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| |  | | --- | | Additional Supplementary Information | |

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1.  SAMPLE SIGNAL LIST

The sample signals provided as Table 1, for reference only.

Table 1: Sample Signal Lists.

| **COMMON SIGNALS** |
| --- |
| AC SUPPLY HEATING, LIGHTING & SOCKET 110V DC CABINET |
| 110V DC SUPPLY FROM BATTERY CHARGER 1 |
| 110V DC SUPPLY VOLTAGE MEASURING BB1 |
| 110V DC SUPPLY FROM BATTERY CHARGER 2 |
| 110V DC SUPPLY VOLTAGE MEASURING BB2 |
| 110V DC SUPPLY TFO & OLTC |
| 110V DC SUPPLY RTU |
| 110V DC SUPPLY BUSBAR PANEL |
| 110V DC SUPPLY FEEDER(S) PANEL(S) MPR 1 & MPR 2 |
| 110V DC SUPPLY FEEDER(S) PANEL(S) CLOSE & TRIP CIRCUITS |
| 110V DC SUPPLY HV SIDE TRANSFORMER(S) PANEL(S) MPR 1 & MPR 2 |
| 110V DC SUPPLY HV SIDE TRANSFORMER(S) PANEL(S) CLOSE & TRIP CIRCUITS |
| 110V DC SUPPLY LV SIDE TRANSFORMER(S) PANEL(S) MPR 1 & MPR 2 |
| 110V DC SUPPLY LV SIDE TRANSFORMER(S) PANEL(S) CLOSE & TRIP CIRCUITS |
| 110V DC SUPPLY HV LINE(S) PANEL(S) MPR 1 & MPR 2 |
| 110V DC SUPPLY HV LINE(S) PANEL(S) CIRCUITS |
| 110V DC SUPPLY BUSBAR(S) CB, DS'S & DSES |
| 110V DC SUPPLY HV LINE(S) CB, DS'S & DSES |
| 110V DC SUPPLY HV SIDE TRANSFORMER(S) PANEL(S)CB & DS |
| 110V DC SUPPLY LV SIDE TRANSFORMER(S) PANEL(S)CB & DS'S |
| 110V DC SUPPLY FEEDER(S) CB, DS'S & DSES |
| AC SUPPLY HEATING LIGHTING & SOCKET 48V DC CABINET |
| 48V DC SUPPLY FROM BATTERY CHARGER1 |
| 48V DC SUPPLY VOLTAGE MEASURING BB1 |
| 48V DC SUPPLY FROM BATTERY CHARGER2 |
| 48V DC SUPPLY VOLTAGE MEASURING BB2 |
| 48V DC SUPPLY 1 RTU |
| 48V DC SUPPLY MULTIPLEXER PANEL |
| NORMAL EMERGENCY SWITCH-OVER |
| 110V DC SUPPLY VOLTAGE MEASURING |
| AC SUPPLY HEATING, LIGHTING & SOCKET AC |
| AC SUPPLY HV MARSHALLING KIOSKS CABINETS |
| AC SUPPLY FEEDERS MARSHALLING KIOSKS CABINETS |
| AC SUPPLY HV PROTECTION CABINETS |
| AC SUPPLY FEEDERS PROTECTION CABINETS |
| AC SUPPLY HEATING, LIGHTING & SOCKET AC/48VDC/110VDC CABINETS |
| AC SUPPLY HEATING & LIGHTING COMMUNICATION CABINETS |
| AC SUPPLY TRANSFORMERS & OLTC |
| AC SUPPLY FIRE ALARM PANEL |
| AC SUPPLY CONTROL BUILDING & GUARD HOUSE |
| AC SUPPLY 48V DC BATTERY CHARGER 1 |
| AC SUPPLY 48V DC BATTERY CHARGER 2 |
| AC SUPPLY 110V DC BATTERY CHARGER1 |
| AC SUPPLY 110V DC BATTERY CHARGER 2 |
| ETHERNET SWITCH(ES) STATUS |
| GPS STATUS |
| DIESEL GENERATOR FUEL LOW |
| DIESEL GENERATOR BATTERY VOLTAGE LOW |

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| --- |
| **BUSBAR SIGNALS** |
| ALARMS |
| BUSBAR LINE CIRCUIT BREAKER FAILURE STAGE 1 TRIP ( ALL CONNECTED LINES) |
| BUSBAR TRANSFORMER CIRCUIT BREAKER FAILURE STAGE 1 TRIP (ALL CONNECTED  TRANSFORMERS) |
| BUSBAR BUS 1 DIFFERENTIAL ALARM |
| BUSBAR BUS 2 DIFFERENTIAL ALARM |
| BUSBAR CHECKZONE DIFFERENTIAL PROTECTION TRIP |
| BUSBAR BUS 1 DIFFERENTIAL PROTECTION TRIP |
| BUSBAR BUS 2 DIFFERENTIAL PROTECTION TRIP |
| BUSBAR BUS 1 DIFFERENTIAL OUT |
| BUSBAR BUS 2 DIFFERENTIAL OUT |
| BUSBAR BUS 1 BREAKER FAILURE OUT |
| BUSBAR BUS 2 BREAKER FAILURE OUT |
| BUSBAR TRANSFORMER START CBF 3 PHASE (ALL CONNECTED TRANSFORMERS) |
| BUSBAR LINE START CBF 3 PHASE (ALL CONNECTED LINES) |
| BUSBAR RELAY FAIL |
| BUSBAR RELAY COMMUNICATION FAIL |
| INDICATIONS |
| BUSBAR LINE DISCONNECTOR POSITION (FOR ALL CONNECTED LINES) |
| BUSBAR BAY TRANSFORMER DISCONNECTOR POSITION (FOR ALL CONNECTED  TRANSFORMERS) |
| BUSBAR AWENDO CIRCUIT BREAKER 105 POSITION |
| BUSBAR LINE CIRCUIT BREAKER 205 POSITION (ALL CONNECTED LINES) |
| BUSBAR TRANSFORMER CIRCUIT BREAKER POSITION (ALL CONNECTED TRANSFORMERS) |
| ANALOGUES |
| BUSBAR LINE CURRENT PHASE B (ALL CONNECTED LINES) |
| BUSBAR TRANSFORMER CURRENT PHASE B (ALL CONNECTED TRANSFORMERS) |

| **HV LINE SIGNALS** |
| --- |
| ALARMS |
| LINE CIRCUIT BREAKER SF6 ALARM |
| LINE CIRCUIT BREAKER SF6 OPERATING LOCKOUT |
| LINE CIRCUIT BREAKER CLOSING LOCKOUT DRIVE |
| LINE CIRCUIT BREAKER POLE DISCREPANCY |
| LINE CIRCUIT BREAKER PROTECTIVE MOTOR SWITCH TRIP |
| LINE GROUND DISTANCE ZONE 3 TRIP |
| LINE CIRCUIT BREAKER HEATING FAILURE |
| LINE DISCONNECTOR(S) MOTOR PROTECTION TRIP |
| LINE DISCONNECTOR (S)HEATING FAILURE |
| LINE BCPU VT SUPPLY FAILURE |
| LINE CIRCUIT BREAKER 105 BLOCK CLOSE |
| LINE TRIP CIRCUIT 1 FAILURE |
| LINE TRIP CIRCUIT 2 FAILURE |
| LINE MCIRCUIT BREAKER DISCONNECTOR SUPPLY FAILURE |
| LINE VOLTAGE TFO SIGNAL ENERGY METER FAIL |
| LINE MCIRCUIT BREAKER VT REFERENCE SIGNAL SYNCHROCHECK FAIL |
| LINE SYNCHROCHECK ON |
| LINE SYNCHROCHECK OVERRIDE |
| LINE INTERLOCK OVERRIDE |
| LINE PHASE OVERCURRENT TRIP |
| LINE BCPU GENERAL TRIP |
| LINE EARTH FAULT TRIP |
| LINE SYNCHROCHECK OK |
| LINE F101 DISTANCE PROTECTION INTERNAL FAILURE |
| LINE MAIN PROTECTION 2 SUPPLY FAILURE |
| LINE VT SIGNAL LINE DIFFERENTIAL PROTECTION FAILURE |
| LINE CIRCUIT BREAKERF STAGE 2 FOR DTT |
| LINE DIFFERENTIAL TRIP |
| LINE PHASE DISTANCE ZONE 1 TRIP |
| LINE PHASE DISTANCE ZONE 2 TRIP |
| LINE GROUND DISTANCE ZONE 1 TRIP |
| LINE GROUND DISTANCE ZONE 2 TRIP |
| LINE PHASE UNDERVOLTAGE 1 TRIP |
| LINE PHASE OVERVOLTAGE STAGE 1 ALARM |
| LINE PHASE OVERVOLTAGE TRIP STAGE 2 |
| LINE PHASE OVERVOLTAGE TRIP STAGE 3 / DTT SENT |
| LINE VT FUSE FAIL |
| LINE PHASE OVERCURRENT TRIP |
| LINE EARTH FAULT TRIP |
| LINE DIFFERENTIAL PROTECTION CH1 FAIL |
| LINE DIFFERENTIAL PROTECTION CH2 FAIL |
| LINE CIRCUIT BREAKER TRIP 3 PHASE TC1 |
| LINE CIRCUIT BREAKER TRIP 3 PHASE TC2 |
| LINE PHASE OVERVOLTAGE LEVEL 1 TRIP |
| LINE PHASE OVERVOLTAGE LEVEL 2 TRIP |
| LINE PHASE UNDERVOLTAGE LEVEL 1 TRIP |
| LINE SWITCH ONTO FAULT Z2 |
| LINE DIFFERENTIAL PROTECTION RELAY INTERNAL FAILURE |
| LINE BCPU INTERNAL FAILURE |
| LINE MAIN PROTECTION 1 SUPPLY FAILURE |
| LINE CIRCUIT BREAKER HEATING AND LIGHTING TRIP |
| LINE CIRCUIT BREAKERF STAGE 2 FOR DTT |
| LINE VT SIGNAL DISTANCE PROTECTION FAILURE |
| LINE CIRCUIT BREAKER BLOCK AUTORECLOSE |
| LINE CIRCUIT BREAKER AUTORECLOSE INITIATE |
| LINE CIRCUIT BREAKER AUTORECLOSE SWITCH OFF |
| LINE CIRCUIT BREAKER AUTORECLOSE SWITCH 1P |
| LINE CIRCUIT BREAKER AUTORECLOSE SWITCH 1P+3P |
| LINE PERMISSIVE RECEIVE 21L |
| LINE PERMISSIVE RECEIVE 67N |
| LINE PERMISSIVE SEND 21L |
| LINE PERMISSIVE SEND 67N |
| LINE DTT RECEIVE FROM LINE SS |
| LINE DTT SEND TO LINE SS |
| LINE GROUND DISTANCE ZONE 1 TRIP |
| LINE GROUND DISTANCE ZONE 2 TRIP |
| LINE GROUND DISTANCE ZONE 3 TRIP |
| LINE GROUND DISTANCE ZONE 4 TRIP |
| LINE PHASE DISTANCE ZONE 1 TRIP |
| LINE PHASE DISTANCE ZONE 2 TRIP |
| LINE PHASE DISTANCE ZONE 3 TRIP |
| LINE PHASE DISTANCE ZONE 4 TRIP |
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| LINE CIRCUIT BREAKER STATUS |
| LINE DISCONNECTOR(S) STATUS |
| LINE EARTH SWITCH STATUS |
| LINE CIRCUIT BREAKER LOCAL/REMOTE STATUS |
| LINE DISCONNECTOR LOCAL/REMOTE STATUS |
| LINE DISCONNECTOR 104 IN REMOTE |
| LINE BCU RELAY LOCAL/REMOTE STATUS |
| LOCKOUT RELAY STATUS |
| ANALOGUES |
| LINE VOLTAGE BC PHASE |
| LINE CURRENT B PHASE |
| LINE MW |
| LINE MVAr |
| LINE MVA |
| LINE POWER FACTOR |
| LINE HZ |
| LINE FAULT DISTANCE IN KM |
| COMMANDS |
| LINE CIRCUIT BREAKER OPEN/CLOSE COMMAND |
| LINE DISCONNECTOR(S) OPEN/CLOSE COMMAND |
| LOCKOUT RELAY REMOTE RESET COMMAND |

| **TRANSFORMER HV SIDE** |
| --- |
| ALARMS |
| TRANSFORMER HV CIRCUIT BREAKER SF6 ALARM |
| TRANSFORMER HV CIRCUIT BREAKER SF6 OPERATING LOCKOUT |
| TRANSFORMER HV AC SUPPLY FAIL |
| TRANSFORMER HV CIRCUIT BREAKER POLE DISCREPANCY |
| TRANSFORMER HV CIRCUIT BREAKER PROTECTIVE MOTOR SWITCH TRIP |
| TRANSFORMER HV CIRCUIT BREAKER DRIVE LOCKOUT / EXCESSIVE MOTOR RUNNING |
| TRANSFORMER HV CIRCUIT BREAKER HEATING FAILURE |
| TRANSFORMER HV DISCONNECTOR(S) MOTOR PROTECTION TRIP |
| TRANSFORMER HV DISCONNECTOR(S) HEATING FAILURE |
| TRANSFORMER HV TRIP CIRCUIT 1 FAILURE |
| TRANSFORMER HV TRIP CIRCUIT 2 FAILURE |
| TRANSFORMER HV DISCONNECTOR SUPPLY FAILURE |
| TRANSFORMER HV INTERLOCK OVERRIDE |
| TRANSFORMER HV MAIN PROTECTION 1 SUPPLY FAILURE |
| TRANSFORMER HV DIFFERENTIAL PROTECTION INTERNAL FAILURE |
| TRANSFORMER HV PHASE OVERCURRENT TRIP |
| TRANSFORMER HV BCPU GENERAL TRIP |
| TRANSFORMER HV EARTH FAULT TRIP |
| TRANSFORMER HV LOCKOUT RELAY TRIP |
| TRANSFORMER HV MAIN PROTECTION 2 SUPPLY FAILURE |
| TRANSFORMER HV BCPU INTERNAL FAILURE |
| TRANSFORMER HV MINIMUM OIL LEVEL TRANSFORMER ALARM |
| TRANSFORMER HV MAXIMUM OIL LEVEL TRANSFORMER ALARM |
| TRANSFORMER HV MINIMUM OIL LEVEL OLTC ALARM |
| TRANSFORMER HV MAXIMUM OIL LEVEL OLTC ALARM |
| TRANSFORMER HV BUCHHOLZ ALARM |
| TRANSFORMER HV OIL TEMPERATURE INDICATOR |
| TRANSFORMER HV WINDING TEMPERATURE HV ALARM |
| TRANSFORMER HV WINDING TEMPERATURE LV ALARM |
| TRANSFORMER HV BUCHHOLZ TRIP |
| TRANSFORMER HV OIL TEMPERATURE TRIP |
| TRANSFORMER HV WINDING TEMPERATURE HV TRIP |
| TRANSFORMER HV WINDING TEMPERATURE LV TRIP |
| TRANSFORMER HV PROTECTION RELAY OLTC TRIP |
| TRANSFORMER HV PRESSURE RELIEF RELAY OLTC TRIP |
| TRANSFORMER HV MECHANICAL TRANSFORMER TRIP OPERATED |
| TRANSFORMER HV GENERAL TRIP TO K86-1 |
| TRANSFORMER HV GENERAL TRIP - CIRCUIT BREAKERF TO BB |
| TRANSFORMER HV CIRCUIT BREAKER FAILURE INITIATE TO MV CIRCUIT BREAKER |
| TRANSFORMER HV CIRCUIT BREAKER 1T0 TRIP 3 PHASE TC1 |
| TRANSFORMER HV CIRCUIT BREAKER 1T0 TRIP 3 PHASE TC2 |
| TRANSFORMER HV TRANSFOMER PERCENTAGE DIFFERENTIAL TRIP |
| TRANSFORMER HV TRANSFOMER INSTANTANEOUS DIFFERENTIAL TRIP |
| TRANSFORMER HV LOW IMPEDANCE RESTRICTED EARTH FAULT TRIP |
| TRANSFORMER HV (MV TRANFORMER) CIRCUIT BREAKER FAILURE DIRECT TRIP INPUT |
| INDICATIONS |
| TRANSFORMER HV CIRCUIT BREAKER OPEN/CLOSE STATUS |
| TRANSFORMER HV DISCONNECTOR(S)OPEN/CLOSE STATUS |
| TRANSFORMER HV CIRCUIT BREAKER LOCAL/REMOTE STATUS |
| TRANSFORMER HV DISCONNECTOR(S) LOCAL/REMOTE STATUS |
| TRANSFORMER HV BCU LOCAL/REMOTE STATUS |
| ANALOGUES |
| TRANSFORMER HV VOLTAGE BC PHASE |
| TRANSFORMER HV CURRENT B PHASE |
| TRANSFORMER HV MW |
| TRANSFORMER HV MVAr |
| TRANSFORMER HV MVA |
| TRANSFORMER HV POWER FACTOR |
| TRANSFORMER HV HZ |
| COMMANDS |
| TRANSFORMER HV CIRCUIT BREAKER OPEN/CLOSE COMMAND |
| TRANSFORMER HV DISCONNECTOR(S) OPEN/CLOSE COMMAND |

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| **TRANSFORMER LV SIDE** |
| ALARMS |
| TRANSFORMER MV AVR INTERNAL FAILURE |
| TRANSFORMER MV TRIP CIRCUIT 1 FAILURE |
| TRANSFORMER MV TRIP CIRCUIT 2 FAILURE |
| TRANSFORMER MV INTERLOCK OVERRIDE |
| TRANSFORMER MV MAIN PROTECTION 2 SUPPLY FAILURE |
| TRANSFORMER MV DISCONNECTOR(S) SUPPLY FAILURE |
| TRANSFORMER MV VT SIGNAL ENERGY METER FAILURE |
| TRANSFORMER MV VT SIGNAL BCU FAILURE |
| TRANSFORMER MV VT AVR INTERNAL FAILURE |
| TRANSFORMER MV HEATING, LIGHTING & SOCKET FAILURE |
| TRANSFORMER MV CIRCUIT BREAKER SF6 ALARM (0,54MPA) |
| TRANSFORMER MV CIRCUIT BREAKER SF6 OPERATING LOCKOUT (0,51MPA) |
| TRANSFORMER MV CIRCUIT BREAKER CLOSE LOCKOUT DRIVE |
| TRANSFORMER MV CIRCUIT BREAKER MOTOR PROTECTION TRIP |
| TRANSFORMER MV CIRCUIT BREAKER EXCESSIVE MOTOR RUNNING |
| TRANSFORMER MV CIRCUIT BREAKER HEATING FAILURE |
| TRANSFORMER MV DISCONNECTOR(S) MOTOR PROTECTION TRIP |
| TRANSFORMER MV DISCONNECTOR(S) HEATING FAILURE |
| TRANSFORMER MV FEEDERS CIRCUIT BREAKER FAILURE STAGE 2 FROM OUTGOING FEEDERS |
| TRANSFORMER MV CIRCUIT BREAKER FAILURE INITIATE FROM HV TRANSFORMER |
| TRANSFORMER MV CIRCUIT BREAKER FAILURE STAGE 2 FROM 132KV BB BAY |
| TRANSFORMER MV VT 33KV BUSBAR FAILURE |
| TRANSFORMER MV PHASE OVERCURRENT TRIP |
| TRANSFORMER MV BCU GENERAL TRIP |
| TRANSFORMER MV EARTH FAULT TRIP |
| TRANSFORMER MV CIRCUIT BREAKERF INITIATE TO RT01 |
| TRANSFORMER MV AVR UNDER VOLTAGE BLOCK |
| TRANSFORMER MV AVR OVER VOLTAGE BLOCK |
| TRANSFORMER MV AVR OVER CURRENT BLOCK |
| TRANSFORMER MV TAP CHANGER MOTOR DRIVE RUNNING |
| TRANSFORMER MV TAP CHANGER CC FAILURE |
| TRANSFORMER MV TAP CHANGER HEATING FAILURE |
| TRANSFORMER MV TAP CHANGER VOLTAGE MONITORING FAILURE |
| TRANSFORMER MV MAIN PROTECTION 1 SUPPLY FAILURE |
| TRANSFORMER MV BCU INTERNAL FIALURE |
| INDICATIONS |
| TRANSFORMER HV CIRCUIT BREAKER OPEN/CLOSE STATUS |
| TRANSFORMER HV DISCONNECTOR(S) OPEN/CLOSE STATUS |
| TRANSFORMER MV CIRCUIT BREAKER LOCAL/REMOTE STATUS |
| TRANSFORMER MV DISCONNECTOR(S) LOCAL/REMOTE STATUS |
| TRANSFORMER MV BCU IN LOCAL STATUS |
| TRANSFORMER MV AVR IN LOCAL / REMOTE |
| TRANSFORMER MV AVR IN MANUAL / AUTOMATIC |
| TRANSFORMER MV AVR IN INDEPENDANT / PARALLEL |
| ANALOGUES |
| TRANSFORMER MV VOLTAGE BC PHASE |
| TRANSFORMER MV CURRENT B PHASE |
| TRANSFORMER MV MW |
| TRANSFORMER MV MVAr |
| TRANSFORMER MV MVA |
| TRANSFORMER MV POWER FACTOR |
| TRANSFORMER MV HZ |
| TRANSFORMER MV TAP CHANGER TAP POSITION |
| COMMANDS |
| TRANSFORMER MV CIRCUIT BREAKER 1T0 COMMAND |
| TRANSFORMER MV DISCONNECTOR(S) 1T3 COMMAND |
| AVR MANUAL / AUTOMATIC CONTROL |
| AVR INDEPENDENT / PARALLEL OPERATION |
| TAP POSITION RAISE / LOWER |

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| **FEEDERS SIGNALS** |
| ALARMS |
| FEEDER BCU INTERNAL FAILURE |
| FEEDER MAIN PROTECTION 2 SUPPLY FAILURE |
| FEEDER VT SIGNAL DISTANCE PROTECTION FAILURE |
| FEEDER AUTORECLOSE SWITCH ON |
| FEEDER AUTORECLOSE SWITCH OFF |
| FEEDER BLOCK AUTORECLOSER |
| FEEDER AUTORECLOSE INITIATE FROM BCU |
| FEEDER CIRCUIT BREAKER 1L5 TRIP TC1 |
| FEEDER CIRCUIT BREAKER 1L5 TRIP TC2 |
| FEEDER CIRCUIT BREAKER 1L5 AUTORECLOSE |
| FEEDER PHASE DISTANCE ZONE 1 TRIP |
| FEEDER PHASE DISTANCE ZONE 2 TRIP |
| FEEDER GROUND DISTANCE ZONE 1 TRIP |
| FEEDER GROUND DISTANCE ZONE 2 TRIP |
| FEEDER MAIN PROTECTION 1 SUPPLY FAILURE |
| FEEDER DISTANCE PROTECTION INTERNAL FAILURE |
| FEEDER INITIATE CIRCUIT BREAKERF DISTANCE PROTECTION |
| FEEDER HEATING & LIGHTING SUPPLY FAILURE |
| FEEDER VT SIGNAL BCU FAILURE |
| FEEDER BCU INTERLOCK OVERRIDE |
| FEEDER CIRCUIT BREAKER SF6 ALARM (0,54MPA) |
| FEEDER CIRCUIT BREAKER SF6 TRIP LOCK OUT (0,51MPA) |
| FEEDER CIRCUIT BREAKER CLOSE LOCKOUT DRIVE |
| FEEDER CIRCUIT BREAKER EXCESSIVE MOTOR RUNNING |
| FEEDER CIRCUIT BREAKER MOTOR PROTECTION TRIP |
| FEEDER CIRCUIT BREAKER HEATING FAILURE |
| FEEDER DISCONNECTOR(S)(S) MOTOR PROTECTION TRIP |
| FEEDER DISCONNECTOR(S) (S)HEATING FAILURE |
| FEEDER DISCONNECTOR(S) SUPPLY FAILURE |
| FEEDER VT SIGNAL ENERGY METER FAILURE |
| FEEDER TRIP CIRCUIT 1 FAILURE |
| FEEDER TRIP CIRCUIT 2 FAILURE |
| FEEDER PHASE OVERCURRENT TRIP |
| FEEDER BCU GENERAL TRIP |
| FEEDER EARTH FAULT TRIP |
| FEEDER TRANSFORMER MV CIRCUIT BREAKERF STAGE 2 TRIP |
| FEEDER LOCKOUT RELAY STATUS |
| INDICATIONS |
| FEEDER CIRCUIT BREAKER OPEN/CLOSE STATUS |
| FEEDER DISCONNECTOR(S)OPEN/CLOSE STATUS |
| FEEDER EARTH SWITCH OPEN/CLOSE STATUS |
| FEEDER CIRCUIT BREAKER LOCAL/REMOTE STATUS |
| FEEDER DISCONNECTOR(S) LOCAL/REMOTE STATUS |
| FEEDER BCU IN LOCAL/REMOTE STATUS |
| ANALOGUES |
| FEEDER VOLTAGE BC PHASE |
| FEEDER CURRENT B PHASE |
| FEEDER MW |
| FEEDER MVAr |
| FEEDER MVA |
| FEEDER POWER FACTOR |
| FEEDER HZ |
| FEEDER FAULT DISTANCE IN KM |
| COMMANDS |
| FEEDER CIRCUIT BREAKER OPEN/CLOSE COMMAND |
| FEEDER DISCONNECTOR(S)OPEN/CLOSE COMMAND |
| FEEDER LOCKOUT RELAY REMOTE RESET COMMAND |

2.  COLOR CODES AND BRANDING

The following requirements for color, painting and branding shall be maintained.

Table 2: Paint Codes Roofing Sheets Suppliers.

| **Supplier** | **Roofing Sheet** | **Walls, Doors, Skirting, Gutters Paints** | **Paint** | **Contact person** |
| --- | --- | --- | --- | --- |
| Mabati Rolling Mills  (SAFAL GROUP) | KETRACO Green Box profile sheets. Must make prior order of at least 3000m2  Alternatively use Forest Green | - | Both Galaxy and Sadolin paint will provide the KETRACO Green | Ask for Steve Kiruthi  0735 511196 |
| Rafiki Mabati  (City Engineering works Ltd.) | KETRACO Green Box profile sheets.  Alternatively use Forest Green | - | Both Galaxy and Sadolin paint will provide the KETRACO Green | Ask for Jamil 0701 100001 |
| Maisha Mabati  (Devki Group) | KETRACO Green Box profile sheets. Must make prior order of at least 5 tonnes  Alternatively use Forest Green | - | Both Galaxy and Sadolin paint will provide the KETRACO Green | Ask for Pandeet  0756 020000 |
| Galaxy Paints | - | Ask for:  Green – KETRACO Green  Red - KETRACO Red Grey – KETRACO Grey | Manufactures paints and supplies MRM, RM, MM. | Ask for Tom  0722 358654 |
| Sadolin Paints | - | Ask for:  Green – KETRACO Green  Red - KETRACO Red Grey – KETRACO Grey | Manufactures paints and supplies MRM, RM, MM. | Ask for Juliet  0732 888826 |
| Duracoat paints | - | Ask for:  Green – Beaumonde 2623C  Red - Adventure 2189C  Grey – Color Plus C138 | Manufactures paints | - |
| Crown paints | - | Ask for:  Green – Climbing vine 102A  Red – Geranium 04E53  Grey – Granite 00A09 | Manufactures paints | - |

Substation Outdoor Recommended Colors illustrated in Figure 1 and Figure 22.

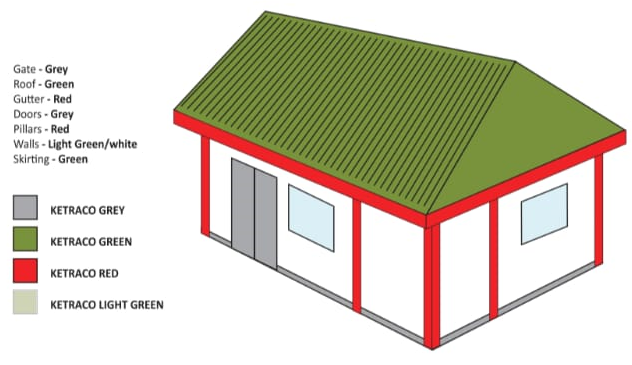


Figure 1: Substation Building Recommended Colors



Figure 2: Substation Main Gate Recommended Colors and Branding.

Substation signs contents and dimensions shall be according to Figure3 and Figure4.



Figure 3: Substation Sign Single Sided (20 x 10.6 Ft).



Figure 4: Directional Sign Double Sided (8 x 4).