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|  | GRID CODE | PO-KO-005 |
| | <i>ver. 2.1</i> | <i>page 1 from 10</i> |

GRID CODE - GLOSSARY

| | Prepared by | Controlled by | Approved by |
|-----------------|-------------|---------------|-------------|
| Name of Company | KOSTT | KOSTT | ERO |
| Date | 22.11.2010 | 09.12.2010 | 10.09.2010 |

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|  | GRID CODE | PO-KO-005 |
| | <i>ver. 2.1</i> | <i>page 2 from 10</i> |

TABLE OF CONTENTS

| | | |
|----------|-------------------------------------|-----------|
| 1 | Introduction..... | 3 |
| 2 | Defined Terms..... | 3 |
| 3 | Resources and Documents..... | 21 |

| | | |
|---|------------------|-----------------------|
|  | GRID CODE | PO-KO-005 |
| | <i>ver. 2.1</i> | <i>page 2 from 10</i> |

Chapter 2: Glossary

1 Introduction

1.1.1.1 This **Glossary** contains the defined terms in the **grid code**. Terms in the **grid code** that are in bold type are defined terms and shall be interpreted according to the definition list in this chapter. A word that forms all or part of a defined term and that is not in bold type shall not be treated as a defined term. Where the definition list refers to any word or term that is more particularly defined in a section of the **grid code**, then the definition in that section of the **grid code** will prevail over the definition in this definition list in the event of any inconsistency.

2 Defined Terms

| Name | Acronym | Unit | Description |
|------------------------------|---------|------------------|--|
| Active Energy | | Wh kWh MWh | A measure of electrical energy flow, being the time integral of the product of voltage and the in-phase component of current flow across a connection point , expressed in Watthours and multiples thereof. |
| Active Power | | W, kW, MW | The rate at which active energy is transferred. |
| Already Allocated Capacity | AAC | | The total amount of allocated transmission rights, whether they are capacity or exchange programmes depending on the allocation method. |
| Ancillary Service | | | A service required for the secure operation of an electricity system including frequency regulation, voltage support, provision of reserve plant and black start . |
| Ancillary Services Agreement | ASA | | A bilateral agreement between the TSMO and a user to provide an ancillary service . |



| Name | Acronym | Unit | Description |
|------------------------------|---------|------|--|
| Ancillary Services Provider | ASP | | An organisation that provides ancillary services to the TSMO . |
| Approved Schedule | | | A schedule that has been submitted to and approved by the TSMO and applies for the corresponding schedule day and is binding for the submitting party . |
| Area Control Error | ACE | | The instantaneous difference between the actual and the reference value (measured total power value and scheduled control programme) for the power interchange of a control area (unintentional deviation), taking into account the effect of the frequency bias for that control area according to the system power frequency characteristic of that control area and the overall frequency deviation. |
| Automatic Generation Control | AGC | | A facility whereby the output of a generating unit may be varied in response to signals generated directly by the system operator . |
| Available Transfer Capacity | ATC | | A measure of the transfer capability remaining in the physical transmission system for further commercial activity over and above already committed uses. Available Transfer Capacity is part of NTC that remains available after each phase of the allocation procedure for further commercial activity. ATC is defined by the following equation: $ATC = NTC - AAC$ |
| AVR | | | An automatic voltage regulator – a continuously acting automatic excitation system to control the terminal voltage of a generating unit . |



| Name | Acronym | Unit | Description |
|---------------------------------|---------|------|--|
| Balancing Code | | | The chapter of this grid code that covers the normal real time activities of the system operator . |
| Balancing Mechanism | | | A mechanism operated by the TSMO by which bids and offers are accepted in order to achieve a physical balance of the transmission system . |
| Balancing Mechanism Participant | | | A party that participates in the balancing mechanism . |
| Balancing Unit | | | A generating unit or any other physical participant able to post bids and offers in the balancing mechanism . |
| Bid | | | A bid by a trading party , stating a price at which it will reduce level of generation or delivery across an interconnector (or to increase offtake) if instructed to do so by the system operator through accepting the bid |
| Black Out | | | A total failure of the power system covering all or part of the power system. |
| Black Start | | | The process of restoring the power system after a total or partial failure and where no external electricity supply is available. |
| Black Start Generating Unit | | | A generating unit able to start and/or operate without the normal external power source and thus having the ability to re-energise the power system after a black out . |
| Black Start Plan | | | The plan prepared and updated regularly by the TSMO for restoring the power system in the event of a total shutdown or partial shutdown . |
| Connection | | | The interconnection of two systems within Kosovo. |



| Name | Acronym | Unit | Description |
|----------------------------|----------------|-------------|--|
| Connection Agreement | CA | | A bilateral agreement between the TSMO and a user that details the conditions for connection to the transmission system . |
| Connection Point | | | The agreed point of supply established between the TSMO and a user . |
| Connections Code | | | The chapter of the grid code governing connections to the transmission system . |
| Contingency Planning Code | | | The code within the operations code covering the rights and obligations of the various parties with regard to the measures to be taken to prevent and control major system problems. |
| Control Centre Crisis Plan | | | A plan prepared and maintained by the TSMO detailing the steps to be in the event of a control centre becoming unusable. |
| Day of Physical Dispatch | | | Refers to the day on which plant is being dispatched to balance the system in real time. |
| Dead | | | In this context ‘dead’ means segregated from all connection to any electrical system including the transmission system and the systems and equipment of other users . |
| Defence Plan | | | A plan prepared and updated by the TSMO that details the measures used to ensure as far as is possible the secure and stable parallel operation of the Kosovan power system . |
| Defined Term | | | A term, or expression having a specific meaning. Such terms being highlighted in a document text and listed and defined in this Glossary. |



| Name | Acronym | Unit | Description |
|-----------------------|---------|------|---|
| Demand | | | The demand is the rate at which electric power is delivered to or by a system or part of a system, expressed in MW and MVA _r of electricity (ie both active power and reactive power) unless stated otherwise. |
| Demand Control | | | Procedures that can be used to reduce or exceptionally increase demand when there is a serious mismatch between generation and demand on all or part of the total system. |
| Demand Control Code | | | The section of the operations code covering the rights and obligations of the various parties with regard to the measures to be taken to control system demand . |
| Demand Forecast | | | An estimate of the active power and reactive power requirements prepared by the TSMO at regular intervals. |
| Demand Customer | | | A person or organisation to whom electricity is provided only. |
| Derogation | | | A dispensation granted – normally for a specific period of time – to allow a party to continue normal operation despite being unable to meet all the requirements of this grid code . |
| Dispatch | | | The process of issuing direct instructions to generating units by the TSMO . |
| Dispatch Instructions | | | Instructions given by the TSMO to users to enable the dispatch function to be carried out. |
| Dispatch Unit | | | A generating unit or demand customer that is subject to dispatch instructions from the TSMO . |



| Name | Acronym | Unit | Description |
|------------------------------|----------------|-------------|--|
| Dispatching Code | | | The section of the balancing code that covers the responsibilities of the system operator and other parties in real time system balancing. |
| Distribution System Operator | DSO | | Has a meaning as provided in Article 2 of the Law on Electricity |
| Dynamic Dispatch Parameters | DDP | | The physical characteristics of generating units (and certain large demand customers) that inform the TSMO as to how output can change at the relevant generating unit (or offtake unit). |
| Earthing | | | The process of providing a connection between a conductor and ground by using an approved earthing device . |
| Earthing Device | | | A device either fixed or portable for providing a connection between a conductor and earth. |
| Electricity Market | | | The commercial electricity trading arrangements in Kosovo in accordance with the Energy Act and Electricity Act. |
| Electricity Standards Code | | | A document that specifies among other things the frequency and voltage standards to which the Kosovan power system is operated. |
| Event | | | An unscheduled or unplanned (although it may be anticipated) occurrence on a system including, without limiting that general description, faults, incidents and breakdowns. |
| Exchange Programme | | | The total scheduled energy interchange between two TSOs , control areas or Control Blocks. |



| Name | Acronym | Unit | Description |
|---------------------------------|----------------|-------------|---|
| Exchange Schedule | | | An agreed transaction with regard to its size (MW), start and end time, ramp period and type (e.g. firmness); it is required for delivery and receipt of power and energy between the contracting parties and TSOs , between TSOs and Control Areas, or between control areas and control blocks involved in the transaction. |
| Externally Interconnected Party | | | A TSO operating a common interconnection with the TSMO . |
| Frequency Control Code | | | The section of the balancing code covering the rights and obligations of the various parties with regard to the control of frequency on the Kosovan power system . |
| Frequency Deviation | | | A departure of the actual system frequency from the set value frequency. |
| General Conditions Code | | | The chapter of this grid code that sets out the arrangements for dealing with disputes, derogations and updates to the code etc. |
| Generating Unit | | | A single set of apparatus that generates electricity. |
| Generating Unit Transformer | | | A transformer connected directly to the output of a generating unit that supplies the auxiliaries of the generating unit . |
| Generation | | | Activities pertaining to a generator including the production of electricity and its delivery to the electricity system |
| Generator | | | A person or company who engages in the activity of owning, controlling, or operating generating units and who generates electricity under its Licence. |



| Name | Acronym | Unit | Description |
|----------------------------------|---------|------|---|
| Implementing Safety Co-ordinator | | | A safety co-ordinator who implements the safety precautions for the implementation of inter-system safety co-ordination. |
| Inter System Safety Form | | | A written record of inter system safety precautions compiled in accordance with the safety co-ordination rules (within the system rules). |
| Interconnected Party | | | See Externally Interconnected Party |
| Interconnection | | | A connection between two or more TSOs, Control Areas or Control Blocks. |
| Isolation | | | The process of achieving electrical separation of a conductor from the remainder of the system. |
| Joint System Incident | | | An event on the system of one party that has had or may have had a serious and/or widespread effect on the system of another party |
| Joint System Incident Centre | | | A centre set up by the TSMO in order to oversee a joint system incident and to deal with all queries relating to it. |
| Power System | | | The whole of the infrastructure of electricity systems, generators and other users connected to the system |
| Load | | | The active power, reactive power or apparent power, as the context requires, generated, transmitted, or distributed. |
| Market Demand Forecast | | | An estimate of the active power requirements based on the bilateral contracts agreed between market participants . |



| Name | Acronym | Unit | Description |
|----------------------------------|----------------|-------------|--|
| Market Operator | | | The department within the TSMO that is licensed by the regulator and authorized to undertake all the functions described for it in the market rules . |
| Market Participant | | | A natural or legal person who operates in or is supplied by the Kosovan power system |
| Market Rules | | | The relevant secondary legislation of the power sector in Kosovo that determine the electricity market framework. |
| Market Rules Framework Agreement | | | An agreement in the form set out in the market rules by which the party signatories agree to be bound by the market rules |
| Metering Installation | | | The equipment required for metering located between the metering point and the point of connection to the telecommunications system. |
| Network | | | The electrical transmission and/or distribution system. |
| 'n-1' criterion | | | A rule according to which elements remaining in operation after failure of a single system element (such as transmission line / transformer or generating unit, or in certain instances a bus-bar) must be capable of accommodating the change of flows in the system caused by that single failure. |



| Name | Acronym | Unit | Description |
|---------------------------|---------|------|---|
| Net Transfer Capacity | NTC | | <p>Net Transfer Capacity (NTC) is defined as:</p> $NTC = TTC - TRM$ <p>NTC is the maximum total exchange programme between two adjacent TSOs (Control Areas) compatible with security standards applicable in the interconnection and taking into consideration all uncertainties of future system conditions.</p> |
| Network Losses | | | <p>The total electric energy losses in the relevant electricity system. System losses are usually considered separately for the transmission network and for the distribution networks.</p> |
| Offer | | | <p>An offer by a trading party, stating a price at which it will increase level of generation or delivery across an interconnector (or to reduce offtake) if instructed to do so by the system operator through accepting the offer</p> |
| Operating Margin | | | <p>The extra generation output – over and above that required to meet demand – that is required to provide frequency response and reserve in real time in order to ensure system security.</p> |
| Operation | | | <p>A scheduled or planned action relating to the operation of a system.</p> |
| Operational Planning Code | | | <p>The chapter of this grid code that deals with short term operational planning issues.</p> |
| Operations Code | | | <p>The chapter of this grid code that deals with operational issues both those carried out on a regular basis and those that are the result of exceptional events.</p> |



| Name | Acronym | Unit | Description |
|-----------------------|----------------|-------------|---|
| Outage | | | The planned or unplanned removal of an item of plant and/or apparatus from service availability. |
| Outage Planning Code | | | The section of the operations code governing the notification and approval of outages on the transmission system . |
| Partial Shutdown | | | A total failure of the electricity supply in a large part of the interconnected Kosovan power system . |
| Party | | | Someone who operates in the Kosovan power system . |
| Physical Notification | PN | | The notification made to the system operator by a trading party specifying intended MW delivery or offtake over a specified day |
| Planning Code | | | The section of the grid code governing the planning of the transmission system . |
| Plant and Apparatus | | | All fixed and moveable parts of equipment in which electrical conductors are used, supported or of which they may form a part. |
| Power Island | | | An isolated part of the total system where a stable situation exists with the output of the local generating units matching the complementary local demand . |
| Power Line Carrier | PLC | | A system where telecommunication signals are superimposed on the overhead transmission lines. |
| Power Plant | | | An installation comprising one or more generating units . |



| Name | Acronym | Unit | Description |
|-------------------------|----------------|-------------|---|
| Primary Control | | | The automatic decentralised function of the turbine governor to adjust the generator output of a unit as a consequence of a frequency deviation . |
| Primary Control Reserve | | | Contracted /planned generation reserve that is provided automatically and immediately by generating units in order to correct frequency deviations from the target frequency. |
| Priority Customer | | | A customer such as a key infrastructure service provider, hospital etc who because of their importance shall be subject to special treatment with regard to interruptions of electricity supply. |
| Protection | | | Equipment normally covering a single item of plant that detects an abnormal and potentially dangerous system condition and sends a signal to the circuit breaker in order to disconnect the item of plant from the system. |
| Reactive Energy | | VARh | A measure, in Varhours of the alternating exchange of stored energy in inductors and capacitors, which is the time-integral of the product of voltage and the out-of-phase component of current flow across a connection point . |
| Reactive Power | | var | The product of voltage and current and the sign of the phase angle between them measured in units of VAR or MVAR. |



| Name | Acronym | Unit | Description |
|---------------------------------|----------------|-------------|---|
| Reasonable and Prudent Operator | | | An operator of an electricity undertaking seeking in good faith to perform its obligations and, in the conduct of its undertaking, exercising that degree of skill, diligence, prudence and foresight that could reasonably be expected from a skilled and experienced operator with sufficient financial resources complying with the relevant licences and grid code and any reference to the standard of a reasonable and prudent operator shall be a reference to such degree of skill, diligence, prudence and foresight as aforesaid. |
| Regulator | | | The independent Energy Regulatory Office (Regulator) set up under Regulation no. 2004/20 a law adopted by the assembly of Kosovo on the energy regulator. |
| Requesting Safety Co-ordinator | | | A person who requests the safety precautions for the implementation of inter system safety co-ordination. |
| Rota Load Shedding | | | The process and arrangements for disconnecting load on a rolling basis following a pre-arranged and pre-announced rota in order to balance supply and demand . |
| Safety Co-ordinator | | | A person nominated in writing by a party , TSMO and user , who will be authorised to carry out isolation and earthing at connection sites. |
| Safety Management | | | The process of ensuring that the HV system is in a state so that it is safe for personnel to carry out work and/or testing. |



| Name | Acronym | Unit | Description |
|--------------------------|----------------|-------------|---|
| Safety Management System | | | A system that includes the processes for de-energisation, isolating , earthing , and document issue. |
| Safety Precautions | | | The carrying out of one or both of the following actions – isolation or earthing . |
| Safety Rules | | | The mandatory rules of the TSMO or a user that seek to ensure that persons working on plant and/or apparatus to which the rules apply are safeguarded from hazards arising from the system . |
| SCADA | | | An acronym for Supervisory Control and Data Acquisition , the real time computer system that is used to monitor and control the transmission system in real time. |
| Secondary Control | | | <p>A centralised automatic function to regulate the generation in a control area based on secondary control reserves in order</p> <ul style="list-style-type: none">- to maintain its interchange power flow at the control programme with all other control areas (and to correct the loss of capacity in a control area affected by a loss of production) and, at the same time,- (in case of a major frequency deviation originating from the control area, particularly after the loss of a large generation unit) to restore the frequency in case of a frequency deviation originating from the control area to its set value in order to free the capacity engaged by the primary control (and to restore the primary control reserves). |



| Name | Acronym | Unit | Description |
|---------------------------|----------------|-------------|---|
| Secondary Control Reserve | | | Reserve that is provided automatically by generating units to control load flows and frequency both for normal operation and after a major contingency. It could be provided both by generating units and interruptible load disconnection. |
| Significant Incident | | | An event , which the TSMO or a user considers has had or may have had a significant effect upon the transmission system |
| Standard Documents | | | Documents that are currently in use by the TSMO that set out all the technical, design, planning, construction, maintenance and operational specifications, standards and procedures that are applied for the safe and reliable operation of the transmission system and the power plants . These documents will be updated from time to time. |
| Submission | | | Information on the planned delivery and offtake of electrical energy provided to the system operator by a trading party . |
| Supplier | | | A person or organisation who buys and sells electricity. |
| SVC | | | A static var compensator device. A static device used to control system voltage by providing reactive power . |
| Switching Instruction | | | The operation of plant and/or apparatus to the instruction of the TSMO or a user . |
| System | | | The electrical transmission and/or distribution system . |



| Name | Acronym | Unit | Description |
|--------------------------|----------------|-------------|---|
| System Constraint | | | A constraint within the transmission system limiting the amount of power that can be transmitted between parts of the system due to infringement of thermal, voltage or stability limits. |
| System Operator | | | The department within the TSMO responsible for the operation of the transmission system including economic dispatch, transmission system security and quality of supply. |
| System Test | | | A test that when carried out on the power system will have or may have a significant effect. |
| Tertiary Control | | | Any automatic or manual change in the working points of generators (mainly by re-scheduling) or load reduction that should be fully deployed within 15 minutes upon relevant dispatch instruction. |
| Tertiary Control Reserve | | | Centrally co-ordinated reserve that is provided manually to replace secondary control reserve after a contingent event. |
| Total Demand | | | The total demand of MW of electricity for the total Kosovan power system . |
| Total Shutdown | | | The situation existing when all generation has ceased and there is no electricity supply and therefore the Kosovan power system has shutdown. To restart the power system requires a black start . |
| Total System | | | The total integrated entity that comprises the Kosovan power system . |



| Name | Acronym | Unit | Description |
|--|----------------|-------------|---|
| Total Transfer Capacity | TTC | | The maximum exchange programme between two adjacent TSOs (control areas) that is compatible with operational security standards applied in each system (eg grid codes) if future system conditions, generation and load patterns are perfectly known in advance. |
| Trading Party | | | A generator, supplier, interconnector trader or other party that has acceded to the market rules in order to trade electricity or capacity |
| Transmission, System and Market Operator | TSMO | | Based on Article 12.1 of Chapter 4 and Article 27.1 of Chapter 8 of Law on Electricity the Regulator had licensed TRANSMISSION SYSTEM AND MARKET OPERATOR J.S.C, Transmission System Operator and Market Operator. |
| Transmission | | | Activities pertaining to a transmission system including the conveyance of electricity, and providing a physical connection to it. |
| Transmission Constraint | | | The situation where the thermal, voltage or stability limits of the transmission system are infringed. |
| Transmission Licence | | | A licence issued by the regulator to the TSMO that lays out the rights and obligations of the licensee regarding the transmission system that the TSMO owns, operates and maintains. |
| Transmission System | | | The electricity system owned by the TSMO . |

| Name | Acronym | Unit | Description |
|---------------------------------|---------|------|---|
| Transmission Development Plan | TDP | | A plan produced every year that proposes future developments of the Kosovan power system over the next 10 years taking account of demand forecasts, forecast generation developments and decommissioning. |
| Transmission Reliability Margin | TRM | | A security margin that copes with uncertainties on the computed TTC values arising from: <ul style="list-style-type: none"> • Unintentional deviations of physical flows during operation due to the physical functioning of secondary control • Emergency exchanges between TSOs to cope with unexpected unbalanced situations in real-time • Inaccuracies in data collection and measurements |
| Tripping | | | The opening of a circuit breaker as a direct and normally immediate consequence of the operation of a protection relay or device. |
| TSMO Demand Forecast | | | An estimate of the active power and reactive power requirements prepared by the TSMO at regular intervals. |
| TSO | | | Transmission system operator, in this context refers to the organisation or organisations in the neighbouring states that are responsible for operation and ownership of their transmission systems. |
| Underfrequency Load Shedding | | | The automatic disconnection of demand by means of an electrical measuring relay intended to operate when its characteristic quantity reaches the relay setting-by decrease in frequency. |

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|--|------------------|------------------------|
|  | GRID CODE | PO-KO-005 |
| | <i>ver. 2.1</i> | <i>page 21 from 10</i> |

| Name | Acronym | Unit | Description |
|-------------------------|---------|------|--|
| Unintentional Deviation | | | The difference between the actual energy exchange that has taken place in a given time interval (unintended physical power exchange of a control area) and the scheduled and the scheduled control program of a control area or a control block), without taking into account the effect of the frequency bias, following the sign convention. |
| User | | | Someone other than the TSMO who uses the Kosovan transmission system . A DSO is a user of the transmission system . |
| Voltage Control Code | | | The section of the balancing code covering the rights and obligations of the various parties with regard to the control of voltage on the Kosovan power system . |

3 Resources and Documents

3.1 Resources

| Nr. | Name of Document |
|-----|--------------------------------------|
| 1. | Law on Electricity |
| 2. | Transmission System Operator Licence |
| 3. | |
| 4. | |

3.2 Documents and forms

3.3 Revision Information

| Version | Date | Description | Preservation time |
|---------|------------|-----------------------|-------------------|
| 1.1 | 27.01.2007 | Edition 1, Revision 1 | 1 year |
| 2.0 | 14.01.2008 | Edition 2 | 2 years |
| 2.1 | 10.09.2010 | Edition 2, Revision 1 | |
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