Eskom	Standard	Medupi Power Station Project

Title: **KKS Key Part Standard**

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Content

1. Introduction

This document is a Plant Classification system catalogue of KKS codes to be used to classify power plant structures, systems, equipment and components.

2. Supporting Clauses

2.1 Scope

This document serves to provide a list of KKS codes and their descriptions adopted from the VGB Guidelines, to be applied by the personnel/contractor involved in plant coding executed in Medupi Power station

2.1.1 Purpose

The Purpose of this document is to list and define the contents of KKS Key Parts applicable in Identification of the plants, systems, equipment and components in Medupi power station

2.1.2 Applicability

This KKS Key Part is applicable to Medupi Power Station Project.

2.1.3 Effective date

Date of authorisation of the document.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

[1] ESKADAAH4 Corporate Directive, KKS Coding of Eskom Power Stations

[2] VGB-B 105 E 7th Edition KKS Key Part, KKS-Identification System for Power Stations, 2010

[3] VGB-B 106 E VGB KKS Application Commentaries, 2004

2.2.2 Informative

[4] 348-882024 The Application of KKS Plant Coding

[5] 348-630398 KKS Coding and Labelling

2.3 Definitions

Term	Explanation
Key Part	KKS KEY-PART is a Plant Classification system catalogue of KKS codes to be used to classify power plant structures, systems, equipment and components
Process-Related Coding	Process-related identification of systems and items of equipment according to their functions in mechanical, civil, electrical and control and instrumentation engineering
Point of Installation	Identification of points of installation of electrical and control and instrumentation equipment in installation units (e.g. in cabinets, panels, consoles)
Location Code	Identification of locations in structures, on floors and in rooms and also of fire areas
Breakdown Level 0	In Breakdown level 0 power station units, Non-unit-specific plant and extensions are marked within location of a power station
Breakdown Level 1	Classification of systems and plants as per the KKS key part
Breakdown Level 2	Classification of mechanical equipment, electrical, control and instrumentation equipment as per the KKS key part
Breakdown Level 3	Classification of component, signals or signal applications as per the KKS key part

2.4 Abbreviations

Abbreviation	Explanation
AC	Alternating Current
C&I	Control and Instrumentation
CM	Configuration management
DA	Design Authority
DC	Direct Current
ECM	Engineering Change Management
HV	High Voltage
ISO	International Standards Organization
KKS	Kraftwerk Kennzeichen System (German for Power Plant Classification System)
LDE	Lead design engineer
LP	Low Pressure
LPE	Lead project engineer
PBS	Plant breakdown structure
P&ID	Piping and Instrumentation Diagram
PLC	Programmable Logic Controller
RACI	Responsible Accountable Consulted Informed

Abbreviation	Explanation
SPO	Smart Plant Owner Operator
UPS	Uninterruptible Power Supply
VGB	Technische Vereinigung Der Grosskraftwerksbetreiber (German for Society of Large Power Station Operators)

2.5 Related/Supporting Documents

Documents superseded by this procedure

[1] 348-694071 Medupi KKS Key Part Standard Rev 04

Records

[2] KKS Management Database

[3] PBS in SPO

3. Process Definition

3.1 General

KKS KEY-PART is a Plant Classification system catalogue of KKS codes to be used to classify power plant structures, systems, equipment and components. The Key part has been compiled as a comprehensive list of classification codes to use but provision is made through this procedure, should the need arise to add to the key part.

a) The design authority and/or the CM technician responsible for the application of the KKS codes may only use codes which appear in this KKS key-part.

b) If for any reason, a code cannot be found and a change to this document is required, it should follow the Eskom Change Management Procedure (348-885429)

c) Identify need for updating of key part document. The need for a change/update could arise from any of the following reasons:

- Errors could have been made with the compilation of the existing key part.
- New technology that is not provided for in the key part needs to be incorporated.
- Discrepancies between supplier and Eskom key parts may exist.
- New updates from the VGB could lead to an update to the Eskom key part.

d) Discuss the requested changes with the role players. These will normally be the requestor, the Plant Lead Engineer and KKS consultant.

e) The Consultant will propose a solution to the requested change. The solution could be:

- Deal with the requested change within the existing codes. It is possible that the requester does not know how to interpret the KKS key part and a satisfactorily solution can be found without changing the Key part.
- Incorporate new codes, change or add to key-part.
- Issue a new revision of the key part.

3.2 Application of KKS

For the format, structure and specific application rules of the Key Part codes, refer to NMP 45-7. (348-882024).

3.3 KKS Key Part Contents

3.3.1 Listing of Alpha Code Elements

The alpha code elements F_1, F_2, F_3, A_1, A_2 and B_1, B_2 have a classifying function, and a full listing of these codes is given in **Error! Reference source not found.**.

3.3.2 Classifying Code Elements

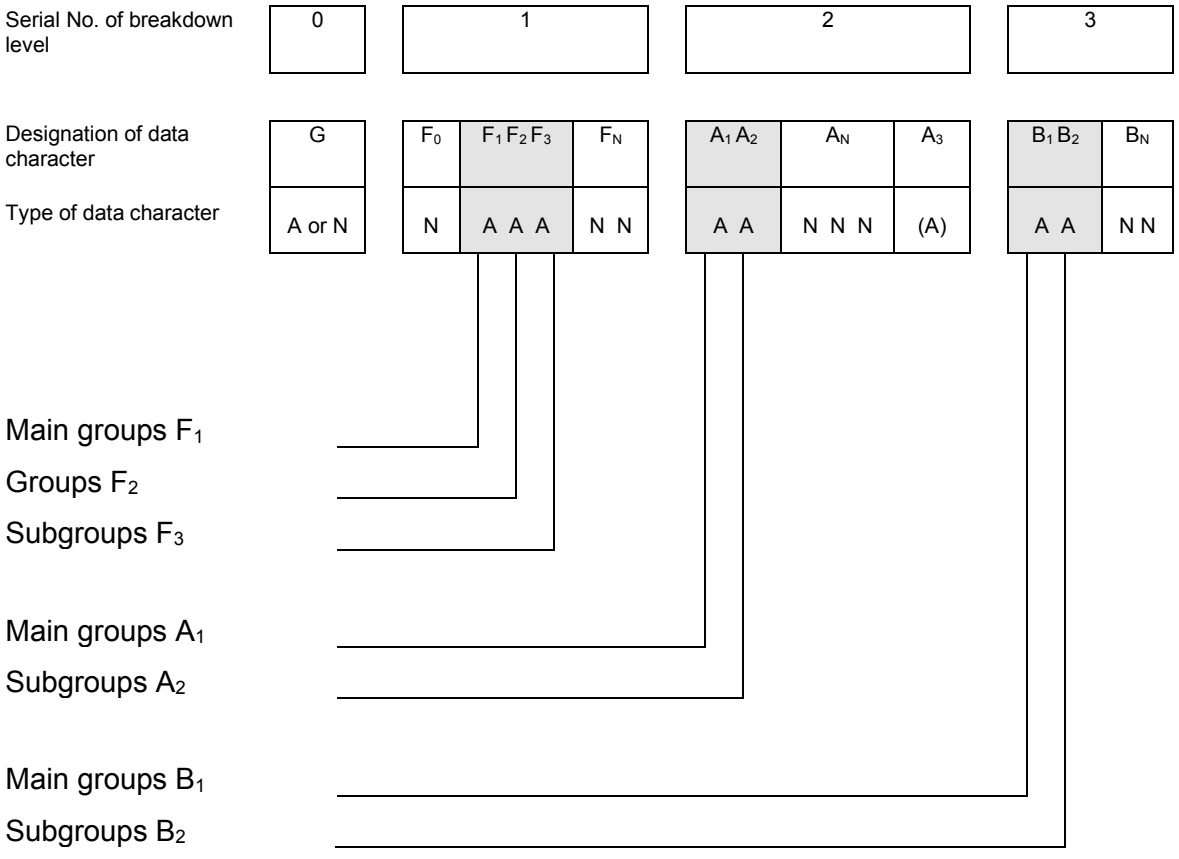
The classifying coding letters and designations are listed in the KKS Coding keys as follows:

a) Function key for F_1/F_1 F_2 /F1 F_2 F_3 on breakdown level 1.

b) Equipment unit code key for A1/A1 A_2 on breakdown level 2.

c) Component code key for B_1/B_1 B_2 on breakdown level 3.

For an explanation of the data characters G, F_0, F_N, A_N, A_3 and B_N, please refer to **Error! Reference s ource not found.**.



4. Process for Monitoring

4.1 Revision Period

All QMS documents shall undergo a 3-yearly compulsory revision.

4.2 Training Requirements

The Contractor shall be responsible for ensuring that he is fully familiar with the standards and concepts of the KKS system as applied by ESKOM.

5. Acceptance

This document has been seen and accepted by:

Name	Designation
Mandla Nkosi	CM Line Manager
Mduduzi Dhlamini	CM Snr Technician

6. Revisions

Date	Rev.	Compiler	Remarks
July 2022	**6**	M Dhlamini	• Document is due for the 3 yearly review.
January 2018	5	L Cingo	• Updated to include SGM and SNJ • Populated the scope and the purpose • Aligned document with the new template
December 2014	4	R Smal	• Changed the document from a procedure to a standard to conform to the Medupi QA requirements. • Removed RACI, KPA/KPI's and self-assessment.

7. Development Team

The following people were involved in the development of this document:

- Mandla Nkosi
- Mduduzi Dhlamini

Appendix A – KKS Key Part Code Lists

A.1 A- Grid and Distribution System

A	GRID AND DISTRIBUTION SYSTEM	Rev
AB	> 430 kV SYSTEM	
ABA	431 - 765 kV System	
ABB	> 766 kV System	
AC	276 - 430 kV SYSTEM	
ACA	276 - 400 kV System	
ACB	401 - 430 kV System	
ACT	276 - 430 kV Transformer	
AD	166 - 275 kV SYSTEM	
ADA	166 - 220 kV System	
ADB	221 - 275 kV System	
AE	89 - 165 kV SYSTEM	
AEA	89 - 132 kV System	
AEB	133 - 165 kV System	
AF	51 - 88 kV SYSTEM	
AFA	51 - 66 kV System	
AFB	67 - 88 kV System	
AG	36 - 50 kV SYSTEM	
AGA	36 - 42 kV System	
AGB	43 - 50 kV System	
AH	26 - 35 kV SYSTEM	
AHA	26 - 33 kV System	
AHB	34 - 35 kV System	
AJ	17 - 25 kV SYSTEM	
AJA	17 - 18 kV System	
AJB	19 - 20 kV System	
AJC	21 - 25 kV System	
AK	6.7 - 16 kV SYSTEM	
AKA	6.7 - 10.5 kV System	
AKB	10.6 - 16 kV System	
AL	3.4 - 6.6 kV SYSTEM	
ALA	3.4 - 6.6 kV System	
AM	1 - 3.3 kV SYSTEM	
AMA	1 - 2.2 kV System	
AMB	2.3 - 3.3 kV System	
AN	< 1 kV SYSTEM	
ANA	Low Voltage Switchgear 500 V - 1 kV AC	
ANB	Low Voltage Switchgear 500 V - 1 kV AC	

A	GRID AND DISTRIBUTION SYSTEM	Rev
ANC	Low Voltage Switchgear 500 V - 1 kV AC	
ANE	Low Voltage Switchgear 220/380 V AC	
ANF	Low Voltage Switchgear 220/380 V AC	
ANG	Low Voltage Switchgear 110 V AC	
ANH	Low Voltage Switchgear 110 V AC	
ANK	DC Switchgear 110/220 V	
ANL	DC Switchgear 110/220 V	
ANM	DC Switchgear 110/220 V	
ANN	DC Switchgear 110/220 V	
ANQ	DC Switchgear 48/60 V	
ANR	DC Switchgear 48/60 V	
ANS	DC Switchgear 48/60 V	
ANU	DC Switchgear 12/24 V	
ANV	DC Switchgear 12/24 V	
ANW	DC Switchgear 12/24 V	
	AC Three-single/phase alternating current	
AP	CONTROL DESK	
APA	Control Desk	2
AQ	MEASURING AND METERING EQUIPMENT	
AQA	Measurement Panel 400 kV	
AQB	Measurement Panel 275 kV	
AQC	Measurement Panel 132 kV	
AQD	Measurement Panel 765 kV	
AQE	Measurement Panel 88 kV	
AR	PROTECTION EQUIPMENT	
ARA	Protection Panel	
ARB	Bus-zone Protection Panel	
AS	DECENTRALIZED PANELS AND CUBICLES (FIELD EQUIPMENT)	
ASA	Circuit Breaker Accessory	
ASB	Multiplication, Conversion, Decoupling	
ASC	Converter Accessory	
ASD	Compressed Air, Hydraulic	
ASJ	Automated Control, Closed Loop Control	
ASL	Grid Simulation and Voltage Group Selection	
ASM	Measuring	
ASN	Auxiliary Power Supply	
ASP	Recording	
ASQ	Metering	
ASR	Protection	
ASS	Synchronizing	
AST	Transforming	

A	GRID AND DISTRIBUTION SYSTEM	Rev
ASU	Panels and Cubicles for Auxiliary Equipment	
ASV	Group Intermediate and General Terminal Block	
ASW	Indication, Supervision, Operation and Equipment	
ASX	Alarm Annunciation	
AT	TRANSFORMER EQUIPMENT	
ATA	Transformer > 400 kV	
AU	CONTROL EQUIPMENT FOR OPEN LOOP CONTROL, FEEDBACK INDICATION AND AUXILIARY EQUIPMENT	
AUA	System Control and Load Despatch (SCALD)	
AUB	Control Desk in Control Room	
AUC	Control Panel in Control Room	
AUD	PLC (Programmable logic Controller)	
AUE	Local Control Panel and Desk	
AUF	Equipment Room Cubicle	
AUG	Junction Box	
AUH	Measurement Rack	
AUJ	Spare	
AUK	DC Supply Including Associate Equipment	
AUL	AC Supply and Distribution	
AUQ	Computer Equipment	
AUW	Common Equipment	
AUX	Common Equipment	
AV	MARSHALLING RACK (KIOSK)	
AVA	Intermediate Distribution Frame	
AW	INSTRUMENT PANEL	
AWA	Instrument Panel	2
AX	CENTRALIZED EQUIPMENT (e.g. PROCESS COMPUTER, HV YARD BUILDING)	
AXB	Annunciator in HV Yard (Alarm Panel)	
AXD	PLC (Programmable Logic Controller)	
AY	TELECOMMUNICATION EQUIPMENT	
AYA	Telephone System (PAX/PABX)	
AYB	Telephone Control Console (Intercom System Repeater and Base Station)	
AYC	Loudspeaker System (Tone Alarm Public Address)	
AYD	Visual Signal System	
AYE	Fire Alarm System	
AYF	Clock System	
AYG	Remote Supervisory System	
AYH	Telemetering System	
AYJ	Remote Metering System	
AYK	HF Carrier Telephone System	
AYL	Staff Paging System, Wireless	

A	GRID AND DISTRIBUTION SYSTEM	Rev
AYM	Staff Paging System, Inductive	
AYN	Staff Paging System, Hardwired	
AYP	TV Supervisory Control System	
AYQ	GAS alarm systems	
AYS	Radio Network (VHF, UHF, SHF)	

A.2 Power Station Electrical Power System

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BA	GENERATOR POWER EXPORT SYSTEM	
BAA	Generator Busbar System	
	From: Excl. Generator bushings but including busbar plus flexible connections, instrument and excitation transformers, surge arresters, pressurizing and cooling system	
	To: Excl. Generator transformer and auxiliary (unit) transformer bushings	
BAB	Generator Foundation	
BAC	Circuit-breaker (Generator breaker and phase reversing isolator) incl. Cooling and Compressed Air System	
BAT	Generator Transformer, Incl. Cooling System	
BAW	Generator Earthing and Lightning Protection System	
BAX	Control Air Supply	
BAY	Closed/Open Loop Control and Protection Equipment	
BB	MEDIUM VOLTAGE AUXILIARY POWER SYSTEM (≥ 11 kV)	
BBA	Medium Voltage Distribution System	
BBB	Medium Voltage Distribution System	
BBC	Medium Voltage Distribution System	
BBD	Medium Voltage Distribution System	
BBE	Medium Voltage Distribution System	
BBF	Medium Voltage Distribution System	
BBG	Medium Voltage Distribution System	
BBH	Medium Voltage Distribution System	
BBJ	Medium Voltage Distribution System	
BBK	Medium Voltage Distribution System	
BBL	Medium Voltage Distribution System	
BBM	Medium Voltage Distribution System	
BBN	Medium Voltage Distribution System	
BBP	Medium Voltage Distribution System	
BBQ	Medium Voltage Distribution System	
BBR	Medium Voltage Distribution System	
BBS	Medium Voltage Distribution System	
BBT	Medium Voltage Transformer	
BBX	Control Medium Supply for Closed/Open Loop Control and Protection Equipment	
BBY	Closed/Open Loop Control and Protection Equipment	
BC	MEDIUM VOLTAGE AUXILIARY POWER SYSTEM (6.6 - < 11 kV)	
BCA	Medium Voltage Distribution System	
BCB	Medium Voltage Distribution System	
BCC	Medium Voltage Distribution System	
BCD	Medium Voltage Distribution System	
BCE	Medium Voltage Distribution System	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BCF	Medium Voltage Distribution System	
BCG	Medium Voltage Distribution System	
BCH	Medium Voltage Distribution System	
BCJ	Medium Voltage Distribution System	
BCK	Medium Voltage Distribution System	
BCL	Medium Voltage Distribution System	
BCM	Medium Voltage Distribution System	
BCN	Medium Voltage Distribution System	
BCP	Medium Voltage Distribution System	
BCQ	Medium Voltage Distribution System	
BCR	Medium Voltage Distribution System	
BCS	Medium Voltage Distribution System	
BCT	Medium Voltage Transformer	
BCX	Control Medium Supply for Closed/Open Loop Control and Protection Equipment	
BCY	Closed/Open Loop Control and Protection Equipment	
BD	MEDIUM VOLTAGE AUXILIARY POWER SYSTEM (3.3 - < 6.6 kV)	
BDA	Medium Voltage Distribution System	
BDB	Medium Voltage Distribution System	
BDC	Medium Voltage Distribution System	
BDD	Medium Voltage Distribution System	
BDE	Medium Voltage Distribution System	
BDF	Medium Voltage Distribution System	
BDG	Medium Voltage Distribution System	
BDH	Medium Voltage Distribution System	
BDJ	Medium Voltage Distribution System	
BDK	Medium Voltage Distribution System	
BDL	Medium Voltage Distribution System	
BDM	Medium Voltage Distribution System	
BDN	Medium Voltage Distribution System	
BDP	Medium Voltage Distribution System	
BDQ	Medium Voltage Distribution System	
BDR	Medium Voltage Distribution System	
BDS	Medium Voltage Distribution System	
BDT	Medium Voltage Transformer	
BDX	Control Medium Supply for Closed/Open Loop Control and Protection Equipment	
BDY	Closed/Open Loop Control and Protection Equipment	
BF	LOW VOLTAGE AUXILIARY POWER SYSTEM 1	
BFA	Low Voltage Distribution System	
BFB	Low Voltage Distribution System	
BFC	Low Voltage Distribution System	
BFD	Low Voltage Distribution System	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BFE	Low Voltage Distribution System	
BFF	Low Voltage Distribution System	
BFG	Low Voltage Distribution System	
BFH	Low Voltage Distribution System	
BFJ	Low Voltage Distribution System	
BFK	Low Voltage Distribution System	
BFL	Low Voltage Distribution System	
BFM	Low Voltage Distribution System	
BFN	Low Voltage Distribution System	
BFP	Low Voltage Distribution System	
BFQ	Low Voltage Distribution System	
BFR	Low Voltage Distribution System	
BFS	Low Voltage Distribution System	
BFT	Low Voltage Transformer	
BFU	Low Voltage Transformer	
BFV	Low Voltage Transformer	
BFW	Low Voltage Transformer	
BFY	Closed/Open Loop Control and Protection Equipment	
BH	LOW VOLTAGE AUXILIARY POWER SYSTEM 2	
BHA	Low Voltage Distribution System	
BHB	Low Voltage Distribution System	
BHC	Low Voltage Distribution System	
BHD	Low Voltage Distribution System	
BHE	Low Voltage Distribution System	
BHF	Low Voltage Distribution System	
BHG	Low Voltage Distribution System	
BHH	Low Voltage Distribution System	
BHJ	Low Voltage Distribution System	
BHK	Low Voltage Distribution System	
BHL	Low Voltage Distribution System	
BHM	Low Voltage Distribution System	
BHN	Low Voltage Distribution System	
BHP	Low Voltage Distribution System	
BHQ	Low Voltage Distribution System	
BHR	Low Voltage Distribution System	
BHS	Low Voltage Distribution System	
BHT	Low Voltage Transformer	
BHU	Low Voltage Transformer	
BHV	Low Voltage Transformer	
BHW	Low Voltage Transformer	
BHY	Closed/Open Loop Control and Protection Equipment	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BJ	LOW VOLTAGE AUXILIARY POWER SYSTEM 3	
BJA	Low Voltage Distribution System	
BJB	Low Voltage Distribution System	
BJC	Low Voltage Distribution System	
BJD	Low Voltage Distribution System	
BJE	Low Voltage Distribution System	
BJF	Low Voltage Distribution System	
BJG	Low Voltage Distribution System	
BJH	Low Voltage Distribution System	
BJJ	Low Voltage Distribution System	
BJK	Low Voltage Distribution System	
BJL	Low Voltage Distribution System	
BJM	Low Voltage Distribution System	
BJN	Low Voltage Distribution System	
BJP	Low Voltage Distribution System	
BJQ	Low Voltage Distribution System	
BJR	Low Voltage Distribution System	
BJS	Low Voltage Distribution System	
BJT	Low Voltage Transformer	
BJY	Closed/Open Loop Control and Protection Equipment	
BL	LOW VOLTAGE AUXILIARY POWER SYSTEM (LIGHTING)	
BLA	Low Voltage Distribution System (Lighting)	
BLB	Low Voltage Distribution System (Lighting)	
BLC	Low Voltage Distribution System (Lighting)	
BLD	Low Voltage Distribution System (Lighting)	
BLE	Low Voltage Distribution System (Lighting)	
BLF	Low Voltage Distribution System (Lighting)	
BLG	Low Voltage Distribution System (Lighting)	
BLH	Low Voltage Distribution System (Lighting)	
BLJ	Low Voltage Distribution System (Lighting)	
BLK	Low Voltage Distribution System (Lighting)	
BLL	Low Voltage Distribution System (Lighting)	
BLM	Low Voltage Distribution System (Lighting)	
BLN	Low Voltage Distribution System (Lighting)	
BLP	Low Voltage Distribution System (Lighting)	
BLQ	Low Voltage Distribution System (Lighting)	
BLR	Low Voltage Distribution System (Lighting)	
BLS	Low Voltage Distribution System (Lighting)	
BLT	Low Voltage Transformer (Lighting)	
BLY	Closed/Open Loop Control and Protection Equipment	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BM	EMERGENCY LOW VOLTAGE AUXILIARY POWER SYSTEM 1 (Diesel Generator Supply)	
BMA	Emergency Low Voltage Distribution System	
BMB	Emergency Low Voltage Distribution System	
BMC	Emergency Low Voltage Distribution System	
BMD	Emergency Low Voltage Distribution System	
BME	Emergency Low Voltage Distribution System	
BMF	Emergency Low Voltage Distribution System	
BMG	Emergency Low Voltage Distribution System	
BMH	Emergency Low Voltage Distribution System	
BMJ	Emergency Low Voltage Distribution System	
BMK	Emergency Low Voltage Distribution System	
BML	Emergency Low Voltage Distribution System	
BMM	Emergency Low Voltage Distribution System	
BMN	Emergency Low Voltage Distribution System	
BMP	Emergency Low Voltage Distribution System	
BMQ	Emergency Low Voltage Distribution System	
BMR	Emergency Low Voltage Distribution System	
BMS	Emergency Low Voltage Distribution System	
BMT	Emergency Low Voltage Transformer	
BMU	Emergency Low Voltage Transformer	
BMV	Emergency Low Voltage Transformer	
BMW	Emergency Low Voltage Transformer	
BMY	Closed/Open Loop Control and Protection Equipment	
BN	EMERGENCY LOW VOLTAGE AUXILIARY POWER SYSTEM 2	
BNA	Emergency Low Voltage Distribution System	
BNB	Emergency Low Voltage Distribution System	
BNC	Emergency Low Voltage Distribution System	
BND	Emergency Low Voltage Distribution System	
BNE	Emergency Low Voltage Distribution System	
BNF	Emergency Low Voltage Distribution System	
BNG	Emergency Low Voltage Distribution System	
BNH	Emergency Low Voltage Distribution System	
BNJ	Emergency Low Voltage Distribution System	
BNK	Emergency Low Voltage Distribution System	
BNL	Emergency Low Voltage Distribution System	
BNM	Emergency Low Voltage Distribution System	
BNN	Emergency Low Voltage Distribution System	
BNP	Emergency Low Voltage Distribution System	
BNQ	Emergency Low Voltage Distribution System	
BNR	Emergency Low Voltage Distribution System	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BNS	Emergency Low Voltage Distribution System	
BNT	Emergency Low Voltage Transformer	
BNU	Emergency Low Voltage Transformer	
BNV	Emergency Low Voltage Transformer	
BNW	Emergency Low Voltage Transformer	
BNY	Closed/Open Loop Control and Protection Equipment	
BP	HEAVY CURRENT EQUIPMENT FOR LARGE VARIABLE SPEED DRIVES	
	(Frequency converter system, e.g. for feedwater pumps excl. equipment, not power adjusters in switchgear)	
BPA	Heavy current equipment for variable speed drive on boiler feed pump	
BPB	Heavy current equipment for variable speed drive on coal plant	
BPC	Heavy current equipment for variable speed drive on ash plant	
BPD	Heavy current equipment for variable speed drive on main cooling plant	
BPE	Heavy current equipment for variable speed drive in LP services	
BPF	Heavy current equipment for large variable speed drive frequency converter for large blower systems	
BR	LOW VOLTAGE AUXILIARY POWER SYSTEM (CONVERTER, INVERTER)	
BRA	Low Voltage Distribution System (Converter, Inverter)	
BRB	Low Voltage Distribution System (Converter, Inverter)	
BRC	Low Voltage Distribution System (Converter, Inverter)	
BRD	Low Voltage Distribution System (Converter, Inverter)	
BRE	Low Voltage Distribution System (Converter, Inverter)	
BRF	Low Voltage Distribution System (Converter, Inverter)	
BRG	Low Voltage Distribution System (Converter, Inverter)	
BRH	Low Voltage Distribution System (Converter, Inverter)	
BRJ	Low Voltage Distribution System (Converter, Inverter)	
BRK	Low Voltage Distribution System (Converter, Inverter)	
BRL	Low Voltage Distribution System (Converter, Inverter)	
BRM	Low Voltage Distribution System (Converter, Inverter)	
BRN	Low Voltage Distribution System (Converter, Inverter)	
BRP	Low Voltage Distribution System (Converter, Inverter)	
BRQ	Low Voltage Distribution System (Converter, Inverter)	
BRR	Low Voltage Distribution System (Converter, Inverter)	
BRS	Low Voltage Distribution System (UPS)	
BRT	Converter (Rotating)	
BRU	Converter (Static), Inverter	
BRV	Emergency Power Generation Equipment (If not under X-heavy machine)	
BRY	Closed/Open Loop Control and Protection Equipment	
BT	DC GENERATION EQUIPMENT (BATTERY AND CHARGER)	
BTA	Battery	
BTB	Battery	
BTC	Battery	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BTD	Battery	
BTE	Battery	
BTF	Battery	
BTG	Battery	
BTH	Battery	
BTJ	Battery	
BTK	Battery	
BTL	Battery Charger	
BTM	Battery Charger	
BTN	Battery Charger	
BTP	Battery Charger	
BTQ	Battery Charger	
BTR	Battery Charger	
BTS	Battery Charger	
BTT	Battery Charger	
BTU	Battery Charger	
BTV	Battery Charger	
BTW	Uninterruptible Power Supply	
BTX	Common Equipment	
BTY	Common Equipment	
BTZ	Common Equipment	
BU	DC DISTRIBUTION SYSTEM	
BUA	DC Distribution System	
BUB	DC Distribution System	
BUC	DC Distribution System	
BUD	DC Distribution System	
BUE	DC Distribution System	
BUF	DC Distribution System	
BUG	DC Distribution System	
BUH	DC Distribution System	
BUJ	DC Distribution System	
BUK	DC Distribution System	
BUL	DC Distribution System	
BUM	DC Distribution System	
BUN	DC Distribution System	
BUP	DC Distribution System	
BUQ	DC Distribution System	
BUR	DC Distribution System	
BUS	DC Distribution System	
BUY	Closed/Open Loop Control and Protection Equipment	
BV	DC EMERGENCY DISTRIBUTION SYSTEM 1	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BVA	DC Emergency Distribution System	
BVB	DC Emergency Distribution System	
BVC	DC Emergency Distribution System	
BVD	DC Emergency Distribution System	
BVE	DC Emergency Distribution System	
BVF	DC Emergency Distribution System	
BVG	DC Emergency Distribution System	
BVH	DC Emergency Distribution System	
BVJ	DC Emergency Distribution System	
BVK	DC Emergency Distribution System	
BVL	DC Emergency Distribution System	
BVM	DC Emergency Distribution System	
BVN	DC Emergency Distribution System	
BVP	DC Emergency Distribution System	
BVQ	DC Emergency Distribution System	
BVR	DC Emergency Distribution System	
BVS	DC Emergency Distribution System	
BVY	Closed/Open Loop Control and Protection Equipment	
BW	DC EMERGENCY DISTRIBUTION SYSTEM 2	
BWA	DC Emergency Distribution System	
BWB	DC Emergency Distribution System	
BWC	DC Emergency Distribution System	
BWD	DC Emergency Distribution System	
BWE	DC Emergency Distribution System	
BWF	DC Emergency Distribution System	
BWG	DC Emergency Distribution System	
BWH	DC Emergency Distribution System	
BWJ	DC Emergency Distribution System	
BWK	DC Emergency Distribution System	
BWL	DC Emergency Distribution System	
BWM	DC Emergency Distribution System	
BWN	DC Emergency Distribution System	
BWP	DC Emergency Distribution System	
BWQ	DC Emergency Distribution System	
BWR	DC Emergency Distribution System	
BWS	DC Emergency Distribution System	
BWY	Closed/Open Loop Control and Protection Equipment	
BY	CLOSED/OPEN LOOP CONTROL AND PROTECTION EQUIPMENT	
BYA	Analogue Measurement Panel	
BYB	Local Alarm Panel	
BYC	Station Distribution Frame	

B	POWER STATION ELECTRICAL POWER SYSTEM	Rev
BYG	Marshalling Panel	
BYH	Measurement	
BYJ	Local Control/Panel	
BYK	DC Supply including Associated Equipment	
BYL	AC Supply and Distribution	
BYQ	Computer Equipment	

A.3 C – Control and Instrumentation Equipment

C	CONTROL AND INSTRUMENTATION EQUIPMENT	Rev
CA	PROTECTION INTERLOCKING	
CAA	Protection Interlocking Cabinet A	
CAB	Protection Interlocking Cabinet B	
CAC	Protection Interlocking Cabinet C	
CAD	Protection Interlocking Cabinet D	
CAE	Protection Interlocking Cabinet E	
CAF	Protection Interlocking Cabinet F	
CAG	Protection Interlocking Cabinet G	
CAH	Protection Interlocking Cabinet H	
CAJ	Protection Interlocking Cabinet J	
CAK	Protection Interlocking Cabinet K	
CAL	Protection Interlocking Cabinet L	
CAM	Protection Interlocking Cabinet M	
CAN	Protection Interlocking Cabinet N	
CAP	Protection Interlocking Cabinet P	
CAQ	Protection Interlocking Cabinet Q	
CB	FUNCTIONAL GROUP CONTROL, PARTIAL CONTROL	
CBA	Functional Group Control Cabinet A	
CBB	Functional Group Control Cabinet B	
CBC	Functional Group Control Cabinet C	
CBD	Functional Group Control Cabinet D	
CBE	Functional Group Control Cabinet E	
CBF	Functional Group Control Cabinet F	
CBG	Functional Group Control Cabinet G	
CBH	Functional Group Control Cabinet H	
CBJ	Functional Group Control Cabinet J	
CBK	Functional Group Control Cabinet K	
CBL	Functional Group Control Cabinet L	
CBM	Functional Group Control Cabinet M	
CBN	Functional Group Control Cabinet N	
CBP	Synchronizing Cabinet	
CBQ	Auxiliary Power Supply Changeover System Cabinet	
CC	BINARY SIGNAL CONDITIONING	
CCA	Binary Signal Conditioning Cabinet A	
CCB	Binary Signal Conditioning Cabinet B	
CCC	Binary Signal Conditioning Cabinet C	
CCD	Binary Signal Conditioning Cabinet D	
CCE	Binary Signal Conditioning Cabinet E	
CCF	Binary Signal Conditioning Cabinet F	
CCG	Binary Signal Conditioning Cabinet G	

C	CONTROL AND INSTRUMENTATION EQUIPMENT	Rev
CCH	Binary Signal Conditioning Cabinet H	
CCJ	Binary Signal Conditioning Cabinet J	
CCK	Binary Signal Conditioning Cabinet K	
CCL	Binary Signal Conditioning Cabinet L	
CCM	Binary Signal Conditioning Cabinet M	
CCN	Binary Signal Conditioning Cabinet N	
CCP	Binary Signal Conditioning Cabinet P	
CCQ	Binary Signal Conditioning Cabinet Q	
CD	DRIVE CONTROL INTERFACE	
CDA	Drive Control Cabinet A	
CDB	Drive Control Cabinet B	
CDC	Drive Control Cabinet C	
CDD	Drive Control Cabinet D	
CDE	Drive Control Cabinet E	
CDF	Drive Control Cabinet F	
CDG	Drive Control Cabinet G	
CDH	Drive Control Cabinet H	
CDJ	Drive Control Cabinet J	
CDK	Drive Control Cabinet K	
CDL	Drive Control Cabinet L	
CDM	Drive Control Cabinet M	
CDN	Drive Control Cabinet N	
CDP	Drive Control Cabinet P	
CDQ	Drive Control Cabinet Q	
CE	ALARM SYSTEM	
CEA	Annunciation Cabinet A	
CEB	Annunciation Cabinet B	
CEC	Annunciation Cabinet C	
CED	Annunciation Cabinet D	
CEE	Annunciation Cabinet E	
CEF	Annunciation Cabinet F	
CEG	Annunciation Cabinet G	
CEH	Annunciation Cabinet H	
CEJ	Fault Registration A	
CEK	Fault Registration B	
CEL	Fault Registration C	
CEM	Fault Registration D	
CEN	Fault Registration E	
CEP	Fault Registration F	
CEQ	Fault Registration G	
CF	MEASUREMENT, REGISTRATION, RECORDING	

C	CONTROL AND INSTRUMENTATION EQUIPMENT	Rev
CFA	Measurement Cabinet A	
CFB	Measurement Cabinet B	
CFC	Measurement Cabinet C	
CFD	Measurement Cabinet D	
CFE	Measurement Cabinet E	
CFF	Measurement Cabinet F	
CFL	Radiation Measurement Cabinet A	
CFM	Radiation Measurement Cabinet B	
CFN	Radiation Measurement Cabinet C	
CFP	Radiation Measurement Cabinet D	
CFQ	Registration Recording Cabinet (Counter, Printer, etc.)	
CG	CLOSED LOOP CONTROL (EXCLUDING POWER PART/CORRECTING UNIT)	
CGA	HP Bypass Control Cubicle	
CGB	Closed Loop Control Cabinet B	
CGC	Closed Loop Control Cabinet C	
CGD	Closed Loop Control Cabinet D	
CGE	Closed Loop Control Cabinet E	
CGF	Closed Loop Control Cabinet F	
CGG	Closed Loop Control Cabinet G	
CGH	Closed Loop Control Cabinet H	
CH	PROTECTION (EXCEPT REACTOR PROTECTION)	
CHA	Generator Protection Cabinet A	
CHB	Generator Protection Cabinet B	
CHC	Generator Protection Cabinet C	
CHD	Generator Protection Cabinet D	
CHE	Mechanical Equipment Protection Cabinet A	
CHF	Mechanical Equipment Protection Cabinet B	
CHG	Mechanical Equipment Protection Cabinet C	
CHH	Mechanical Equipment Protection Cabinet D	
CHJ	Mechanical Equipment Protection Cabinet E	
CHK	Mechanical Equipment Protection Cabinet F	
CHL	Mechanical Equipment Protection Cabinet G	
CHM	Mechanical Equipment Protection Cabinet H	
CHN	Mechanical Equipment Protection Cabinet J	
CHP	Mechanical Equipment Protection Cabinet K	
CHQ	Mechanical Equipment Protection Cabinet L	
CHR	Mechanical Equipment Protection Cabinet M	
CHS	Mechanical Equipment Protection Cabinet N	
CHT	Mechanical Equipment Protection Cabinet P	
CHU	Mechanical Equipment Protection Cabinet Q	
CHV	Mechanical Equipment Protection Cabinet R	

C	CONTROL AND INSTRUMENTATION EQUIPMENT	Rev
CHW	Mechanical Equipment Protection Cabinet S	
CHX	Mechanical Equipment Protection Cabinet T	
CHY	Mechanical Equipment Protection Cabinet U	
CJ	UNIT COORDINATION LEVEL	
CJA	Unit Coordination System (Including Cabinet)	
CJD	Start-up Control, Set Point Formation (Unit Related) (Including cabinet)	
CJF	Boiler Master Control System (Including Cabinet)	
CJJ	Steam Turbine Set Master Control Cabinet A	
CJK	Steam Turbine Set Master Control Cabinet B	
CJL	Steam Turbine Set Master Control Cabinet C	
CJM	Steam Turbine Set Master Control Cabinet D	
CJN	Steam Turbine Set Master Control Cabinet E	
CJU	Main and Large Machine Master Control Cabinet A	
CJV	Main and Large Machine Master Control Cabinet B	
CJW	Main and Large Machine Master Control Cabinet C	
CJX	Main and Large Machine Master Control Cabinet D	
CJY	Main and Large Machine Master Control Cabinet E	
CK	PROCESS COMPUTER SYSTEM	
CKA	Monitoring Computer	
CKB	Active Control Computer	
CKC	Energy Summation Computer	
CKD	Supervisory Computer	
CKE	Status Display Computer A	
CKF	Status Display Computer B	
CKG	Status Display Computer C	
CKH	Status Display Computer D	
CKJ	Access Control Computer A	
CKK	Access Control Computer B	
CKL	Access Control Computer C	
CKM	Access Control Computer D	
CKN	Access Control Computer E	
CKP	Access Control Computer F	
CKQ	Access Control Computer G	
CKR	Access Control Computer H	
CKS	Access Control Computer J	
CKT	Access Control Computer K	
CKU	Access Control Computer L	
CKV	Access Control Computer M	
CKW	Access Control Computer N	
CKX	Access Control Computer P	
CKY	Access Control Computer Q	

C	CONTROL AND INSTRUMENTATION EQUIPMENT	Rev
CKZ	Training Simulator	
CM	INSTRUMENT AND CONTROL EQUIPMENT	2
CMA	Instrumentation and control equipment	2
CMB	Instrumentation and control equipment	2
CMC	Instrumentation and control equipment	2
CME	Instrumentation and control equipment	2
CN	INSTRUMENT AND CONTROL EQUIPMENT	2
CNA	Instrumentation and control equipment	2
CNB	Instrumentation and control equipment	2
CNC	Instrumentation and control equipment	2
CND	Instrumentation and control equipment	2
CP	SEPARATE AUTOMATION SYSTEM	2
CPB	Separate automation system	2
CPE	Separate automation system	2
CQ	INSTRUMENT AND CONTROL EQUIPMENT	2
CQA	Instrumentation and control equipment	2
CQB	Instrumentation and control equipment	2
CQD	Instrumentation and control equipment	2
CQE	Instrumentation and control equipment	2
CQF	Instrumentation and control equipment	2
CQG	Instrumentation and control equipment	2
CQH	Instrumentation and control equipment	2
CQJ	Instrumentation and control equipment	2
CR	GROUP CONTROL CUBICLE (ONLY TO BE USED WHEN ‘CB’ IS FULL)	
CRA	Group Control Cubicle	
CRB	Group Control Cubicle	
CRC	Group Control Cubicle	
CRD	Group Control Cubicle	
CRE	Group Control Cubicle	
CRF	Group Control Cubicle	
CRX	Group Control Cubicle	
CRY	Group Control Cubicle	
CS	SYSTEM COMBINATIONS	
CSA	Automation System Cabinet A	
CSB	Automation System Cabinet B	
CSC	Automation System Cabinet C	
CSD	Automation System Cabinet D	
CSE	Automation System Cabinet E	
CSF	Automation System Cabinet F	
CSG	Automation System Cabinet G	
CSH	Automation System Cabinet H	

C	CONTROL AND INSTRUMENTATION EQUIPMENT	Rev
CSJ	Automation System Cabinet J	
CSK	Automation System Cabinet K	
CSL	Automation System Cabinet L	
CSM	Automation System Cabinet M	
CSN	Automation System Cabinet N	
CT	RELAY CUBICLE FOR BINARY DRIVES	
CTE	Interposing Relay Cubicle for Binary Drives	
CTV	220 V Distribution Cubicle	
CU	CLOSED LOOP CONTROL (POWER PART/CORRECTING UNIT)	
CUA	Cabinet for Closed Loop Control (Power Parts) A	
CUB	Cabinet for Closed Loop Control (Power Parts) B	
CUC	Cabinet for Closed Loop Control (Power Parts) C	
CUD	Cabinet for Closed Loop Control (Power Parts) D	
CUE	Cabinet for Closed Loop Control (Power Parts) E	
CUF	Cabinet for Closed Loop Control (Power Parts) F	
CUG	Cabinet for Closed Loop Control (Power Parts) G	
CUH	Cabinet for Closed Loop Control (Power Parts) H	
CUJ	Cabinet for Closed Loop Control (Power Parts) J	
CUK	Cabinet for Closed Loop Control (Power Parts) K	
CUL	Cabinet for Closed Loop Control (Power Parts) L	
CUM	Cabinet for Closed Loop Control (Power Parts) M	
CUN	Cabinet for Closed Loop Control (Power Parts) N	
CUP	Cabinet for Closed Loop Control (Power Parts) P	
CUQ	Cabinet for Closed Loop Control (Power Parts) Q	
CV	MARSHALLING RACK AND SIGNAL - DISTRIBUTION FRAME	
CVA	Distribution Frame (UDF and SDF)	
CVB	Distribution Frame (MDF)	
CVC	Uninterruptible Power Supply Distribution Frame	
CVD	Control interface box	
CVE	Control interface box	
CVF	Control interface box	
CVG	Control interface box	
CVP	Main C&I Marshalling Cubicle	
CW	CONTROL ROOM	
CWA	Main Control Desk A	
CWB	Main Control Desk B	
CWC	Main Control Desk C	
CWD	Main Control Desk D	
CWE	Main Control Desk E	
CWF	Main Control Panel A	
CWG	Main Control Panel B	

C	CONTROL AND INSTRUMENTATION EQUIPMENT	Rev
CWH	Main Control Panel C	
CWJ	Main Control Panel D	
CWK	Main Control Panel E	
CWL	Main Control Panel F	
CWM	Main Control Panel G	
CWN	HV Yard Mimic	
CWP	Process Passive Mimic	
CWQ	Voltage Distribution Cabinet	
CWR	Voltage Distribution Cabinet	
CX	LOCAL CONTROL STATION (CABINET AND PANEL)	
CXW	Generator Auxiliary Cubicle	
CY	TELECOMMUNICATION EQUIPMENT	
CYA	Telephone system (PAX/PABX)	
CYB	Telephone Control Console (Intercom system repeater and base station)	
CYC	Loudspeaker System (Tone alarm public address)	
CYD	Visual Signal System	
CYE	Fire Alarm System	
CYF	Clock System	
CYG	Remote Supervisory System	
CYH	Telemetering System	
CYJ	Remote Metering System	
CYK	HF Carrier Telephone System	
CYL	Staff Paging System, Wireless	
CYP	TV-Supervisory Control System	
CYQ	Gas alarm system	
CYR	Pneumatic Tube Conveyor	
CYS	Radio Network (VHF, UHF, SHF)	
CYT	Intrusion detection system	2
CYU	Access control system	2
CYV	Plant and production management system	2
CYW	EPPA (if separate from CYC)	2
CYX	Communication and information system. (available for use)	2
CYY	Consolidated building management system	2
CYZ	IT & COMMS	2

A.4 E – Conventional Fuel Supply and Residue Disposal

E	CONVENTIONAL FUEL SUPPLY AND RESIDUE DISPOSAL	Rev
EA	COAL UNLOADING AND STORAGE	
EAA	Ship unloading system	
	From Incl. unloading equipment	
	To Excl. transport storage system	
EAB	Wagon and truck unloading	
	From Incl. unloading equipment	
	To Excl. transport storage system	
EAC	Transport System	
	From Incl. reception point	
	To Excl. storage (stockpile) Incl. internal transport system within coal unloading and storage areas	
	To Excl. outlet	
EAD	Stacking, reclaiming equipment	
	From Excl. transport system	
	To Excl. storage system (stockpile)	
EAE	Storage area (stockpile)	
	From Excl. stacking, reclaiming system	
	To Excl. transport stacking, reclaiming system	
EAF	Excavation system, return loading system	
	From Excl. bunker system storage area	
	To Excl. transport system	
EAT	Weighing equipment (mass meter)	
EAU	Sampling equipment	
EAX	Control medium supply for closed/open loop control and protection equipment	
EAY	Closed/open loop control and protection equipment	
EB	MECHANICAL COAL TREATMENT (COAL CRUSHING, MIXING DRYING) BEFORE STATION RECEPTION POINT	
EBA	Transport system	
	From Incl. receiving point	
	To Excl. transfer point to treatment mixing system	
EBB	Mixing system	
	From Incl. receiving point	
	To Excl. transfer point to another system	
EBC	Crushing System	
	From Incl. receiving point	
	To Excl. transfer point of another system	
EBD	Screening System	
	From Incl. receiving point	
	To Excl. transfer point of another system	

E	CONVENTIONAL FUEL SUPPLY AND RESIDUE DISPOSAL	Rev
EBE	Separator system and associated removal equipment - if not constructive part of one of the previous systems (EBA to EBD)	
	From Incl. receiving point	
	To Excl. transfer point of another system	
EBR	Residue removal	
EBT	Weighing equipment (mass meter)	
EBU	Sampling equipment	
EBX	Control medium supply for closed/open loop control and protection equipment	
EBY	Closed/open loop control and protection equipment	
EC	COAL DISTRIBUTION AND UNIT (INTERMEDIATE) STORAGE SYSTEM	
ECA	Transport system	
	From Excl. coal unloading and storage system	
	To Excl. unit (intermediate) storage system (silos/staithes)	
ECB	Transport system (Conveyors to mill bins)	
	From Excl. unit (intermediate) storage system (silos/staithes)	
	To Excl. bunker for pulverizing system	
ECE	Unit (intermediate) storage system (silos/staithes)	
	From Excl. transport system	
	To Excl. transport system (conveyors to mill bins)	
ECT	Weighing equipment (mass meter)	
ECU	Sampling equipment	
ECX	Control medium supply for closed/open loop control and protection equipment	
ECY	Closed/open loop control and protection equipment	
EG	OIL SUPPLY (APPLICABLE TO ESKOM LIGHTING-UP OIL SYSTEM)	
EGA	Handing over point equipment including long distance pipeline	
	From Excl. reception point	
	To Excl. tank Incl. handing over pumping units	
EGB	Storage tank system	
	From Incl. inlet of storage tank	
	To Incl. outlet of storage tank	
EGC	Pumping system	
	From Incl. pump suction flange	
	To Incl. pump discharge flange	
EGD	Piping system	
	From Excl. tank outlet	
	To Excl. intermediate oil tank respective individual consumers (Burners)	
EGR	Residue removal system	
EGT	Heating medium system (Steam system)	
	From Excl. branch of supply system	
	To Incl. consumer and	
	From Excl. consumers	

E	CONVENTIONAL FUEL SUPPLY AND RESIDUE DISPOSAL	Rev
	To Excl. inlet into another system	
EGX	Control medium supply for closed/open loop control and protection equipment	
EGY	Closed/open loop control and protection equipment	
EK	GAS SUPPLY (APPLICABLE TO ESKOM LIGHTING-UP GAS SYSTEM)	
EKA	Gas pipe system equipment including long distance pipeline	
	From Excl. offloading point	
	To Incl. inlet of another system	
EKB	Liquid separation	
	From Incl. Liquid separation inlet	
	To Incl. liquid separation outlet	
EKC	Heating system	
	From Incl. heating inlet	
	To Incl. heating outlet	
EKD	Pressure reducing station (Expansion turbine)	
	From Incl. pressure reducing station inlet	
	To Incl. pressure reducing station outlet	
EKE	Mechanical purification, gas scrubbing	
	From Incl. inlet mechanical purification gas scrubbing	
	To Incl. outlet mechanical purification gas scrubbing	
EKF	Storage tank system (Cylinders)	
	from Incl. storage tank inlet	
	To Incl. storage tank outlet	
EKG	Piping system	
	From Excl. storage system	
	To Excl. supply to customers	
EKH	Main pressure increasing equipment	
	From Incl. pump suction flange	
	To Incl. pump discharge flange	
EKR	Residue separation	
EKT	Heating medium system	
	From Excl. diversion supply system	
	To Excl. consumer and	
	From Excl. consumer	
	To Excl. feed into another system	
EKX	Control medium supply for closed/open loop control and protection equipment	
EKY	Closed/open loop control and protection equipment	
EN	OTHER FUEL SUPPLY (USE ONLY FOR COMBINATIONS OF DIFFERENT FUEL TYPES	
ENA	Diesel fuel oil storage	
	From Incl. storage tank inlet	
	To Incl. storage tank outlet	
END	Diesel fuel oil piping system	

E	CONVENTIONAL FUEL SUPPLY AND RESIDUE DISPOSAL	Rev
	From Excl. off-loading point	
	To Incl. inlet of another system	
ENG	Diesel fuel oil pumping system	
	From Incl. pump suction flange	
	To Incl. pump discharge flange	
ENX	Control medium supply of closed/open loop control and protection equipment	
ER	LIGHTING-UP FUEL SUPPLY	
ERA	Pulverized coal supply system	
	From Excl. reception point	
	To Excl. coal burners or	
	To Excl. other consumers	
ERB	Oil supply system (for Eskom see EG system)	
	From Excl. reception point	
	To Excl. oil burners or	
	To Excl. other consumers	
ERC	Gas supply system (for Eskom see EK system)	
	From Excl. reception point	
	To Excl. gas burners or	
	To Excl. other consumers	
ERX	Control medium supply for closed/open loop control and protection equipment	
ERY	Closed/open loop control and protection equipment	
ET	ASH AND SLAG REMOVAL SYSTEM (FROM EXCLUDING REMOVAL EQUIPMENT)	
ETA	Wet ash conveying system	
	From Excl. transport equipment (submerged scraper conveyor) or	
	From Excl. reception point	
	To Excl. storage area or	
	To Excl. transport point of another system (transverse conveyor)	
ETB	Wet ash settling pond and storage system	
	From Excl. reception point	
	To Incl. transport equipment	
ETC	Wet ash extraction system	
	From Excl. reception point	
	To Excl. transfer point of another system	
ETD	Granulate conveying system (coarse ash)	
	From Excl. transport equipment	
	To Excl. storage tank or	
	To Excl. transfer point of another system	
ETE	Granulate storage system (coarse ash)	
	From Excl. reception point	
	To Incl. transport equipment	
ETG	Dry ash conveying system	

E	CONVENTIONAL FUEL SUPPLY AND RESIDUE DISPOSAL	Rev
	From Excl. transport equipment (e.g. precipitator outlet)	
	To Excl. storage system or	
	To Excl. transfer point of another system	
ETH	Dry ash storage system (Fly ash bunker)	
	From Excl. reception point	
	To Excl. transport equipment (ash conditioners)	
ETK	Wet and dry ash common conveying system	
	From Excl. reception point	
	To Excl. storage area or	
	To Excl. transfer point of another system	
ETL	Wet and dry ash common storage system (Ash dump, ash dam)	
	From Excl. reception point	
	To Incl. storage point	
ETM	Wet and dry ash settling system	
	From Excl. reception point conveying machinery	
	To Excl. pit or	
	To Excl. transfer point of another system	
ETN	Scavenge water transport, distribution and recovery for flushing and ash water	
	From Excl. inlet or	
	From Incl. diversion	
	To Excl. inlet into another system	
ETP	Generation and distribution of conveying/aeration air	
	From Excl. diversion or	
	From Incl. compressor plant	
	To Excl. inlet into conveying system	
ETS	Stacking, Spreading system	
	From Excl. transport system	
	From Excl. storage system (ash dump)	
ETV	Lubricant supply system	2
ETX	Control medium supply for closed/open loop control and protection equipment	
ETY	Closed/open loop control and protection equipment	
EU	TREATMENT AND TRANSPORT SYSTEM FOR COMBUSTION, FUEL TREATMENT, FUEL CONVERTING, FUEL GAS CLEANING RESIDUE	
EUA	Treatment system for residue of fuel treatment	
	From Incl. inlet	
	To Incl. outlet	
EUB	Treatment system for residue of fuel converting	
	From Incl. inlet	
	To Incl. outlet	
EUC	Treatment system for residue of fuel combustion	
	From Incl. inlet	

E	CONVENTIONAL FUEL SUPPLY AND RESIDUE DISPOSAL	Rev
	To Incl. outlet	
EUD	Treatment system for residue of fuel gas purification	
	From Incl. Inlet	
	To Incl. outlet	
EUX	Control medium supply for closed/open loop control and protection equipment	
EUY	Closed/open loop control and protection equipment.	
EY	CLOSED/OPEN LOOP CONTROL AND PROTECTION EQUIPMENT	
EYA	Control Desk in Control Room	
EYB	Control Panel in Control Room	
EYC	Local Control Panel Desk and Solenoid Operated Valve Panel	
EYD	Spare	
EYE	Spare	
EYF	Spare	
EYG	Marshaling Panel	
EYH	Measurement Rack	
EYJ	VSD Field equipment panels	2
EYK	DC Supply including Associated Equipment	
EYL	AC Supply a Distribution	
EYQ	Computer Equipment	

A.5 G – Water Supply and Discharge

G	WATER SUPPLY AND DISCHARGE	Rev
GA	RAW WATER SUPPLY SYSTEM	
GAA	Supply system, mechanical	
	From Incl. inlet screen	
	To Incl. outlet screen	
GAC	Piping and channel system	
	From Excl. extraction point or	
	From Excl. outlet of another system	
	To Excl. inlet into another system	
GAD	Storage equipment	
	From Incl. storage system inlet	
	To Incl. storage system outlet	
GAF	Pumping system	
	From Incl. pump suction flange	
	To Incl. pump discharge flange	
GAV	Lubrication medium supply	
GAX	Control medium supply for closed/open loop control and protection equipment	
GAY	Closed/open loop control and protection equipment	
GB	TREATMENT (DECARBONIZATION) INCL. COOLING TOWER MAKE-UP WATER TREATMENT	
GBB	Filtering, mechanical purification	
	From Incl. inlet to purification equipment	
	To Incl. outlet of purification equipment	
GBC	Ventilation, gas injection	
	From Excl. atmosphere or	
	From Incl. gas supply	
	To Excl. inlet to another system	
GBD	Precipitation (e.g. decarbonization, flocculation)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
GBE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. inlet of another system	
GBF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger system inlet and	
	From Incl. chemical supply isolating valve, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger system outlet	

GBG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. hot steam inlet	
	To Incl. condensate outlet	
GBH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet Incl. heating equipment steam condenser	
GBJ	Preheating, cooling	
	From Incl. heater or cooler inlet	
	To Incl. heater or cooler outlet	
GBK	Internal piping, intermediate storage, pump system for main medium internal piping	
	From Excl. extraction point or outlet of another system	
	To Excl. inlet of another system	
	To Incl. medium treatment outlet	
	Intermediate storage:	
	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange, pumping system	
	To Incl. discharge flange, pumping system	
GBL	Storage outside medium handling (if not part of another system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
GBN	Chemical supply system	
	From Incl. intake or	
	From Incl. storage tank	
	To Excl. transfer of another system	
GBP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection to another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
GBQ	Injection device for main medium (e.g. hardness stabilization)	
	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
GBR	Flushing water and residue removal incl. neutralization	
	From Excl. outlet of the respective system	

	To Excl. transfer point of another system	
GBS	Sludge thickener	
	From Excl. outlet of the respective system	
	To Excl. transfer of another system	
GBT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
GBX	Control medium supply for closed/open loop control and protection equipment	
GBY	Closed/open loop control and protection equipment	
GC	TREATMENT (DEMINERALIZATION)	
GCB	Filtering, mechanical purification	
	From Incl. separator system inlet	
	To Incl. separator system outlet	
GCC	Ventilation, gas injection	
	From Excl. atmosphere or	
	From Incl. gas supply	
	To Excl. inlet to another system	
GCD	Precipitation (e.g. decarbonization, flocculation)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
GCE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. inlet of another system	
GCF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger system inlet and	
	From Incl. chemical supply isolating valve, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger system outlet	
GCG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. hot steam inlet	
	To Incl. condensate outlet	
GCH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet incl. heating equipment steam condenser	
GCJ	Preheating, cooling	

	From Incl. heater or cooler inlet	
	To Incl. heater or cooler outlet	
GCK	Internal piping, intermediate storage, pump system for main medium	
	Internal piping:	
	From Excl. extraction point or outlet of another system	
	To Excl. inlet of another system	
	To Incl. medium treatment outlet	
	Intermediate storage:	
	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange, pumping system	
	To Incl. discharge flange, pumping system	
GCL	Storage outside medium handling (if not part of another system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
GCN	Chemical supply system	
	From Incl. intake or	
	From Incl. storage tank	
	To Excl. transfer into another system	
GCP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection to another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
GCQ	Injection device for main medium (e.g. hardness stabilization)	
	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
GCR	Flushing water and residue removal incl. neutralization	
	From Excl. outlet of the respective system	
	To Excl. transfer point of another system	
GCS	Sludge thickener	
	From Excl. outlet of the respective system	
	To Excl. transfer of another system	
GCT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	

	From Excl. consumer	
GCX	Control medium supply for closed/open loop control and protection equipment	
GCY	Closed/open loop control and protection equipment	
GD	TREATMENT SYSTEM (OTHERS)	1
GDB	Filtering, mechanical purification	
	From Incl. separator system inlet	
	To Incl. separator system outlet	
GDC	Ventilation, gas injection	
	From Excl. atmosphere or	
	From Incl. gas supply	
	To Excl. inlet to another system	
GDD	Precipitation (e.g. decarbonization, flocculation)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
GDE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. inlet of another system	
GDF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger system inlet and	
	From Incl. chemical supply isolating valve, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger system outlet	
GDG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. hot steam inlet	
	To Incl. condensate outlet	
GDH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet incl. heating equipment steam condenser	
GDJ	Preheating, cooling	
	From Incl. heater or cooler inlet	
	To Incl. heater or cooler outlet	
GDK	Internal piping, intermediate storage, pump system for main medium	
	Internal piping:	
	From Excl. extraction point or outlet of another system	
	To Excl. inlet of another system	
	To Incl. medium treatment outlet	
	Intermediate storage:	

	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange, pumping system	
	To Incl. discharge flange, pumping system	
GDL	Storage outside medium handling (if not part of other system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
GDN	Chemical supply system	
	From Incl. intake or	
	From Incl. storage tank	
	To Excl. transfer of another system	
GDP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection to another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
GDQ	Injection device for main medium (e.g. hardness stabilization)	
	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
GDR	Flushing water and residue removal incl. neutralization	
	From Excl. outlet of the respective system	
	To Excl. transfer point of another system	
GDS	Sludge thickener	
	From Excl. outlet of the respective system	
	To Excl. transfer point of another system	
GDT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
GDX	Control medium supply for closed/open loop control and protection equipment	
GDY	Closed/open loop control and protection equipment	
GH	DISTRIBUTION SYSTEM (NOT POTABLE WATER AND NOT COOLING WATER)	
GHA	Service water distribution	1
GHB	Distribution after treatment (decarbonization)	
	To Excl. inlet into another system	
GHC	Distribution after treatment (demineralization)	

	To Excl. inlet into another system	
GHD	Distribution after treatment (others)	
	To Excl. inlet into another system	
GHE	Irrigation system	
GK	POTABLE WATER PRODUCTION AND DISTRIBUTION	
GKA	Production, taking over	
GKB	Potable water storage	
GKC	Potable water distribution	
GKH	Potable water supply for Main Group “E” and “H”	1
GKM	Potable water supply for Main Group “M”	1
GKY	Closed/open loop control and protection equipment	
GM	PLANT DRAIN RECOVERY SYSTEM	
GMA	Dirty water storage system	
GMB	Clean water storage system	
GMC	Clean and dirty water storage system	
GMD	Dirty water transport system (To be used if GME is insufficient)	2
GME	Dirty water transport system	
GMF	Clean water transport system	
GMG	Clean and dirty water transport system	
GMH	Process drainage system in structures for conventional heat generation	1
GMJ	Process drainage system in structures for external systems (power plant specific)	1
GMK	Process drainage system in general service structures	1
GML	Process drainage system in structures for steam, water and gas cycles	1
GMM	Process drainage system in structures for main machine sets	1
GN	TREATMENT OF PLANT DRAIN WATER	
GNB	Filtering, mechanical purification	
	From Incl. separator system inlet	
	To Incl. separator system outlet	
GNC	Ventilation, gas injection	
	From Excl. atmosphere or	
	From Incl. gas supply	
	To Excl. inlet to another system	
GND	Precipitation (e.g. decarbonization) (flocculation)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
GNE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. inlet into another system	

GNF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger system inlet and	
	From Incl. chemical supply, isolating valve of chemical supply, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger outlet	
GNG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. steam inlet	
	To Incl. condensate outlet	
GNH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet incl. Heat-up equipment, steam condenser	
GNJ	Preheating, cooling	
	From Incl. heater, cooler inlet	
	To Incl. heater, cooler outlet	
GNK	Internal piping, intermediate storage, pump system for main medium	
	Internal piping:	
	From Excl. extraction point or outlet of another system	
	To Incl. medium treatment outlet	
	To Excl. inlet of another system	
	Intermediate storage:	
	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange, pumping system	
	To Incl. discharge flange, pumping system	
GNL	Storage outside medium handling (if not part of other system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
GNN	Chemical supply system	
	From Incl. extraction point or	
	From Incl. storage tank	
	To Excl. transfer to another system	
GNP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection into another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
GNQ	Injection device for main medium	

	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
GNR	Flushing water and residue removal incl. neutralization	
	From Excl. outlet of the respective system	
	To Excl. transfer point of another system	
GNS	Sludge thickener	
	From Excl. outlet of the respective system	
	To Excl. transfer point of another system	
GNT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
GNX	Control medium supply for closed/open loop control and protection equipment	
GNY	Closed/open loop control and protection equipment	
GQ	COLLECTION AND DISCHARGE SYSTEM FOR DOMESTIC LIQUID WASTE (SEWAGE)	
GQA	Domestic liquid waste (sewage) collection and discharge piping system	
	From Incl. system inlet	
	To Incl. raw sewage collection	
GQB	Domestic liquid waste pumping system	
	(Excl. interconnecting piping)	
	From Incl. suction flange pumping system	
	To Incl. discharge flange pumping system	
GQX	Control medium supply for closed/open loop control and protection equipment	
GQY	Closed/open loop control and protection equipment	
GR	DOMESTIC LIQUID WASTE TREATMENT (SEWAGE)	
GRB	Filtering, mechanical purification	
	From Incl. separator system inlet	
	To Incl. separator system outlet	
GRC	Ventilation, gas injection	
	From Excl. atmosphere or	
	From Incl. gas supply	
	To Excl. inlet to another system	
GRD	Precipitation (e.g. decarbonization)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
GRE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	

	From Excl. chemical supply branch	
	To Excl. inlet into another system	
GRF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger system inlet and	
	From Incl. chemical supply isolating valve, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger system outlet	
GRG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. steam inlet	
	To Incl. condensate outlet	
GRH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet Incl. heat up equipment, steam condenser	
GRJ	Preheating, cooling	
	From Incl. heater, cooler inlet	
	To Incl. heater, cooler outlet	
GRK	Internal piping, intermediate storage, pump system for main medium	
	Internal piping:	
	From Excl. extraction point or outlet of another system	
	To Excl. inlet of another system	
	Intermediate storage:	
	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange, pumping system	
	To Incl. discharge flange, pumping system	
GRL	Storage outside medium handling (if not part of another system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
GRN	Chemical supply system	
	From Incl. extraction point or	
	From Incl. storage tank	
	To Excl. transfer to another system	
GRP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection into another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	

GRQ	Injection device for main medium	
	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
GRR	Flushing water and residue removal incl. neutralization	
	From Excl. outlet of the respective system	
	To Excl. transfer point of another system	
GRS	Sludge thickener	
	From Excl. outlet of the respective system	
	To Excl. transfer point of another system	
GRT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
GRX	Control medium supply for closed/open loop control and protection equipment	
GRY	Closed/open loop control and protection equipment	
GT	WATER RECOVERY FROM DOMESTIC LIQUID WASTE (SEWAGE)	
GTA	Liquid waste water recovery collection and discharge piping system	
	From Excl. final filtration	
	To Excl. inlet to another system	
GTB	Dirty water system	
	Grit systems for Boiler Grit handling and floor washing drainage to be added as another system	
GTC	Clean water system	
GTD	Ash conveyor washing system	
GTE	Bottom ash cooling system	
GTF	Ash conditioning system	
GTG	Coal stockyard drainage	
	Excl. Drains and dam construction. Return system only	
GTH	Ash dump dam make-up water	
GU	COLLECTION AND DISCHARGE SYSTEM FOR RAIN WATER	
GUA	Common discharge piping and channel system - Boiler and Aux bay building	
GUB	Storage system -Turbine building	
GUC	Rainwater collection and drainage system - WTP/LPS building	
GUD	Rainwater collection and drainage system - Admin and other general building	
GUE	Rainwater collection and drainage system - Roads and contractors yards	
GUF	Rainwater collection and drainage system - Turbine building	

GV	LUBRICANT SUPPLY SYSTEM	2
GVA	Lubricant Supply System	2
GY	CLOSED/OPEN CONTROL LOOP AND PROTECTION EQUIPMENT	
GYA	Control desk in control room	
GYB	Control panel in control room	
GYC	Local control panel, desk and solenoid operated valve panel	
GYG	Marshaling panel	
GYH	Measuring rack	
GYJ	VSD Field equipment panels	2
GYK	DC supply incl. associated equipment	
GYL	AC supply and distribution	
GYQ	Computer equipment	

A.6 Conventional Heat Generation

H	CONVENTIONAL HEAT GENERATION	Rev
HA	PRESSURE PARTS SYSTEM	
HAA	LP-partial preheating system (flue gas heated)	
	From Incl. LP-partial preheating system inlet	
	To Incl. LP-partial preheating system outlet	
HAB	HP-partial preheating system (flue gas heated)	
	From Incl. HP-partial preheating system inlet	
	To Incl. HP-partial preheating system outlet	
HAC	Economizer system	
	From Incl. boiler inlet header	
	To Excl. evaporator inlet incl. controllable	
HAD	Evaporator system	
	From Incl. evaporator system inlet	
	To Incl. evaporator system outlet	
	To Incl. steam separator vessel and water collecting vessel (once through) or	
	To Excl. water steam separator collecting vessel (drum)	
HAG	Circulating equipment (incl. circulating pumps)	
	From Excl. steam separator vessel	
	From Incl. water collecting vessel (once through)	
	From Excl. water steam separator collecting vessel (drum)	
	To Excl. heating surfaces system inlet (discharge systems are covered under ‘L’)	
	To Excl. feedwater system	
HAH	HP-super heater system	
	From Excl. evaporator system outlet	
	To Incl. boiler outlet header	
HAJ	Reheating system	
	From Incl. reheater inlet header	
	To Incl. reheater outlet header	
HAK	Secondary reheating system	
	From Incl. secondary reheater inlet header	
	To Incl. secondary reheater outlet header	
HAM	Triflux system	
	From Incl. Triflux system inlet	
	To Incl. Triflux system outlet	
HAN	Drainage, discharge and venting of pressure parts system	
	From Incl. collecting point or	
	From Excl. final drain/vent valve	
	From Excl. transfer point to another system	
HAV	Lubricant supply system	
HAW	Sealing medium supply system	1
HAX	Control medium supply for closed/open loop control and protection equipment	

H	CONVENTIONAL HEAT GENERATION	Rev
HAY	Closed/open loop control and protection equipment	
HB	SUPPORTING STRUCTURE, SKIN CASING, STEAM GENERATOR COMBUSTION CHAMBER	
HBA	Structure incl. foundation	
HBB	Casing, insulation	
HBC	Brick lining incl. insulation brickwork	
HBD	Platforms, stairs, catwalks and galleries	
HBK	Steam generator-combustion chamber, furnace, gas pass	
	From Excl. combustion area	
	To Excl. flue gas ducting system inlet	
HC	CLEANING EQUIPMENT FOR THE HEATING SURFACES ON THE FLUE GAS SIDE	
HCA	Air sootblower system	1
	From Excl. supply system connection	
HCB	Steam sootblower system	1
	From Excl. supply system connection	
HCC	Water sootblower system	1
	From Excl. supply system connection	
HCD	Flushing system	
	From Excl. supply system connection	
HCE	Vibrating equipment	
HCF	Shotblast cleaning system	
HCG	Soundwave system	
HCV	Lubricant supply system	
HCW	Sealing medium supply	
HCX	Control medium supply for closed/open loop control and protection equipment	
HCY	Closed/open loop control and protection equipment	
HD	ASH AND SLAG HANDLING	
HDA	Furnace ash and slag removal	
	From Incl. ash hopper and removal appliance	
	To Excl. transfer point of removal system	
HDC	Ash return system incl. temporary storage	2
	From Incl. removal equipment for heat recovery surfaces or	2
	From Excl. *HDD*, *HDE*, *HDF*	2
	To Excl. ash disposal system *ETG* or	2
	To Excl. inlet of another system	2
HDD	Mechanical dust handling and return system	
	From Excl. flue gas duct inlet	
	To Excl. flue gas duct outlet	
	To Excl. discharge to other system	
HDE	Electrostatic precipitator and return system	
	From Excl. flue gas duct inlet	

H	CONVENTIONAL HEAT GENERATION	Rev
	To Excl. flue gas duct outlet	
	To Excl. discharge to other system	
HDF	Cyclone dust removal and return system	
	From Excl. flue gas duct inlet	
	To Excl. flue gas duct outlet	
	To Excl. discharge to other system	
HDU	Carrier air supply system	1
	From Excl. branch off or	1
	From Incl. compressor system	1
	To Excl. inlet to carrier air system	1
HDW	Sealing medium supply	
HDY	Closed/open loop control and protection equipment	
HF	BUNKER, FEEDER AND PULVERIZING SYSTEM (MILLS)	
HFA	Bunker for pulverizing system (mill bunker)	
	From Excl. inlet point	
	To Incl. bunker outlet gate	
HFB	Feeder system	
	From Excl. bunker outlet gate	
	To Excl. pulverizing system inlet	
HFC	Pulverizing system (incl. classifier and mill system)	
	From Incl. pulverizing system inlet	
	To Excl. classifier outlet pipes	
HFD	Flue gas return suction	
	From Excl. outlet of another system	
	To Excl. pulverizer plant	
HFE	Mill air system, transport system	
	From Incl. air inlet or	
	From Excl. branch off (‘HLA’)	
	To Excl. feeder outlet pipe or	
	To Excl. pulverizing system or	
	To Excl. flue gas recirculation	
HFF	Vapours flue gas system	
	From Excl. separation system	
	To Excl. another system	
HFG	Dust bin and feeder system after central pulverizing system (indirect lighting-up)	
	From Excl. pulverizing outlet system	
	To Incl. pulverized coal storage bunker outlet incl.	
HFV	Lubricant supply system	
HFW	Sealing medium supply (seal air fans)	
HFX	Control medium supply for closed open/loop control and protection equipment	
HFY	Closed/open loop control and protection equipment	

H	CONVENTIONAL HEAT GENERATION	Rev
HH	MAIN FIRING SYSTEM (ELECTRIC POWERED)	
HHA	Main burner	
	From Incl. fuel and air side burner equipment inlet	
HHB	Retarded combustion grate (chain grate)	
	From Incl. retarded combustion grate inlet	
	To Incl. inlet of another system	
HHC	Combustion grate	
	From Incl. fuel receiving point or	
	From Incl. firing grate inlet	
	To Excl. inlet of another system	
HHD	Other burner equipment (e.g. vapour burner, grit burner)	
	From Incl. inlet	
	To Incl. outlet	
HHE	Pulverized coal storage facility, conveying and distribution	
	From Excl. pulverizing system outlet or	
	From Excl. pulverized coal storage facility outlet at the central pulverizing system ‘HFG’ or	
	To Excl. outlet of another system	
	To Excl. main burner system	
HHF	Intermediate oil storage facility, pumping and distribution	
	From Excl. connection to main supply line or	
	From Incl. intermediate tank	
	To Excl. main burner equipment	
HHG	Gas reduction, distribution	
	From Excl. connection to main supply line	
	To Excl. main burner equipment distribution	
HHH	Intermediate storage facility, conveying and distribution of other fuels, Medium 1	
HHJ	Intermediate storage facility, conveying and distribution of other fuels, Medium 2	
HHK	Intermediate storage facility, conveying and distribution of other fuels, Medium 3	
HHL	Combustion air supply system to burner (secondary air)	
	From Excl. combustion burner	
	To Excl. burner	
HHM	Atomizing medium supply (steam)	
	From Excl. supply system connection	
	To Excl. burner	
HHN	Atomizing medium supply (air)	
	From Excl. supply system connection	
	To Excl. burner	
HHP	Cooling medium supply (steam)	
	From Excl. supply system connection	
	To Excl. burner	

H	CONVENTIONAL HEAT GENERATION	Rev
HHQ	Cooling medium supply (air)	
	From Incl. supply system connection	
	To Excl. burner	
HHR	Purging medium supply (steam)	
	From Excl. supply system connection	
	To Excl. burner	
HHS	Purging medium supply (air)	
	From Excl. supply system connection	
	To Excl. burner	
HHT	Heating medium supply (steam)	
	From Excl. supply system connection	
	To Excl. burner and	
	From Excl. burner	
	To Excl. supply of another system	
HHU	Heating medium supply (warm water)	
	From Excl. supply system connection	
	To Excl. burner and	
	From Excl. burner	
	To Excl. supply of another system	
HHV	Lubricant supply system	1
HHW	Sealing medium supply	
HHX	Control medium supply for closed/open loop control and protection equipment	
HHY	Closed/open loop control and protection equipment	
HHZ	Electric heating system	1
HJ	LIGHTING-UP SYSTEM (WHEN INDEPENDENT OF MAIN FIRING SYSTEM)	
HJA	Lighting-up burner	
	From Incl. fuel and air side of burner equipment inlet	
	To Excl. pipework	
HJE	Pulverized coal storage facility, conveying and distribution	
	From Excl. pulverizing system outlet or	
	From Excl. pulverizing coal storage facility outlet at the central pulverizing system HFG or	
	From Excl. outlet of another system	
	To Excl. ignition burner system	
HJF	Intermediate oil storage facility pumping and distribution	
	From Excl. connection to main supply line or	
	From Incl. intermediate tank	
	To Excl. lighting-up burner system	
HJG	Gas reticulation distribution	
	From Excl. connection to main supply line (bus main)	
	To Excl. lighting-up burner equipment	

H	CONVENTIONAL HEAT GENERATION	Rev
HJL	Combustion air supply system to lighting-up burner	
	From Incl. connection of duct system (HLA) or (HHL) or	
	From Incl. air inlet incl. fan	
	To Excl. lighting-up burner	
HJM	Atomizing medium supply (steam)	
	From Excl. supply system connection	
	To Excl. lighting-up burner	
HJN	Atomizing medium supply (air)	
	From Excl. supply system connection	
	To Excl. lighting-up burner	
HJP	Cooling medium supply (steam)	
	From Excl. supply system connection	
	To Excl. lighting-up system	
HJQ	Cooling medium supply (air)	
	From Excl. supply system connection	
	To Excl. lighting-up system	
HJR	Purging medium supply (steam)	
	From Excl. supply system connection	
	To Excl. lighting-up system	
HJS	Purging medium supply (air)	
	From Excl. supply system connection	
	To Excl. lighting-up system	
HJT	Heating medium supply (steam)	
	From Excl. supply system connection	
	To Excl. lighting-up system and	
	From Excl. lighting-up system	
	To Excl. supply of another system	
HJU	Heating medium supply (warm water)	
	From Excl. supply system connection	
	To Excl. lighting-up system	
	From Excl. lighting-up system	
	To Excl. supply of another system	
HJV	Lubricant supply system	
HJW	Sealing medium supply	
HJX	Control medium supply for closed/open loop control and protection equipment	
HJY	Closed/open loop control and protection equipment	
HL	COMBUSTION AIR SYSTEM (PRIMARY AIR, SECONDARY AIR)	
HLA	Duct system	
	From Incl. air inlet	
	To Excl. inlet connection mill air/transport air system and air fan system, air preheater and	

H	CONVENTIONAL HEAT GENERATION	Rev
	To Excl. gas-turbine and exhaust gas system	
HLB	Air fan system (primary air, forced draught, secondary air fans)	
	From Incl. inlet air suction	
	To Excl. outlet air fan discharge	
HLC	Auxiliary air preheater (not by means of flue gas) (steam)	
	From Incl. air preheater inlet	
	To Incl. air preheater outlet	
HLD	Air heater (by means of flue gas)	
	From Incl. air heater inlet	
	To Incl. air heater outlet	
HLV	Lubricant supply system	
HLW	Sealing medium supply	
HLX	Control medium supply for closed/open loop control and protection equipment	
HLY	Closed/open loop control and protection equipment	
HN	FLUE GAS EXHAUST (INDUCED DRAUGHT)	
HNA	Duct system	
	From Excl. boiler outlet or	
	From Excl. outlet of another system	
	To Excl. smoke stack but excluding air heater, flue gas dust extraction, induced draught fan, gas scrubbing, chemical flue gas processing	
HNC	Induced draught fan system (ID fan)	
	From Incl. induced draught fan inlet	
	To Incl. induced draught fan outlet	
HNE	Smoke stack	
	From Incl. inlet	
HNF	Flue gas circulation	
	From Excl. flue gas main exhaust connection	
	To Excl. inlet of another system incl. fan system	
HNU	Flue gas pressure relief system	2
	Task to relief pressure in flue gas system	
HNV	Lubricant supply system	2
HNW	Sealing fluid supply system	2
HNX	Fluid supply system for control and protection equipment	2
HNY	Closed/open loop control and protection equipment	
HT	CHEMICAL FLUE GAS TREATMENT INCL. RESIDUE REMOVAL ABSORPTIVE PROCESS	
HTA	Flue gas ducting system within HT	
	From Excl. HNA	
	To Excl. inlet to HNA	
HTB	Flue gas-side heat exchanger, gas heater (not HU)	
HTC	Flue gas fan system	
	From Incl. inlet	

H	CONVENTIONAL HEAT GENERATION	Rev
	To Incl. outlet	
HTD	Flue gas scrubbing system	
	From Incl. flue gas inlet	
	To Incl. moisture separator outlet	
HTE	Flue gas cleaning and filtering system	
	Task: additional cleaning within HT; not belonging to HP, HQ and HR	
HTF	Absorption cycle	
	From Incl. inlet	
	To Incl. outlet	
HTG	Oxidation system incl. supply system	
	To Excl. user or scrubber	
HTJ	Absorbent supply system incl. storage system	
	To Excl. mashing (HTK)	
HTK	Absorbent preparation and distribution system	
	From Incl. mashing, slaking	
	To Excl. user or scrubber	
HTL	Piping system for discharge of solids	2
HTM	Thickening and solids dewatering system	2
HTN	Solids drying, compacting system	2
HTP	(Solids/product) forwarding, storage, loading system	2
HTQ	Water supply and disposal system	2
HTS	Chemicals and additives supply system	2
HTT	Drainage systems	2
	Task: water collecting, storage, return	2
HTV	Lubricant supply system	2
HTX	Fluid supply system for control and protection equipment	2
HTW	Sealing fluid supply system	1
HTY	Control and protection equipment	2
HY	CLOSED/OPEN LOOP CONTROL AND PROTECTION EQUIPMENT	
HYA	Control desk in control room	
HYB	Control panel in control room	
HYC	Local control panel, desk and solenoid operated valve panel	
HYD	PLC	
HYE	Spare	
HYF	Equipment room cubicle	
HYG	Marshaling panel	
HYH	Measurement rack	
HYJ	VSD Field equipment panels	2
HYK	DC supply incl. associated equipment	
HYL	AC supply and distribution	
HYQ	Computer equipment	

A.7 L – Steam, water, Gas Cycle

L	STEAM, WATER, GAS CYCLE	Rev
LA	FEED WATER SYSTEM	
LAA	Feed water tank, deaerating	
	From Incl. deaerating installation or feed water tank inlet	
	To Incl. tank outlet incl. heating installation and vapour condenser	
LAB	Feed water piping system (incl. interconnecting piping in feed water pumping system and feed water heating)	
	From Excl. feed water tank outlet	
	To Excl. boiler inlet header	
LAC	Feed water pumping system (excl. interconnecting piping) between booster and main pump)	
	From Incl. pumping system suction nozzle	
	To Incl. pumping system discharge nozzle	
LAD	Feed water heating system (HP heaters)	
	From Incl. heater inlet	
	To Incl. heater outlet incl. desuperheater and drain cooler when integral part of heater	
LAE	HP bypass water injection system	
	Superheater attemperator spray system, HP bypass spray system)	
	From Excl. feed water piping system	
	To Excl. user (e.g. superheater attemperator)	
LAF	Intermediate pressure water injection system (reheater attemperator spray system)	
	From Excl. Feedwater pump extraction (take-off connection) or	
	From Excl. branch of another system	
	To Excl. user (e.g. reheater attemperator)	
LAH	Start-up and shut-down piping system (e.g. filling system)	
	From Excl. outlet of another system	
	To Excl. feed water system intake (e.g. feed water tank)	
LAJ	Start-up and shut-down pumping system (e.g. filling system)	
	From Incl. pump suction flange	
	To Incl. pump discharge flange	
LAR	Emergency feed water piping system incl. Storage (excl. emergency feed water pumping system)	
	From Excl. junction from another system	
	To Excl. feed water piping system intake	
LAS	Emergency feed water pumping system	
	From Incl. pump suction flange	
	To Incl. pump discharge flange	
LAW	Feedwater sealing water system	
LAX	Control medium supply for closed/open loop control and protection equipment	
LAY	Closed/open loop control and protection equipment	

L	STEAM, WATER, GAS CYCLE	Rev
LB	STEAM SYSTEM	
LBA	Main steam piping system	
	From Excl. boiler outlet header or steam generator outlet or	
	From Excl. heat exchanger	
	To Excl. HP turbine inlet valve station or HP bypass station	
	To Excl. turbine bypass or other user (system)	
LBB	Hot reheat piping system	
	From Excl. reheater outlet header	
	To Excl. IP turbine valve station or IP/LP bypass station or other user (system)	
LBC	Cold reheat piping system	
	From Excl. HP turbine outlet or HP bypass station	
	To Excl. reheater inlet header or other user (system)	
LBD	Tapping piping system (extraction)	
	From Excl. bypass piping system junction	
	To Excl. user (system)	
LBE	Back-pressure piping system	
	From Excl. turbine outlet	
	To Excl. user (system)	
LBF	Overpressure suppression and safety device incl. injection and hydraulic station for safety function (HP bypass station)	1
	From Excl. inlet	
	To Excl. outlet	
LBG	Auxiliary steam piping system	
	From Excl. branch off from another system (auxiliary boiler)	
	To Excl. user (system)	
LBH	Start-up steam system, shut-down steam system (warming-up)	
	From Excl. boiler outlet or	
	From Excl. branch off main steam line incl. start-up flash tank or start-up condenser or	
	From Excl. outlet to other system	
	To Excl. inlet to other system	
LBJ	Moisture separator/reheater	
	From Incl. inlet	
	To Incl. outlet	
LBK	Main steam safety/relief system inside reactor containment for single plants	
	Task: to limit pressure in the main steam system LBA	
	From Excl. branch off main steam piping system	
	To Excl. pressure suppression system	
LBQ	Bled steam piping for feed water heating (HP system)	
	From Excl. turbine outlet or other connection system	
	To Excl. feed water heater or other users	
LBR	Piping system for auxiliary turbine	

L	STEAM, WATER, GAS CYCLE	Rev
	From Excl. branch off main turbine or	
	From Excl. branch off another system or	
	From Excl. branch or auxiliary turbine outlet	
	To Excl. branch off or auxiliary turbine isolating valve or	
	To Excl. inlet to another system	
LBS	Bled steam system for main condensate heating (LP-system)	
	From Excl. turbine outlet or other connection system	
	To Excl. main condensate heater or (LP-heater) feed water tank/deaerator or other user	
LBT	Emergency condensation	
	From Excl. steam generation outlet	
	From Excl. main steam piping system branch incl. Condenser	
	To Excl. inlet into another system	
LBU	Common steam dump piping	
LBW	Sealing steam system	
LBX	Control medium supply for closed/open loop control and protection equipment	
LBY	Closed/open loop control and protection equipment	
LC	CONDENSATE SYSTEM	
LCA	Main condensate piping system (excl. main condensate pumping system, main condensate heating, LP heater, condensate polishing)	
	From Excl. condensate tank outlet (hotwell) and other system	
	To Excl. deaerator inlet	
LCB	Main condensate pumping system (extraction pump)	
	From Incl. pumping system suction nozzle	
	To Incl. pumping system discharge nozzle	
LCC	Main condensate heater system (LP heaters)	
	From Incl. heater inlet	
	To Incl. heater outlet incl. desuperheater and cooler when integral part of heater	
LCE	Low pressure water injection system (for IP/LP bypass system)	
	From Excl. condensate piping system or	
	From Excl. condensate auxiliary condensate piping system	
	To Excl. user (e.g. IP/LP bypass station)	
LCF	Auxiliary turbine condensate piping system	
	From Excl. condenser outlet	
	To Excl. feed into another system excl. branch	
	turbine condensate pumping system	
LCG	Auxiliary turbine condensate pumping system	
	From Incl. pump suction nozzle	
	To Incl. pump discharge nozzle	
LCH	High pressure heater distillate (condensate) system	
	(HP heater drain system, incl. drain cooler)	
	From Excl. HP heater outlet	

L	STEAM, WATER, GAS CYCLE	Rev
	To Excl. inlet to another system	
LCJ	Main condensate heater distillate (condensate) system	
	(LP heater drain system, incl. drain cooler and flash box)	
	From Excl. LP heater outlet	
LCL	Condensate drain system from steam generator, blow-down system	
	From Excl. pressure system branch or	
	From Excl. start-up releaser or	
	From Excl. blow-down vessel	
	To Excl. feed into another system	
LCM	Drainage, dewatering condensate system (clean drain collecting and return system)	
	From Incl. low pressure flash/collection tank or	
	From Excl. last drainage component or	
	From Excl. another collection system	
	To Excl. feed into another system	
LCN	Auxiliary steam condensate system (collecting and return system)	
	From Excl. (steam) – user	
	To Excl. feed into another system	
LCP	Reserve condensate system incl. storage, piping and pumping	
	From Excl. branch off another system	
	To Excl. feed into another system	
LCQ	Steam generator blow-down system (incl. unit start-up drains)	
	From Excl. steam generator outlet	
	From Incl. blow-down flashtank (caustic flashtank)	
	To Excl. feed into another system	
LCR	Reserve condensate distribution system	
	From Excl. branch off another system	
	To Excl. feed into another system	
LCS	Reheater-condensate system (moisture separator/reheater)	
	From Excl. reheater	
	To Excl. feed into another system	
LCT	Moisture separator drains system (moisture separator/reheater)	
	From Excl. water separator	
	To Excl. feed into another system	
LCW	Sealing and cooling condensate system	
	From Excl. branch off another system	
	To Excl. user, incl. return line	
LCX	Control medium supply for closed/open loop control and protection equipment	
LCY	Closed/open loop control and protection equipment	
LD	CONDENSATE POLISHING PLANT	
LDA	Fluid treatment extraction (if not part another system)	
	From Excl. fluid treatment system outlet	

L	STEAM, WATER, GAS CYCLE	Rev
	To Excl. inlet into another system	
LDB	Filtering, mechanical purification	
	From Incl. separator equipment inlet	
	To Incl. separator equipment outlet	
LDC	Ventilation, gas injection	
	From Excl. atmosphere or	
	From Incl. gas supply	
	To Excl. inlet to another system	
LDD	Precipitation (e.g. decarbonization) (flocculation)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
LDE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. any other system inlet	
LDF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger inlet	
	To Incl. ion exchanger outlet	
LDG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. hot steam inlet	
	To Incl. condensate outlet	
LDH	Degasification, drying	
	From Incl. degasifier, tank inlet	
	To Incl. tank outlet incl. heating equipment for steam condenser	
LDJ	Heating, cooling	
	From Incl. heater, cooler inlet	
	To Incl. heater, cooler outlet	
LDK	Internal piping, intermediate storage, pump system for main medium Internal piping:	
	From Excl. outlet of another system	
	To Excl. inlet into another system	
	To Incl. outlet medium treatment	
	Intermediate storage:	
	From Incl. inlet intermediate storage	
	To Incl. outlet intermediate storage	
	Pump system:	
	From Incl. suction flange of pumping system	
	To Incl. discharge flange of pumping system	

L	STEAM, WATER, GAS CYCLE	Rev
LDL	Storage not included in medium treatment (if not part of another system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
LDN	Chemical supply system	
	From Incl. extraction point or	
	From Incl. storage tank	
	To Excl. transfer to another system	
LDP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection into another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
LDQ	Injection device for main medium	
	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
LDR	Flushing water and residue removal incl. neutralization	
	From Excl. system concerned outlet	
	To Excl. transfer point of another system	
LDS	Sludge thickener	
	From Excl. system concerned outlet	
	To Excl. transfer point of another system	
LDT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
LDX	Control medium supply for closed/open loop control and protection equipment	
LDY	Closed/open loop control and protection equipment	
LF	COMMON INSTALLATION FOR STEAM, WATER, GAS CYCLE	
LFC	Common drain and vent system	
LFG	Secondary side steam generator tube lancing system	
	From Excl. primary coolant heat exchanger outlet	
	To Excl. primary coolant heat exchanger inlet	
LFJ	Steam generator and standby conservation	
LFN	Dosing system for feedwater and condensate cycle, incl. dosing in the vessel and turbine area	
LY	CLOSED/OPEN LOOP CONTROL AND PROTECTION EQUIPMENT (MAINLY	
	USED FOR CONDENSATE POLISHING PLANT IN ESKOM)	
LYA	Control desk in control room	
LYB	Control panel in control room	

L	STEAM, WATER, GAS CYCLE	Rev
LYC	Local control panel, desk and solenoid operated valve panel	
LYD	PLC	
LYE	Spare	
LYF	Equipment room cubicle	
LYG	Marshalling panel	
LYH	Measurement rack	
LYJ	VSD Field equipment panels	2
LYK	DC supply incl. associated equipment	
LYL	AC supply and distribution	
LYQ	Computer equipment	

A.8 M – Main Machine Set

MA	STEAM TURBINE PLANT	Rev
MAA	High pressure turbine	
	From Incl. inlet device (emergency stop valve or combined emergency stop valve or control valve)	
	To Incl. extraction, tapping and steam exhaust nozzle and	
	To Incl. the interface of another system within the turbine	
MAB	Intermediate pressure turbine	
	From Incl. crossover pipe incl. control elements or	
	From Incl. intercept valve	
	To Incl. extraction, tapping and steam exhaust nozzle and	
	To Incl. the interface of another system within the turbine	
MAC	Low pressure turbine	
	From Incl. crossover pipe incl. control elements or	
	From Incl. intercept valve or steam inlet nozzle (in reheat installation without intercept valves)	
	To Incl. extraction, tapping and steam exhaust nozzle and	
	To Incl. the interface of another system within the turbine	
MAD	Bearing assembly	
MAG	Condensing system	
	From Incl. condenser neck or inlet nozzle	
	To Incl. condenser outlet nozzle incl. instrumentation equipment associated with the condenser	
	(incl. hotwell or directly connected tanks/vessels or total air cooled condensing system)	
MAH	Air ejector motive water system (if fitted separately from MAJ)	
	From Incl. outlet of another system	
	To Incl. ejector inlet	
MAJ	Air evacuation system	
	From Excl. condenser outlet or outlet of another system	
	To Excl. atmosphere or another system	
MAK	Transmission gear between prime mover and driven machine	
MAL	Turbine drain and vent system	
	From Incl. collection point or outlet of another system	
	From Incl. last drain valve	
	To Excl. inlet to drain collection vessel or inlet to another system	
MAM	Leak-off steam system	
	From Excl. branch or leak-off point	
	To Excl. inlet into another system	
MAN	IP/LP bypass station (incl. attemporation spray system)	
	From Incl. IP/LP bypass isolating valve and	
	From Incl. attemporation spray valve	

MA	STEAM TURBINE PLANT	Rev
	To Excl. steam inlet in condenser or another system	
MAP	LP bypass station	
	From Excl. bypass unit and branch off steam system	
	To Excl. condenser	
MAQ	Vent system (if fitted separately from (MAL)	
	From Incl. deaerator unit	
	To Excl. inlet into another system or atmosphere	
MAV	Lubrication oil supply system	
	From Incl. dedicated lubrication oil tank or common oil tank or	
	From Excl. lubricant supply branch	
	To Excl. user and return	
	From Excl. user	
MAW	Gland steam heating and cooling system	
	From Excl. branch or leak-off pint at casing nozzle	
	To Excl. steam gland user	
	To Excl. condenser and gland leak-off system or	
	To Incl. gland sealing steam condenser or	
	To Excl. heating and cooling steam user in each case	
MAX	Non-electric control and protection equipment incl. medium supply system	
MAY	Closed/open loop control and protection equipment	
MK	GENERATOR	
MKA	Generator casing incl. stator and rotor incl. all internal cooling equipment	
	To Incl. generator bushing and balancing tank	
MKB	Excitation (use only if ‘MKC‘ is insufficient)	
MKC	Excitation	
MKD	Bearing assembly	
MKF	Liquid cooling (except oil cooling) incl. intermediate cooler	
	From Excl. stator/rotor outlet	
	To Excl. stator/rotor inlet	
MKG	Stator/rotor gas cooling (except N_2 cooling) incl. H_2 and CO_2 supply	
	From Excl. stator/rotor outlet	
	To Excl. stator/rotor inlet	
MKH	Stator/rotor N_2 cooling incl. N_2 supply	
	From Excl. stator/rotor outlet	
	To Excl. stator/rotor inlet incl. N_2 supply	
MKJ	Stator/rotor Air cooling system	
	From Excl. stator/rotor outlet	
	To Excl. stator/rotor inlet	
MKQ	Exhaust gas system (if fitted separately from MKG and MKH)	
MKU	Oil cooling system incl. intermediate cooling circuits	
	From Excl. stator plate core outlet	

MA	STEAM TURBINE PLANT	Rev
	To Excl. stator plate core inlet	
MKV	Lubricating supply system (if fitted separately for the generator)	
MKW	Seal oil system incl. supply and treatment plant	
	From Excl. seal oil system branch	
	To Excl. stator inlet and	
	From Excl. stator outlet	
	To Excl. inlet into another system, or in closed system	
	From Excl. stator outlet (incl. supply and treatment plant)	
	To Excl. stator inlet	
MKY	Closed/open loop control and protection equipment	
MP	COMMON EQUIPMENT FOR MAIN MACHINE SET	
MPA	Foundation	
MPB	Cowling	
MPG	Rack, support	
MPR	Forced air cooling system	
MPS	Drying and preservation system	
MV	LUBRICATION MEDIUM SUPPLY	
MVA	Lubrication oil supply system	
	From Incl. common lubrication oil tank or	
	From Excl. lubricant supply branch	
	To Excl. user and return	
	From Excl. user	
MW	SEALING FLUID SUPPLY SYSTEM	
MWA	Sealing fluid supply system	
MX	CONTROL MEDIUM SUPPLY	
MXA	Hydraulic storage	
MXB	Hydraulic oil supply	
MY	CLOSED/OPEN LOOP CONTROL AND PROTECTION EQUIPMENT	
MYA	Control desk in control room	
MYB	Control panel in control room	
MYC	Local control panel, desk and solenoid operated valve panel	
MYD	PLC	
MYE	Spare	
MYF	Equipment room cubicle	
MYG	Marshalling panel	
MYH	Measurement rack	
MYJ	VSD Field equipment panels	2
MYK	DC supply incl. associated equipment	
MYL	AC supply and distribution	
MYQ	Computer equipment	

A.9 P – Cooling Water System

P	COOLING WATER SYSTEM	Rev
PA	MAIN COOLING WATER SYSTEM	
PAA	Extraction, mechanical purification	
	From Incl. inlet system	
	To Incl. outlet of mechanical purification	
PAB	Piping, canal system for main cooling water	
	From Excl. fresh water production outlet (always without consumers)	
	To Incl. fresh water cooling outlet	
	From Excl. cooling tower outlet	
	To Excl. cooling tower inlet for closed circuit cooling	
PAC	Main cooling water pumping system	
	From Incl. suction flange of pumping system	
	To Incl. discharge flange of pumping system	
PAD	Cooling tower	
	From Incl. standpipe	
	To Incl. cooling basin outlet	
PAE	Cooling tower pump system (if separate)	
PAH	Condenser cleaning system Incl. all affiliated equipment	
PAR	Cooling tower make-up water piping system	
	From Excl. inlet	
	To Excl. inlet to another system	
PAS	Cooling tower make-up water pumping system	
	From Incl. pump system suction nozzle	
	To Incl. pump system discharge nozzle	
PAV	Lubrication supply system	
PAX	Control medium supply for closed/open loop control and protection equipment	
PAY	Closed/open loop control and protection equipment	
PB	MAIN COOLING WATER TREATMENT	
PBA	Supply line, distribution outside medium handling (if not part of another system)	
	From Excl. extraction point or	
	From Excl. outlet of another system	
	To Excl. medium treatment	
	From Excl. medium treatment outlet	
	To Excl. inlet into another system	
PBB	Filtering, mechanical purification	
	From Incl. separator equipment inlet	
	To Incl. separator equipment outlet	
PBC	Ventilation, gas injection	
	From Excl. atmosphere	
	From Incl. gas supply	
	To Excl. inlet into another system	

P	COOLING WATER SYSTEM	Rev
PBD	Precipitation (e.g. decarbonization)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
PBE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. inlet into another system	
PBF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger inlet and	
	From Incl. chemical supply isolating valve, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger outlet	
PBG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. hot steam inlet	
	To Incl. condensate outlet	
PBH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet including heating equipment steam condenser	
PBJ	Heating, cooling	
	From Incl. heater, cooler inlet	
	To Incl. heater, cooler outlet	
PBK	Internal piping, intermediate storage, pump system for main medium	
	Internal piping:	
	From Excl. outlet of another system	
	To Excl. inlet into another system	
	To Incl. medium treatment outlet	
	Intermediate storage:	
	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange of pumping system	
	To Incl. discharge flange of pumping system	
PBL	Storage not included in medium treatment (and not part of another system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
PBN	Chemical supply system	
	From Incl. extraction point or	
	From Incl. storage tank	
	To Excl. transfer into another system	
PBP	Regeneration and purging equipment	

P	COOLING WATER SYSTEM	Rev
	From Incl. system inlet	
	To Excl. injection into another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
PBQ	Injection device for main medium	
	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
PBR	Flushing water and residue removal including neutralization	
	From Excl. outlet of respective system	
	To Excl. transfer point of another system	
PBS	Sludge thickener	
	From Excl. outlet of respective system	
	To Excl. transfer point of another system	
PBT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
PBX	Control medium supply for closed/open loop control and protection equipment	
PBY	Closed/open loop control and protection equipment	
PC	OPEN LOOP COOLING WATER SYSTEM CONVENTIONAL AREA (Service Water)	
PCA	Extraction, mechanical purification	
	From Incl. system inlet	
	To Incl. mechanical cleaning outlet	
PCB	Piping and channel system	
	From Excl. fresh water production outlet or	
	From Excl. main cooling water system branch	
	To Excl. inlet into another system and without each consumer	
	To Excl. make-up water preparation and distribution	
PCC	Pumping system	
	From Incl. suction flange of pumping system	
	To Incl. discharge flange of pumping system	
PCD	Cooling tower	
	From Incl. standpipe	
	To Incl. cooler basin outlet	
PCH	Cleaning system for heat exchanger	
PCM	Open loop cooling water system for generator and generator motor cooling	
	From Excl. PCB branch	
	To Excl. generator cooler and	
	From Excl. generator cooler	

P	COOLING WATER SYSTEM	Rev
	To Excl. inlet to 'PCB' or another system	
PCX	Control medium supply for closed/open loop control and protection equipment	
PCY	Closed/open loop control and protection equipment	
PD	OPEN LOOP COOLING WATER TREATMENT CONVENTIONAL AREA	
PDA	Supply line, distribution outside medium handling (if not part of another system)	
	From Excl. extraction point or	
	From Excl. outlet of another system	
	To Excl. medium treatment	
	From Excl. medium treatment outlet	
	To Excl. inlet into another system	
PDB	Filtering, mechanical purification	
	From Incl. separator equipment inlet	
	To Incl. separator equipment outlet	
PDC	Ventilation, gas injection	
	From Excl. atmosphere	
	From Incl. gas supply	
	To Excl. inlet into another system	
PDD	Precipitation (e.g. decarbonization)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
PDE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. inlet into another system	
PDF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger inlet and	
	From Incl. chemical supply isolating valve, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger outlet	
PDG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. hot steam inlet	
	To Incl. condensate outlet	
PDH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet including heating equipment steam condenser	
PDJ	Heating, cooling	
	From Incl. heater, cooler inlet	
	To Incl. heater, cooler outlet	
PDK	Internal piping, intermediate storage, pump system for main medium	
	Internal piping:	

P	COOLING WATER SYSTEM	Rev
	From Excl. outlet of another system	
	To Excl. inlet into another system	
	To Incl. medium treatment outlet	
	Intermediate storage:	
	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange of pumping system	
	To Incl. discharge flange of pumping system	
PDL	Storage not included in medium treatment (and not part of another system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
PDN	Chemical supply system	
	From Incl. extraction point or	
	From Incl. storage tank	
	To Excl. transfer into another system	
PDP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection into another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
PDQ	Injection device for main medium	
	From Incl. injection device or	
	From Excl. chemical supply junction	
	To Incl. inlet into another system	
PDR	Flushing water and residue removal including neutralization	
	From Excl. outlet of respective system	
	To Excl. transfer point of another system	
PDS	Sludge thickener	
	From Excl. outlet of respective system	
	To Excl. transfer point of another system	
PDT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production or	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
PDX	Control medium supply for closed/open loop control and protection equipment	
PDY	Closed/open loop control and protection equipment	
PG	CLOSED LOOP COOLING WATER SYSTEM, CONVENTIONAL AREA	
PGA	Extraction, mechanical purification	
	From Incl. system inlet	

P	COOLING WATER SYSTEM	Rev
	To Incl. mechanical cleaning system outlet	
PGB	Piping and channel system	
	From Excl. fresh water production outlet or	
	From Excl. main cooling water system branch	
	To Excl. inlet into another system	
	From Excl. make-up water preparation and distribution	
PGC	Pumping system	
	From Incl. suction flange of pumping system	
	To Incl. discharge flange of pumping system	
PGD	Cooling tower	
	From Incl. standpipe	
	To Incl. cooler basin outlet	
PGH	Closed loop cooling water system for main groups “E” and “H”	1
PGL	Closed loop cooling water system for main groups “G”, “L” and “P”	1
PGM	Closed loop cooling water system for main group “M”	1
	From Excl. PGB branch	
	To Excl. generator cooler	
PGQ	Closed loop cooling water system for main groups “Q” and “S”	1
PGY	Closed/open loop control and protection equipment	
PH	WATER TREATMENT CLOSED LOOP COOLING WATER SYSTEM (Conventional Area)	
PHA	Supply line, distribution not included in medium handling (if not part of another system)	
	From Excl. extraction point or	
	From Excl. outlet of another system	
	To Excl. medium treatment	
	From Excl. medium treatment outlet	
	To Excl. inlet into another system	
PHB	Filtering, mechanical purification	
	From Incl. separator equipment inlet	
	To Incl. separator equipment outlet	
PHC	Ventilation, gas injection	
	From Excl. atmosphere or	
	From Incl. gas supply	
	To Excl. inlet into another system	
PHD	Precipitation (e.g. decarbonization)	
	From Incl. precipitation inlet	
	To Incl. precipitation outlet	
PHE	Acid dosing (e.g. decarbonization)	
	From Incl. acid dosing equipment or	
	From Excl. chemical supply branch	
	To Excl. inlet into another system	

P	COOLING WATER SYSTEM	Rev
PHF	Ion exchanger (e.g. desalination)	
	From Incl. ion exchanger inlet and	
	From Incl. chemical supply isolating valve, auxiliary medium supply to ion exchanger	
	To Incl. ion exchanger outlet	
PHG	Evaporation (e.g. desalination)	
	From Incl. feedwater inlet	
	To Incl. steam outlet and	
	From Incl. hot steam inlet	
	To Incl. condensate outlet	
PHH	Degasification, drying	
	From Incl. degasifier tank inlet	
	To Incl. tank outlet including heating equipment for steam condenser	
PHJ	Heating, cooling	
	From Incl. heater, cooler inlet	
	To Incl. heater, cooler outlet	
PHK	Internal piping, intermediate storage, pump system for main medium	
	Internal piping:	
	From Excl. outlet of another system	
	To Excl. inlet into another system	
	To Incl. medium treatment outlet	
	Intermediate storage:	
	From Incl. inlet, intermediate storage	
	To Incl. outlet, intermediate storage	
	Pump system:	
	From Incl. suction flange of pumping system	
	To Incl. discharge flange of pumping system	
PHL	Storage not included in medium treatment (and not part of another system)	
	From Incl. storage plant inlet	
	To Incl. storage plant outlet	
PHN	Chemical supply system	
	From Incl. extraction point or	
	From Incl. storage tank	
	To Excl. transfer into another system	
PHP	Regeneration and purging equipment	
	From Incl. system inlet	
	To Excl. injection into another system	
	From Excl. chemical supply, auxiliary medium supply and purging air supply	
	To Incl. regeneration purging equipment	
PHQ	Injection device for main medium	
	From Incl. injection device or	
	From Excl. chemical supply junction	

P	COOLING WATER SYSTEM	Rev
	To Incl. inlet into another system	
PHR	Flushing water and residue removal including neutralization	
	From Excl. outlet of respective system	
	To Excl. transfer point of another system	
PHS	Sludge thickener	
	From Excl. outlet of respective system	
	To Excl. transfer point of another system	
PHT	Heating, cooling and flushing medium distribution	
	From Incl. heating, cooling and flushing medium production	
	From Excl. heating, cooling and flushing medium supply junction	
	To Excl. consumer and	
	From Excl. consumer	
PHX	Control medium supply for closed/open loop control and protection equipment	
PHY	Closed/open loop control and protection equipment	
PU	COMMON EQUIPMENT FOR COOLING WATER SYSTEM	
PUN	Dosing equipment	
PY	CLOSED/OPEN LOOP CONTROL AND PROTECTION EQUIPMENT INCLUDING ELECTRICAL SUPPLY FOR COOLING WATER SYSTEM	
PYA	Control desk in control room	
PYB	Control panel in control room	
PYC	Local control panel, desk and solenoid operated valve panel	
PYG	Marshaling panel	
PYH	Measurement rack	
PYJ	VSD Field equipment panels	2
PYK	DC supply including associated equipment	
PYL	AC supply and distribution	
PYQ	Computer equipment	

A.10 Q – Auxiliary System

Q	AUXILIARY SYSTEM	Rev
QC	CENTRAL CHEMICAL SUPPLY	
QE	GENERAL COMPRESSED AND TRANSFER AIR SUPPLY	
QEA	Central compressed and transfer air generation	
QEB	Central compressed and transfer air distribution and storage (air receiver)	
QEH	Service air supply system for main group H	1
QEL	Service air supply system for main group G, P and L (for water supply, water/steam cycle and cooling water system)	
QEM	Service air supply system for main group M (for main machine set)	
QEQ	Service air supply system for main group Q (for auxiliaries)	
QES	Service air supply system for main group S (for ancillary systems)	
QET	Production and distribution of limestone powder carrier air	1
QF	GENERAL CONTROL AIR SUPPLY	
QFA	Central control air generation	
QFB	Central control air distribution system	
QFC	General control air supply	1
QFE	Control air supply system for main group E	1
QFH	Control air supply system for main group H	1
QFL	Control air supply system for main group G, P and L (for water supply, water/steam cycle and cooling water system)	1
QFM	Control air supply system for main group M (main machine set)	1
QFQ	Control air supply system for main group Q (for auxiliaries)	1
QFS	Control air supply system for main group S (for ancillary systems)	1
QFY	Control and Protection equipment	1
QG	CENTRAL GAS SUPPLY FOR CLOSED GAS CYCLE (AS WORKING MEDIUM)	
QGA	Electrolyser	
QGB	Gas cooling equipment	
QGC	Gas processing equipment	
QGD	Gas scrubber	
QGE	Gas holder	
QGF	Gas compressor	
QGG	Gas purifier	
QGH	Gas drier	
QGJ	Storage tank	
QGK	Gas circulation control	
QGL	Bottle filling station	
QGM	Gas mixing station	
QGN	Pressure reducing station	
QGP	Purging gas station	
QGQ	Water treatment station	
QGR	Electrolyte station	

Q	AUXILIARY SYSTEM	Rev
QGS	Control/measurement	
QGT	Piping system for condensate/sewage	
QGU	Piping system for hydrogen/oxygen	
QGV	Piping system for feedwater	
QGW	Piping system for cooling water	
QGX	Piping system for electrolyte	
QGY	Control and instrumentation use	
QH	AUXILIARY STEAM GENERATION	
QHA	Pressure system	
QHB	Supporting structure casing, steam generator combustion chamber	
QHC	Cleaning equipment for the heating surfaces on the flue gas side	
QHD	Ash and slag handling	
QHE	Sludge, expansion, drainage system	
QHF	Bunker, feeder, pulverizing system	
QHG	Boiler water circulation (electrically heated steam generator)	
QHH	Main firing (electrically heated steam generator)	
QHJ	Lighting-up system (in case the mentioned functions are independent)	
QHL	Combustion air system (forced draught)	
QHM	Gas heating system (for closed system)	
QHN	Flue gas exhaust (induced draught, without flue gas treatment)	
QHP	Mechanical dust separation (cylone)	
QHQ	Electrostatic precipitator	
QHR	Chemical flue gas treatment system incl. residue removal (absortive process)	
QHS	Chemical flue gas treatment system incl. residue removal (catalytic process)	
QHT	Chemical flue gas treatment system incl. residue removal (absortive process)	
QHU	Flue gas reheating	
QHX	Control medium supply for closed/open loop control and protection equipment	
QHY	Closed/open loop control and protection equipment	
QJ	CENTRAL GAS SUPPLY (INCL. INERT GAS)	
QJA	Central gas supply	1
QJB	Gas supply and distribution system O_2 (oxygen)	1
QJD	Gas supply and distribution system N_2 (nitrogen)	1
QJE	Gas generation system N_2 (nitrogen)	1
QJF	Gas supply and distribution system H_2 (hydrogen)	1
QJG	Central gas supply, gas generation system H_2 (hydrogen)	1
QJH	Gas supply and distribution system CH4 (methane)	1
QJK	Gas supply and distribution system CO_2 (carbon dioxide)	1
QJM	Gas supply and distribution system C_2H_2 (acetylene)	1
QJN	Gas supply and distribution system He (helium)	1
QJP	Gas supply and distribution system C3H8 (propane gas)	1
QJQ	Gas supply and distribution system AR (argon)	1

Q	AUXILIARY SYSTEM	Rev
QJR	Gas supply and distribution system N20 (laughing gas)	1
QJV	Lubricant supply system	1
QJW	Sealing fluid supply system	1
QJX	Fluid supply system for control and protection equipment	1
QJY	Closed/open loop control and protection equipment	1
QK	CHILLED MEDIUM SYSTEM (CONVENTIONAL AREA AIR CONDITIONING)	
QKA	Chilled medium system (auxiliary bay)	
QKB	Chilled medium system (station services building)	
QKC	Chilled medium system (IT & Telecoms)	2
QKE	Chilled medium system (electrical distribution)	2
QKF	Chilled medium system (electrical distribution)	2
QKG	Chilled medium system (admin buildings)	2
QKH	Chilled medium system (fire and first aid)	2
QKL	Chilled medium system (coal stockyard area)	2
QKP	Chilled medium system (treatment systems)	2
QKQ	Chilled medium system (auxiliary systems)	2
QKS	Chilled medium system (sampling systems)	2
QKU	Chilled medium system (workshop and store)	2
QKV	Chilled medium system (canteen)	2
QL	FEEDWATER, STEAM, CONDENSATE CYCLE OF AUXILIARY STEAM	
	GENERATION AND DISTRIBUTION	
QLA	Feedwater system	
QLB	Steam system	
QLC	Condensate system	
QLD	Condensate purification (CPP)	
QLF	Common equipment for auxiliary steam generation and distribution	
QLX	Control medium supply for closed/open loop control and protection equipment	
QLY	Closed/open loop control and protection equipment	
QM	AIR HUMIDIFYING SYSTEM	
QMA	Air humidifying system	2
QS	CENTRAL OIL SUPPLY AND RESIDUE REMOVAL	
	(FOR SYSTEM ASSIGNABLE TO MORE THAN ONE F1-FUNCTION)	
QSA	Used oil storage	
	From Incl. inlet	
	To Incl. outlet	
QSB	Piping system	
	From Excl. inlet from another system	
	To Excl. disposal point (tanker isolating valve)	
QSV	Mobile purifying system	
QU	SAMPLING SYSTEM (CONVENTIONAL AREA)	
QUA	Sampling system	

Q	AUXILIARY SYSTEM	Rev
QUG	Sampling system Water Treatment Plant	1
QUL	Sampling system Steam, Water, Gas Cycle	1
QUT	Auxiliary boiler sample rack system	2
QUY	Closed/open loop control and protection equipment	

A.11 S – Ancillary System

S	ANCILLARY SYSTEM	Rev
SA	VENTILATION SYSTEM (CONVENTIONAL AREA) (AIR CONDITIONING)	
SAA	Auxiliary bay	
SAB	Boiler bay	
SAC	Control building (access)	
SAD	Outside plant control room	
SAE	Electrical distribution	
SAF	HV yard building	2
SAG	Admin building (system)	
SAH	Fire and first aid building	
SAJ	Condensate polishing plant	
SAK	Cable tunnel (ventilation)	
SAL	Coal stockyard	
SAM	Ash dump	
SAN	Telecommunication building	
SAP	Treatment Systems	1
SAQ	Auxiliary systems	2
SAS	Station services building	
SAT	Turbine hall	
SAU	Workshop and store	
SAV	Canteen	2
SAY	Control panel	
SB	HEATING SYSTEM (BUILDING RELATED)	
SC	COMPRESSED AIR SUPPLY SYSTEM (PERMANENT INSTALLATION)	
SCA	Compressed air generation	
SCB	Compressed air distribution	
SCC	Compressed air storage (air receiver)	
SCE	Stationary compressed air distribution – Main group M	2
SCH	Stationary compressed air distribution – Main group H	2
SD	CLEANING SYSTEM (DECONTAMINATION SYSTEM SEE ‘FK’) (PERMANENT INSTALLATION)	
SDA	Dust collection equipment, conventional fuel supply system	
SDC	Dust collection equipment, fuel disposal system	
SDE	Dust collection equipment, floor	
SDR	Condenser cleaning equipment	2
SE	WELDING GAS SYSTEM (PERMANENT INSTALLATION)	
SEA	Welding gas system	2
SG	FIRE PROTECTION SYSTEM (PERMANENT INSTALLATION)	
SGA	Firefighting water system (conventional area)	
SGC	Spray water equipment (conventional area)	
SGE	Sprinkler equipment	

S	ANCILLARY SYSTEM	Rev
SGF	Foam firefighting equipment	
SGG	Tank casing cooling equipment	
SGJ	CO_2 firefighting equipment	
SGK	Halon firefighting equipment	
SGL	Powder firefighting equipment	
SGM	Firefighting water system (conventional area)	5
SGX	Control medium supply for closed/open loop control and protection equipment	
SGY	Closed/open loop control and protection equipment	
SM	OVERHEAD CRANE, PERMANENT HOIST AND LIFTING DEVICE	
SMA	Auxiliary cooling system crane	
SMB	Ash plant crane	
SMC	Store crane	
SMD	Workshop crane	
SME	Water supply and discharge plant crane	
SMF	Boiler house crane	
SMG	Auxiliary bay crane	
SMH	Auxiliary crane (incl. 'A' frame)	
SMJ	Cooling system crane and hoist	
SMK	Coal plant crane and hoist	
SML	Low pressure services crane	
SMM	Compressor house crane	2
SMT	Turbine house crane	
SN	ELEVATOR INSTALLATION	
SNA	Auxiliary bay lift	
SNB	Boiler house lift	
SNC	Cooling tower lift	
SND	Coal silo lift	
SNE	Smoke stack lift	
SNF	Station services building lift	
SNG	Workshop and stores lift	
SNH	Ash plant lift	
SNJ	Main admin building lift	5
SP	RAILWAY INSTALLATION/PERMANENT WAY	
SPA	Railway installation	
SQ	ROAD TRAFFIC INSTALLATION	
SQA	Road traffic installation	
ST	WORKSHOP, STORE AND LABORATORY EQUIPMENT AND SOCIAL INSTALLATION OUTSIDE CONTROLLED AREA	
STA	Facilities for workshop	
STC	Decentralized maintenance workshop	
STE	Facilities for store, fuel station (garage)	

S	ANCILLARY SYSTEM	Rev
STG	Facilities for laboratory	
STP	Social installation	

A.12 U – Structure

U	STRUCTURE	Rev
UA	STRUCTURE FOR NETWORK AND DISTRIBUTION PLANT	
UAA	Structure for outdoor switchgear equipment	
UAB	System switchgear building	
UAC	Grid control centre	
UAD	HV yard area	
UAE	Structure for control air system	
UAG	Structure for transformer	
UAH	Structure for plinths and instrument	
UAX	Special structure (plant associated)	
UAY	Structure for bridge	
UAZ	Structure for duct	
UB	STRUCTURE FOR POWER STATION ELECTRICAL POWER SYSTEM	
UBA	Switchgear building	
UBB	Switchgear building	
UBC	Structure for station transformer	
UBD	Structure for LV unit auxiliary supply transformer	
UBE	Structure for HV unit auxiliary supply transformer	
UBF	Structure for generator transformer	
UBG	Structure for start-up transformer	
UBH	Oil separating and collecting pit	
UBJ	Transformer track	
UBK	Service building (transformer, erecting structure)	
UBL	Structure for busbar	
UBM	Structure for transformer cooling system	
UBN	Structure for emergency power generator set (without central chilled water plant)	
UBP	Structure for emergency power generator set and central chilled water plant	
UBQ	Structure for fuel supply for emergency power generator	
UBR	Substation for direct/indirect dry cooling	
UBS	Substation for coal, ash and bulk fuel plant	
UBT	Substation for precipitator	
UBU	Structure for power transmission and auxiliary power supply	2
UBV	Structure for power transmission and auxiliary power supply	2
UBW	Structure for power transmission and auxiliary power supply	2
UBX	Special structure (auxiliary bay)	
UBY	Structure for bridge	
UBZ	Structure for duct	
UC	STRUCTURE FOR CONTROL AND INSTRUMENTATION EQUIPMENT	
UCA	Unit control room building	
UCB	Station control building, HV yard control building	
UCC	Structure for IT and telecoms	2

U	STRUCTURE	Rev
UCE	Coal stockyard control room	
UCL	Structure for control equipment	
UCP	Structure for control of cooling water	
UCX	Special structure (plant dependent)	
UCY	Structure for bridge	
UCZ	Structure for duct	
UE	STRUCTURE FOR CONVENTIONAL FUEL SUPPLY AND RESIDUE DISPOSAL	
UEA	Structure for coal unloading	
UEB	Structure for coal storage	
UEC	Structure for control rooms for conventional fuel supply and residues disposal	2
UED	Structure for coal transport	
UEE	Structure for coal treatment	
UEF	Transfer structure	
UEG	Structure for coal gasification by pressure	
UEH	Structure for unloading and transfer point of liquid fuel	
UEJ	Structure for storage of liquid fuel	
UEL	Structure for transport, pump station of liquid fuel	
UEM	Structure for treatment and handling of liquid fuel	
UEN	Structure for transfer point, gasification and storage for gaseous fuel	
UEP	Structure for pollution control dams	2
UEQ	Structure for fly ash, residue disposal	
UER	Structure for transportation of gaseous fuel	
UET	Structure for ash storage	
UEU	Structure for ash transport	
UEV	Structure for ash settling pit	
UEW	Structure for combustion residue treatment system	
UEX	Special structure (plant associated)	
UEY	Structure for bridge	
UEZ	Structure for duct	
UG	STRUCTURE FOR WATER SUPPLY AND DISCHARGE	
UGA	Structure for raw water supply	
UGB	Structure for low pressure services supply system	
UGC	Structure for chlorine dosing	1
UGD	Structure for treatment system	
UGE	Neutralization system building	
UGF	Structure for firefighting water system	
UGG	Structure for drinking water supply	
UGH	Structure for rain water	
UGJ	Structure for cooling tower make-up water treatment	
UGK	Flocculator intake and mixing chamber structure	
UGL	Flocculator structure	

U	STRUCTURE	Rev
UGM	Structure for plant drains (clean, dirty, rain, sewage, etc.)	
UGN	Treated water basin	
UGP	Sludge thickener storage structure	
UGQ	Sludge dewatering storage building	
UGR	Sludge store structure	
UGU	Structure for waste water treatment	
UGV	Structure for sewage purification	
UGX	Special structure (plant associated)	
UGY	Structure for bridge	
UGZ	Structure for duct	
UH	STRUCTURE FOR CONVENTIONAL HEAT GENERATION	
UHA	Boiler house, supporting structure, skin casing/sheeting	
UHB	Boiler foundation	
UHC	Structure for flue gas circulation, (e.g. induced draft fan)	
UHF	Bunker building	
UHL	Structure for boiler compressed air supply	
UHN	Flue gas stacks	
UHP	Structure for flue gas filter system (bag filters)	
UHQ	Structure for flue gas filter system (precipitators)	
UHT	Structure for flue gas desulphurizing system	
UHU	Structure for flue gas heating	
UHV	Structure for combustion air circulation (e.g. forced draft fan)	
UHW	Boiler blow down structure	
UHX	Special structure (plant associated)	
UHY	Structure for bridge	
UHZ	Structure for duct	
UL	STRUCTURE FOR STEAM, WATER, GAS CYCLES	
ULA	Feed water pump house	
ULB	Emergency feed water system building	
ULC	Structure for condensate system	
ULD	Structure for condensate polishing system	
ULE	Structure for emergency water supply system	
ULF	Foundation auxiliary Bay	
ULG	Structure for air cooled condenser platform	2
ULH	Structure for auxiliary building for condensate system	1
ULX	Special structure (plant associated)	
ULY	Structure for bridge	
ULZ	Structure for duct	
UM	STRUCTURE FOR MAIN MACHINE SET	
UMA	Structure for steam turbine generator set	
UMB	Structure for gas turbine generator set	

U	STRUCTURE	Rev
UMC	Turbine foundation	2
UME	Structure for water turbine generator set	
UMG	Structure for storage pumping set	
UMJ	Structure for diesel set	
UMM	Structure for compressor system	
UMR	Structure for gas engine plant	
UMV	Structure for turbine lubrication oil storage	2
UMX	Special structure (plant)	
UMY	Structure for bridge	
UMZ	Structure for duct	
UN	STRUCTURE FOR PROCESS ENERGY PREPARATION FOR USERS OUTSIDE POWER PLANT	
UNX	Special structure (plant associated)	
UNY	Structure for bridge	
UNZ	Structure for duct	
UP	STRUCTURE FOR COOLING WATER SYSTEM (e.g. COOLING WATER INTAKE)	
UPA	Cooling water intake structure	
UPB	Service cooling water intake structure (closed loop)	
UPC	Cooling water intake structure	
UPD	Service cooling water intake structure (closed loop)	
UPH	Structure for cooling water treatment	
UPJ	Structure for service cooling water treatment (closed loop)	
UPN	Cooling water intake channel	
UPP	Service cooling water intake channel	
UPQ	Biocide treatment building	
UPS	Flushing water channel	
UPT	Flushing water treatment structure	
UPX	Special structure (plant)	
UPY	Structure for bridge	
UPZ	Structure for duct	
UQ	STRUCTURE FOR COOLING WATER SYSTEM (e.g. COOLING WATER PUMPING AND DISCHARGE)	
UQA	Cooling water pumphouse structure	
UQB	Service cooling water pumphouse structure (closed loop)	
UQG	Cooling water overflow structure, surge	
UQH	Flushing water discharge channel	
UQJ	Cooling water sealing pit incl. cooling water aeration	
UQK	Cooling water aeration structure	
UQL	Intermediate reservoir for service cooling water (closed loop)	
UQM	Service cooling water collecting pit (closed loop)	
UQN	Cooling water discharge channel	
UQP	Service cooling water discharge channel (closed loop)	

U	STRUCTURE	Rev
UQQ	Cooling water discharge structure	
UQR	Service cooling water discharge (closed loop)	
UQS	Cooling water discharge channel	
UQT	Service cooling water discharge channel (closed loop)	
UQU	Cooling water weir structure, incl. cooling water aeration	
UQV	Structure for artificial aeration of cooling water	
UQW	Guide structure of cooling water channel	
UQX	Special structure (plant associated)	
UQY	Structure for bridge	
UQZ	Structure for duct	
UR	STRUCTURE FOR COOLING WATER SYSTEM (E.G. RECIRCULATION COOLING)	
URA	Cooling tower structure (main cooling water)	
URB	Cooling tower structure (service cooling water)	
URC	Structure for direct cooling system (e.g. air cooled condenser structure	
URD	Cooling tower pumphouse structure (main cooling water)	
URE	Cooling tower pumphouse structure (service cooling water)	
URG	Cooling tower connecting structure	
URH	Cooling tower discharge structure	
URJ	Cooling tower discharge channel	
URK	Cooling tower discharge structure	
URL	Cooling tower discharge channel	
URM	Cooling water supply structure	
URN	Cooling tower bypass structure	
URP	Cooling tower overflow structure	
URQ	Cooling tower overflow channel	
URX	Special structure (plant associated)	
URY	Structure for bridge	
URZ	Structure for duct	
US	STRUCTURE FOR ANCILLARY SYSTEM	
USA	Structure for air ventilation system	
USB	Structure for heating plant	
USC	Structure for compressed air supply	
USG	Fire pump house structure	
USL	Building for low pressure services Pump House	
USR	Structure for weather tower	
USS	Structure for Ancillary system (radio tower)	
UST	Workshop building	
USU	Store building	
USV	Laboratory building	
USX	Special structure (plant associated)	
USY	Structure for bridge	

U	STRUCTURE	Rev
USZ	Structure for duct	
UT	STRUCTURE FOR AUXILIARY SYSTEM	
UTA	Supply system, building for several auxiliary system	
UTB	Central chilled water system building (air conditioning)	
UTF	Structure for compressor	
UTG	Central gas supply (no fuel supply)	
UTH	Auxiliary boiler building	
UTJ	Auxiliary boiler stack	
UTM	Structure for gas storage	2
UTS	Chemical storage tank	
UTV	Recovered used oil storage and treatment	1
UTX	Special structure (plant associated)	
UTY	Structure for bridge	
UTZ	Structure for duct	
UV	STRUCTURE FOR CHEMICAL FLUE GAS TREATMENT INCL. RESIDUE	
	REMOVAL (FOR ‘HR’, ‘HS’ AND ‘HT’)	
UVA	Structure for flue gas side heat exchanger	
UVB	Structure for flue gas fan system	
UVC	Structure for flue gas scrubber, reactor	
UVD	Structure for absorbent/absorbent circuit	
UVE	Structure for reagent supply incl. preparation/treatment, storage, forwarding	
UVG	Structure for chemical flue gas treatment	1
UVF	Structure for thickening and solids dewatering, solids drying and compacting system	
UVH	Structure for (solids/product) forwarding, storage, loading	
UVJ	Structure for chemical flue gas treatment incl. residues removal (for HR, HS, HT)	2
UVM	Structure for catalyst handling and storage	2
UVN	Structure for chemical flue gas treatment incl. residues removal (for HR, HS, HT)	2
UVX	Special structure (plant specific)	
UVY	Bridge structure	
UVZ	Ducting structure	
UX	STRUCTURE FOR EXTERNAL SYSTEM (POWER PLANT ASSOCIATED)	
UXB	Structure for Gas Turbine Generator Sets	
UXX	Special structure (plant associated)	
UXY	Structure for bridge	
UXZ	Structure for duct	
UY	GENERAL SERVICE STRUCTURE	
UYA	Staff facility and office building	
UYB	Staff facility building	
UYC	Administration building	
UYD	Canteen	
UYE	Gate house	

U	STRUCTURE	Rev
UYF	Control gate house	
UYG	Building for visitor information	
UYH	Training facility	
UYJ	Building for medical supply	
UYL	Security fence control building	
UYN	Locomotive shed	
UYP	Structure for fire prevention equipment	
UYQ	Garage building	
UYR	Car workshop	
UYS	Service station	
UYV	Seismic Station	
UYX	Special structure (plant associated)	
UYY	Structure for bridge	
UYZ	Structure for duct	
UZ	STRUCTURE FOR TRANSPORT, TRAFFIC, FENCING, GARDENS AND OTHER PURPOSES	
UZA	Plant streets and roads (incl. affiliated structure)	
UZC	Court yard	
UZD	Parking area	
UZE	Structure for railway installation	
UZF	Structure for crane and lifting equipment	
UZJ	Fencing and gate	
UZK	Site gardening and equipment (incl. structure)	
UZL	Structure for noise reduction	
UZM	Protection structure against external influences	
UZN	Structure for flood water protection	
UZP	Structure for quay protection	
UZQ	Structure for regulation of the river	
UZR	Harbour structure	
UZS	Jetty	
UZT	Aircraft landing field, outdoor area	
UZU	Structure for area safety - dog kennel	
UZV	Site preparation	1
UZW	Housing, residential area	
UZX	Special structure (plant associated)	
UZY	Structure for bridge	
UZZ	Structure for duct	

A.13 X – Heavy Machinery (Not Main Machine Set)

X	HEAVY MACHINERY (NOT MAIN MACHINE SET)	Rev
XA	STEAM TURBINE PLANT	
XAA	High pressure turbine	
XAB	Intermediate pressure turbine	
XAC	Low pressure turbine	
XAD	Bearing assembly	
XAG	Condensing system	
XAH	Air ejector motive water system (if fitted separately from 'XAJ')	
	From Incl. outlet of another system	
	To Excluding ejector inlet	
XAJ	Air evacuation system	
XAK	Transmission gear between prime mover and driven machine (incl. barring/turning gear)	
XAL	Turbine drain and vent system	
XAM	Leak-off steam system	
XAN	IP/LP bypass station (incl. attemperator spray system)	
XAP	LP bypass station	
XAQ	Vent system (if separate from 'XAL')	
XAV	Lubrication oil supply system	
XAW	Gland steam, heating and cooling system	
XAX	Non-electric control and protection equipment (incl. medium supply system)	
XAY	Closed/open loop control and protection equipment	
XJ	DIESEL ENGINE UNIT	
XJA	Engine	
XJB	Turbo charger, blower	
XJG	Liquid cooling system	
XJH	Intermediate air cooling system	
XJK	Transmission gear between prime mover and driven machine	
XJN	Fuel system	
XJP	Starting up equipment (flywheel)	
XJQ	Air suction system	
XJR	Exhaust gas system	
XJV	Lubricating supply system	
XJX	Control medium supply for closed/open loop control and protection equipment	
XJY	Closed/open loop control and protection equipment	
XK	GENERATOR	
XKA	Generator casing incl. stator, rotor and cooling equipment	
XKB	Excitation (use only if 'XKC' is insufficient)	
XKC	Excitation	
XKD	Bearing assembly	
XKF	Liquid cooling (except oil cooling) incl. Intermediate cooler	
XKG	Gas cooling (except N_2 cooling) incl. H_2 and CO_2 supply	

X	HEAVY MACHINERY (NOT MAIN MACHINE SET)	Rev
XKH	N_2 cooling incl. N_2 supply	
XKQ	Exhaust gas system (if separate from 'XKG' and 'XKH')	
XKU	Oil cooling system incl. intermediate cooling circuit	
XKV	Lubricating supply system (if fitted separately for the generator)	
XKW	Seal oil system incl. supply and treatment plant	
XKX	Control medium supply for closed/open loop control and protection equipment	
XKY	Closed/open loop control and protection equipment	
XP	COMMON EQUIPMENT FOR HEAVY MACHINERY SET	
XPA	Foundation	
XPB	Cowling	
XPG	Rack, support	
XPR	Forced air cooling system	
XPS	Drying and preservation system	
XX	CONTROL MEDIUM SUPPLY	
XXA	Hydraulic oil storage	
XXB	Hydraulic oil supply	
XY	CLOSED/OPEN LOOP CONTROL AND PROTECTION EQUIPMENT	
XYA	Control desk in control room	
XYB	Control panel in control room	
XYC	Local control panel, desk and solenoid operated valve panel	
XYD	PLC	
XYE	Spare	
XYF	Equipment room cubicle	
XYG	Marshalling panel	
XYH	Measurement rack	
XYJ	Spare	
XYK	DC supply incl. associated equipment	
XYL	AC supply and distribution	
XYQ	Computer equipment	

A.14 Second Breakdown Level Equipment Unit – Key

[1]		[2]	**SECOND BREAKDOWN LEVEL EQUIPMENT UNIT - KEY**	[3]
[4]	A	[5]	Mechanical equipment (machinery including driven or hand operated)	[6]
[7]	AA	[8]	Valve, damper including actuator, rupture disc, equipment, also manual, etc.	[9]
[10]	AB	[11]	Isolating element (access gates, doors, locks, etc.)	[12]
[13]	AC	[14]	Heat exchanger, heat transfer surface	[15]
[16]	AE	[17]	Turning, driving, lifting and slewing unit (manipulators also)	[18]
[19]	AF	[20]	Continuous conveyor unit (escalator)	[21]
[22]	AG	[23]	Generator unit	[24]
[25]	AH	[26]	Heating, cooling and air-conditioning unit	[27]
[28]	AJ	[29]	Size reduction equipment (crushing milling plant)	[30]
[31]	AK	[32]	Pressing and packaging unit	[33]
[34] M	A	[35]	Mixer, agitator, vibrating unit	[36]
[37]	AN	[38]	Compressor, fan and blower unit	[39]
[40]	AP	[41]	Pump unit	[42]
[43]	AS	[44]	Positioning and tensioning equipment number for non-electrical variable	[45]
[46]	AT	[47]	Purifying, drying, filtering, separating and screening unit, steam trap, equip. other than ‘BT’	[48]
[49]	AU	[50]	Brake, coupling and gearbox unit, not electrical converter	[51]
[52]	AV	[53]	Combustion unit	[54]
[55] W	A	[56]	Fixed workshop equipment	[57]
[58]	AX	[59]	Testing control and monitoring equipment (e.g. weighing devices)	[60]
[61]	AZ	[62]	Blocked	[63] 2
[64]	B	[65]	MECHANICAL EQUIPMENT	[66]
[67]	BB	[68]	Storage equipment (vessel, tank, dam)	[69]
[70]	BE	[71]	Tunnel and trench (e.g. inspection/cable access)	[72]
[73]	BF	[74]	Foundation	[75]
[76]	BN	[77]	Ejector, injector, jet pump (attemperator)	[78]
[79]	BP	[80]	Flow restricting limiter, orifice (not for metering)	[81]
[82]	BQ	[83]	Hanger, support, frame, rack, pipe penetration, cable tray	[84]
[85]	BR	[86]	Piping, duct and channel	[87]
[88]	BS	[89]	Sound absorber (silencer)	[90]
[91]	BT	[92]	Flue gas catalytic converter module	[93]
[94]	BU	[95]	Insulation, cladding	[96]
[97]	BZ	[98]	Blocked	[99] 2
[100]	C	[101]	DIRECT MEASURING CIRCUIT	[102]
[103]	CD	[104]	Density	[105]
[106]	CE	[107]	Electrical quantities (e.g. current, voltage, power, electrical frequency)	[108]
[109]	CF	[110]	Flow, mass flow	[111]

[1]	[2] **SECOND BREAKDOWN LEVEL EQUIPMENT UNIT - KEY**	[3]
[112] C G	[113] Distance, length, position, direction of rotation	[114]
[115] CH	[116] Manual input (as manually operated sensor, e.g. fire detector)	[117]
[118] CK	[119] Time	[120]
[121] CL	[122] Level (also for dividing line)	[123]
[124] C M	[125] Humidity (moisture)	[126]
[127] C	[128] DIRECT MEASURING CIRCUIT	[129]
[130] CP	[131] Pressure	[132]
[133] CQ	[134] Quality quantities (analysis, material characteristic other than ‘CD’, ‘CM’ and ‘CV’)	[135]
[136] CR	[137] Radiation quantities	[138]
[139] CS	[140] Rotational speed, velocity, frequency, acceleration (mechanical)	[141]
[142] CT	[143] Temperature	[144]
[145] CU	[146] Combined quantities	[147]
[148] CV	[149] Viscosity	[150]
[151] CW	[152] Weight, force, mass	[153]
[154] CY	[155] Vibration, expansion	[156]
[157] D	[158] CLOSED LOOP CONTROL CIRCUIT	[159]
[160] DD	[161] Density	[162]
[163] DE	[164] Electrical quantities (e.g. current, voltage, power, electrical frequency)	[165]
[166] DF	[167] Flow, mass flow	[168]
[169] DG	[170] Distance, length, position direction of rotation	[171]
[172] DK	[173] Time	[174]
[175] DL	[176] Level (also for dividing line)	[177]
[178] DM	[179] Humidity (moisture)	[180]
[181] DP	[182] Pressure	[183]
[184] DQ	[185] Quality quantities (analysis, material characteristic other than ‘DD’, ‘DM’ and ‘DV’)	[186]
[187] DR	[188] Radiation quantities	[189]
[190] DS	[191] Rotational speed, velocity frequency, acceleration mechanical)	[192]
[193] DT	[194] Temperature	[195]
[196] DU	[197] Combined quantities	[198]
[199] DV	[200] Viscosity	[201]
[202] DW	[203] Weight, force, mass	[204]
[205] DY	[206] Vibration, expansion	[207]

[1]	[2] **SECOND BREAKDOWN LEVEL EQUIPMENT UNIT - KEY**	[3]
[208] E	[209] ANALOGUE AND BINARY SIGNAL CONDITIONING	[210]
[211] EA	[212] Open loop control	[213]
[214] EB	[215] Open loop control	[216]
[217] EC	[218] Open loop control	[219]
[220] ED	[221] Open loop control	[222]
[223] EE	[224] Open loop control	[225]
[226] EG	[227] Alarm/annunciation	[228]
[229] EH	[230] Alarm/annunciation	[231]
[232] EJ	[233] Alarm/annunciation	[234]
[235] EK	[236] Alarm/annunciation	[237]
[238] EM	[239] Process computer (also for operating and monitoring)	[240]
[241] EN	[242] Process computer	[243]
[244] EP	[245] Process computer	[246]
[247] EQ	[248] Process computer	[249]
[250] ER	[251] Process computer	[252]
[253] EU	[254] Combined analogue and binary signal processing	[255]
[256] EW	[257] Protection	[258]
[259] EX	[260] Protection	[261]
[262] EY	[263] Protection	[264]
[265] EZ	[266] Protection	[267]
[268] F	[269] INDIRECT MEASURING CIRCUIT	[270]
[271] FD	[272] Density	[273]
[274] FE	[275] Electrical quantities (e.g. current, voltage, power, electrical frequency)	[276]
[277] FF	[278] Flow, mass flow	[279]
[280] FG	[281] Distance, length, position, direction of rotation	[282]
[283] FK	[284] Time	[285]
[286] FL	[287] Level (also for dividing line)	[288]
[289] FM	[290] Humidity (moisture)	[291]
[292] FP	[293] Pressure	[294]
[295] FQ	[296] Quality quantities (analysis, material characteristic other than ‘FD’, ‘FM’ and ‘FV’)	[297]
[298] FR	[299] Radiation quantities	[300]
[301] FS	[302] Rotational speed, velocity, frequency, acceleration (mechanical)	[303]
[304] FT	[305] Temperature	[306]
[307] FU	[308] Combined quantities	[309]
[310] FV	[311] Viscosity	[312]
[313] FW	[314] Weight, force, mass	[315]
[316] FY	[317] Vibration, expansion	[318]
[319] G	[320] ELECTRICAL EQUIPMENT	[321]
[322] GA	[323] Sub-distributor/penetration	[324]
[325] GB	[326] Sub-distributor/penetration	[327]

[1]	[2] **SECOND BREAKDOWN LEVEL EQUIPMENT UNIT - KEY**	[3]
[328] GC	[329] Sub-distributor/penetration	[330]
[331] GD	[332] Sub-distributor/penetration	[333]
[334] GE	[335] Sub-distributor/penetration	[336]
[337] GF	[338] Sub-distributor/penetration general	[339]
[340] GG	[341] Penetration - cable cover	[342]
[343] GH	[344] Cubicle, box for process control and electrical	[345]
[346] GJ	[347] Processing and storage equipment for automation systems	[348] 2
[349] GK	[350] Periphery equipment for information preparation	[351]
[352] GM	[353] Sub-distributor for GPO telecommunication system	[354]
[355] GN	[356] Network equipment	[357] 2
[358] GP	[359] Sub-distributor for lighting	[360]
[361] GQ	[362] Power socket	[363]
[364] GR	[365] Direct current power source device (battery)	[366]
[367] GS	[368] Switchgear equipment (not process related)	[369]
[370] GT	[371] Transformer winding	[372]
[373] GU	[374] Converter equipment including battery charger	[375]
[376] GV	[377] Structure related earthing and lightning protection, surge arrester	[378]
[379] GW	[380] Actuating device for electrical quantities e.g.(tap changer)	[381]
[382] GX	[383] Actuating equipment for electrical variables	[384]
[385] GY	[386] Sub-distributor for telecommunication system (not GPO)	[387]
[388] GZ	[389] Hangers , supports and racks for electrical and control and instrumentation equipment	[390] 1
[391] H	[392] SUB-ASSEMBLY OF MAIN AND HEAVY MACHINE	[393]
[394] HA	[395] Machine static assembly	[396]
[397] HB	[398] Machine rotating assembly	[399]
[400] HD	[401] Bearing assembly	[402]

A.15 Equipment Numbering

NUMBERING AREA FOR VALVE, DAMPER, etc.		
001-099	Control valve (analogue operated)	
101-199	Valve with electrical actuator (binary operated)	
201-299	Valve with pneumatic, hydraulic or solenoid actuator(binary operated)	
301-399	First isolating valve for measuring devices at the tapping point	
401-499	Drain and vent valve	
501-599	Hand operated valve (except the valve referred to 301-399 and 401-499)	
601-699	Mechanically operated valve (except the valve referred to 301-399 and 401-499)	
901-999	Coded safety valve	2
NUMBERING AREAS FOR MEASURING CIRCUIT		
001-099	Analogue remote measurement	
100 - 299	May be used if 001 - 099 is insufficient.	2
301-399	Binary remote measurement	
401-499	Test and adjustment measuring point	
501-599	Local measurement	
601-699	Temporary measuring circuit	
901-999	Combined measuring circuit	
For electrical measurement ‘CE’ the following rule is valid:		
101-199	Voltage measurement	
201-299	Current measurement	
301-399	Frequency measurement	
401-499	Megawatt	
501-599	Mega volt amp reactive	
601-699	Kilowatt hour	
701-799	Kilovolt amp reactive hour	
801-899	Power factor	
CABLE NUMBER COUNTING RULES		
0001 - 0999 = Power cables > 1 kV		
1001 - 1999 = Power cables ≤ 1 kV		
2001 - 3999 = Process cables > 60 V		
4001 - 9999 = Process cables ≤ 60 V		
COUNTING RULES FOR PIPELINE CODING		
001 - 299 = Main Piping		1
301 - 399 = Instrument impulse piping		1
401 - 499 = Drains and vent piping		1
601 - 699 = Piping on safety lines		1
901 - 999 = Safety valve piping		1

A.16 Third Breakdown Level Unit Component – Main Key

THIRD BREAKDOWN LEVEL UNIT COMPONENT - MAIN KEY		Rev
K	Mechanical unit component (production)	
KA	Gate valve, globe valve, cock, damper, rupture disk, orifice, etc.	
KB	Gate, door, dam door	
KC	Heat exchanger, cooler	
KD	Vessel, storage tank, surge tank	
KE	Turning, driving, lifting, and slewing devices	
KF	Endless conveyor, (escalator, conveyor)	
KJ	Crushing device	
KK	Pressing and packaging device	
KM	Mixer, stirrer	
KN	Compressor, fan, blower, ventilator	
KP	Pump	
KT	Purifier, drier, filter, separator	
KV	Burner	
KW	Workshop device	
M	MECHANICAL UNIT COMPONENT (AUXILIARY)	
MB	Brake	
MF	Foundation	
MG	Gearbox	
MK	Clutch and coupling	
MM	Engine (not electric)	
MR	Piping part, ducting component	
MS	Positioning drive (not electric)	
MT	Turbine	
MU	Transmission device, other than coupling and gearbox	
Q	UNIT COMPONENT (NOT ELECTRICAL) FOR CONTROL AND INSTRUMENTATION	
QB	Sensor/transducer (only, if not integrated in ‘QP’)	
QH	Annunciation system	
QN	Controller, flybolt governor	
QP	Measuring device (transmitter) testing equipment	
QR	Impulse pipework	
QS	Equalizing chamber	
QT	Protection tube, thermowell (only for protection of the sensor)	
-	ELECTRICAL UNIT COMPONENT	
-A	Assembly and sub-assembly	
-B	Transducer for non-electric to electric quantities and reverse, vice versa	
-C	Capacitor	
-D	Binary element, time delay equipment, memory equipment	
-E	Special unit component	
-F	Protection equipment (Fuse, overload device etc.)	2

-G	Generator, power supply	
-H	Signaling equipment	
-K	Relay, contactor	2
-L	Inductance	
-M	Electrical motor	
-N	Amplifier, controller	
-P	Measuring device, testing equipment	
-Q	Power switching device	2
-R	Resistance	
-S	Switch, selector	
-T	Transformer	
-U	Modulator, transducer from electric to electric quantities	
-V	Vacuum tube, semi-conductor	
-W	Current transmission system, wave guide antennae	
-X	Terminal, plug, socket outlet	
-Y	Electric actuated equipment, e.g. magnet, solenoid not electric motor	
-Z	Cable termination, compensating equipment, filter, limiter	
THIRD BREAKDOWN LEVEL –SIGNAL IDENTIFICATION		
X	SIGNAL ORIGIN	
Y	SIGNAL APPLICATION	
Z	GATED SIGNAL	

The signal areas or application areas are identified by the second alpha character. The two numerical characters which follow this specify the individual signal type or application.

As the stipulations required as a basis for signal identification depend on the hardware used and the application identifiers also depend on the documentation method employed, no generic examples are given here. Please refer to the manufacturer-specific stipulations.

Refer to VGB-B 106 B4 for guidelines and application commentaries on signal identification.