals 100 Pascals (1 hPa = 100 Pa).
<b>Heritage site</b>	A site that contains either archaeological artefacts, graves, buildings older than 60 years, meteorological or geological fossils etc.
<b>High level waste</b>	Radioactive waste that will either be the spent fuel itself (if declared as a waste and intended to be disposed of as such), or the principal waste emanating from the reprocessing of spent fuel. While only 3-4 % of the volume of spent fuel is high-level waste, it holds 95 % of the radioactivity. It contains the highly radioactive fission products and some heavy elements with long-lived radioactivity.
<b>Holocene</b>	Beginning 11,700 years ago, it is characterised as the current warm period.
<b>Hummocking</b>	Refers to lumpy terrain; or land that has an irregular shape; or a fertile, wooded area that is at a slightly higher elevation (less than 3 m or so) than nearby marshes.
<b>Hydrology</b>	The scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.
<b>Hydroperiod</b>	The length of time (and seasonality) that water is present over the surface of the wetland.
<b>Intergranular aquifer</b>	Groundwater contained in intergranular interstices of sedimentary and weathered formations.
<b>Intermediate level waste</b>	Contains higher amounts of radioactivity and may require special containment. It typically comprises resins, chemical sludges and reactor components, as well as contaminated materials from reactor decommissioning.
<b>Invertebrate</b>	Animals without backbones or internal bony skeletons. All animals except for the phylum Chordata (vertebrates) fall into this category, including insects, crustaceans, worms, corals, and mollusks.
<b>Irreplaceable</b>	Impossible to replace.
<b>Light water</b>	Ordinary water composed of two hydrogen atoms and one oxygen atom.
<b>Liquefaction</b>	The process by which sediment that is very wet starts to behave like a liquid. Liquefaction occurs because of the increased pore pressure and reduced effective stress between solid particles generated by the presence of liquid. It is often caused by severe shaking, especially that associated with earthquakes.
<b>Load Shedding</b>	An intentionally engineered electrical power outage caused by insufficient available resources to meet the prevailing demand for electricity.

<b>Low level waste</b>	It comprises paper, rags, tools, clothing, and filters etc., which contain small amounts of mostly short-lived radioactivity. LLW is not dangerous to handle, but needs to be disposed of more sensitively than normal waste.
<b>Mesozoic</b>	Period from 65 –150 million years ago.
<b>Midden</b>	A refuse heap, often containing dung, shells or shells.
<b>Mid-merit units</b>	When the power demand exceeds the baseload, the mid-merit units come online. Typically mid-merit units come online in the morning as electricity demand begins to grow and go off-line at night when the demand drops off.
<b>Neoproterozoic</b>	The Neoproterozoic is the geological era from 1000 Ma to 542 Ma (million years ago).
<b>Near Threatened</b>	The status of a species that does not satisfy the IUCN criteria for Vulnerable, Endangered or Critically Endangered, but is close to qualifying, or is likely to qualify for a threatened category in the near future.
<b>Nuclear Non-Proliferation Treaty aka Treaty on the Non-Proliferation of Nuclear Weapons</b>	An international legal instrument that is aimed at limiting the spread of nuclear weapons. It was opened for signature on 1 July 1968. South Africa is a signatory to this Treaty, having acceded on 10 July 1991.
<b>Nuclear power</b>	The use of sustained <u>nuclear fission</u> to produce heat and ultimately electricity through various methods
<b>Oceanography</b>	The exploration and scientific study of the ocean and its phenomena, including prevailing currents and sedimentation patterns.
<b>Parastatal</b>	A company or agency owned or controlled wholly or partially by the government
<b>Peaking load power stations</b>	These are typically smaller power plants that generate electricity when there are peaks or spikes in consumer power demand. Examples in South Africa are hydro-electric power stations and lately gas-turbine power stations. These power stations generally generate electricity during periods of high demand for electricity, normally on weekdays from 07:00 to 09:00 and 18:00 to 20:00.
<b>Peaking units</b>	Peaking units are turned on rarely in order to meet the peak load. Examples in South Africa include Open Cycle Gas Turbines (OCGT) and pumped storage.
<b>Power outage</b>	Equipment failure resulting when the supply of power fails.
<b>Palaeontology</b>	The study of prehistoric life forms on Earth through the examination of plant and animal fossils.
<b>Palaeoseismic evidence</b>	Refers to earthquakes recorded geologically, most of them unknown from human descriptions or seismograms. Geologic records of past earthquakes can include faulted layers of sediment and rock, injections of liquefied sand, landslides, abruptly raised or lowered shorelines, and tsunami deposits.
<b>Palaeoseismology</b>	The study of prehistoric earthquakes, especially their location, timing and size.
<b>Paleosol</b>	A layer of fossilized soil, usually buried beneath layers of rock or more recent soil horizons.
<b>Parabolic (as of dunes)</b>	Parallel dunes with trailing edges in opposite direction to the wind direction. Can be vegetated or unvegetated.

<b>Particulate matter</b>	Fine particles of solid or liquid matter suspended in a gas or liquid.
<b>Peak ground acceleration</b>	A measure of earthquake acceleration. Unlike the Richter magnitude scale, it is not a measure of the total size of the earthquake, but rather how hard the earth shakes in a given geographic area.
<b>Pelagic</b>	Chiefly of fish, inhabiting the upper layers of the open sea
<b>Pleistocene</b>	A geologic period usually thought of as the Ice Age, which began about 1.6 million years ago and ended with the melting of the large continental glaciers creating the modern climatic pattern about 11,500 years ago.
<b>Pliocene</b>	A geological epoch that began five million years ago and ended 1.8 million years ago; a period of geologic time seven to two million years ago.
<b>Pollution</b>	The introduction into the environment of any substance by the action of man that is, or results in, significant harmful effects to man or the environment.
<b>Population density</b>	A measurement of population per unit area or unit volume
<b>Potable</b>	Fit or suitable for drinking
<b>Prenatal</b>	Existing or occurring before birth.
<b>Pressurized Water Reactor (Nuclear technology type)</b>	Is moderated and cooled with light water that is not boiled in the reactor. The turbine is driven by steam from the steam generator.
<b>Quaternary</b>	The youngest of the geological periods, extending from the end of the Tertiary (qv) 1.6 million years ago up to the present. It is divided into the Pleistocene, and the Holocene, which is the last 10,000 years.
<b>Radiation (nuclear)</b>	Energy that is released by radioactive atoms such as uranium. This type of radiation is called ionizing radiation as it contains sufficient energy to remove electrons from within the material they penetrate, it is this ability that makes this type of radiation harmful to life.
<b>Radioactive waste</b>	Radioactive material in gaseous, liquid or solid form, for which no further use is envisaged and which has the radioactivity in excess of background or exemption levels.
<b>Radionuclide</b>	Any species of an atom that is radioactive.
<b>Red Data Species</b>	The IUCN Red List of Threatened Species provides taxonomic, conservation status and distribution information on plants and animals that have been globally evaluated using the IUCN Red List Categories and Criteria.
<b>Relictual</b>	Ancient surviving species, typically restricted to moist, cold habitats, but occasionally arid-adapted.
<b>Renewable resources</b>	A natural resource qualifies as a renewable resource if it is replenished by natural processes at a rate comparable to its rate of consumption by humans or other users. Resources such as solar radiation, tides, and winds are <i>perpetual resources</i> that are in no danger of being used in excess of their long-term availability.
<b>Rift</b>	A long, narrow crack in the entire thickness of the Earth's crust, which is bounded by normal faults on either side or forms as the crust is pulled apart.
<b>Sea level</b>	The level of the ocean's surface. Sea level at a particular location changes regularly with the tides and irregularly due to conditions such as wind and currents. Other factors that contribute to such fluctuation include water temperature and salinity, air pressure, seasonal changes, the amount of stream runoff, and the amount of water that is stored as ice or snow.
<b>Sea state</b>	A scale that categorizes the force of progressively higher

	seas by wave height. This scale is mathematically correlated to the Pierson-Moskowitz scale and the relationship of wind to waves.
<b>Seismic hazard</b>	The physical effects such as ground shaking, faulting, land sliding, and liquefaction that underlie the earthquake's potential danger.
<b>Seismicity</b>	Earthquake activity.
<b>Seismotectonic region</b>	A region within which the active geologic and seismic processes are considered to be relatively uniform.
<b>Silage</b>	Fodder (food) converted into feed for livestock through processes of anaerobic acid fermentation. This typically occurs through storage in a silo.
<b>Spent Fuel</b>	Nuclear fuel elements that are discharged from a nuclear reactor after they have been used to produce power. Spent fuel is thermally hot and highly radioactive.
<b>Stone Age</b>	The earliest technological period in human culture when tools were made of stone, wood, bone, or antlers. Metal was unknown. The dates of the Stone Age vary considerably from one region to another.
<b>Strandveld</b>	Vegetation which occurs on or near a beach
<b>Stratigraphy</b>	geology that deals with the origin, composition, distribution, and succession of strata (a sheet like mass of sedimentary rock or earth of one kind lying between beds of other kinds).
<b>Stratification</b>	The existence or formation of distinct layers in a body of water identified by differences in thermal or salinity characteristics (e.g. densities) or by oxygen or nutrient content.
<b>Taxon</b>	A means of referring to a set of animals or plants of related classification. Plural form of taxon is taxa.
<b>Tertiary</b>	Period from 65 -1.6 million years ago; The first period of the Cenozoic era (after the Mesozoic era and before the Quaternary period), spanning the time between 65 and 1.8 million years ago.
<b>Thicket</b>	An area filled with close-growing plants, including shrubs, small trees, vines, grasses, ferns and/or others
<b>Threatened</b>	Term used in its formal sense to denote one of the three categories of threat, as defined by the IUCN, viz., Critically Endangered, Endangered and Vulnerable.
<b>Topography</b>	The study of Earth's geological surface shape and features
<b>Transpressional</b>	Refers to a specific form of geological shearing. Geological shears relate to the structure of the geology, rocks and faults.
<b>Uranium</b>	A naturally radioactive and very dense element. Natural uranium contains 0.7 % of the isotope Uranium-235, needed for fission. Uranium enriched to 3-5 % in the isotope Uranium-235, is the principal nuclear fuel material used in today's nuclear power reactors.
<b>Vertebrate</b>	An animal with a backbone; includes mammals, birds, reptiles, amphibians, and fishes.
<b>Volatile organic compounds (VOCs)</b>	Organic chemicals all contain the element carbon (C); organic chemicals are the basic chemicals found in living things and in products derived from living things such as coal, petroleum, and refined petroleum products.
<b>Vulnerable</b>	The status of a species that has satisfied the IUCN criteria that indicate that it faces as a high risk of extinction in the wild.
<b>Wetland</b>	Lands where saturation with water is the dominant factor determining the nature of soil development and the types of

	plant and animal communities living in the soil and on its surface.
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