

110kV STATION MINIMUM ALL YEAR ROUND RATINGS		
	NOMINAL RATING	SHORT CIRCUIT RATING
BUSBAR	2500A	31.5KA (1s)
FEEDER BAY	1250A	31.5KA (1s)
TRANSFORMER BAY	1250A	31.5KA (1s)
COUPLER BAY	2500A	31.5KA (1s)
SECTIONALISER BAY	2500A	31.5KA (1s)

HV BAY CONDUCTOR RATINGS SHALL OUTLINE RATINGS FOR SUMMER WINTER & AUTUMN.

LEGEND	
LT	LINE TRAP
SA	SURGE ARRESTER
VT	VOLTAGE TRANSFORMER
CT	CURRENT TRANSFORMER

IEC DESIGNATOR (ESB DESIGNATOR)	DESCRIPTION
QA1(CB)	CIRCUIT BREAKER
QB1(DA)	BUSBAR DISCONNECT
QB2(DB)	BUSBAR DISCONNECT
QB6	MANUAL HV TESTING ISOLATOR
QB9(DL)	LINE DISCONNECT
QB9(DT)	TRAF0 DISCONNECT
QC9(DE)	ISOLATABLE HIGH SPEED EARTH DISCONNECT
QC9(DEM4)	ISOLATABLE HIGH SPEED EARTH DISCONNECT
QC1/QC2/QC3 (DEM1/DEM2/DEM3)	MAINTENANCE EARTH SWITCH
QC11/QC21/DEA1/DEB1 (DEM1/DEM2/DEM3)	ISOLATABLE HIGH SPEED EARTH SWITCH
QC12/QC22/DEA2/DEB2	ISOLATABLE HIGH SPEED EARTH SWITCH
QB11/QB12/QB21/QB22 (SA1-2 SA1/SA1-2 SA2/ SB1-2 SB1/SB1-2 SB2)	SECTIONALISER DISCONNECT
QA1(SA1-2 CB, SB1-2 CB)	SECTIONALISER CIRCUIT BREAKER
QB1(K1-DA, K2-DA)	WING COUPLER BUSBAR DISCONNECT
QB2(K1-DB, K2-DB)	WING COUPLER BUSBAR DISCONNECT
QA1(K1-CB, K2-CB)	WING COUPLER CIRCUIT BREAKERS

KEY

■ NEW	■ SPARE
■ FUTURE	■ CUSTOMER

NOTE 1:
THIS SLD IS AN ELECTRICAL REPRESENTATION OF A STANDARD 110kV C TYPE GIS STATION.
FOR PHYSICAL LAYOUT REQUIREMENTS REFER TO EIRGRID GENERAL FUNCTIONAL SPECIFICATION XDS-GFS-00-001.
FEEDERS SHOWN ARE REPRESENTATIVE EXAMPLES ONLY I.E. THE EQUIPMENT TO BE PROVIDED IN ANY GIVEN FEEDER BAY IS DETERMINED BY INDIVIDUAL PROJECT REQUIREMENTS.

NOTE 2:
THE SPECIFIC MINIMUM 3 PHASE SHORT CIRCUIT BAY RATING 31.5KA (1s) APPLIES TO BOTH ELECTRICAL AND MECHANICAL FORCES.

NOTE 3:
HIGHER SHORT CIRCUIT RATING MAY BE REQUIRED DEPENDING ON LOCATION OF THE SUBSTATION.

NOTE 4:
THIS IS AN SCS/RTU STATION (TBC).
THIS IS A GIS STATION.

NOTE 5:
ALL NEW 110kV DISCONNECTS AND EARTH SWITCHES TO BE MOTORISED, WITH THE EXCEPTION OF QB6 TEST ISOLATORS.

NOTE 6:
REFER TO THE PROTECTION SPEC FOR ANY REQUIREMENTS FOR CONTROLLED SINGLE POLE OPERATION OF CIRCUIT BREAKERS. SOME POINT ON WAVE CONTROLLERS REQUIRE A VOLTAGE REFERENCE FROM BOTH SIDES OF THE CIRCUIT BREAKER. IN SUCH CASES A SUITABLE VOLTAGE SELECTION SCHEME SHALL BE INSTALLED TO PROVIDE THE REFERENCE ON THE BUSBAR SIDE OF THE CIRCUIT BREAKER.

NOTE 7:
REFER TO PROJECT SPECIFIC PROTECTION SPEC FOR:
1. SPECIFIC BAY CT & VT CONFIGURATIONS, RATINGS, BURDEN & ACCURACY CLASS REQUIREMENTS.
2. TELEPROTECTION CHANNEL REQUIREMENTS
3. TX NEUTRAL EARTH REQUIREMENTS

NOTE 8:
A PROTECTION SLD SHALL BE SUBMITTED FOR DETAILED DESIGN & AS-BUILT PURPOSES INCLUDING THE FOLLOWING:
1. HV PLANT RATINGS FOR ALL HV COMPONENTS INCLUDING PROTECTION REQUIREMENTS AS OUTLINED IN NOTE 7.
2. A LEGEND OUTLINING PROTECTION RELAY DETAILS USED INCLUDING RELAY TYPE, ANSI DEVICE NUMBERS AND LONG RELAY MLFB/ORDER CODE.
3. PROTECTION RELAY INPUTS SHOWN WIRED TO INSTRUMENT TRANSFORMER CORES.

NOTE 9 (AS ILLUSTRATED ON DRAWING):
MANDATORY REQUIREMENT FOR SA PRIOR TO EIRGRID/CUSTOMER BOUNDARY.

NOTE 10:
ALL SA REQUIREMENTS TO BE CONFIRMED BASED ON INSULATION COORDINATION STUDY.

NOTE 11:
THE DASHED LINE IS A GENERAL INDICATION OF THE BOUNDARY BETWEEN THE TRANSMISSION SYSTEM AND THE CUSTOMER'S INSTALLATION. THE OWNERSHIP OF EQUIPMENT HOWEVER IS INDICATED BY COLOUR, FOR EXAMPLE CUSTOMER OWNED EQUIPMENT IS SHOWN IN: THERE SHALL NOT BE ANY CUSTOMER OWNED HV EQUIPMENT LOCATED ON THE EIRGRID SIDE OF THE DASHED LINE.

NOTE 12:
CUSTOMER EQUIPMENT TBC.
OWNERSHIP BOUNDARIES TBC.

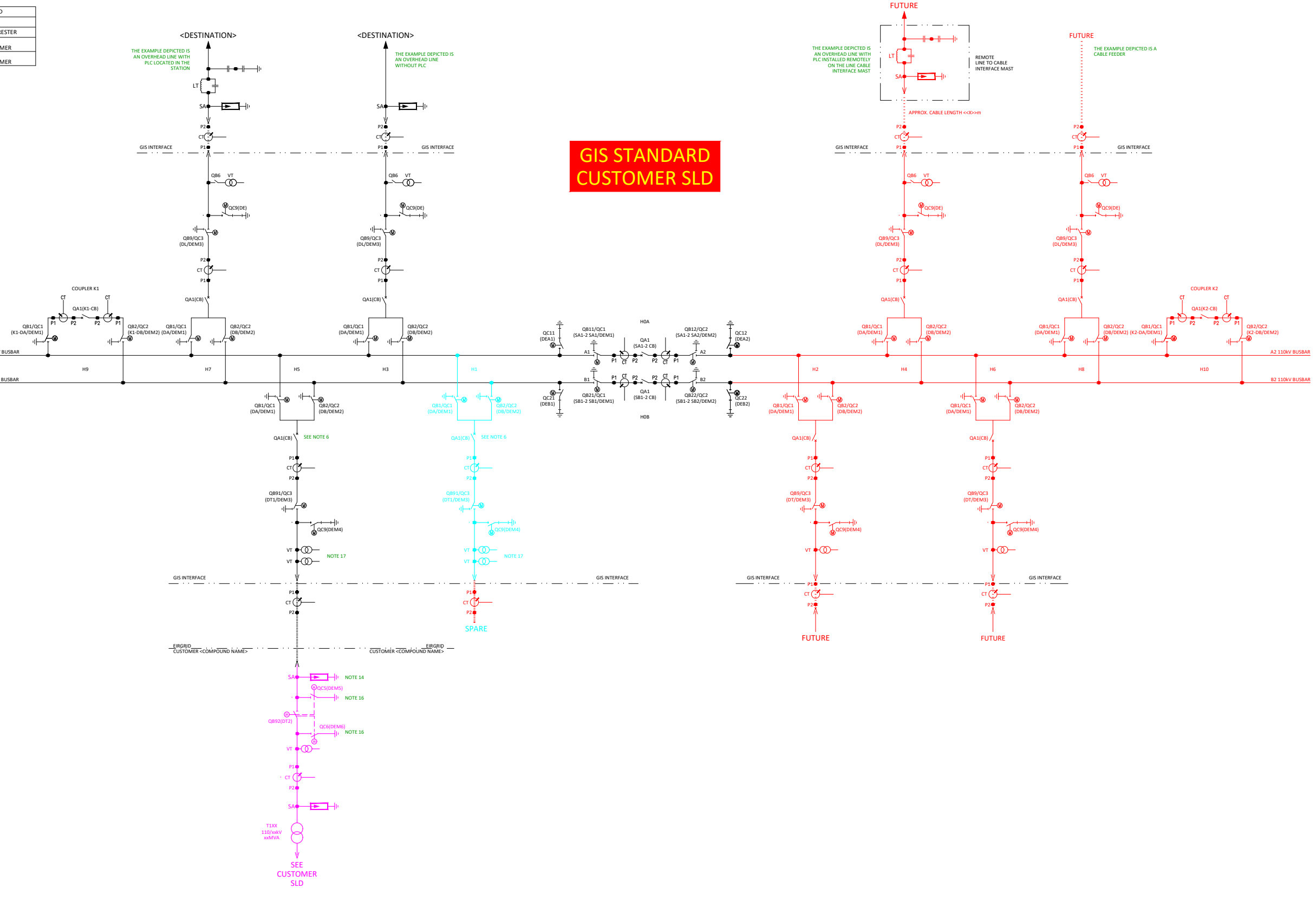
NOTE 13:
INSTRUMENT TRANSFORMER CORES & WINDINGS ARE NOT TO BE SHARED ACROSS THE PROPERTY BOUNDARY FENCE WITH THE EXCEPTION OF A CT CORE FOR DIFFERENTIAL PROTECTION AND A VT WINDING FOR VOLTAGE SYNCHRONISATION WHERE APPLICABLE.

NOTE 14 (AS ILLUSTRATED ON DRAWING):
MANDATORY REQUIREMENT FOR SA AT CUSTOMER END OF TAO CABLE. CUSTOMER TO DEMONSTRATE THAT TAO CABLE IS SUITABLY PROTECTED FROM OVERVOLTAGES.

NOTE 15:
REQUIREMENT AND POSITION OF CT/VT AND TRANSFORMER SA IN CUSTOMER COMPOUND TO BE DETERMINED BY THE CUSTOMER.

NOTE 16:
THE EARTH SWITCH ON THE TAO SIDE OF THE DISCONNECTOR IS MANDATORY. THE EARTH SWITCH ON THE CUSTOMER'S SIDE OF THE DISCONNECTOR IS OPTIONAL AND A MATTER FOR THE CUSTOMER.

NOTE 17:
TWO VT'S ARE REQUIRED WHEN THE CONNECTION IS TO A DEMAND CUSTOMER. A SINGLE VT IS SUFFICIENT FOR CONNECTIONS TO GENERATION AND AUTOPRODUCER CUSTOMERS.



GIS STANDARD CUSTOMER SLD

04	SURGE ARRESTOR PROTECTING ESB CABLE TO CUSTOMER COMPOUND CHANGED FROM ESB TO CUSTOMER OWNERSHIP. DURATION ADDED TO SHORT CIRCUIT RATING. UPDATES TO VT SYMBOL, LEGEND, GENERAL UPDATE TO NOTES. NOTE 17 ADDED. BAY H5: SECOND VT ADDED TO GIS, DISCONNECTS RENAMED, CUSTOMER DISCONNECTS & EARTH SWITCHES MOTORISED. NOTE 5 UPDATED. BAY H1 MODIFIED TO SPARE. QB6 ADDED.	CHC	NMcM /NK	NC	20/11/2024
03	CUSTOMER TRAF0 DT ADDED TO ALIGN WITH POLICY STATEMENT NO. 18. UPDATE TO NOTE 1. UPDATE TO FEEDERS & ASSOCIATED NOTES.	CHC	NMcM /NK	AG	22/08/2022
02	SECTIONALISER UPDATED, NOTE 10 UPDATED, NOTE 13 INCLUDED, NOTE INCLUDED ON RATINGS TABLE, KEY UPDATED	DA	NK	CK	25/10/2019
01	FIRST ISSUE	JB	KF	PM	29/06/2015
REV	DESC	DRAWN	CHK'D	APP'D	DATE

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PROJECT		110kV SINGLE LINE DIAGRAMS	
DRAWING TITLE			
110kV 8-BAY GIS ENHANCED RING BUSBAR STATION WITH CUSTOMER CONNECTIONS			
No of Shts	1	SIZE	A3
DRAWING NUMBER		SCALE	N/A
XDN-SLD-STND-H-006		SHEET	001
		REV	04

DRAWING IS NOT TO SCALE - IF IN DOUBT, ASK