

ELECTRICITY PRICING DEFINITIONS (STANDARD)

Terms and definitions

For the purposes of this standard, the terms, definitions and abbreviations (given in NRS 000 and Distribution Grid Code where applicable) and the following apply:

account

grouping of premises/ points of delivery according to the same voltage or location.

NOTE: Refer to customer account.

accounting lifetime

period over which an asset is depreciated for accounting purposes.

active energy charge

charge for each unit of energy consumed typically charged for as c/kWh or R/MWh.

active load control (alc) customer

person who can apply any number of real time technologies (individually or jointly) to manage the load on the distribution system.

NOTE: This includes, but is not limited to, self-dispatching of his/her own generation, self-dispatching alternative energy sources that do not flow through the distribution networks.

actual cost

true cost of a project to connect a customer to the existing network.

NOTE: The actual cost excludes shared network costs.

actual demand

refer to maximum demand.

additional capacity

amount of power rated in kVA or kW that a customer requires in addition to the contractual notified maximum demand.

NOTE: Additional capacity is based on the firm demand and is the technical/economic capacity required at the point in the network where the supply is required.

administration charge

Periodic charges to cover the cost of the administration of the account such as meter reading, billing and meter capital and which is applicable irrespective of whether electricity is consumed.

administrative losses

Administrative losses shall include meter-reading errors and any unbilled energy resulting from billing system operational errors.

after diversified maximum demand (admd)

maximum demand to be catered for at a point in the network after taking into consideration the diversified (coincident) demand.

allocated costs

costs apportioned to specific customer categories as detailed in NRS 058 to do tariff design.

ancillary service (reliability service)

services such as frequency control, voltage control, generation standby plant, generation (emergency reserves and black-start capability).

annual utilised capacity

higher of the customer's notified maximum demand (NMD) or maximum demand, measured in kVA, registered during a rolling 12-month period.

NOTE: This is inclusive of any contingency capacity required.

annualised cost

annual payment of a loan taking the total loan amount, the interest rate and the accounting lifetime of the asset into account in the calculation of the annuity.

NOTE: This term is also referred to as annuity.

annuity

series of equal cash flows over a number of years that will repay a loan and interest.

authorised capacity

capacity per point of supply/stand that has to be provided and paid for by the customer/developer.

NOTE: This will at least be the capacity according to the approved zoning or distributor requirements could be higher.

authorised maximum demand

maximum demand requested in advance by the customer and authorized by the supply undertaking under the terms of an agreement, for which supply capacity is made available.

NOTE: Also see Notified Maximum Demand (NMD).

available capacity (for dmp)

amount of electricity production or capacity in MW, per hour of the day, which is made available for participation in the utility's power pool through (DMP).

NOTE: The available capacity shall be determined as the difference between the customer's preferred load and the minimum load.

available network capacity

available capacity (for pro-rating calculation purposes) is the maximum limit of upstream network capacity at which point system strengthening is generally undertaken or the additional loading that can be supplied from a network.

NOTE: This is not the maximum technical limit of the network and can also be referred to as the economic capacity.

average costs or prices

when an average standard cost (or price) is used instead of actual costs.

NOTE: The purpose of using national average costs is to ensure a consistent and simplified approach to charges and to ensure that customers are charged fair, equitable and average related costs.

average demand

actual demand averaged over a defined period.

average price per kilowatt-hour

monthly revenue divided by monthly sales.

billing

process of producing and delivering a bill (an account or invoice) for payment by a customer, calculated from the tariff schedule or as agreed between the parties (e.g. Special Pricing Agreements), and for the majority of customers, the consumption measured and recorded by the metering system.

billing period

duration from one meter reading date and time (actual or estimated) to the next meter reading date and time.

budget energy controller (bec)

electricity control unit (ECU).

bulk supply

single point of supply to an intermediate distributor or reseller for resale to other customers.

NOTE: Also refer to single point of supply.

capacity

potential load that electrical equipment and/or a network can transfer.

capital allowance

network cost allocated to a customer that is recovered through the tariff charges.

NOTE: The connection charge is reduced by the capital allowance. This allowance is recovered through the future tariff rates instead of connection charges.

capital contribution standard charges (see shared network costs)

charges calculated to represent the average cost per unit of various network in the utility.

NOTE: May also be referred to as shared network costs.

capital contributions

contributions (connection fees, connection charges and conversion charges) made by customers/developers towards the capital costs of networks installed by the utility to meet the electricity needs of the customer/developer.

capital costs

expenditure made on plant, equipment and other resources in order to provide capacity.

capital rate

multiplier applied to the allocated network cost to calculate the monthly connection charge.

NOTE: This multiplier is dependent on interest rate used and the repayment period.

capital repayment factor

capital recovery factor (crf)

factor used to convert a lump sum value to an annual equivalent.

centralised metering point

central location where all the meters of a development are housed and connected to the external electrical infrastructure.

certified capacity (for dmp)

amount of energy or capacity in MW that the customer proved to the utility's power pool that can be reduced on instruction, and subsequently has been accepted and certified by the utility's power pool.

chargeable demand

highest average demand measured in kVA in a billing month during the chargeable time periods specified for each tariff.

charges prices rates

amounts that the customer pays for various products and services related to the supply of electricity.

NOTE: The product is electrical energy, for which one or more energy charges (or prices or rates) may be levied. The following services; One service is transportation of the product via the high-voltage transmission network. Another is the transportation of the product over the medium- and low-voltage distribution networks. A third is the services provided to customers by the retailers (connection to the respective networks, metering, billing, complaint resolution, marketing and sales, etc.). These charges are defined in more detail below.

charging parameters

The components or units of measure used to charge a customer through a tariff.

NOTE: Typical charging parameters are c/kWh, R/kVA and R/customer.

co-generation

where a customer generates electricity for personal use or for resale.

coincidence factor

ratio, expressed as a numerical value or as a percentage, of the simultaneous maximum demand of a groups load within a specified period, to the sum of their individual maximum demands within the same period.

NOTE: In using this item, it is necessary to specify to which level of the system it relates.

connection assets

assets allocated to the customer that are payable through the connection charges.

connection charge

charge recouped from the customer for the cost of providing of new or additional capacity (irrespective of whether new investment is required or not) recovered through tariff charges.

NOTE: It is payable in addition to the tariff charges as an upfront payment or as a monthly connection charge where the distributor finances the connection charge.

connection fee

standard minimum upfront fee payable by the customer towards the cost of a new connection.

consumer

user of electricity or a service relating to the supply of electricity.

consumption

active energy used by a customer during a specific period, measured in kWh.

contestable customer

large end-use customers, consuming more than 100 GWh of electricity on average per annum at a single contiguous site.

NOTE: This customer would be entitled to purchase their electricity supplies at WEPS rates. The average annual consumption must have been maintained over the previous three years.

NOTE: This customer is approved by the NERSA to select a retailer other than the local distribution company where the customer is connected. Therefore the customer is considered a network service customer of the distributor.

contingency capacity

capacity required from the distributor under a credible scenario of failure of a customer's own generation or load control mechanisms.

NOTE: This is the additional short term capacity required to satisfy the capacity required during the contingency.

contracted demand

refer to notified maximum demand.

conversion fee

minimum upfront contribution payable when there are tariff changes, meter changes, changes in installation or when a supply point is shifted.

conversion surcharge

revenue neutral levv

imposed to compensate the supplier for a short-term loss of revenue due to customers converting from one tariff structure to another and obtaining a windfall benefit without any change in their load profile.

NOTE: Suppliers may impose a conversion surcharge, subject to the NERSA's approval, on a customer until cost reflective tariffs are implemented or in accordance with a government approved subsidy framework plan.

cost of supply study

standard procedure of deriving and allocating costs for the design of tariffs.

NOTE: This does not include determining the connection charge.

cost reflective tariffs

includes all the unique cost components to provide an electricity supply for a specific customer.

NOTE: It is based on the real economic costs.

cross-subsidisation

over-recovery of revenue from customers in some tariff classes (i.e. electricity levies) in order to balance the under-recovery of revenue from customers in other tariff classes (i.e. electricity subsidies) as informed by the *cost of supply study*.

NOTE: Cross-subsidisation involves the process of providing assistance to some customer classes or cost categories by recovering more than cost from the same classes and transferring such recoveries to the assisted classes.

customer

a person or legal entity that has entered into an agreement with the Distributor for the provision of distribution services. These entities include embedded generators, other distributors, end-use customers, international customers, retailers and resellers.

NOTE: It could be a developer who will be the short-term customer or a consultant acting on behalf of the customer.

customer account

summary of the current status of financially related dealings in respect of agreements that the customer has with the utility.

NOTE: All financial transactions i.e. energy charges, payments, ad hoc charges in the utility's dealings with the customer are recorded against the customer account.

customer class category

distinction between electricity users defined by usage patterns, usage levels and conditions of service.

NOTE: Usually categorised generically by customer activity e.g. residential, commercial, industrial, agricultural and street lighting.

customer services charges

designed to recover the costs of providing services to customers. May include administrative charges depending on the tariff structure.

daily peak

maximum amount of energy or service demanded in one day from a company or utility service.

dedicated assets

dedicated network is that portion of the network which is dedicated to a specific customer. The dedicated assets are those assets created for the sole use of a customer to meet the customer's technical specifications, and are unlikely to be shared in the distributor's planning horizon by any other end-use customer.

dedicated supply

network or a portion of network is dedicated when the connection asset is specific to the user and does not form part of the connection to any other user and it is unlikely that it will be shared by another user within a reasonable foreseeable period.

demand

average value of power over a specified interval of time.

demand market participation (dmp) product

an Eskom initiative through which customers (direct and indirect), contract to make capacity available for reduction upon instruction from the Eskom System Operator, in exchange for financial benefits.

demand charge

total amount billed for the demand in accordance with the relevant conditions of the tariff or supply agreement.

demand chargeable time periods

time periods when demand registered will be charged for.

NOTE: The chargeable time periods differ for tariffs and are described with the respective tariff.

demand side managed load

load that may be reduced (or increased) in response to a signal from the system operator.

NOTE: This includes interruptible load, ripple controlled residential geysers and dual fuel boilers but excludes under frequency customer load shedding.

demand side management

Technology or programme that encourages the customers to modify patterns of electricity usage including timing and level of consumption. This includes conservation, interruptability and load shifting.

deposit

once-off refundable payment made by a customer as a security against any monthly payments due.

deregulation

removal of regulation from a previously regulated industry or sector of an industry.

developer

person or legal entity that undertakes the required activities of developing a particular area that will be used for residential, industrial or commercial purposes.

NOTE: This includes rezoning land and meeting all the requirements set by Local Government and/or a distributor.

developer project

where a developer transforms a portion of land with the aim of creating a development that will be used for residential, industrial or commercial purposes.

direct load control

activities that can interrupt load at the time of a peak system demand by interrupting power supply to the customers' premises.

direct network voltage supply

where supply is taken at the same voltage as the feeding network, i.e. no downstream transformation equipment is installed.

direct transmission customer

customer whose supply is taken directly from the Transmission network, without utilising the Distribution network.

distributed embedded generation

generator embedded in / connected directly to the distribution system.

(Also see co-generation.)

distribution charges

charges applicable for the use of the distribution system (DUoS charges) and the connection to the system (connection charges).

distribution network levy (dnl)

the network access charge and the network demand charge payable by direct transmission connected customers towards the historic cross-subsidies associated with the current Distribution tariffs.

distribution network service customer

one that a distributor only provides network services to i.e. no retail services are provided.

NOTE: Indirect and contestable customers are network service customers of a distributor.

distribution networks

The network owned and operated by a distributor.

NOTE: all electricity supply networks of 132 kV and lower as defined by the South African Grid Code over which electrical energy is transported from source to point of delivery to customers.

distribution substations

substations in the distribution network.

distribution system

the network infrastructure operating at nominal voltages of ≤132 kV as defined in the SA Grid Code.

distribution use of system charges (duos)

unbundled regulated tariffs charged to Distribution network services customers for making capacity available to and for use of the Distribution system, and Transmission connected customers for their fair contribution to Distribution subsidies (see Distribution network levy and rate rebalancing levy).

distributor/ distribution utility

A *licensee* or their appointed representative that constructs, operates and maintains the *distribution network*.

NOTE: The utility can also – perform other services such as aggregating customers, purchasing power supply and transmission services for customers, billing customers and reimbursing suppliers, and offering other regulated or non-regulated energy services to retail/ large customers. The "wires" and "customer service" functions provided by a distribution utility could be split so that two separate entities are used to supply these two types of distribution services.

diversity

ratio of the simultaneous aggregate of individual loads to the total load at a point in time viewed from a single reference point.

diversity benefit

customer is billed on the simultaneous maximum demand and not the sum of the individual load's non-simultaneous maximum demand.

NOTE: The benefit is the difference between the simultaneous and non-simultaneous chargeable demand.

diversity factor

ratio of the sum of the non-coincident maximum demands of two or more loads to their coincident maximum demand for the same period.

NOTE: The further away from the individual supply points, the higher the diversity.

domestic customer

customer who takes supply in a residential dwelling.

NOTE: The dwelling is used exclusively for residential purposes and the land on which the dwelling stands is not used for commercial use.

downstream transformation customer

customer does not feed directly from the substation.

dual-phase supply

supply at a declared phase-to-neutral voltage of 230 V where the phases are vectorially 180 degrees apart and cannot be paralleled.

economic sector (tariff design)

refers to agricultural, mining, industrial, re-distributors, residential, commercial, traction and Internal for cost allocation purposes (as stipulated in NRS 058).

economic cost

total cost of the electricity related investment to both the Distributor and the customer.

economic evaluation

the project benefits and return from the point of view of the distributor and the affected customer related to electricity infrastructure.

electricity control unit (ecu)

prepayment meter with an internal earth leakage device and two standard three pin plugs.

NOTE: Also see Budget Energy Controller (BEC). The unit could be used without additional wiring. It is only suitable for 20A suppliers or less.

electricity dispenser (ed)

single-phase or three-phase prepayment meter with neither an internal earth leakage device nor any plug.

Note: Customers have to do own wiring and install an earth leakage device. This meter caters for 60A suppliers.

electricity distribution industry (edi)

that part of the ESI which distributes, reticulates and retails the electricity at medium and low voltages to end-use customers.

NOTE: 1 The players in the EDI consist of distributors, retailers and traders, either separately or in the form of vertically integrated utilities. The various businesses in the industry may be either state-owned or privately owned.

NOTE: 2 Currently licensees in the EDI are vertically integrated and consist of Eskom Distribution and approximately 237 Municipal Electricity Undertakings (MEUs), as well as some private sector distributors (e.g. Sasol, AECI, mines).

electricity levy

positive difference between the real cost of supply and the actual price paid, excluding any tax.

NOTE: Any category of customer who pays more than the real cost of supply pays an electricity levy.

electricity supply costs

associated with generating, transmitting and delivering a supply of electricity plus administration and customer service.

electricity supply industry (esi)

generates electricity from one or more primary energy sources (such as coal, nuclear, hydro, oil, gas, etc.), transmits the electricity so generated at high voltage over large distances to the main load centres, then distributes, reticulates and retails the electricity at medium and low voltages to end-use customers.

NOTE: The industry players consist of generators, transmitters, distributors, retailers, traders, either separately

or in the form of vertically integrated utilities.

electrification projects

such as those financed through the national electrification programme.

embedded customer (direct distribution customer)

a customer whose supply is taken within the Distribution system or a customer not considered a direct Transmission customer.

embedded transmission-use-of-systems (etuos) charges

TUoS charge applicable to all customers connected to the Distribution network, adjusted to take into account the diversified demand of the Distribution customers.

energy charges

Charges designed to recover the costs of electrical energy.

NOTE: this can be at peak, off-peak and standard periods and at various seasons during the year e.g. summer and winter seasons.

energy consumption

refer to consumption.

energy demand charge

R/kVA or R/kW charge per premises which is seasonally differentiated and is based on the chargeable demand registered during the month in order to recover peak energy costs.

energy market

through which energy is bought a day ahead and through which the utility's power pool schedules generators to meet the expected demand.

entry charges

use of system charges payable by loads.

existing customer

currently on the utility's billing system.

exit charges

use of system charges payable by distributed generators.

external development services

electrical network that falls outside the boundaries of the development which will be used to supply the development with electricity.

farm worker house

ermanent structure on work premises of a utility's customer in a rural area, which permanently houses a typical family.

NOTE: This excludes holiday cottages, dairies, sheds, water pumps, churches and schools etc.

flat rate

fixed charge for goods and services that does not vary with changes in the amount used, volume consumed, or units purchased.

force majeure incidents

Any act, event or circumstance which: (a) is beyond the reasonable control of the Affected Party; (b) is not the direct or indirect result of a breach or failure by the Affected Party to perform any of its obligations under this Agreement; (c) was not foreseeable or, if foreseeable, could not have been avoided or over come by the Affected Party and (d) prevents, hinders or delays the Affected Party in its performance of all (or part) of its obligations under this Agreement. However, a Force Majeure incident does not include shortage of cash, any inability or failure to pay money, any inability to raise finance or any changes in price and market conditions.

NOTE: A Force Majeure incident may include any of the following (i) war, hostilities, belligerence, blockade, acts or terrorism, sabotage, civil commotion, riot, revolution or insurrection occurring in South Africa; (ii) any laws, decrees, regulations of Governmental authorities; (iii) strikes that are widespread, nation-wide or political in nature; (iv) an Act of God, including, drought, fire, earthquake, volcanic eruption, landslide, flood, storm, cyclone, tornado, typhoon or other natural disasters; (v) epidemic or plague; (vi) fire, explosion or radioactive or chemical contamination; (vii) air crash, shipwreck or train crash; and (viii) any act, event or circumstance of a nature analogous to any of the foregoing.

freehold

permanent and absolute tenure of land or property with freedom to dispose of it at will.

full service customer

customer who is provided a full service by the distributor.

NOTE: i.e The distributor purchases energy and transmission services on behalf of the customer and provides the customer with distribution and other retail services.

generation of electricity

process whereby electrical energy is produced by converting some or other form of energy to electrical energy.

generator (generation utility)

any entity that generates electricity.

NOTE: i.e., a regulated or non-regulated entity (depending on the industry structure) that operates and maintains existing generating plants.

government levy or tax

any component in a tariff, the revenue of which is not used in the supply of electricity, will be called a Government levy.

NOTE: This will be reflected separately in the tariff. Such Government Levies must be approved and received by government.

grant funded project

where funding is provided to make the supply more viable or to assist with the establishment of new businesses, e.g. capital incentive schemes.

grid

matrix of the electrical transmission and distribution system.

grouped customers (virtual premises)

virtual premises are typically where many premises of homogenous nature are grouped into one record with the consumption data summated and the number of actual premises within the virtual premises stated.

high load factor

where the ratio between the maximum demand and the actual energy consumed is high i.e. the use of the available capacity is consistent. See load factor.

high mast lighting

lighting installation where the mounting height of the luminaires exceeds 20m.

high voltage (hv) network

usually consists of equipment supplied at greater than 22kV and includes distribution substations and networks.

NOTE: A substation is considered a HV substation when the primary side of the substation is supplied at a voltage > 22kV.

NOTE: Dx Grid Code definition - Nominal voltage levels equal or greater than 44 kV up to and including132 kV (Check IEC definition).

historical cost

actual cost in the year(s) that capital was spent on assets.

impact study

study to model customers' monthly account on various tariffs for at least 12 months.

independent power producer (ipp)

entity that generates electricity as its main product and the selling thereof for a profit.

NOTE: These are private entrepreneurs who develop, own or operate electric power plants fuelled by alternative energy sources such as biomass, cogeneration, small hydro, waste-energy and wind facilities – while competing against other state-owned and privately owned generators for profit.

installed capacity manufactured rating

capacity of the installed equipment in kVA or MVA.

NOTE: A customer may request a 15MVA supply but the installed capacity may be 2 X 10MVA or 1 X 20MVA transformer/s.

integration period

thirty minute interval over which the load at a particular metering point is averaged.

interest rate

Rates charged by the utility when customers require the utility to finance connection charges See capital rate.

NOTE: These rates account for inflation and the potential earning power of money.

internal development services

electrical infrastructure network that falls within the boundaries of the development.

NOTE: The electrical network is comprised of the MV and LV cable feeders including the metering cubicle as well as the mini-substations required to step down the MV to the appropriate LV and to provide the required transformer kVA capacity for the whole development's notified demand.

international customer

customers who are situated outside the borders of the Republic of South Africa and supplied by the Distributor as defined in the Distribution Grid Code.

interruptible load

customer load or a combination of customer loads that can be contractually interrupted or reduced on instruction from the system operator.

NOTE: Individual contracts place limitations on interruptability.

irrecoverable cost guarantee

guarantee provided by the customer to cover the value of the total irrecoverable and dismantling costs where it is believed there is risk to the utility.

irrecoverable costs

costs for labour, transport, dismantling of installations/equipment when a supply is terminated, that cannot be recovered.

key customer

one identified by the utility that requires special services or who consumes more than 100GWh per annum on contiguous sites.

least-economic cost

least life cycle cost to both the Distributor and the customer related to the electricity infrastructure.

least life cycle costs

the lowest sum of all cost categories from installation to decommissioning when evaluating the different investment alternatives.

levies

rate components that recover revenue to subsidise selected customers as approved by the regulator.

Note: This would include the rate-rebalancing levy and the distribution network levy.

licensed area

area in respect of which the National Energy Regulator of South Africa (NERSA) has issued a license to the utility under the provisions of the Electricity Act No. 41 of 1987, as amended, for the supply of electricity in that area.

load

see demand.

load factor

numerical factor reflecting the potential use of supply capacity based on the maximum demand.

NOTE: 1 Load factor is a ratio between the actual energy consumed and the energy that could have been consumed had the demand remained at the maximum for a period. The load factor can be calculated for a number of different time periods i.e. daily, monthly and annually.

NOTE: 2 This term should not be used without specifying the demand and the period to which it relates.

NOTE: 3 Load factor = Energy Consumed / (Maximum Demand x Time Period in Hours).

load management by customer

control of energy usage by the customer to optimise supply charges.

NOTE: The utility may assist the customer by providing real time information on pricing and consumption (see ALC). This involves the influencing of the level and shape of the demand for electrical energy so that demand conforms to present supply conditions and long-term objectives and constraints.

load reduction for dmp

reduction in customer load or consumption, measured in MW and over a normal integration period or period as specifically instructed by the control centre.

load reduction schedule for dmp

schedule sent to the customer by the distributor on the preceding day, indicating the level of consumption (in MW per hour) as well as the hours during which load may be consumed based on the customer's preferred load bid, plus the hours load needs to be reduced on instruction from the utility's power pool.

load shedding (load reduction)

obtained from customers who are able and willing to interrupt their usage of power for a defined period, magnitude and intervals.

NOTE: These loads are to be interrupted by the system operator as agreed with the customer.

long-term capacity

network capacity reserved for the customer to supply the customer's regular load.

NOTE: This is based on the customer's notified maximum demand.

loss factors

percentage based factor for a particular network applied as a multiplier on consumption to determine losses.

NOTE: The loss factor is differentiated between rural and urban areas and the standard voltage categories.

losses

Refers to energy for which the Distributor does not recover revenue. Losses include *Technical losses*, *non-technical losses* and *administrative losses*.

NOTE: This is a general term applied to energy (kWh) and capacity (kW) lost in the operation of an electric system. The power expended without accomplishing useful work occurs primarily on the transmission and distribution systems. Losses occur principally as energy transformations from kWh to waste-heat in electrical conductors and apparatus.

low load factor

Where the ratio between the maximum demand and the actual energy consumed is low.

NOTE: i.e. the use of the available capacity is inconsistent.

low voltage (Iv) network

includes lines, cables, switches, protection and associated equipment at voltages below 500V.

NOTE: Distribution Grid Code definition is: nominal voltage levels up to and including 1 kV.

luminaire

apparatus which distributes, filters or transforms the light transmitted from one or more lamps.

NOTE: This includes, except the lamps themselves, all the parts necessary, circuit auxiliaries together with the means for connecting them to the electric supply.

main transmission substation/system (mts)

where the primary voltage is above 132kV.

maintenance

repairing, cleaning or replacing used parts to ensure that plant remains in a serviceable condition for the expected design life.

NOTE: Maintenance excludes refurbishment.

marginal production cost

change in the cost of producing electricity in response to a small change in customer usage.

NOTE: Marginal costs are commonly time-differentiated to reflect variations in the cost of serving additional customer usage during the course of a day or across seasons.

maximum demand

highest averaged demand measured in kVA or kW during any integrating period within a designated billing period.

NOTE: The integrating period is normally 30 minutes and the designated billing period refers to all time periods.

medium voltage (mv) network

consists of distribution networks normally at 11 or 22kV.

NOTE: A substation is considered a MV substation when the primary side of the substation is supplied at a voltage \leq 22 kV.

NOTE: Dx Grid Code definition: Nominal voltage levels greater than 1 kV and less than 44kV.

meter

device for measuring and totalling the variable consumption of a product.

NOTE: In general a meter consists of a sensor and an integrating device which displays the total consumption in metrological units.

minimum demand

lowest averaged demand measured in kVA or kW during any integrating period within a designated billing period.

NOTE: The integrating period is normally 30 minutes and the designated billing period refers to all time periods.

minimum load (dmp)

minimum amount of energy or capacity (in MW) that the customer would like to consume during a particular hour regardless of the price set by the utility's power pool.

NOTE: This amount will not be available to be reduced on instruction.

mobile metering unit (mmu)

utility-owned movable metering unit.

NOTE: This includes the main circuit breaker that is used to measure the consumption of a mobile reticulation transformer.

mobile reticulation transformer (mrt)

utility-owned around mounted mini transformer.

NOTE: This is intended for temporary service loads and customers requiring a mobile electricity supply.

monthly connection charge (mcc)

monthly repayment of the allocated connection cost where the utility provides a customer with financing.

NOTE: A monthly connection charge may be a standard connection charge, premium connection charge or rebatable connection charge.

monthly premium connection charge

monthly repayment of the required capital contribution where the utility provides a customer with financing for a premium supply.

NOTE: The calculation of the premium connection charge is based on a maximum repayment period of 25 years at a given interest rate.

monthly utilised capacity

higher of the customer's notified maximum demand or maximum demand and the actual maximum demand, measured in kVA or kW, registered during the billing month.

municipal area

area with clearly defined boundaries that fall within the jurisdiction of an autonomous local authority.

NOTE: this refers to an area determined in terms of the Local Government Municipal Dermacation Act No 27 of 1998 as amended from time to time.

national energy regulator of south africa (nersa)

entity established in terms of the National Energy Regulator Act No 40 of 2004 to regulate the ESI.

NOTE: It is the economic regulator for the ESI and issues, modifies or revokes licenses to stakeholdes in the ESI; evaluates and approves tariffs; collects, stores, manipulates and disseminates information; resolves customer and/or licensee complaints and disputes; mediates and arbitrates in ESI matters; etc. Its predecessor (NER) was established in terms of the Electricity Act (Act 41 of 1987).

network

electrical infrastructure over which energy is transported from source to point of consumption.

network access charge (nac)

a tariff component that is fixed on an annual basis and is charged as a R/kVA on the annual utilised (reserved) capacity.

NOTE: The NAC may also be applicable to to both DUoS charges and retail tariffs.

network charges

recover network costs (including capital, operations, maintenance and refurbishment) associated with the provision of network capacity required and reserved by the customer.

NOTE: The network charge in the retail or in the DUoS charges may or may not be the same in structure and value.

network demand charge (ndc)

charge that is variable on a monthly basis and is charged on the actual demand measured in all peak and standard periods of the billing period.

NOTE: The NDC may be applicable to both DUoS charges and retail tariffs.

network service customer

one to whom a network service provider only provides network services i.e. no energy or retail services are provided.

NOTE: Partial-service Distribution customers and retail customers (previously contestable customers) are network service customers.

network strengthening

network upgrading

network augmentation costs

capital expenditure required to increase the capacity of the upstream networks to be able to meet the increased demand.

new connection

new installation that is placed on the utility's billing system for the first time.

new utilised capacity

total demand rated in kVA or kW after the addition of any additional capacity.

NOTE: The utilised capacity is regarded as the new notified maximum demand for the following (rolling) 12 months.

non-chargeable demand

maximum demand recorded during periods where there is no demand charge, for a month, e.g. maximum demand recorded during off-peak periods.

non-firm (power) supply

power supplied or available under terms with limited or no assured availability.

non-technical losses

losses due to theft of electrical energy and billing errors due to inaccuracy.

normal notified load

maximum load that the customer expects to purchase from the utility.

NOTE: This excludes all active load control or own generation.

notified maximum demand (nmd)

maximum demand notified in writing by the customer and accepted by the utility.

off-peak

periods of relatively low system demands.

partial service Distribution customer (indirect distribution connected customer)

one who uses the distribution network to transport (wheel) all or only a portion of their energy from a generator to a load and may or may not be a contestable/ retail customer.

NOTE: A distributor considers this customer a network service customer.

peak

periods of relatively high system demands.

peak demand

refer to max demand.

pilot programme

utility programme offering a limited group of customers their choice of certified or licensed energy suppliers on a trial basis.

point of delivery (pod)/ premises

grouping of points of supply at the same electrical substation, for one customer and at the same

voltage and same tariff (See Premises).

point of supply

physical point on the electrical network where electricity is supplied to a customer.

pool output price for dmp

hourly rate at which all parties buy energy from the power pool.

pool rules (dmp)

set of rules documented and approved by the utility, which govern the power pool and participation in the power pool.

pooling of costs

aggregation of common costs incurred to supply a defined group of customers.

NOTE: The pooled costs are used to calculate an average tariff rate that will be equally applicable to all customers in the group.

power factor

ratio of kW to kVA measured over the same integrating period.

power pool for dmp

mandatory pool for generators, (two or more interconnected electric systems that agree to coordinate operations) allowing them to compete for the provision of electrical energy.

NOTE: It is an interim measure in the development of a fully competitive electricity market.

power purchasing agreement (ppa)

contract between an owner of generation resources and the utility or a customer for the sale of electrical energy.

preferred load

amount of energy or capacity (in MW) that a customer would like to consume during a particular hour if the prices were to be below the customer's willingness to reduce load.

NOTE: This is indicated by the customer's price-bid curve.

premises

point of delivery

either a single point of supply or a specific group of points of supply located within a single substation at which electricity is supplied to the customer at the same declared voltage and tariff.

NOTE: This can be a metering or summation point.

premium connection charge

associated with the costs of providing a premium supply (see also monthly premium connection charge and standard connection charge).

NOTE: No capital allowances are given on premium connection charges.

premium supply

where the customer's requirements exceed the specifications of a standard supply.

price-bid curve for dmp

curve / mechanism used by the utility's power pool and through which a participant indicates at which price (in R/MW) it will reduce an amount of energy or capacity (in MW) in any hour of the day it is applicable to.

price cap

situation where a price has been determined and fixed.

pricing signals

signals designed into the tariff structures and levels which aim to make end-use customers and intermediaries aware of the cost of generating, transmitting, distributing or retailing electricity so that they will use electricity efficiently, correctly, and responsibly, and respond to the signals appropriately through demand-side management (DSM).

NOTE: The behaviour of customers is thus incentivised so as to achieve outcomes which benefit both the customers and the suppliers, by keeping electricity prices as low as possible and by ensuring economic efficiency.

probable contingency

reasonable probability of an event taking place.

project costs

total estimated costs for new capital investment, including applicable shared network charges (capital contribution standard charges).

prorating of bills

calculation of a bill based upon proportionate usage in the applicable billing period.

pro-rating of costs

where costs are apportioned based on capacity required/capacity available.

rate base

investment base established by the regulatory authority upon which a utility is allowed to earn a fair return.

NOTE: This includes items other than investment property, i.e., cash working capital, which require capital funding by the utility to carry out its business affairs.

rate-rebalancing levy

a separate rate component, shown on the customer's bills transparently indicating explicit levies.

rates

rate component

different charges associated with the tariff, for example energy charge.

reactive energy charge

charge based on the reactive energy used

real-time pricing

instantaneous pricing of electricity based on the cost of the electricity available for use at the time the electricity is demanded by the customer.

rebate

capital allowance to the customer for costs recovered through the tariff.

recoverable works

works not for the purpose of establishing a new connection or enhancement.

NOTE: 1 This could include the shifting of a line. These are costs always directly recoverable from a customer or where a third party is liable for the cost of such work. Recoverable works are never pooled in the tariffs and should not be confused with "recoverable costs".

regional electricity distributors (reds)

proposed new distribution and retailing utilities.

NOTE: The S A Government plans to create REDS from the amalgamation of the municipalities and metros and Eskom Distribution in adjacent areas covering the whole of South Africa.

regulate

activity of government to control or direct economic entities by making and enforcing legislation, rules and adjudication

NOTE: The South African Electricity Industry is regulated by the National Energy Regulator of South Africa (NERSA).

renewable energy

energy that is capable of being renewed by the natural ecological cycle.

reserve capacity for dmp

negotiated capacity in MVA that is allocated by the service provider to the customer at a particular point of supply, i.e. capacity in excess of that required to carry peak load (See notified maximum demand).

reserve margin for dmp

percentage of installed capacity exceeding the expected peak demand during a specified period.

reserve market for dmp

market and/ or mechanisms that a utility should create to ensure the stability of its system/grid

NOTE: This includes, inter alia, instantaneous reserve, 10 minute reserve and supplemental reserve categories.

reserve market schedule for dmp

schedule sent to the customer by the distributor on the preceding day, indicating the capacity (in MW per hour) to be available for interruption during each hour within a specific agreed upon notification

time

NOTE: Notification is dependent on the reserve market category in which the customer participates and/or as negotiated between the distributor and the customer.

reserved network capacity

reserved on the distribution and transmission systems for the exclusive use of the customer under system healthy conditions (See NMD).

retail customer

one who is provided retail service (purchasing energy and network services) by s distributor or a retailer

retail tariff

regulated tariff that a retailer (a distributor or a retail entity other than a distributor, as licensed by the NERSA) applies to its customers.

NOTE: This tariff is based on its costs and objectives.

retail wheeling

ability of a customer of any size to purchase electric capacity, energy or both from anywhere other than the local electricity utility by moving or wheeling such power over the local utility's transmission and/ or distribution lines.

retailer

entity that provides a retail service to a customer

NOTE: A retail company is one that is authorized to sell electricity directly to industrial, commercial and residential end-users. This entity will be licensed by the NERSA to provide retail electricity services. A distributor will be required to provide retail services to its franchise customers and a retailer will provide services to its contestable customers.

rural areas

low density non-proclaimed areas.

NOTE 1: An area that has clustered or scattered structures, usually of low density, not served by a well established infrastructure (roads, telecommunications, etc.).

NOTE 2: Refer to NRS 069 document (Annexure A.1) for the method to determine whether an area is rural/urban in terms of density.

sectional title

acquisition of separate ownership in sections coupled with joint ownership in common property and the conferring and registration of rights in, and the disposal of, common property.

NOTE: A body corporate is established to control common property.

service area

refer to licence area.

service charge

fixed charge payable per account to recover service related costs.

service connection

dedicated network, cables and equipment that connects the end customer to the utility's network.

shared network assets

network or a portion of the network shared or likely to be shared by another supply within a reasonable foreseeable period. (See dedicated assets).

shared network charges

average charges raised outside of the tariff rates for the shared costs of networks (line and capacity).

NOTE: These charges are used to calculate the capital contribution payable by the customer for shared costs. (See capital contribution standard charges).

shared network costs (snc)

average cost of establishing infrastructure. The cost is recovered outside of tariff. Refer to as Capital Contribution Costs in NRS 069.

NOTE: These charges are used to calculate the capital contribution payable by the customer for shared costs.

shared overheads

overheads in the business serving both the customer service and network services businesses such as

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Information Management, Human Resources, Finance, Fleet Management etc. Refer to NRS 058.

sharing of actual costs by pro-rating

reimbursement or reduction of connection charges due to connection assets that is or could be later shared by other customers.

NOTE: Sharing by pro-rating is based on capacity. See Pro-rating.

sharing of line costs

occurs when a line originally dedicated, is later shared by other customers.

NOTE: Due to sharing, the original MCC may be reduced and the new customer(s) may be required to contribute to any sharing of line. Sharing of line costs will only occur for rural tariffs and is based on distance (not capacity as in the case of pro-rating).

short-term capacity

temporary capacity that the customer may need from time to time over and above his long-term capacity in order to meet short-term increased capacity requirements.

standard connection charge (scc)

associated with the costs of providing a standard supply (see also monthly repayment of required capital contribution where the utility provides a customer with financing, for a standard supply).

NOTE: The calculation of the SCC is based on a maximum repayment period of 25 years at a given interest rate.

standard supply

also refered to as standard connection, is defined as the lowest life-cycle costs design that meets the specifications in terms of NRS 048 and the Power Quality directives for a technically acceptable solution.

subsidies

where the cost of supply is not equal to the tariff charged.

NOTE 1: Electricity consumers are subsidized or subsidize other customers. It is the *negative* difference between the real cost of supply and the actual price paid, excluding any tax, called an electricity subsidy.

NOTE 2: Certain categories of customers pay less than the real cost of supply at a particular time due to combinations of their unique social, locality or consumption circumstances and therefore receive an electricity subsidy.

substation

site at which switching and/or transformation equipment is installed.

NOTE: Service equipment, line transformer installations, or minor distribution or transmission equipment are not classified as substations.

supplier

any local authority, utility or statutory body that supplies electricity to electricity end-users.

supply (of electricity)

service provided by a distributor or retailer to any customer.

NOTE: This is determined according to technical and commercial criteria such as frequency, voltage, continuity, maximum demand, point of supply, tariffs etc.

supply voltage

voltage at which the supply is made available to the customer at the point of delivery and at which the customer is metered for billing purposes.

support costs

includes all administration, maintenance, network control and other related costs to provide the required service to customers being supplied.

surplus

excess energy available from a utility or region for which there is no market at the established rates.

system marginal price for dmp

hourly rate, as set by the utility's power pool on a day-ahead basis, as the price at which generators will be paid for energy delivered in the respective hour.

tariff

combination of charging parameters applied to recover measured quantities such as consumption and capacity costs, as well as unmeasured quantities such as service costs.

NOTE: The tariff rate, multiplied by the measured service quantities, recover the cost of service.

tariff level

amount of each component of the tariff.

NOTE 1: For example, in a two-part tariff structure for domestic customers this would be the energy charge in cents per kWh and the basic charge in Rands per customer per month. The customers' bill for the month is thus determined by multiplying the kWh reading for the month by the energy charge in c/kWh and adding the basic charge plus any associated taxes, such as VAT.

NOTE 2: Tariffs may have the same structure, such as single energy rate tariffs, but might have differentiated components because of rates resulting in different tariff levels.

tariff structure

contains all the components of price and the relationship to consumption and demand.

NOTE: The following examples refer: in a two-part tariff structure for domestic customers there may be two components: a single flat energy charge in cents per kWh and a fixed monthly basic charge in Rands per customer. For a large industrial customer, there may be a three-part time-of-use tariff (TOU) structure consisting of six TOU-related energy charges, a network capacity-related demand charge in Rands per kVA, and a fixed monthly basic charge in Rands per customer.

technical energy losses

losses associated with the delivery and transformation of electricity.

NOTE: These include conductor losses, transformer core losses and metering accuracy losses, energy consumed by the meter itself and are dependent on the distance that the supply must be carried and volume of consumption.

temporary or short term

supply or capacity that is generally required for less than five years.

third party supplies

third party wheeling

situations where electricity is supplied by a specific supplier over the network of another to a customer.

time-of-use (tou) metering

equipment that records metered or measured quantities according to the periods of the day.

NOTE: For example consumption for peak load hours, consumption for day hours, consumption for low load hours and different days of the week, month or year.

time-of-use (tou) tariff

tariff that has different energy rates for the same tariff component during different time periods and seasons in order to reflect the shape of the utility's long run marginal energy cost of supply at different times more accurately.

total capacity

total usable capacity in kVA or kW.

total load

total actual load being taken from the point of delivery.

transmission connection charges

charges designed to recover the costs of connecting distributors or large end-use customers to the nearest transmission grid.

NOTE: These charges include the costs of lines, transformation, meters, servitudes, etc.

transmission networks/ lines

electricity supply networks above 132kV.

transmission substation

substation where the primary voltage is above 132kV.

transmission surcharge

zonal pricing signal to indicate the costs associated with the transmission of energy over long distances.

transmission system

network infrastructure operating at nominal voltage of >132 kV as defined in the Transmission system transports power to users at voltages of >132 kV as defined in the South African Grid Code.

NOTE: All other equipment operating at lower voltages are either part of the distribution system or classified as transmission transformation equipment.

transmission use of system charges (tuos)

unbundled regulated tariffs charged for making capacity available and for the use of the transmission system by network service customers.

unbundled tariffs

those unique cost components that are contained in the tariff and which are known and accounted for separately.

unbundling

disaggregating electricity utility service into its basic components and offering each component separately.

up-front charges

once off up-front charge not covered by tariff charges.

upgrade

replacement or addition of electrical equipment resulting in increased transmission and/or distribution capacity.

upstream sharing charges

national average connection charges raised apart from the tariff rates, as a contribution to the sharing of upstream costs of networks (line and capacity). See shared network costs.

upstream strengthening

occurs where the existing network cannot cater for additional load due to the provision of new capacity or natural growth.

urban (areas)

descriptive of an area that has formally or informally built structures, usually of high density, served by well established infrastructure (roads, telecommunications, etc.).

NOTE: The power network is usually supplied by more than one distribution station. Refer to NRS 069 Annexure A.1 for the full definition.

use of system (uos) charges

unbundled regulated tariffs for making capacity available and for the system by network service customers' tariff charged for the use of the capacity on a network (see transmission and distribution use of system charges).

use of system network charges'

use of system Charges that recover network costs (including capital, operations, maintenance and refurbishment) associated with the provision of network capacity required and reserved by the customer.

use of system service and administration related charges

use of system charges related to the administration of the account and the retail services provided.

utilised capacity (uc)

is the greater of the customer's NMD and actual maximum demand registered in all time periods during the previous 12 months.

NOTE: Theoretically the UC should equal NMD, but at times customers under-notify, resulting in a UC > NMD.

utility

regulated entity that supplies services.

utilisation factor

ratio of the maximum demand of a system or part of a system to the rated capacity of the system or part of the system.

virtual points of delivery (pods)

customers are grouped and represented as a single point of delivery (Refer to grouped customers).

NOTE: This is where multiple premises are summarized and represented as a single premises.

voltage surcharge

percentage surcharge levied to customers with lower supply voltages.

NOTE 1: This contributes to the cost of transforming electricity to lower voltages. It is calculated as a percentage of the active energy charge, the energy demand charge (where applicable) and the network charge to reflect the higher the transformation cost at lower voltage.

weighting

Method of assigning weights to different categories for use in allocation methods (Refer to NRS 058).

NOTE This method is usually aimed at expressing costs or a number of customers relative to each other.

wheeling

transportation of energy from one party to another over the networks of a third party.

NOTE: The owner of the networks is entitled to compensation for the use of the owners assets. (Also see Network Charges).

wheeling customer

One that uses Distribution's network to transport (wheel) energy from a generator to a load.

NOTE: This is not a retail customer. See partial service customer.

wholesale bulk power

very large electric sales for resale from generation sources to wholesale market participants and electricity marketers and brokers.

wholesale competition

customers/ retailers have a choice of supplier.

wholesale electricity pricing system (weps)

totally unbundled cost-reflective tariff structure.

NOTE: This is made up of energy rates, levies, service and administration charges, transmission use of system charges, reliability service charges, loss factors and distribution use of system charges.

wholesale electricity pricing system (weps) surcharge

charge levied to compensate for the loss of revenue by either the customer or the distributor due to the conversion from a standard tariff to the WEPS tariff.

wires charge

refers to UOS charges.

zone capacity

associated with a development based on the type of development in the area and the average coverage (floor area ratio).

Abbreviations

Α	Ampere
DME	Department of Minerals and Energy
DMP	Demand Market Participation
ESI	Electricity Supply Industry
kV	Kilo Volts
kVA	Kilo Volts Ampere
kWh	KiloWatt hour
LPU	Large power user
MCC	Monthly Connection Charge
MRT	Mobile reticulation transformer
MV	Medium Volt
NAC	National Access Charge
NAP	National Average Price
NERSA	National Energy Regulator of South Africa
RED	Regional Electricity Distributor
PCC	Premium Connection Charge
POD	Point of delivery
SCC	Standard Connection Charge
SNC	Shared Network Cost
SPU	Small power user
TOU	Time-of-Use
UC	Utilised Capacity
PFMA	Public Finance Management Act
SWER	Single Wire Earth Return