



**EnergieBedrijven
Suriname**

Surinamese Grid Code

GLOSSARY AND DEFINITIONS (GD)

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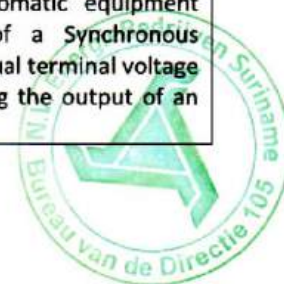
1 ACRONYMS

P	Hourly Vector (of power injected)
ACE	Area Control Error
AGC	Automatic Generation Control
AVR	Automatic Voltage Regulator
CC	Connection Code
CBA	Cost Benefit Analysis
CT	Current Transformer
DSO	Distribution System Operator
EAS	Energy Authority Suriname
EBS	Energie Bedrijven Suriname
EC	Electricity Company
ENS	Energy Not Supplied
ESP	Electricity Sector Plan
FRT	Fault-Ride-Through
IEC	International Electrotechnical Commission
ILC	Interruptible Load Curtailment
ISO	International Organization for Standardization
KPI	Key Performance Indicator
LOLE	Loss of Load Expectation
LOLP	Loss of Load Probability
N-1 SA	N-1 Security Analysis
NTC	Net Transfer Capability
P_{MAX}	Maximum Power
P_{NOM}	Nominal Power
PINT	Put IN once at the Time
PIT	Point in Time
PSS	Power System Stabilizer
RES	Renewable Energy Resource
RMS	Root-Mean-Square
ROCOF	Rate-of-change-of-frequency
TH	Typical Hour
THD	Total Harmonic Distortion
TOOT	Take Out Once at Time
TSO	Transmission System Operator
V-RES	Variable Renewable Energy Resource
VoLL	Value of Lost Load
VT	Voltage Transformer
WAPS	Wide Area Protection System
YoY	Year-over-Year

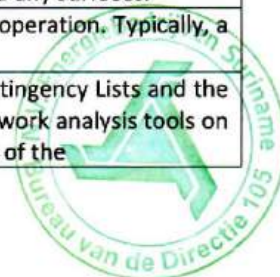


2 DEFINITIONS

Term	Definition
Adequacy	means the ability of a Power System to meet the electrical Demand with given levels of risk of loss of Demand.
Adequacy Assessments	Means the set of simulations aiming at evaluating the risks in terms of ENS, LOLE and LOLP.
Alert State	It is an Operating Condition when (1) external variables (e.g., weather, bush fires) or internal communications (e.g., announces of probable Generation outages) may let the Surinamese Power System evolve in an Emergency State or worse. And, or, the Security Assessment shows uncertainties about the possibility to bring back the Surinamese Power System in N-1 security after one or more Contingencies (e.g., for lack of resources for the Defence Plan).
Anelastic Demand	The demand of energy not depending from prices of the electricity itself.
Ancillary Service	means a service other than the production of energy and/or provision of capacity, which is used to maintain reliability including reserves, frequency control, voltage control and Black Start Capability.
Ancillary Services Resource Forecast (ASRF)	means the activity for the calculation of the amount of Ancillary Services to be engaged to guarantee the security and adequacy standards.
Applicant	means either a Person requesting (i) a new connection of its Facility to the Transmission Grid, or (ii) a modification (as per § 1.3.d) of the Connection Code) relating to an existing Facility already connected to the Transmission Grid, or a proposed new connection or modification to the existing connection.
Area Control Error (ACE)	In interconnected Power Systems, it is the sum of the power control error, that is the real-time difference between the measured actual real-time power interchange value and the control program and the frequency control error. In isolated Power Systems, it is the frequency control error, which determines the release of active power necessary to restore the frequency to 60 Hz after the occurrence of a disturbance/event.
Automatic Generation Control (AGC)	means an equipment for automatically adjusting the power output of multiple Generation Units at different Generation Facilities, in response to changes in the Demand. AGC automatically adjusts the Generation to maintain its Generation dispatch, interchange schedule plus its share of frequency regulation.
Automatic Voltage Regulator (AVR)	means the continuously acting automatic equipment controlling the terminal voltage of a Synchronous Generation Unit by comparing the actual terminal voltage with a reference value and controlling the output of an excitation control system.



Balancing Service	Service supplied by the Electricity Company, under Governmental license to keep at any instant the balance between injections and withdrawal of power with enough reserves, to guarantee security and quality of supply.
Binding Operational Plan	The final schedule of the production resources binding for the generation company.
Blackout State	The system is in a blackout state when, due to the loss of control, the whole system or a significant part of it is characterized by the absence of voltage. Hence the users of the Transmission Grid are disconnected or out of service.
Black Start Capability	means the capability of a Generation Facility to start without an outside electrical supply to be used to energize a defined portion of the Transmission Grid.
Burden	The apparent power at the secondary side of an instrument transformer, expressed in volt-amperes absorbed at a specified power factor and at the rated secondary voltage or current
Check Meter	A Meter nominated to provide electrical energy measurements at a defined metering point or substitution of the Main Metering for verification purposes.
Codes of Practice	means a document that complements laws and regulations and provide detailed practical guidance on how to comply with legal obligations and should be followed unless another solution with the same or better solution is in place.
Communication Procedure	The formal procedure to alert and manage emergency situations that may affect the security of the Country.
Connected Microgrid	Microgrid that can be connected to the Network.
Connection Asset	means the set of plants, equipment, and power lines necessary to effect the connection of a Facility to the Transmission Grid, to be implemented in the Transmission Grid in the existing configuration to the Connection Point.
Connection Code (CC)	means the code of the Surinamese Grid Code that aims at governing the technical conditions for the access of Generation Facilities, Demand Facilities and Distribution Systems to the Surinamese Grid. The aim is to promote the correct functioning and safety of the Surinamese Power System.
Connection Point	means the interface at which a Facility is connected to a Transmission System, offshore Network, and Distribution System.
Connection Site	means a site at which the Facility of the Grid User at the Grid User's side of the Connection Point is to be installed, including the land, spaces, roads and any surfaces.
Contingency	Anomalous or unexpected event in operation. Typically, a line trip of generator outage.
Contingency Analysis	Is the periodic definition of the Contingency Lists and the Remedial Actions performed by network analysis tools on definite Grid Models representative of the



Contingency List	means the list of Contingencies to be simulated in order to test the compliance with the Security of Operation and assess the N-1 security of the Surinamese Power System. More specifically, it is the list of elements of the Transmission Grid or Generation Units or Demand Facilities whose outage one at the time should not cause cascading effects if the countermeasures considered in the Remedial Actions are applied.
Continuity of Supply	Means the lack of interruption of electricity to the end users, regardless their duration.
Cost Benefit Analysis (CBA)	Comparison of estimated costs and benefits associated with a Project to determine whether it fits the business perspective.
Costly Remedial Action	means a Remedial Action that implies the deviation from the optimal dispatching of the power flows or implies the payment for the interruptible load service.
Current Transformer (CT)	A device supplying the protective relays and meters with currents of magnitude proportional to those of power circuit but sufficiently reduced in magnitude. Also, the CT isolates the measuring instruments from high voltage circuits.
Defence Plan	Means the pre-set array of countermeasures planned to cope with out-of-range Contingencies and limit the negative impact on the Surinamese Power System.
Defined Metering Point (DMP)	Means, the physical or virtual location meeting the overall accuracy compliance requirements as defined in the Metering Code. The DMP is for definition in the relevant Operational Agreement.
Delivery Substation	Electric substation that connects the Grid User's Facility to the Transmission Grid. It is generally part of the Connection Asset under the functional operation of the Grid User, within which the Connection Point is identified.
Demand	means the rate at which electric energy is required to be delivered to a Facility or part of a Facility, generally expressed in kilowatts or megawatts, at a given instant or averaged over any designated interval of time.
Demand Facility or Load Facility	means a Facility which consumes electrical energy and is connected at one or more Connection Points to the Transmission System. A Distribution System and/or auxiliary supplies of a Generation Facility do not constitute a Demand Facility.
Demand Facility Owner	means a natural or legal Person owning a Demand Facility.
Demand Forecast	Activity in the framework of the Operational Planning for the evaluation of the expected values of Demand for a certain future time horizon, associated to a given probability. Unless different specified, values are expressed on an hourly basis in MWh.
Dispatching Service	Activity dedicated to the coordinated control of the Generation Units, the Auxiliary Services and the Transmission Grid.



Distributed Generation or Distributed Generator	means electric power Generation and any Generation Unit, both Synchronous and V-RES, that is indirectly connected to the Transmission Grid through a Distribution System or located on the customer side of the Distribution System.
Distribution System	means all LV and MV lines up to 12 kV inclusive of the Surinamese Network and related equipment directly connected to the Transmission Grid through sub-stations for distribution of electricity, which facilitate delivery to eligible customers or to DSOs.
Distribution System Owner	means a natural or legal Person owning a Demand Facility. It may coincide or not with the DSO.
Distribution System Operator (DSO)	Depending on the unbundling status of the electricity sector in Suriname, the term "Distribution System Operator" shall be intended as follows: 1. when the electricity sector is fully unbundled, the term "Distribution System Operator" refers to an independent Person designated by the Suriname Government to perform operations on the Distribution System. 2. when the electricity industry is still vertically integrated or not fully unbundled, the term "Distribution System Operator" refers to the specific department/sector of the vertically integrated electrical utility in charge of performing the Distribution System operations.
Downward Margins	means the difference between the sum of the technical minimum power of the Generation Units and the Demand at the same time period. Margins include the downward Reserves.
Driving Parameter	means factors, occurrences, trends characterizing the plausible future described in a scenario.
Dynamic Security Assessment	Assessment of the status of the stability of the system performed by transient and dynamic stability analysis and voltage collapse simulations.
Electricity Company (EC)	The term refers to the entity designated by Suriname's Law or Governmental license to carry out the Transmission Service and the Balancing Service for the Surinamese Power System. It is a synonym of Transmission System Operator (TSO). The term can refer to "EBS", intended as the business unit of EBS company, responsible for Transmission Service and Balancing Service.
Electricity Sector Plan (ESP)	According to the Electricity Act - Art.8, it is the Electricity Sector Plan. The term ESP in force means the latest approved ESP in force before the new one is approved
Electricity Sector Plan on Transmission (ESP/T)	Part of ESP regarding the Transmission Grid
Elements	means lines, transformers, phase shifters, series capacitors, shunt compensators.



Eligible Generation Unit	A Generation Unit having technical requirements to perform a given service.
Emergency State or Emergency Conditions or Emergency	means any abnormal system condition that requires Remedial Action to prevent or limit loss of an element of the Transmission Grid or Generation supply that could adversely affect the reliability of the Surinamese Power System.
Energy Management System	means the system of computer-aided tools used by EBS to monitor, control and optimize the performance of the Power System.
Energie Bedrijven Suriname (EBS)	In the context of this Surinamese Grid Code, the term EBS shall be referred to the business unit of EBS company, responsible for Transmission Service and Balancing Service.
Exceptional Contingency	Exceptional Contingencies are credible Contingencies that imply the loss of more than a single element but with remarkable consequences on the Operation.
Facility Owner	means a natural or legal Person owning a Facility.
Fast Fault Current	means a current injected by a Generation Unit during and after a voltage deviation caused by an electrical fault with the aim of identifying a fault by the protection systems of the Transmission Grid at the initial stage of the fault, supporting system voltage retention at a later stage of the fault and system voltage restoration after fault clearance.
Fault-Ride-Through (RFT)	means the capability of electrical devices to be able to remain connected to the Network and operate through periods of low voltage at the Connection Point caused by secured faults.
Forced Outage	means a shutdown condition of a power station, transmission line or distribution line when a Generation Unit is unavailable to produce power due to unexpected breakdown.
Force Majeure Event	means, in relation to a person, any event or circumstance, or combination of events or circumstances, (i) that is beyond the reasonable control of the person; (ii) that adversely affects the performance by the person of its obligations under this Grid Code and any regulation; and (iii) the adverse effects of which could not have been foreseen and prevented, overcome, remedied or mitigated in whole or in part by the person through the exercise of diligence and reasonable care and may include, but is not limited to, acts of war (whether declared or undeclared), invasion, armed conflict or act of a foreign enemy, blockade, embargo, revolution, riot, insurrection, civil disobedience or disturbances, vandalism or act of terrorism; strikes, lockouts, restrictive work practices or other labor disturbances; unlawful arrests or restraints by governments or governmental, administrative or regulatory agencies or authorities; orders, regulations or restrictions imposed by governments or governmental, administrative or regulatory agencies or authorities unless the result of a violation by the person of a permit, license



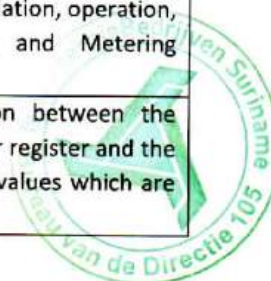
	or other authorization or of any applicable law; and extreme acts of nature including lightning, earthquake, fire, flood, landslide, unusually heavy or prolonged rain or lack of water arising from weather or environmental problems; provided however, for greater certainty, that the lack, insufficiency or non-availability of funds shall not constitute a Force Majeure Event.
Frequency Sensitive Mode	means the operating mode of a Generation Unit in which the active power output changes in response to a change in system frequency, in such a way that it assists with the recovery to target frequency.
Functional Operation	means the activities of control of energy flows, the regulation of frequency and voltage, and any other activity of dispatching in real-time and Operational Planning.
Generation	means the rate at which electric energy is produced and supplied to the Network by a Facility or part of a Facility, generally expressed in kilowatts or megawatts, at a given instant or averaged over any designated interval of time. The term Generation Fleet refers to all the Generation Facilities installed and available in Suriname.
Generation Facility	means a facility that converts primary energy into electrical energy and which consists of one or more Generation Units connected to a Network at one or more Connection Points.
Generation Facility Owner	means a natural or legal Person owning a Generation Facility.
Generation Unit	A converting technology connected to a Network that produces electricity from other forms of energy. It means either a Synchronous Generation Unit or a V-RES Generation Unit.
Glossary and Definitions (GD)	means the chapter of the Surinamese Grid Code including the glossary, acronyms, and all the definitions used in the Surinamese Grid Code.
Good Utility Practice	means any of the practices, methods and acts engaged in or approved by a significant portion of the international electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted internationally.
Grid	is a synonymous of the Transmission Grid of Suriname.
Grid Model	means a mathematical model describing the physical nodes and the connecting elements with associated voltages, angles injections at the nodes whose values are consistent with physical constraints of the Transmission Grid.



Grid Reinforcement	The set of modification of the Transmission Grid around a Project, aiming at fully utilize the Project itself.
Grid User	means a natural or legal Person supplying to, or being supplied by, a Grid.
Half-band	Half of a symmetrical interval of power within which a power Reserve service can be activated.
Hourly Vector (of power injected) (P)	The n values of power scheduled as result of the market studies. Such vectors are part of the control variables imposed at the Generation nodes of the network studies.
Indicators	The indicators taken as significant for the evaluation of the benefit of a Project
Interruptible Load Curtailment (ILC)	Load available to be disconnected, under remuneration.
Island	means the whole or part of the Network that is disconnected from the interconnected national Surinamese Transmission Grid, having at least one Generation Unit supplying power to this disconnected Network and controlling the frequency and voltage. The terms Isolated and Islanding shall be construed accordingly.
Isolated Microgrid	Microgrid not intended to connect to the Surinamese Power System, working as a standalone system.
Key Performance Indicator (KPI)	means an index conventionally assumed to measure a given performance of the Surinamese Power System.
Largest Loss of Generation	Reference incident to designing and sizing the under-frequency Load Shedding and other countermeasures against the under-frequency.
Largest Loss of Load	Reference incident to designing and sizing the countermeasure against the over-frequency.
Licensed Operator	Common term for Distribution System Operator and System Operator.
Load	is a synonymous of Demand.
Load-Frequency Control	means the service of Secondary Control adopted in the Surinamese Power Systems to restore the system frequency to the nominal value.
Load Reduction	The condition in which a scheduled Generation Unit reduces electrical power to the Power System to which it is synchronized/connected.
Load-rejection	means the sequence of automatic manoeuvring actions of Generation Units activated by the opening of the switch of a Unit due to faults occurred on the external Transmission Grid. The logic of Load-rejection has the purpose of adjusting the speed of the Unit to values close to the nominal one and reduce, or eliminate, fuel supply to adjust the power produced to that of the auxiliary services of Unit and thus allowing the rapid re-synchronization of the Unit.
Load Shedding	means, in general term, the action to interrupt the electricity supply to a Demand Facility, and it includes the underfrequency Load Shedding, undervoltage Load Shedding, and manual Load Shedding.
Loss of Load Expectation (LOLE)	Means the number of days per year when the available source capacity is insufficient to serve the Load.



Loss of Load Probability (LOLP)	means the probability that hourly demand exceeds the resource capacity.
Main Meter	A Meter provided at a metering point to take measurements at a metering point, to be differentiated from a Check Meter.
Margins	The difference between the sum of the efficient power of the available Generation Units and the Demand at the same time period. Margins include the Reserves.
Market Analysis / Market Study	Calculation of the active power output of the Generation Units under the constraint to meet the Load curve at zonal level and according to a merit order determined by the market rules or other dispatching rules.
Market Model	The model adopted by law in a Country to determine the dispatching priorities, the merit-order and the economy rules to cover the electricity Demand. In a monopoly environment could be the equal incremental costs of consumptions while in a market environment it could be the system of the offers.
Market (simulation) Tool	The algorithm adopted to simulate the Dispatching according to the adopted Market Model.
Master Area	same as Zone
Maximum Power (P_{MAX})	Means the effective maximum active power that can be supplied by a Generation Unit in a given condition, which is differentiated for Synchronous and V-RES Generation Units: <ul style="list-style-type: none"> - For Synchronous Generation Units, P_{MAX} is the Nominal Power (i.e., the nameplate maximum active power) of the Generation Unit. - For V-RES Generation Units, P_{MAX} is the effective maximum active power that can be supplied by the Unit in the current ambient conditions and primary resource availability (i.e., solar irradiance and ambient temperature in case of photovoltaic Units, and wind conditions in case of wind farm).
Merit Order	Ranking list of electrical Generation, based on ascending order of price, or consumption, or other parameter agreed in the Dispatching Service of the Surinamese Power System.
Meter	A device which measures and records electrical power, energy and related quantities at a metering point. The term Metering and its derivatives are defined accordingly.
Meter Information Register	means the detailed data records for the Meter Owner's Metering Database.
Meter Owner	The entity in charge for the supply, installation, operation, and maintenance of both Meters and Metering components.
Meter Reconciliation Statement	A statement that offers a comparison between the cumulative energy recorded in the Meter register and the total energy derived from the Demand values which are recorded distantly.



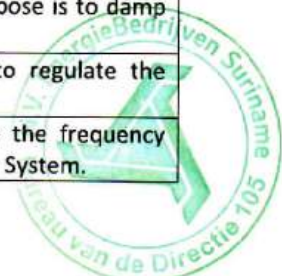
Metering Code	means the Code that outlines common principles, and specifies minimum technical and design requirements, as well as establishing the basic rules around the data collection for the System Operator and other actors in Suriname.
Metering Data	means electrical quantities measured and recorded by a Metering Equipment.
Metering Database	means an information system established and maintained by the System Operator for the purpose of storing Metering Data.
Metering Equipment/System/Installation	means any apparatus used to measure electrical quantities and includes the communication system by which Metering Data are transferred to the relevant telecommunications network through which Metering Data are transferred to the communication interface of the Metering Database. It includes Meter, Current Transformer, Voltage Transformer, and installations.
Metering Point	The physical location at which the Meter is connected to measure/record the flow of electricity and related quantities.
Microgrid	Group of interconnected Loads and Distributed Generators at Distribution level with defined electrical boundaries that may have Black Start Capability and can operate in Island mode and/or Network-connected mode.
Multicriteria Analysis	A CBA performed by comparing the contribution to a Project to different pre-set Indicators.
National Control Centre	Set of plants intended for the control and operation of a Transmission Grid.
National Load Demand	Total Demand of the Grid Users of the Transmission Grid plus the losses in the Transmission Grid itself. It is expressed in an hourly diagram decomposed in quarterly values, unless differently specified.
Network	means a connected plant and apparatus in order to transmit or distribute electricity. Based on international practice and IEC-EN standards ¹ , the following nominal voltage levels are defined for Networks: <ul style="list-style-type: none"> • Low-Voltage (LV): ≤ 1 kV • Medium-Voltage (MV): ≤ 35 kV • High-Voltage (HV): ≤ 230 kV • Extra-High-Voltage (EHV): ≤ 800 kV • Ultra-High-Voltage (UHV): ≥ 800 kV
Network Analysis / Network Studies	Analysis of the influence of a Project on the behaviour of the Surinamese Power System. This includes steady state, dynamic, Contingency Analysis if and when considered necessary.
Nominal Power (P_{NOM})	means the nameplate maximum active power that a Generation Unit, Demand Facility or other electrical

¹ EN 50110-1 / EN 50160 / EN 60038 / IEC 60071-1 / EN 61936-1

	<p>apparatus can supply or absorb, usually expressed in megawatt.</p> <p>In case the term is referred to Generation Units, it also expressed as Generation Capacity.</p>
Normal Contingency	<p>Is the most probable but also less severe Contingencies. It is supposed that the Surinamese Power System has been planned, designed, and maintained in a way to withstand Normal Contingencies.</p>
Normal State or Normal Conditions	<p>means a situation in which the Surinamese Power System is within operational security limits in the N-situation and after the occurrence of any Contingency from the Contingency List, considering the effect of the available Remedial Actions.</p>
Not-costly Remedial Actions	<p>are the Remedial Actions based on changes of Transmission Grid topology, which does neither imply the deviation from the optimal dispatching of the power flows nor the payment for the interruptible load service.</p>
NTC Model	<p>Means the Grid Model made of a single bus representing a Zone connected with the other Zones with corridors characterized by a max NTC including the security constraints.</p>
Objective Function	<p>A mathematical expression describing an objective to be minimized (or maximized) in a general optimization problem.</p>
Operating Condition	<p>it is a synonymous of System State.</p>
Operation	<p>is a synonymous of Functional Operation. Derivatives, as "Operational" are defined accordingly.</p>
Operational Agreement	<p>means, for each new Facility to be connected to the Grid, a regulation agreed upon and signed between a Facility Owner and EBS in order to define the respective responsibilities in the context of the operation and control of the functional portions of the Transmission Grid.</p>
Operational Limit	<p>means the set of maximum and minimum values of voltage, current, frequency and other parameters characterizing the quality of operation of any Facility connected to the Transmission Grid. Operational Limits can be determined by the physical characteristics of an Element (loading limits) or by the conditions of the Power System, if more stringent than the previous ones. Operational Limits can be permanent and transient, and both can vary with the season.</p>
Operational Planning	<p>means a task of the Operation endeavour, aimed at matching the Generation with the forecast Demand, including Reserve margins and taking account the unavailability of Generation Facilities and the Elements of the Grid across various time scales.</p>
Operation Code	<p>means the Code that aims at defining the Operation of the Surinamese Power System with the primary objective to safeguard the Security of Operation and the Security of Supply.</p>



	The term Functional Operation or simply Operation refers to the scope of the Operation Code. The term Operational is defined accordingly.
Operation Security Standard	means a set of security criteria that EBS shall adopt to operate the Surinamese Power System in Normal State and in case of Contingencies.
Outage	means the removal of equipment from service, unavailability for connection of equipment or temporary de-rating, restriction of use, or reduction in performance of equipment for any reason including, but not limited to, permitting the performance of inspections, tests or repairs on equipment, and will include a Planned Outage and a Forced Outage.
Out-of-Range Contingency	are defined as extraordinary events not included in the Exceptional Conditions ones, but credible, possible to be predicted and controllable, e.g., the loss of an entire substation with more than one busbar or the loss of more lines for exceptionally adverse weather conditions. Out-of-range Contingencies are the basis of the Defence Plans and the dynamic Security Assessment.
Person	includes any company, partnership, trust, joint venture, association, corporation or other private or public corporate body, any government agency and any other entity or body or class of entity or body designated by law as coming within the definition of the word "person".
Phases of the dispatching process	Include planning (year ahead, month/s ahead, week/s ahead, day ahead), real time, and post operation analysis.
Phasor Measurement Unit	means an intelligent electronic device – i.e., a device designed and built in numerical technology – used to estimate the magnitude and phase angle of an electrical phasor quantity (such as voltage or current) in a Network using a common time source for synchronization.
Planned Outages	means an Outage that is planned and intentional.
Planning Target	Generic targets at the basis of the driving parameters of the scenarios and possibly measured by the Indicators at the end of the planning process.
Point in Time (PIT)	An hour, among the 8760 hours deriving from the Market Studies, identifying a situation to be passed to the Network Studies for further investigations.
Point of Common Coupling	Connection Point between the Network and the Connected Microgrid.
Power System	comprises of all Generation, Demand and Network installations interconnected throughout the Network of Suriname.
Power System Stabilizer (PSS)	means an additional functionality of the AVR of a Synchronous Generation Unit whose purpose is to damp power oscillations.
Primary Regulation	means centralized automatic function to regulate the Generation based on Primary Reserves.
Primary Reserve (or Frequency Containment Reserve)	means the Reserve available to contain the frequency deviation after an unbalance in the Power System.



Producer	According to the Electricity Act, it is legal entity or a business unit within a legal entity, which deals with the generation of electricity for supply to the Transmission Grid.
Project	A proposal of an asset or a cluster of assets designed to develop the Transmission Grid with a given goal to be reached.
Reaction Times	Time between the occurrence of an operational event and the effect of the dedicated Remedial Action.
Reliability (protection)	The ability of the relay or the relay system to perform correctly when needed (dependability) and to avoid unnecessary operation (security).
Remote Terminal Unit	means a microprocessor-based electronic device used in industrial control systems to connect various objects in the field with the SCADA.
Renewable Energy Source (RES)	means the resources of production of electricity from on-going natural processes, such as sunshine, wind, flowing water, biological processes, and geothermal heat flows.
Reserves	means all active power resources, if procured ex ante or in real-time, or according to legal obligations, which are available to the System Operator for balancing purposes and maintaining the frequency.
Restoration	The general process of restoring the normal functioning of the Surinamese Power System after a Blackout or Emergency State.
Restoration Plan	means the structured sequence of actions to perform the Restoration.
Scenario	means an outlook of the future characterized by guiding Indicators.
Secondary Regulation	means a centralized automatic function to regulate the Generation based on Secondary Reserves.
Secondary Reserve (or Frequency Restoration Reserve)	means the Reserve to restore the frequency to the nominal value in a Power System after the Primary Regulation has stabilized the frequency deviations.
Security Assessment (N-1 SA)	means the process to estimate the relative SoO level of the Surinamese Power System in its present Operating Condition (i.e., determination of whether the Power System is in the Normal or Alert State). It shall be performed using the best Grid Model available and updated with the conditions of the hour to be analysed.
Security of Operation	means the capability of the Surinamese Power System to withstand the Contingencies of predetermined severity, which the Power System is subject to.
Security of Supply	means the capability of the Surinamese Power System to guarantee given levels of Adequacy and to cover the Demand in each period and for a given area.
Selectivity (protection)	The ability to clear a fault effectively and to minimize the disruption of the electrical supply to the unaffected parts of the Surinamese Power System.
Sensitivity (protection)	The ability to measure or detect small values of the input quantities and small variations of such quantities.



Sequential Monte Carlo Method	Computational algorithm/s using repeated random sampling to make a stochastic evaluation.
Short-Circuit Current or Short-Circuit Power	means the maximum current/power that a Network can supply to equipment with a fault in it. It is expressed either in MVA or in effective kA for a given service voltage.
Snapshot	Merge between the production vector $ P $ resulting from the Market Studies and the Transmission Grid available at the same PIT.
Speed (protection)	The time of operation for a protection device/system.
Supervisory Control and Data Acquisition	A system of remote control and telemetry used to monitor and control the Surinamese Power System. It comprises computers, networked data communications and graphical user interfaces for high-level process supervisory management.
Surinamese Grid Code	means the ensemble of shared principles, methods and technical rules regulating a given aspect of the management of the Grid for the appropriate planning and Operation of the Surinamese Power System. The term Code identifies each single Chapter of the Surinamese Grid Code (i.e. General Conditions, Planning Code, Connection Code, Operation Code, and Metering Code).
Synchronous Generation Unit	means an indivisible set of installations which can generate electrical energy such that the frequency of the generated voltage, the generator speed, and the frequency of Network voltage are in a constant ratio and thus in synchronism.
System Engineering	Activity of the National Control Centre dedicated to the design and setting of systems dedicated to the control and protection of the Surinamese Power System and to the fault analysis.
System State	means the set of values of voltage, current, frequency and other parameters characterizing the quality of Operation of Transmission Grid. The term Operating Condition is synonymous.
Tap charger	Device used to change the transformation ratio of a transformer.
Temporary Limits	Physical limits that can be withstand by the equipment, in steady state conditions of the Surinamese Power System.
Tertiary Regulation	means a centralized function to regulate the Generation based on Tertiary Reserves.
Tertiary Reserve (or Replacement Reserve)	means the Reserves to be made available to restore the adequate level of Secondary Reserve and the power margins of the Generation Units that have been used during frequency regulation, due to permanent causes of unbalances.
Total Harmonic Distortion (THD)	means ratio of the r.m.s. value of the harmonic content to the r.m.s. value of the fundamental component or the reference fundamental component of an alternating quantity.
Transfer Capacity	means, in general term, an exchange [MW] programmed between two Zones.



Transmission Grid	All HV lines and MV lines above 33 kV inclusive of the Surinamese national Network and related equipment for the transmission of electricity, which facilitate delivery to eligible Demand Facilities or to DSOs. It is owned and managed by the Electricity Company.
Transmission Owner (TO)	Refer to the independent entity/entities that own the Transmission Grid or part of it.
Transmission Service	The activity of building, maintaining, planning, and operating the Transmission Grid in the national electricity market.
Typical Hour (TH)	Hour observed from the Market Studies as significant for a given operational situation to be investigated in the Network Studies.
Unavailability Coordination or Outage Coordination	It is a sub process of the Operational Planning. It means a structured process aiming at the allocation of the unavailability of Generation Units and Transmission Grid elements in periods characterized by low consumption without limiting the Generation because of uncoordinated unavailability of the Transmission Grid.
Upward Margins	same as Margins.
Value of Lost Load (VoLL)	is a monetary indicator expressing the costs associated with an interruption of electricity supply
Variable Renewable Energy Source (V-RES)	means a subset of RES, that is the not-programmable RESs as primary energy sources: wind, solar, run-of-the-river hydroelectricity, tidal power, wave power
V-RES Generation Unit	means a unit or ensemble of units which can generate electrical energy from V-RESs (such as photovoltaic or wind Units) and battery energy storage systems, which is either non-synchronously connected to the Network or connected through power electronics.
VEE Process	means the process used to validate, estimate and edit raw Metering Data to produce final Metering Data or to replicate missing Metering Data
Voltage Transformer (VT)	means a parallel connected type of instrument transformer, used for metering and protection in high-voltage circuits or phasor phase shift isolation. They are designed to present negligible Load to the supply being measured and to have an accurate voltage ratio to enable accurate metering.
Wide Area Protection System (WAPS)	means a protection system adopted to protect the Surinamese Power System from a partial or total blackout or brown-out in operational situations when no equipment is faulted or operated outside its limitations. This situation could appear after the clearance of a very severe disturbance in a stressed operation situation or after a period of extreme load growth.
Zone	Portion of the Surinamese Power System where the Transmission Grid does not limit the generation. Zones can be simulated in the Market Studies as single buses.

