

Distribution Code Glossary

Version 6.2

(January 2022)

**This document is approved by the National Energy Regulator
of South Africa (NERSA)**

Administered by:

RSA Grid Code Secretariat

Contact: Mr. Target Mchunu

Eskom Transmission Division, System Operator

P.O Box 103, Germiston 1400

Tell: +27 (0)11 871 3076

Email: mchunut@eskom.co.za

DEFINITIONS

Abnormal operating conditions

Operation under *abnormal conditions* shall comprise all conditions deviating from normal operation.

Administration charge

Periodic charges to cover the cost of the administration of the account payable irrespective of whether or not electricity is consumed, for example meter reading and billing costs.

Note: this may include meter capital costs

Administrative losses

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

Applicant

Potential user intending to connect to the *Distribution system*.

Connection agreement

An agreement detailing the conditions under which the Distributor intends to connect the *customer*. This agreement specifies the conditions applicable to an end use customer or any other connection such as an embedded generator. This agreement is entered into after the *offer to connect* is accepted by the customer.

Connection charge

A charge recouped from the customer for the cost of providing new or additional capacity (irrespective of whether new investment is required or not). This is recovered in addition to the tariff charges as an up-front payment (connection fee) or as a monthly charge where the distributor finances the connection.

Connection fee

Minimum upfront contribution to the allocated connection costs (connection charge) payable by the customer

Control and operating facility

A Distributor's facility responsible for the operational control of electricity distribution network assets.

Cost of supply Study

Standard procedure for deriving and allocating costs for the design of tariffs. This does not include determining the connection charge.

Cross-subsidy / Cross-subsidisation.

Over-recovery of revenue from customers in some tariff classes whether intentional (e.g. 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* or unintentional by way of un-identified surcharges

Customer / user

A person or legal entity that has entered into an agreement with a Distributor for the provision of distribution services. An entity may be an Embedded Generator, another Distributor, an end-use customer (including generators), an international customer, a retailer or a reseller.

Customer service charge

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

Customer Connection information guide

A document prepared and published by the Distributor which contains all information regarding an application to connect to the relevant Distributor network.

Customer interruption cost

This is the cost (in R/kWh) to customers due to *interruptions of supply*.

Dedicated Assets / Dedicated Network

That portion of the network which is dedicated to a specific customer.

Customer Dedicated Assets are 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.

Demand Side Management (DSM)

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

Distribution charges

The grouping of the use of the distribution system (*DUoS charges*) and the connection charge

Distribution network

The network owned and operated by a Distributor.

Distribution system (DS)

The network infrastructure operating at nominal voltages of 132kV or less

Distribution system impact assessment studies

Studies to model and assess the impact of connecting a customer load or an embedded generator on the Distribution System.

Distribution Use of System (DUoS) charges

Unbundled regulated tariffs charged by the Distributor to the distribution network services customers for making capacity available and for use of the distribution system.

Distributor

A licensee or its appointed representative that constructs, operates and maintains the distribution network,

Domestic supply

Supply taken by a customer occupying a residential dwelling

Economic Cost

Total cost of the electricity related investment to both the *Distributor* and the *customer(s)*.

Economic evaluation

The project benefits and return, including both the Distributor's and the affected customer's costs related to electricity infrastructure.

Embedded generator

A legal entity that operates one or more unit(s) that is connected to the *Distribution System*. Alternatively a legal entity that desires to connect one or more unit(s) to the *Distribution System*.

End-use customer

Users of electricity connected to the *Distribution System*.

Energy charges

Charges designed to recover the costs of electrical energy.

Excluded services

Services requested by customers that are excluded from the regulated activities and funded directly by the customer requesting the service.

Financial evaluation

The project benefits and return over the life cycle of the project

Firm supply

A Distribution supply that can withstand any single (n-1) contingency within the Distribution network, e.g. the customer supply shall not be dependent on any single component.

Forced outages

Occurs when a component is taken out of service immediately, either automatically or as soon as switching operations can be performed as a direct result of abnormal operating/emergency conditions or human error.

Generator

A legal entity that operates one or more units that supply power to the Transmission System

High Voltage (HV)

Nominal voltage levels equal or greater than 44 kV up to and including 132 kV (Check IEC definition)

Information Owner

The party to whose system or installation the information pertains.

International customers

Customers who are situated outside the borders of the Republic of South Africa and supplied by the Distributor as defined in this Code.

Interruption (of supply)

An interruption, not requested by the customer, of the flow of power to a point of supply for a period exceeding 3 seconds.

Least-economic cost

The lowest value of the sum of the life cycle costs to both the Distributor and the customer related to various options for the supply of electricity.

Least life cycle costs

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

Licensee

A legal entity licensed by the NERSA in terms of the Electricity Regulation Act to provide the electricity distribution and / or trading services

Losses

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

Low Voltage (LV)

Nominal voltage levels up to and including 1 kV.

Metering Installations

All meters, fittings, equipment, wiring and installations, used for measuring the flow of electricity.

Metering service provider

A legal entity contracted by the Distributor to provide metering services.

Medium Voltage (MV)

Nominal voltage levels greater than 1 kV and less than 44kV

National Transmission Company (NTC)

The South African legal entity licensed to execute the *national transmission* responsibility. It consists of a *System Operator* and a *National Transmission Network Service Provider*.

National Energy Regulator of South Africa (NERSA)

A legal entity established in terms of the National Energy Regulator Act (Act 40 of 2004) to regulate the electricity supply industry in South Africa

Network

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

Network charges

Charges designed to recover costs (including capital, operations, maintenance and refurbishment) associated with the provision of network capacity required by and reserved for the customer which may or may not be unbundled.

Network service customers

Customers receiving only a network service from a Distributor

Non-technical losses

Losses due to theft of electrical energy and errors due to inaccuracy of meters and administrative losses.

Normal operating conditions

An operating condition where the system frequency, voltage and equipment loading are within their statutory, contractual and/or design limits and no network component on the relevant part of the Distribution System is out of service due to a forced outage.

Offer to connect

A quotation issued by the Distributor to the applicant indicating the technical and commercial conditions upon which a connection agreement can be entered into.

Participant

A legal entity registered with or licensed by the NERSA in terms of the Electricity Regulation Act. Participants of the Distribution Code are defined as the following entities:

- Embedded generators
- Generators
- Traders / retailers
- Resellers
- Distributors
- Transmission network service providers
- The System Operator
- End use customers

Planned outages

An outage of equipment that is requested, negotiated, scheduled and confirmed prior to the maintenance or repairs taking place.

Point of common coupling (PCC)

The electrical node where more than one customer is connected.

Point of connection / connection point

The electrical node on a distribution system where a customer's assets are physically connected to the Distributor's assets.

Point of supply

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

Power factor

Ratio of the RMS value of the active power (kW) to the apparent power (kVA), measured over the same integrating period

Power Station Supply

A supply of power to the plant of a *generator* or *embedded generator*, that is separate and independent of the network into which it normally supplies the power that it generates. This supply could be from the *Distribution System* or the *TS*.

Premium supply / premium connection

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

Quality of supply

Technical parameters that describe the electricity supplied to customers according to NRS048 standard and any other NERSA prescribed requirements.

Reliability

A measurement of the continuity of supply.

Service provider

An entity providing a contracted or licensed service

Standard connection charge

The connection charge 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).

Standard connection / standard supply

A *standard connection* is defined as the lowest life-cycle costs design that meets the specifications in terms of *Quality of Supply* and technical performance standards

System Operator (SO)

The legal entity licensed to be responsible for short-term reliability of the IPS, which is in charge of controlling and operating the *TS* and dispatching generation (balancing the supply and demand) in real time.

Tariff

A combination of monthly charges. each at a particular rate, that are usually escalated annually and are applied to recover the costs of measured quantities such as consumption and capacity and the costs of unmeasured quantities such as customer service and administration .

Tariff structure

The makeup of the tariff that contains all the components of price and the relationship to consumption and demand

Technical Losses

Losses intrinsic in transporting electrical energy (that is, heating and no-load losses etc.)

Trader

A legal entity licensed or registered to engage in the buying and selling of electricity as a commercial activity.

Transmission Network Service Provider

A legal entity that is licensed to own and maintain a network on the Transmission System (TS)

Unit

A turbine alternator and all the related equipment, including the step-up transformer, operated together to produce electricity.

User

See customer

SPECIFICATIONS

NRS047: Electricity supply quality of service

NRS048: Quality of supply

NRS057: Code of practice for electricity metering

NRS058: Cost of supply

NRS069: Code of practice for the recovery of capital costs for distribution network assets

NRS071: Automated meter reading for large power users

NRS076: Guide for safety in AC substation grounding

NRS082: Asset Maintenance

NERSA Power Quality directive

ABBREVIATIONS

DS: Distribution System

NRS: National Rationalised Specifications

LV: Low Voltage

MV: Medium Voltage

HV: High Voltage

NERSA: National Energy Regulator of South Africa

NTC: National Transmission Company

TNSP: Transmission Network Service Provider

TS: Transmission System

SO: System Operator

SANS: South African National Standards