List of Definitions

Energy Networks Australia

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Acceptance Test means a contractual test to prove to the customer that the device meets certain conditions of its specification.

Access Authority Earth means approved earthing and short-circuiting equipment applied to electrical apparatus, as a requirement for the issue of an access authority, to ensure the electrical apparatus is earthed.

Access Authority means any form of authorisation, which allows access to, work on or near, or testing of electrical apparatus.

Access means entry into a defined area, involving vertical or horizontal movement of a person or vehicle.

Adaptation Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (IPCC AR4, 2007).

Aerial Surveillance Work means an inspection and/or patrol of overhead electricity networks by aircraft between the minimum separation distance and maximum work distance.

Aerial Surveillance Zone (ASZ) means the area between the minimum separation distance and the maximum work distance in which aerial surveillance work is conducted.

Agent an organisation appointed by the Network Operator for functions associated with the management of the Gas Supply Industry Passport.

Aloft means at or above the minimum height specified by jurisdictional requirements at which fall prevention measures are to be applied.

Anchorage is a secure attachment on a structure to which a fall arrest device, or lanyard assembly or restraint line may be attached.

Approved means having appropriate organisation endorsement in writing for a specific function.

Apparatus means electrical apparatus and mechanical apparatus.

Arc Rated means having an Arc Thermal Performance Value (ATPV) or Energy of Break open Threshold (Ebt) in accordance with IEC 61482 or equivalent standards.

Arc Thermal Performance Value (ATPV) means in arc testing, the incident energy on a material or a multi-layer system of materials that results in a 50 per cent probability that sufficient heat transfer through the tested specimen is predicted to cause the onset of a second degree skin burn injury based on the Stoll curve, without break-open. Note: ATPV is expressed in kWs/m^2, J/cm^2 or cal/cm.

As low as reasonably achievable (ALARA) is the underlying risk management principle whereby risk is reduced to as low as reasonably achievable within a risk cost benefit framework. Sometimes referred to as ALARP (i.e. as low as reasonably practicable).

Asset means a HV power system asset with an earth. Examples—Timber pole with downlead for earth wire, timber pole with transformer, steel or concrete pole, tower.

Asset Management means the combination of management, financial, economic, engineering, and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.

Asset owner means the owner of the assets. This may or may not be the Network Service Provider.

Attach means to attach, connect, bond, install, or support in a continuous manner. Attachment and Attached have a corresponding meaning.

Attached Climbing means continuously connected to a structure or work platform while accessing, egressing or working upon.

Authorisation an organisations endorsement in writing for a specific function. Authorise and Authorised have a corresponding meaning.

Authorised person in charge means a person with technical knowledge or sufficient experience who has been authorised, or has the delegated authority to act on behalf of the organisation, to perform the duty concerned.

Authorised person means a person with technical knowledge or sufficient experience who has been authorised, or has the delegated authority to act on behalf of the organisation to perform the duty concerned.

Backyard means an area with a contactable metallic structure subject to fault induced voltage gradients. This metallic structure (for example, fence) is not an HV asset but becomes live due to earth fault current flow through the soil.

Bare means, in relation to a conductor, not insulated.

Barrier means a rope, barricade or alternative erected in accordance with approved procedures.

Base Garment means a garment which is considered as outer wear but may be worn in direct contact with the skin, e.g. shirts, trousers or coveralls etc. A base garment is one that is worn at all times in an electrical hazardous environment.

Bolted fault means a fault where there is assumed to be zero contact resistance at the point of fault.

Cable Distribution Cabinet (CDC) is a cubicle type assembly for stationary outdoor installation, to be used for the metering or distribution of electrical energy through cable to other equipment.

Cable means assembly of one or more conductors and/or optical fibres, with a protective covering and possibly filling, insulating and protective material (IEV 151-12-38).

Calorie (Cal) means the energy required to raise one gram of water one degree Celsius at one atmosphere pressure. Second-degree burns occur at 1.2 calories per centimetre squared per second (cal/cm^2).

Cancellation of an Access Authority means an access authority has been surrendered and authorisation for access to work on or near, or test, apparatus has been terminated.

Capital Expenditure (CAPEX) means funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment.

Central Business District (CBD) means high density, high rise offices, shops, hotels, residences in capital cities.

Clearances means the minimum distance from a conductor or live component of electrical equipment to another object.

Clearing time means the time taken for the protective devices and circuit breaker(s) to isolate the fault current.

Climate Change means any change in climate over time, due to either natural variability or as a result of human activity.

Climate Hazard is where hazard is defined as the occurrence of a fault on the electricity network caused by weather and vulnerability as the magnitude of impact on the network measured in the numbers of customers whose supplies are interrupted by the fault.

Climate Impacts means the change in environmental and economic conditions that results from climate variables such as changes to temperature, precipitation, sea level rise (known as primary variables/effects) and also heat waves, drought, flooding, wind, hail, cyclones, bushfires, and relative humidity (also referred to as secondary climate variables). Impacts from a change in climate across the energy sectors include asset and infrastructure performance deterioration. A specific change in a system caused by its exposure to the climate. Impacts may be harmful (impact) or beneficial (opportunity). The increases to the frequency and intensity of

extreme weather events caused by changes in climate variables can cause some of the greatest impacts to infrastructure and assets.

Climber means a vegetation management worker who works on vegetation while supported by that vegetation.

Closed system means equipment which contains gas enclosures that can be emptied and refilled with SF_6 gas during maintenance of the system.

Commercial means medium density, multi-floor offices, shops, hotel in suburban complexes.

Common Multiple Earth Neutral (CMEN) is where the Multiple Earth Neutral LV power system is connected to the HV earth system (see also MEN).

Company specific training means refresher or other training that is only relevant to the company.

Competency is the acquisition through training, qualification or experience or a combination of those things, of the knowledge, skills and attitudes required to undertake the assigned task competently.

Competency units means units of accreditation of acquired skill performance.

Competent Asset Inspector means a competent person who has been trained in all aspects of the inspection procedures including use of specific inspection equipment.

Competent means having the skills, knowledge and attributes a person needs to complete a task.

Composite Pole means a pole designed to support aerial assets, constructed of two or more materials e.g. concrete/steel, wood/steel, fibreglass/resin selected generally for durability in-ground and economy above ground.

Concrete pole means a pole manufactured from concrete and usually reinforced with or prestressed by internal steel reinforcement.

Conductor means an element intended to carry electric current (IEV 151-12-05).

Confined Space means confined space as defined in AS/NZS 2865, Safe working in a confined space.

Consequence means the end result or effect on society, the economy or environment caused by some event or action (e.g. economic losses, loss of life). Consequences may be beneficial or detrimental. This may be expressed descriptively and/or semi-quantitatively (high, medium, low) or quantitatively (monetary value, number of people affected etc).

Consultant means professional or organisation providing design, management or other services for a principal, contractor, subcontractor, or supplier.

Contractor means the individual or organisation bound to execute the work specified under a contract.

Control Authority means an organisation that is responsible for the control of the apparatus concerned.

Control Centre (see Operational Control Centre).

Control measures means measures taken to minimise a risk to the lowest level reasonably practicable. Measures include physical/engineering controls, administrative controls such as policies, procedures, and behaviour controls such as PPE.

Cost Benefit Assessment (CBA) means the economic analysis that assesses the costs and benefits of a proposal relative to a "base case" (or "do nothing" scenario).

Coupling factor means the magnitude of the current returned on a faulted cable's screens and sheath or on an overhead power line earth wire, expressed as a percentage of the fault current magnitude.

Cross-arm means a structure attached to the pole to support insulator/s.

Danger is applied in the context of safety signs to a situation which is likely to be life threatening if the message is ignored.

De-energised means not connected to any source of electrical supply but not necessarily isolated.

Decommissioning is the removal from service of electrical equipment and cylinders containing SF_6 prior to disposal or recycling.

Degree of protection means the extent of protection provided by an enclosure against access to hazardous parts, against ingress of solid foreign objects and/or against ingress of water and verified by standardized test methods.

Detuned Capacitor means a shunt capacitor connected to power system in series with a detuning reactor.

Detuning Reactor means a reactor connected in series with a capacitor designed to resonate with it at a non-harmonic frequency lower than any harmonic frequency likely to be significant at the point of connection. Hence the series LC circuit behaves inductively over the significant harmonic range.

Direct Distributor means a distributor which runs from a substation to the point of connection to a single site.

Distribution Network User is a distribution customer or an embedded generator

Distribution station means a small substation from which electricity is supplied direct at 33kV or less to a consumer or end user. The distribution substation may consist of one or more ring main units (RMUs) or transformers on a pole, on the ground, underground, or in a building; and includes the enclosure or building surrounding the transformer(s) and switchgear. Excludes zone substations.

Distributor means a LV conductor that is fed from a substation (excluding any attached service conductor).

Do Not Operate Tag means an approved tag, used in accordance with approved procedures, warning of a particular hazard or hazardous condition that is likely to be life threatening.

Due diligence is a process where organisations, employees and contractors have taken all reasonable steps to cover WHS and environment issues.

Duty holder is the utility that bears responsibility for managing the risk assessments and the safety of both the public and work personnel.

Earth electrode is an conductive part, which may be embedded in a specific conductive medium, e.g. concrete, in electric contact with the Earth (IEV 195-02-01).

Earth fault current is a current that flows from the main circuit to earth or earthed parts at the fault location (earth fault location). For single phase and double phase earth faults, this is in systems with:

- isolated neutral, the capacitive earth fault current
- high resistive earthing, the earth fault current
- resonant earthing, the earth fault residual current
- solid or low impedance neutral earthing, the line-to-earth and two line-to-earth short-circuit current.

Earth fault means the occurrence of an accidental conductive path between a live conductor and the Earth Note – The conductive path can pass through a faulty insulation, through structures (e.g. poles, scaffoldings, cranes, ladders), or through vegetation (e.g. trees, bushes) and can have a significant impedance (IEV 195-04-14).

Earth grid means interconnected uninsulated conductors installed in contact with the earth (or an intermediate material) intended for the conduction and dissipation

of current and or for the provision of a uniform voltage reference. One part of the earthing system.

Earth potential rise (EPR) is the voltage between an earthing system and reference earth. (N.B. Wherever fault current flows into the earth there will be an EPR and this may involve a hazard depending on its magnitude and time duration. The operation of protection is important in minimizing the consequences of this).

Earth return current is the portion of total earth fault current which returns to source by flowing through the earth grid and into the surrounding soil. NOTE: This current determines the EPR of the earthing system.

Earth rod is an Earth electrode consisting of a metal rod driven into the ground.

Earthed means directly electrically connected to the general mass of earth so as to ensure and maintain the effective dissipation of electrical energy.

Earthing arrangement (was earthing system) is all the electric connections and devices involved in the earthing of a system, an installation and equipment (IEV 195-02-20).

Earthing conductor is a conductor which provides a conductive path, or part of the conductive path, between a given point in a system or in an installation or in equipment and an earth electrode (IEV 195-02-03). NOTE: Where the connection between part of the installation and the earthing system is made via a disconnecting link, disconnecting switch, surge arrester counter, surge arrester control gap, then only that part of the connection permanently attached to the earthing system is an earthing conductor.

(effective) step voltage is the voltage between two points on the earth's surface that are 1m distant from each other while a person is making contact with these points.

(effective) touch voltage is the voltage between conductive parts when touched simultaneously. NOTE: The value of the effective touch voltage may be appreciably influenced by the impedance of the person in electric contact with these conductive parts (IEV 195-05-11, modified).

Egress means exit from a defined area, involving vertical or horizontal movement of a person or vehicle.

Electrical apparatus means any electrical equipment, including overhead lines and underground cables, the conductors of which are live or can be made live.

Electrical Arc Event means an unintended, uncontrolled discharge of electricity through air, resulting in a potentially hazardous release of energy.

Electric equipment means item used for such purposes as generation, conversion, transmission, distribution or utilization of electric energy, such as electric machines, transformers, switchgear and control gear, measuring instruments, protective devices, wiring systems, current-using equipment (IEV 826-16-01).

Electrical Hazard means potential source of harm when electric energy is present in an electrical installation. Note: The term "harm" in this context relates to damage to either persons and/or electrical installations (IEV 651-26-01).

Electrical protection means a system of relays, circuit breakers, fuses, surge arrestors and/or other electrical devices that sense abnormal supply conditions and operate to mitigate the potential consequences.

Electrical work means work on or near an electrical installation where an electrical hazard is present and for which the worker possesses technical knowledge and experience in dealing with electricity. Note 1: Electrical work includes such work as testing and measuring, repairing, replacing, modifying, extending, erection and inspection. Note 2: Workers undergoing training who are suitably supervised can undertake electrical work subject to national rules and regulations (IEV 651-26-04).

Electricity network means the transmission and/or distribution systems consisting of electrical apparatus which are used to convey or control the conveyance of electricity between generators points of connection and customers points of connection.

Electricity Supply Industry means the employers, employees, contractors and any other persons involved in the design, construction, maintenance or operation of the electricity generation, transmission and distribution systems in Australia.

Electricity Supply Industry (ESI) Passport is a mechanism to determining currency of refresher training during field audits, record the currency of competence for a person to work on the electricity network and to Provide transportability of individuals' competencies and authorisations between Network Service Providers (ENA DOC 013-2006).

Electrode means any conductive part in electric contact with a medium of lower conductivity and intended to perform one or more of the functions of emitting charge carriers to, or receiving charge carriers from, that medium or to establish an electric field in that medium (IEV 114-02-03).

Elevating work platform (EWP) means a vehicle on which a boom type mechanism, either articulating or telescoping, is installed. The mechanism is designed and used for the positioning of personnel at work sites or for positioning both personnel and equipment at work sites.

Embedded earth is the use of steel reinforcing bar in concrete structures to interconnect with, and to augment, the earthing system. Used to both lower the

earth resistance (where the concrete structure/slab/footing is in contact with the soil) and to create an equipotential plane (around HV equipment in a building or around sensitive equipment).

Embedded Generating Unit is a unit connected within a distribution network and not having direct access to the transmission network (NERv39).

Embedded generation means the generation of electric energy by multiple sources which are connected to the power distribution system (IEV 617-04-9).

Embedded Generator is a generator who owns, operates or controls an embedded generating unit. A person who generates electricity including customers with their own generation, and whose generating units are directly connected to a distribution network (NERv39).

Emergency Location Transmitter (ELT) means a device set to initiate signalling in the event of an emergency.

Employee means a worker engaged by an employer (whether under a contract of employment or apprenticeship) and includes a contractor or sub-contractor, and a person employed by a contractor or sub-contractor, who carries out work for an employer.

Employer means a Network Operator, Network Service Provider or Service Provider, as the case may be, who engages an employee.

Enclosure is a part of switchgear and control gear providing a specified degree of protection of equipment against external influences and a specified degree of protection against approach to or contact with live parts and against contact with moving parts.

Energised see 'Live'.

Energy Supply Industry means the employers, employees, contractors and any other persons involved in the design, construction, maintenance, operation or administration of the Australian gas and electricity industries in relation to generation, transmission and distribution systems in Australia.

Equipotential bond is a bonding conductor applied to maintain continuity of conductive structures with the main earth grid in order to prevent voltage hazards. The equipotential bonding conductor may not be designed to carry fault current.

Equipotential means an area where all points on the surface/s are at the same voltage.

Equivalent probability is a probability value which has been adjusted to account for the simultaneous exposure of multiple individuals.

Essential means hospitals, water treatment works, water pumping stations and sewerage pumping stations. Also, manufacturing facilities for which unexpected and/or prolonged outages may results in public hazards or major economic loss (e.g.: oil refineries).

Event means the occurrence of a particular set of circumstances. NOTE: The event can be a single occurrence or a series of occurrences.

Exposed conductor means an electrical conductor, approach to which is not prevented by a barrier of rigid material or by insulation which is adequate under a relevant Australian Standard specification for the voltage concerned.

Extra High Voltage (EHV) means a nominal voltage greater than 230kV.

Fall Arrest Harness means an assembly of interconnected shoulder and leg straps, with or without a body belt, designed for attachment to a lanyard, pole strap or fall arrest device as specified in AS/NZS 1891.3, and used where there is a likelihood of free fall or restrained fall.

Fall Arrest System means an assembly of interconnected components comprising a harness connected to an anchorage or anchorage system either directly or by means of a lanyard, lanyard assembly or pole strap, and whose purpose is to arrest a fall.

Flame Retardant means having properties that suppress or delay the combustion or propagation of flame when tested to ISO14116 or an equivalent standard.

Footed means physically supporting a portable ladder at the base, to prevent unintentional movement.

Free Fall Arrest means the arrest of a fall where the fall distance before the fall arrest system begins to take loading, is in excess of 600 mm either vertically or on a slope on which it is not possible to walk without the assistance of a handrail or hand line. The fall distance shall not exceed 2000 mm.

Free Fall means any fall or part of a fall where the person suffering the fall is under the unrestrained influence of gravity over any fall distance, either vertically or on a slope, on which it is not possible to walk without the assistance of a handrail or handline.

Functional Failure means the inability of an asset to meet a desired standard of performance.

Garment means a single item of clothing which may consist of single or multiple layers.

Gas Supply Industry (GSI) is the collective term to describe that part of the gas industry responsible for the transmission and distribution of reticulated gas.

Gas Supply Industry (GSI) Passport is a mechanism to: readily identify the skills of workers; determine currency of refresher training during field audits; record the currency of competence for a person to work on gas networks; and provide transportability of individuals' qualifications, competencies, refresher training and authorisations between Network Operators and their Contractors across jurisdictions (ENA DOC 20-2007).

Generator is a person who engages in the activity of owning, controlling or operating a generating system that is connected to, or who otherwise supplies electricity to, a transmission or distribution system and who is registered by AEMO as a Generator. (NERv39).

Greenhouse Gas (GHG) is a gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds.

Greenhouse gas emission is the total mass of GHG released to the atmosphere over a specified period of time.

Ground Worker means a worker that carries out vegetation management work from the ground.

Ground line Reinforcement is the addition of structural elements to an in-service pole for the purpose of restoring the ground line strength of an unserviceable pole to a serviceable condition.

Ground line Reinstatement is the addition of structural elements to an in-service pole for the purpose of restoring the ground line strength of an unserviceable pole to an as new structural condition.

Hanging Ladder means a special use ladder designed and constructed in accordance with AS/NZS 1892 and used in a suspended mode.

Hazard (or Hazardous) is any source of potential damage, harm or adverse health effects on something or someone under certain conditions at work. Basically, a hazard can cause harm or adverse effects to individuals as health effects or to organizations as property or equipment losses.

Hazard Map is a map that shows information about the extent, likelihood, nature or magnitude of natural hazards, or some combination thereof.

Hierarchy of Controls means measures taken to minimise risks to the lowest level reasonably practicable in the descending order of: Elimination, Substitution,

Isolation, Engineering Controls, Administrative Controls, and Personal Protective Equipment (PPE).

High Voltage (HV) means a nominal voltage means a nominal voltage greater than 35kV but less than or equal to 230kV.

Horizontal Life Rail means a structurally rigid rail for the attachment of a lanyard or personal fall arrest device via a mobile attachment device and having a slope not exceeding the system manufacturer's recommended slope or, in absence of such recommendation, three (3) degrees.

Horizontal Lifeline means a flexible line supported by two or more anchorages such that the slope of a straight line joining any two adjacent anchorages does not exceed the system manufacturer's recommended slope or, in absence of such recommendation, five (5) degrees.

Identification (of a system) is the procedures for creating a mathematical model representing the static and dynamic behaviour of a system (IEV 351-45-07).

Induced voltage is the voltage on a metallic structure resulting from the electromagnetic or electrostatic effect of a nearby power line.

Induction is a process a person undertakes which provides for knowledge of the basic principles of the particular hazards and risks relevant to the Gas Supply Industry and work activities to be performed.

Industrial means manufacturing facilities in areas zoned 'Industrial' as well as quarries and mines.

Injury means occupational related injuries include illnesses and diseases.

Inspection means the procedure for ensuring continued serviceability of an asset which is carried out by a competent asset inspector.

Installation is the method by which a system is affixed to a pole.

Instructed person means a person adequately advised or supervised by an authorised person to enable them to avoid the dangers which electricity may create.

Insulated elevating work platform (EWP) means an elevating work platform that complies with the design and electrical testing requirements of AS 1418.10.

Insulated means separated from adjoining conducting material by a non-conducting substance which provides resistance to the passage of current, or to disruptive discharges through or over the surface of the substance at the operating voltage, and to mitigate the danger of shock or injurious leakage of current.

Insulated Plant, Tools and Equipment means plant, tools and equipment specifically designed, approved, tested and maintained for use on or near live electrical apparatus. They shall be used only on or near electrical apparatus, which is energised at a voltage equal to or less than the voltage rating marked on the plant, tool or equipment.

Insulating Barrier (also called Cover-up equipment) means a barrier of insulating material specifically designed, approved and tested for use as a line cover, or as a cover for similar equipment. Insulating barriers may be rigid or flexible and are intended to prevent vegetation management workers, tools, equipment, plant and vegetation from making inadvertent contact with live overhead lines.

Insulating cover means a rigid, flexible or supple device made of insulating material used to cover energized and/or dead parts and/or adjacent earthed parts. Note: Protective covers are intended to protect against inadvertent contact (IEV 651-22-11).

Insulating glove means glove made of elastomer or plastic material, used for the protection of the worker against electric shock. Note: Electrical insulating gloves are normally used in conjunction with leather over-glove to provide mechanical protection. (IEV 651-23-02).

Insulating mat is a flat insulating cover made of flexible insulating material, used to provide electrical insulation between the feet of the worker and the surface on which the worker is standing. Note: The electric potential of the surface on which the worker is standing is usually that of earth (IEV 651-22-13).

Intruder resistant fence is a fence designed to minimise the likelihood of access without the aid of tools.

Islanding is the process whereby a power system is split into two or more islands. Note: Islanding is either a deliberate emergency measure, or the result of automatic protection or control action, or the result of human error (IEV 603-04-31).

Isolated means disconnected from all possible sources of electricity supply by means which will prevent unintentional energisation of the apparatus and which is assessed as a suitable step in the process of making safe for access purposes.

Kiosk Substation is a compact substation, often prefabricated and used only for distribution purposes (IEV 605-02-17).

Lanyard means a line, usually as part of a lanyard assembly, used to connect a harness to an anchorage or static line in situations where there is a risk of a free fall.

Lanyard Assembly means an assembly of a lanyard and a personal energy absorber.

Lattice structure (see Tower).

Leakage is an unplanned escape of electrolyte, gas or other material from a cell, battery or other purpose built container (IEV 482-02-32 Modified).

Limit State is when the state of a structure and the loads acting upon it beyond which the structure no longer satisfies the design requirement. Note: The purpose of design calculations (i.e. the design requirement for the limit state) is to keep the probability of a limit state being reached below a certain value prescribed for the type of structure in question (IEV 415-02-05).

Limited Free Fall Arrest means the arrest of a fall occurring under the conditions described for a free fall except that under reasonably foreseeable circumstances the fall distance will not exceed 600 mm.

Limited Free Fall means any fall or part of a fall where the person suffering the fall is under a restrained influence of gravity over any fall distance, either vertically or on a slope, on which it is not possible to walk without the assistance of a handrail or handline.

Line Hardware means fittings and fixtures used to attach conductor to insulator, insulator to cross-arm and/or cross-arm to pole.

Line worker's Body Belt means a body belt designed for use with a pole strap, which is fastened around the waist.

Live (or energised) means at an electric potential different from that of earth at the worksite and which presents an electrical hazard. Note: A part is energized when it is electrically connected to a source of electric energy. It can also be energized when it is electrically charged and/or under the influence of an electric or magnetic field (IEV 651-21-08).

Live work means activity in which a worker makes contact with energized parts or encroaches inside the live working zone with either parts of his or her body or with tools, devices or equipment. Note: Examples of live working include: replacement of insulators and spacers, the cleaning of insulators and energized parts and the replacement of other installation components (IEV 651-21-01).

Low voltage (LV) means a nominal voltage less than 1kV.

Maintenance is the combination of all technical and management actions intended to retain an item in, or restore it to, a state in which it can perform as required. Note: Management is assumed to include supervision activities (IEV 192-06-01).

Manual Reclose means an action taken, under the direction of or by a Network Service Provider, involving manually re-energising an electrical circuit in an attempt to restore supply or locate a faulty section.

Material Combination means a material produced from a series of separate layers, intimately combined prior to the garment manufacturing stage, e.g. a quilted fabric.

Mechanical Apparatus means any equipment used in the generation or supply of electricity that has the ability to rotate, or is pneumatic or hydraulic in nature or contains stored energy through mechanisms, liquid or gas contained within the equipment.

Mechanical Operating Work means the operation of devices that control sources of energy, such as, mechanical, hydraulic, pneumatic or fuel energy and the implementation of control measures to prevent the unintentional release of that energy such as the locking and tagging of mechanical apparatus and the erection of barriers and signs.

Mechanically Stabilised means to be stabilised by a means, device or assembly fitted to or attached to a portable ladder to prevent slippage of the ladder head and ladder footing.

Medium Voltage (MV) means a nominal voltage greater than 1kV but less than or equal to 35kV

Minimum breaking current is a minimum value of prospective current that a fuse-link is capable of breaking, at a stated voltage, under prescribed conditions of use and behaviour (IEV 441-18-29).

Minimum separation distance (MSD) means the distance from the Overhead Electricity Network that no part of the aircraft shall encroach.

Mobile Elevating Work Platform (MEWP) is an insulated or uninsulated work platform that complies with the requirements of AS 1418.10.

Mobile Plant means cranes, elevating work platforms, tip trucks or similar plant, any equipment fitted with a jib or boom and any device capable of raising or lowering a load.

Multiple earth neutral LV power system (MEN) is a system of earthing in which the parts of an electrical installation required to be earthed are connected together to form an equipotentially bonded network and this network is connected to both the neutral conductor of the supply system and the general mass of earth (AS/NZ 3000:2007 Clause 1.4.66).

Near means a situation where there is a reasonable possibility of a person, mobile plant or equipment (other than approved insulated tools & equipment) either directly or through any conducting medium, coming within the relevant safe approach distances.

Nearby Capacitor means a capacitor connected to a subsystem or to the transformer secondary terminals at the next voltage level down.

Network Distributor means a LV conductor running from a substation to supply customers in an area, and to which more than one service conductor is attached.

Network Operator means the owner, controller or operator of a gas network or an electricity network.

Network Service Provider (NSP) means an organisation licensed to provide electricity transmission or distribution services.

Neutralisation is a process to ensure that acidic decomposition products are effectively neutralised in an alkaline solution.

Nominal voltage of a system means a suitable approximate value of voltage used to designate or identify a system (IEV 601-01-21).

Non-Conducting Material means a material, which is known to have insulating properties, but is not electrically tested. It is not to be intentionally placed across phase to phase or phase to earth air gaps.

Non-Conducting Rope means standard commercial grade synthetic rope, made from a material, which is known to have insulating properties. Non-conducting rope is not electrically tested. It is not to be intentionally placed across phase to phase or phase to earth air gaps.

Non-power system plant means metallic infrastructure that is nearby power system equipment and subject to voltage hazard via some electrostatic, electromagnetic or conductive coupling.

Not Electrically Connected means electrical apparatus disconnected from all sources of supply by the removal or absence of conductors, appropriate to the voltage and insulating medium and, not able to be energised by electrical operating work and identified in accordance with approved procedures.

OHS Management System (see Safety Management System).

Operational Control Centre means the section of a Network Operator, Network Service Provider or Service Provider where all parts of the network can be managed. It is the contact point for emergency services if there is an incident.

Ordinary person means a person without sufficient training or experience to enable them to avoid the dangers which electrical apparatus may create.

Other cable systems means, telecommunications cables, control cables, aerial earthed cables or electrolysis drainage cables.

Overhead Electricity Network means a system of electricity transmission consisting essentially of overhead lines (IEV 601-03-07 modified).

Overhead line means a line with one or more conductors or a cable supported above ground by appropriate means. An overhead line may consist of only one conductor when the circuit is closed by the Earth. An overhead line may be constructed with bare conductors, generally supported by insulators, or with insulated conductors. The concept of overhead line generally includes the supporting elements (IEV 151-12-33).

Overhead Service means an overhead line operating at a voltage less than 1000 volts located between the customers point of connection or premises and the Distribution Network.

Padmount Substation (see Kiosk Substation).

Performance is the 'in service' structural rating of a system over its serviceable life

Periodic test means an inspection conducted at regular intervals to confirm the ongoing serviceability of the item.

Permanent network earth means a permanent connection point to a earthing system consisting of an arrangement of Earth Conductors, typically including an Earth Grid, Earth Electrodes and additional Earth Conductors such as Overhead Earth Wires (OHEWs), Cable Sheaths, Earth Continuity Conductors and parallel earthing conductors

Personal Protective Equipment (PPE) means any device or appliance designed to be worn, or held, by an individual for protection against one or more health and safety hazards whilst working (IEV 651-23-01 modified).

Physical Clearance means that no contact is made with the electricity network.

Point of Common Connection (PCC) is the nearest point in the supply from which another consumer is or could be supplied.

Pole means a vertical single member support in wood, concrete, steel or other material, with one end buried in the ground, either directly or by means of a foundation (IEV 466-07-01).

Pole mounted means attached to a pole.

Pole Reinstatement see Ground line Reinstatement.

Pole Strap means an adjustable work-positioning strap designed to be placed around a pole and attached at two points on each side of a line worker's body belt, work positioning harness or fall arrest harness, whilst the wearer is working on the pole.

Pole Top Components means the supplementary structure attached near the top of a pole and intended to support the conductors. Generally includes all of the following: crossarm, insulator and line hardware.

Pole Top means the top section of a pole.

Pole Top Structure means the structure attached to the top of a pole.

Portable Ladder means a ladder designed, constructed and used in an inclined standing mode, in accordance with AS/NZS 1892.

Potential Failure is an identifiable physical condition which indicates that a functional failure is about to occur or is in the process of occurring.

Potential means voltage between an observation point and reference earth.

Procedure means the documentation of a systematic series of actions (or activities) directed to achieve a desired result.

Prospective touch voltage is the voltage between simultaneously accessible conductive parts when those conductive parts are not being touched by a person or an animal (IEV 195-05-09).

Protective Earth Neutral (PEN) conductor is a conductor combining the functions of both protective earth conductor and neutral conductor (IEV 195-02-12). NOTE: In a MEN system, this is the conductor connected to the star point of the transformer which combines the functions of both protective earth conductor and neutral conductor.

Protective Garments means garments that are designed to provide protection to the worker's body.

Public (street) lighting pole means a pole that is specifically designed for public (street) lighting and may or may not have shared users equipment attached.

Qualifications means recognised credentials regarding skill sets, generally awarded by registered training organisations or assessors or can be enterprise specific.

Re-built means work such as re-conductoring or re-equipping, which changes the electrical performance characteristics of a portion of the network. It does not include work such as individual pole replacement.

Reference earth is part of the Earth considered as conductive, the electric potential of which is conventionally taken as zero, being outside the zone of influence of any earthing arrangement (IEV 195-01-01).

Refresher Training periodic training that maintains competence for network access and operation.

Registered Training Organisation (RTO) means organisations that are registered by state and territory training authorities to deliver nationally recognised training.

Reliability is the ability of an item or system to perform a required function, without failure, under given conditions for a given time interval (IEV 192-01-24 and 617-01-01 modified).

Remote means a location where the contact frequency is sufficiently low that the fault / contact coincidence probability is less than the target fatality probability. Typically, it is a location with few people around such as a rural area. For this case there is no touch voltage target required.

Restrained Fall means any fall where the person suffering the fall is under less than the influence of gravity, due to the action of a restraining device such as a pole strap.

Resistance to earth (R) means real part of the impedance to earth (ohms) (IEV 826-13-17).

Restrained Fall Arrest means the arrest of a fall where the person suffering the fall is partially restrained by the actions of a restraining device such as a lineworker's belt with pole strap (normally used under tension), or is sliding down a slope where it is possible to walk without the assistance of a handrail or hand line.

Risk Analysis is a systematic use of available information to identify hazards and to estimate the risk (IEV 903-01-08).

Risk Assessment is the overall process comprising a risk analysis and a risk evaluation (IEV 903-01-10).

Risk Criteria is the terms of reference by which the significance of risk is assessed.

Risk Evaluation is the procedure based on the risk analysis to determine whether the tolerable risk has been achieved (IEV 903-01-09).

Risk Event is an event that results in the occurrence of a hazard that impacts on the asset, or group of assets, which are being assessed.

Risk Identification is the process of determining what, where, when, why and how something could occur.

Risk is the combination of the probability of occurrence of harm and the severity of that harm (IEV 903-01-07).

Risk management means the management of risk in accordance with AS/NZS ISO 31000:2009.

Risk Treatment is process of selection and implementation of measures to modify risk. NOTE: The term risk treatment is sometimes used for the measures themselves.

Routine test is a test to which an item is subjected, during or after manufacture, to ascertain whether it complies with specifications. This is generally performed in the factory.

Rural Farming means farms, horticulture, feed lot, grazing and mixed production.

Rural Production means energy intensive rural facilities e.g. dairy processing plants.

Rural Township means towns with schools, shops, offices, motels, single and multiple dwellings and light industrial complexes in rural areas.

Safe means not posing an unacceptable risk to life, health or property.

Safe approach distance (SAD) means the minimum distance in air to be maintained between any part of the body of a worker, including any object (except tools appropriate for live working) being handled directly, and any part(s) at different electric potential(s). Note: The minimum approach distance is the sum of the electrical distance appropriate for the maximum nominal voltage and of the selected ergonomic distance (IEV 651-21-11 minimum approach distance).

Safe Approach Distance for Ordinary Persons means the minimum distance that shall be maintained by an ordinary person from electrical apparatus. This is not associated with performing electrical work on an electricity network.

Safe Approach Distance for Instructed or Authorised Persons means the minimum distance that shall be maintained by an Instructed Person or an Authorised Person when performing work that requires that person to approach electrical apparatus. An appropriate hazard and risk assessment shall be completed for work at these approach distances.

Safe Approach Distance for Mobile Plant Operated by Instructed or Authorised Persons means the minimum distance that shall be maintained between mobile plant (including its load, controlling ropes and any other accessories) and electrical apparatus, when such plant is operated by an Instructed or Authorised Person. An appropriate hazard and risk assessment shall be completed for work at these approach distances.

Safe Approach Distance for Mobile Plant Operated by Ordinary Persons means the minimum distance that shall be maintained between mobile plant (including its load, controlling ropes and any other accessories) and electrical apparatus, when such plant is operated by an Ordinary Person. This Safe Approach Distance is not associated with performing electrical work on an electricity network.

Safe Approach Distance – Special Limit for Authorised Persons Only means the minimum distance that shall be maintained by an Authorised Person when performing work that requires that person to approach electrical apparatus at a distance less than the Safe Approach Distance for Instructed or Authorised Persons defined above.

Safety Factor is the ratio of expected failing load compared to maximum working load.

Safety Management System means that part of the overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the work health and safety policy, and so managing the work health and safety risks (Previously called OHS Management System).

Safety observer means a person competent for the task and specifically assigned the duty of observing and warning against unsafe approach to electrical apparatus or other unsafe conditions.

Screened cable means that the insulation covering the conductor cores is covered by a conducting or semiconducting material which is connected to a neutral or earth.

Section safety clearance means the minimum distance required between unscreened live parts and the ground, an operating platform or the floor of permanent walkways used for operational purposes, or the position to which access may be given to carry out maintenance work on equipment made dead for this purpose.

Secured means lashing, clamping or otherwise fixing of the ladder top to the structure against which the ladder has been placed.

Security barrier is a barrier required to minimise other site hazards not directly associated with contact with electricity.

Serious Electricity Works Accident (IPART) has the meaning given in the Electricity Supply Act 1995 (NSW). That is, it is an accident in which electricity works are involved, and as a consequence of which a person dies or suffers permanent disability, is hospitalised, receives treatment from a healthcare professional or is unable to attend work for any period of time.

Service conductor means a cable or wire running from a network distributor to the point of connection to a customer's installation.

Service provider is a person/organisation who undertakes a designated task on or near an electricity network.

Service Reliability is the ability of a power system to meet its supply function under stated conditions for a specified period of time (IEV 603-05-02).

Serviceability Index (SI) is represented by the general equation: SI = combined factored strength/combined factored load.

Serviceable is a measure of the level of performance of a component or system, where the measured performance is such that the component or system can continue in service. In such an instance the component or system is said to be serviceable.

Shall means the action is mandatory.

Shared use means where the shared user has or does attach shared users equipment. Shared user means a party who intends to or is using a pole or structure.

Shared users equipment means all items of equipment owned or operated by the shared user that are attached or are proposed to be attached or at some stage have been attached to a pole or structure.

Should means the action is advisory or discretionary.

Sign is an inscribed board, plaque or other delineated space on which a combination of legend and symbolic shape is used to convey a message.

Site Specific Safety Management Plan means a plan that identifies and documents site specific work health and safety risks and control measures associated with the work to be undertaken.

Soil resistivity means specific resistivity of a material is used to define the resistance of a material to current flow, and is defined as the electric field strength (V/m) divided by the current density (A/m2). Values tabled are normalised to 1 amp flowing into a one metre cube of material yielding units of ohm-metre (Ωm).

Special circuits are network like circuits, such as street lighting circuits, that do not necessarily serve network customers.

Static Line means a horizontal (or substantially horizontal), line or vertical line to which a lanyard may be attached and which is designed to arrest a free fall.

Steel Pole is a pole fabricated primarily from steel.

Step Potential is the voltage that can be measured between a person feet as a result earth potential rise during a fault condition.

Step Voltage is the voltage between two points on the earths surface that are 1 metre distant from each other, which is considered to be the stride length of a person (IEV 195-05-12).

Strength is the structural rating of the reinforced pole system as measured by a horizontal tip load that can be applied in any direction around the pole relative to the location of the attached pole reinforcement. This rating may vary depending on orientation of the reinforcement relative to the direction of load.

Structural earth electrode is a metal part, which is in conductive contact with the earth or with water directly or via concrete, whose original purpose is not earthing, but which fulfils all requirements of an earth electrode without impairment of the original purpose. NOTE: Examples of structural earth electrodes are pipelines, sheet piling, concrete reinforcement bars in foundations, the steel structure of buildings.

Substation is the part of a power system, concentrated in a given place, including mainly the terminations of transmission or distribution lines switchgear and housing and which may also include transformers. It generally includes facilities necessary for system security and control (e.g. the protective devices). Note: According to the nature of the system within which the substation is included, a prefix may qualify it. E.g.: transmission substation (of a transmission system), distribution substation, 400 kV substation, 20 kV substation (IEV 605-01-01).

Subsystem means part of a system, which is itself, a system. Note: A subsystem is normally at a lower indenture level than the system of which it is a part.

Supply means provision of electric energy from a source (IEV 151-13-75).

Surrender of an Access Authority means notification in writing by the authorised person in charge that all persons signed on the access authority have ceased work and have signed off the access authority as recognition that their access to the apparatus has been relinquished.

Suspension of an Access Authority means that all persons signed on an access authority have ceased work and have signed off the access authority as recognition that their work is suspended and shall not recommence until access is granted by the control authority and they have re-signed on the access authority.

Switchgear and control gear is a general term covering switching devices and their combination with associated control, measuring, protective and regulating equipment, also assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures (IEV 441-11-01).

Symbol is a graphic or pictorial device used to represent objects or concepts, but for the purposes of this Standard, excluding letters, numerals and punctuation symbols.

Symbolic shape is a characteristic shape and safety colour combination used to identify the function of a sign, and which may have a symbol superimposed, or may be used without a superimposed symbol as an element of a larger sign.

Symbolic sign is a sign comprising the combination of a graphic symbol and a symbolic shape, which may either stand alone, or may form an element of a composite sign containing text, other symbols, symbolic signs, or a combination of these.

Temporary Earth means earthing equipment that is transported from one location to another and can be connected to a permanent network earth, conductive support structure or temporary/removable earth electrode to assist with the dissipation of electrical energy.

Tested means tested in accordance with the relevant standards.

Testing Authority is an organisation that has been assessed (usually by a third party or independent industry based organisation) to ensure they can deliver testing and inspection services to an acceptable industry standard.

Through fault means a current due to a power system fault external to that part of the section protected by the given protection and which flows through the protected section (IEV 448-13-13 adapted).

Tourism means tourism facilities for which unexpected and/or prolonged outages may result in public hazards e.g. theme parks.

Tower is a support which may be made of such material as steel, wood, concrete, and comprising a body which is normally four-sided, and cross-arms (IEV 466-08-01).

Trainer Provider is a person or company that holds a Certificate IV Workplace Training and Assessment.

Transferred potential means the potential rise of an earthing system caused by a current to earth transferred by means of a connected conductor (for example, a metallic cable sheath, PEN conductor, pipeline, rail) into areas with low or no potential rise relative to reference earth resulting in a potential difference occurring between the conductor and its surroundings. NOTE: The definition also applies where a conductor, which is connected to reference earth, leads into the area of the potential rise.

Transmission the transfer in bulk of electricity, from generating stations to areas of consumption (IEV 601-01-09).

Transmission substation means major substation with secondary side voltage of 66kV or above.

Trim means company logos, markings and other embroidered or badged objects stitched directly onto the garment surface.

Tunnel means an enclosed space that can be accessed and traversed between two openings at some distance apart.

Type test is a test to establish or confirm the required properties of a design. A manufacturer would usually use this test in the development of the item. Normally only one item of a contract would be required to be type tested. Often this item would be damaged or stressed beyond its normal usage and therefore would not be suitable for use.

Unserviceable is a measure of the level of performance of a component or system, where the measured performance is such that the component or system cannot continue in service. In such an instance the component or system is said to be unserviceable.

Urban Business District (UBD) means high density, high rise offices, shops, hotels, residences in major urban centres.

Urban interface means an HV power system asset outside normal public thoroughfare with a low frequency of direct contact by a given person.

Urban means single and multiple dwelling intermingled with schools, small offices and small shops.

Urban/Rural Fringe means single dwellings on large lots intermingled with schools, small offices and small shops.

Validation Officer is a person or training organisation having the authority of the Network Service Provider to authenticate ESI Passport entries.

Value of saved life means A risk cost benefit calculation based around the cost of a fatality in terms of VoSL and fatality related organisational costs including investigations, subsequent actions and reputation impacts.

Value of statistical life (VoSL) means the cost of a human death used in statistical studies and insurance. NOTE: According to the nature of the system within which the substation is included, a prefix may qualify it.

Vegetation Clearance means the minimum separation in air that shall be maintained between vegetation and live electrical apparatus when performing vegetation management work.

Vegetation Management Work means the pruning, cutting, trimming or felling of, or application of herbicides to, vegetation and the assisting to prune, cut, trim or fell, or apply herbicides to, vegetation, where any part of the vegetation is or may come within, or the work requires any person, tool, equipment or vehicle to come within, the safe approach distance for ordinary persons for live overhead lines.

Vegetation Management Worker means an employee whose qualifications, experience and ongoing training and assessment ensure competency in the performance of vegetation management work near live overhead lines.

Vegetation means any living or non-living flora or any part of that flora.

Vehicle means a truck (non tipping), car, utility, or other general purpose conveyance used for the carriage of persons or goods.

Visual Meteorological Conditions (VMC) means aircraft operating conditions expressed in terms of visibility, distance, cloud and ceiling as defined in CASA rules and regulations.

Voltage means a potential difference between conductors or between conductors and earth.

Warning is applied in the context of safety signs to a situation which is likely to be hazardous but not likely to be life-threatening if the message is ignored.

Wood Pole is a pole made primarily from timber.

Work Method Statement means a documented statement that describes the work to be carried out, identifies the work activities assessed as having safety risks and describes the control measures that will be applied to the work activities.

Work Permit means a permit issued by the Network Service Provider or Service Provider that authorises a vegetation management work party to carry out vegetation management work near live overhead lines.

Work Platform means an approved device that provides a working area for the duration of the work carried out at heights, and which by the design prevents persons from falling.

Work Positioning Harness means an assembly of a body belt and leg loops for use as a work- positioning device and for use where there is a likelihood of a restrained fall or limited free fall only.

Worker is any employee or contractor who holds a written authority issued by a Network Operator and is required to undertake any training relevant to accessing the GSI network.

Working alone means an employee working by him/herself, and without close or direct supervision or having regular interaction with other persons. This includes driving long distances for work purposes and/or working in remote locations.

Working Earth means approved earthing and short-circuiting equipment applied to electrical apparatus, additional to access authority earths, following the issue of an access authority.

Workplace Assessor is a person who holds the qualification certificate in Workplace Training and Assessment or appropriately qualified.

Zone substation means a major substation with secondary voltages less than 66kV. Excludes pole mounted transformers and transformer kiosks.