



**Acronyms, definitions list and
references
MYPD 3 application**

STRICTLY CONFIDENTIAL

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1. ACRONYMS

A

AI – abrasiveness index (see definitions)
AM – asset management
AS – ancillary services

B

BBBEE – broad-based black economic empowerment
BCM – business continuity management
BI – business Intelligence
BMS – business management system

C

c/kvarh – cents per reactive kilovolt-ampere-hour
Capex – capital expenditure
CCI – coal cost index
CBM – condition bases maintenance
CDM – configuration and documentation management
CDS – consistent data set
CED – Capacity Expansion division
CFL – compact fluorescent lamp
CLN – customer load network
CM – corrective maintenance
COC – cost of cover
COP17 – Conference of the Parties to the United Nations Convention on Climate Change
CPI – Consumer price index
CRA – concept release approval
CSI – corporate social investment
CSIR – Council for Scientific and Industrial Research
CV – calorific value

D

DMP – demand market participation

DOE – Department of Energy
DPE – Department of Public Enterprises
DRA – definition release approval
DR – demand response
DRC – Depreciated replacement cost
DSM – demand-side management (see definitions)
DUOS – Distribution use-of-system
DWA – Department of Water Affairs
DWEA – Department of Water and Environmental Affairs

E

EAF – energy availability factor (see definitions)
ECM – enterprise content management
ECS – Energy Conservation Scheme
EE – energy efficiency
EEDSM – Energy efficiency and demand-side management
EVH – Extra high voltage
EIA – environmental impact assessment
EIMP – environmental impact management plan
EIMS – Eskom Insurance Management Services
EPP – Electricity Pricing Policy
EPRI – Electricity Power Research Institute
ERA – execution release approval
ESR – Electrification and rural subsidy
ESCO – Energy Services Company
ESI – electricity supply industry
ESETA – Energy Sector Education and Training Authority
ETUOS – embedded Transmission use-of-system
EUP – enriched uranium product
Exco – executive management committee

F

FGD – flue gas desulphurisation
FOB/FOT – free on board/free on truck (see definitions)
FRA – finalisation release approval
FTE – full-time employees

FY – financial year

G

GDP – gross domestic product

GIS – geographic information system

GW – gigawatt

GWh – gigawatt-hour (1 000MWh)

Gx – Generation division

H

HHUPS – high head underground pumped storage

HPUM – High Performance Utility Model

HRM – human resource management

HV – High Voltage

HVAC – high-voltage alternating current or heating, ventilation and air-conditioning (depending on context)

HVDC – high-voltage direct current

HWC – hot water cylinder

I

IAP – invasive alien plants

IBT – Inclining block tariff

ICT – information and communication technology

IDC – interest during construction

IDM – Integrated Demand Management

IEE – industrial energy efficiency

IGCC – integrated generation control centre

IM – information management

IPP – independent power producer (see definitions)

IPS – interconnected power system

IRP – Integrated Resource Plan (also IRP 2010)

ISEP – integrated strategic electricity plan

ISMO – Independent System and Market Operator

IT – information technology

ITIL – information technology infrastructure library

ITOMS – International Transmission Operations and Maintenance Study

K

KLO – keeping the lights on

KOD – knowledge optimisation and delivery/knowledge on demand

KPI – key performance indicator

KSACS – Key Sales and Customer Services

kt – kilotons (1 000 tons)

kV – kilovolt

kW – kilowatt

kWh – kilowatt-hour

KWS – Komati Water Scheme

KWSAP – Komati Water Scheme Argumentation Project

L

LCMP – life-cycle management plan

LED – light-emitting diode

LNG – liquefied natural gas

LOM – life of mine

LOMP – life of mining planning

LRMC – long run, marginal cost

LSM – Living Standards measure

LTIR – lost-time incident rate (see definitions)

M

MC – marginal cost

MCWAP – Mokolo Crocodile West Augmentation Project

MEA – modern equivalent asset

MFMA – Municipal Finance Management Act

MI – megalitre/1 million litres

MM – minor maintenance

MMS – Middelburg Mine Services

MPRDA – Mineral and Petroleum Resources Development Act

mSv – millisievert

Mt – million tons

MTPPP – Medium-term Power Purchase Programme

MTS – main transmission substation

M&V – measurement and verification

MVA – megavolt ampere

MW – megawatt (1 million watts)

MWh – megawatt-hour (1 000kWh or 1 million watt-hours)

MYPD – Multi-Year Price Determination

N

NEC – National Engineering Contract

Nersa – National Energy Regulator of South Africa

NGO – non-governmental organisation

NIRP – National Integrated Resource Plan

NPV – net present value

O

O/C mining – opencast mining (see definitions)

OCGT – open-cycle gas turbine

ODC – owner's development cost

OHSAS – occupational health and safety standards

O&M – operations and maintenance

Opex – operating expenditure

P

PCLF – planned capability loss factor

PED – Primary Energy division

PFMA – Public Finance Management Act

PLCM – project life cycle model

PM – preventative maintenance

PMO – Project Management Office

PNCP – Pilot National Co-generation Programme

PPA – power-purchase agreement

PPI – producer price index

PQI – power quality index

PWR – pressurised water reactor

Q

QOS – quality of supply

R

RAB – Regulatory asset base

RBCT – Richards Bay Coal Terminal

RCA – Regulatory Clearing Account

REFIT – Renewable Energy Feed-in Tariffs

R&E – revenue and expenses

RFI – request for information

RLA – residual life assessment

RMR – residential mass roll-out

ROA – return on assets

ROI – return on investment

ROM – run of mine

ROR – rate of return methodology

RSA – Republic of South Africa

R/t – Rand per ton

RTS – return to service

S

SADC – Southern African Development Community

SAE – Southern African Energy

SAIRI – system average interruption restoration
index

SANRAL – South African National Roads Agency
Limited

SAPP – Southern African Power Pool

SBO – single buyer office

SD&L – Supplier development and localisation

SETA – skills education and training authorities

SHEQ – safety, health, environmental and quality

SLA – service level agreement

SM – system minutes

SO – system operator

SPA – Special pricing agreement

S&P – Standard and Poor's

S & RM – Strategic and Risk management

SQL – service quality incentive

SWH – solar water heating

SQI – service quality incentive

T

TDP – Transmission Development Plan

TNSP – Transmission Network Service Provider

ToU – Time-of-use

TSP – Transmission System Planner

TUOS – Transmission use-of-system

Tx – Transmission

U

UCG – underground coal gasification (see definitions)

U/G – underground

UCLF – unplanned capability loss factor

UoS – Use-of-system

URS – user requirement framework

V

VRESS – Vaal River Eastern Sub-System

VRESSAP – Vaal River Eastern Sub-system
Augmentation Project

VRT – Vaal River Tariff

W

W – Watt

WACC – Weighted average cost of capital

WBS – work breakdown structure

WDCCS – water discharge charge system

WEPS – wholesale electricity price

WUC – Work under construction

2. DEFINITIONS

A

Abrasiveness index

The abrasive index is a measure of how much coal will cause abrasion and wear to the mechanical components of power plant and materials-handling plants. Good-quality coal has a low abrasiveness index.

Arrear debt as percentage of revenue

Total arrear debt/Total revenue multiplied by 100.

Ash content

This is a measure of the quality of ash and other non-combustible material in the coal. Good-quality coal has a low ash content.

B

Base-load plant

Power stations that are designed to operate continuously (usually coal-fired and nuclear stations).

C

Calorific value

A measure of coal's heat value, expressed in MJ/kg.

Coal imports

A term used within Eskom to denote coal supplied to a power station from a mine other than the station's tied colliery.

Combined cycle

Technology for producing electricity from otherwise lost waste heat as it exits from one or more gas (combustion) turbines.

Cost-plus coal contract

A historically used form of contract whereby Eskom pays the coal miner the actual cost of production plus a fee, providing the mine with a return on invested capital and a management fee.

D

Daily peak

Maximum amount of energy demanded in one day by consumers.

Decommission

To remove a facility (for instance, a reactor) from service and store it safely.

Dedicated mine

A mine established to supply only one customer (for example, Eskom).

Debt: equity including long-term provisions

Net financial assets and liabilities plus non-current retirement benefit obligations and non-current provisions divided by total equity.

Debt service cover ratio

Cash generated from operations/(Net interest paid plus debt repaid excluding repayments on commercial paper).

Demand-side management

Activities to encourage consumers to use electricity more efficiently, regarding both when they use it and how much they use.

E

Electricity revenue per kWh

Electricity revenue including environmental levy/kWh sales total.

Electricity operating costs per kWh

(Electricity related costs: Primary energy costs, net transfer pricing, employee benefit cost, depreciation and amortisation plus impairment loss and other operating expenses) / external sales in kWh.

Embedded derivative

Financial instrument that causes cash flows that would otherwise be required by a contract to be modified according to a specified variable such as currency.

Energy availability factor

Measure of a power station's availability, taking into account energy losses not under the control of plant management and internal non-engineering constraints.

Energy efficiency

Refers to measures to reduce energy without affecting the service provided/output by, for instance, installing more energy-efficient technologies.

F**Fixed base/indexed contracts**

A commonly used form of coal contract in which the base price is fixed, but is escalated each year by means of an agreed index. Primarily used by Eskom for buying coal from multiproduct mines.

Flashover

Electrical insulation breakdown.

Forced outage

An unanticipated emergency shutdown or breakdown of a generating unit, transmission line or other electrical facility.

Free basic electricity

Electricity deemed sufficient to provide basic electricity services to a poor household (currently set at 50kWh/month).

Free on board/truck/rail

The free on board price is the price paid for exported coal at the point before it is loaded onto a ship at the port of export. It excludes shipping and insurance costs required to transport the coal to the importing country. Free on truck and free on rail prices are similar terms, being the price of coal before it is uploaded at the source. With specific reference to coal purchased by Eskom, FOT refers to the point at which risk is transferred to Eskom. This is usually the point after the supplier's weighbridge. This FOT price excludes the cost of transporting the coal to an Eskom site.

Funds from operations

Cash generated from operations adjusted for working capital (excluding provisions) and net interest paid / received and non-current assets held for risk management.

Funds from operations as a percentage of gross debt

Funds from operations / gross debt multiplied by 100.

G**Gross debt**

Debt securities issued, borrowings, finance lease liabilities and financial trading liabilities plus the after tax effect of retirement benefit obligations and provisions for power station-related environmental restoration and mine-related closures.

Gross debt/EBITDA

Gross debt/earnings before interest, tax, depreciation and amortisation.

I**International financial reporting standards**

Global accounting standards issued by the International Accounting Standards Board that require transparent and comparable information.

Independent power producer

Any entity other than Eskom that owns or operates, in whole or in part, one or more independent power production facilities.

Interest cover

Operating profit before net finance cost / (net finance cost but before unwinding of discount on provisions, change in discount rate and borrowing cost capitalised).

Interruptible load

Load that can be interrupted in the event of capacity or energy deficiencies.

Interruptible power

A power supply that can be curtailed by the supplier, usually in agreement between Eskom and the customer.

J**Junior miner**

A generic term for a small-scale miner. Junior miners are often focused on exploration and early-stage development of mineral resources, but are mostly focused on mining of small deposits of reserves.

K**Kilowatt-hour**

Basic unit of electric energy equal to one kilowatt of power supplied to, or taken from, an electric circuit steadily for one hour. One kilowatt hour is 1 000 watt-hours.

L**Life of mine**

The design period over which a mine will extract coal.

Load

Amount of electric power delivered or required at any specific point on a system.

Load management

Activities to influence the level and shape of demand for electricity so that demand conforms to Eskom's supply capabilities, long-term objectives and constraints.

Load profile

Customer's electricity use over time, sometimes shown as a graph.

Load shifting

Transfer of loads from peak to off-peak periods.

Load-shedding

Scheduled rotation of available electricity capacity between customers to avoid blackouts when demand is greater than supply.

Lost-time incident rate

Proportional representation of injuries that cause lost working time over a 12-month period.

M**Maximum demand**

Highest demand of load within a specified period.

Mid-merit power generation

Installations that generate electricity when electricity demand is higher than average.

Mining Charter

An agreement reached between the state and mining companies that covers various business and technical principles under which coal and other mineral are mined.

Multiproduct mine

A mine that produces more than one coal product. In many instances multiproduct mines beneficiate the coal to meet export-quality requirements and supply the local market and Eskom with a by-product from the coal-beneficiation process.

O**Outage**

Period during which a generating unit, transmission line or other facility is out of service.

Off-peak

Period of relatively low system demand

Opencast mining

A mining method whereby a coal seam is by means of a large pit. Also known as open-pit mining.

P**Peak demand**

Maximum power used in a given period, traditionally between 7am–10am and 6pm–9pm.

Peaking capacity

Generating equipment normally operated only during hours of highest daily, weekly or seasonal loads.

Peak-load plant

Power stations that are only used during peak-load periods. Eskom uses its gas turbines and current pumped-storage scheme as peak-load plants.

Power pool

Two or more interconnected electricity supply systems that agree to coordinate operations and seek improved reliability and efficiencies.

Primary energy

Natural resources used in the production of electrical energy (for instance coal, liquid fuel, sunlight, wind, uranium).

Producer price index

An index published by Statistics South Africa that measures the year-on-year price inflation of producer goods and services in South Africa.

Pumped-storage scheme

A water-based electricity-generation system where a lower and an upper reservoir are linked by a power station/pumping plant. During off-peak periods the pump uses electricity to transport water from the lower to the upper reservoir. During peak demand, water runs back into the lower reservoir through turbines, generating electricity.

R**Reserve margin**

The difference between an electricity system's net generating capability and its maximum load requirements (during peak load or peak demand).

Return on average equity

Profit/loss for the year after tax / average total equity.

Return on average total assets

Profit/loss for the year after tax / average total assets.

Run of mine

Refers to coal that has been mined and transported to the surface, but has not been beneficiated.

S**Spent fuel**

Irradiated nuclear fuel that has permanently been removed from a nuclear reactor. Spent fuel is stored on site in spent-fuel pools or storage casks.

Stripping ratio

A ratio indicating how many tons of earth must be removed to extract one ton of coal. Deep coal and thin-seam coal have higher stripping ratios than shallow or thick-seam coal.

Global benchmark for measuring the severity of interruptions to customers. One system minute is equivalent to the loss of the entire system for one minute at annual peak.

T**Technical losses**

Naturally occurring losses that depend on the power systems used.

U**Underground coal gasification**

A technique to extract energy from coal in gaseous form without physically mining the coal. Eskom and Sasol are piloting this technology in South Africa. If successful, underground coal gasification could be used to access coal reserves that are too deep or too faulted to be economically mined using other methods.

Underground mining

A mining method used to access coal seams that are too deep for opencast mining. It involves sinking vertical and include shafts down the coal seam for

ventilation and the movement of people, machinery and coal. Mined coal is transported to the surface by means of an incline shaft conveyor.

Underground mines are usually more expensive to operate and, depending on the mining method, may require more capital investment than opencast mines.

Unplanned automatic grid separations

A measure of the reliability of the service provided to the electrical grid that logs the number of supply interruptions per operating period.

Unit capability factor

A measure of a power station's availability indicating how well plant is operated and maintained.

Unplanned capability loss factor

All occasions when a power station unit has to be shut down and taken out of service. Energy losses due to outages are considered unplanned if they are not scheduled at least four weeks in advance.

V**Value created per employee**

Value created divided by number of employees.

W**Working capital ratio**

(Total current assets less financial instruments with group companies less investments in securities less embedded derivative assets less derivatives held for risk management less financial trading assets less cash and cash equivalents) / (Total current liabilities less financial instruments with group companies less debt securities issued less borrowings less embedded derivative liabilities less derivatives held for risk management less financial trading liabilities).

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