Annex B – Technical schedules A&B Technical schedules A&B

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Document	Subclause	Description	UOM	Schedule A	Schedule B
2.			Cable and cable accessory rated voltage			
2.2	240-56030625	3.2	Rated voltage of cable		72 kV	
3.			Cable construction and material			
3.1	240-56030625	3.3.a)	Cable is stranded, circular and compacted		Yes	
3.2	240-56030625	3.3.a)	Cable conductor is Al or Cu		Al	
3.3	240-56030625	3.3.a)	Cable conductor cross-sectional area	mm^2	500	
3.4	240-56030625	3.3.a)	Cable conductor nominal diameter	mm	XXXXXXX	
3.5	240-56030625	3.3.a)	Overall cable nominal diameter	mm	XXXXXXX	
3.6	240-56030625	3.3.b)	Rated continuous current of the cable based on a maximum sustained conductor temperature of 70 °C and 90 °C for cables laid in flat formation as per Eskom DDT 0892	A	XXXXXXX	
3.7	240-56030625	3.3.b)	Rated continuous current of the cable based on a maximum sustained conductor temperature of 70 °C and 90 °C for cables laid in trefoil formation as per Eskom DDT 0892	A	XXXXXXX	

3.8	240-56030625	3.3.b)	Rated continuous current of the cable based on a maximum sustained conductor temperature of 70 °C and 90 °C for cables laid in flat formation with 2D spacing	A	XXXXXXX	
3.9	240-56030625	3.3.b)	Current rating for 24hr with conductor temperature not exceeding 90 °C for cables laid in flat formation as per Eskom DDT 0892	A	XXXXXXX	
3.10	240-56030625	3.3.b)	Current rating for 24hr with conductor temperature not exceeding 90 °C for cables laid in trefoil formation as per Eskom DDT 0892	A	XXXXXXX	
3.11	240-56030625	3.3.b)	Current rating for 24hr with conductor temperature not exceeding 90 °C for cables laid in flat formation with 2D spacing	A	XXXXXXX	
3.12	240-56030625	3.3.b)	Calculations to support all the ratings assigned provided with all necessary circuit parameters indicated		Yes	
3.13	240-56030625	3.3.ff)	Cable life expectancy calculations with all circuit parameters shall be given for the standard installation conditions given in this standard for operating temperatures of 70 °C and 90°C shall be done and handed as a tender receivable.			
3.14	240-56030625	3.3.c.)	Cable conductor three phase prospective short-circuit current magnitude	kA	40	N/A
3.15	240-56030625	3.3.c.)	Cable conductor three phase prospective short-circuit current duration	sec	1	N/A
3.16	240-56030625	3.3.c.)	Conductor temperature after a symmetrical fault for 1 sec with assuming operation at specified load before fault, in degrees Celsius	°C	XXXXXXX	N/A

3.17	240-56030625	3.3.c.)	Cable conductor single phase to earth prospective short-circuit current magnitude	kA	40	
3.18	240-56030625	3.3.c.)	Cable conductor single phase to earth prospective short-circuit current duration	sec	1	
3.19	240-56030625	3.3.c.)	Sheath temperature after an earth fault for 1 second assuming operation at specified load before fault, in degrees Celsius	°C	XXXXXXX	
3.20	240-56030625	3.3.d.)	Cable conductor three phase prospective short-circuit current magnitude for 3 sec	kA		N/A
3.21	240-56030625	3.3.d.)	Cable conductor single phase to earth prospective short-circuit current magnitude for 3 sec	kA		
3.22	240-56030625	3.3.d.)	Conductor temperature after a symmetrical fault for 3 seconds with assuming operation at specified load before fault, in degrees Celsius	°C	XXXXXXX	N/A
3.23	240-56030625	3.3.d.)	Sheath temperature after an earth fault for 3 seconds assuming operation at specified load before fault, in degrees Celsius	°C	XXXXXXX	
3.24	240-56030625	3.3.e)	Longitudinal water block shall be provided in the cable conductor as stated in NRS077		Yes	
3.25	240-56030625	3.3.f)	The conductor screen shall be as per NRS077		Yes	
3.26	240-56030625	3.3.f)	Conductor screen nominal thickness		XXXXXXX	
3.27	240-56030625	3.3.g)	The cable insulation shall be super clean XLPE as per NRS077		Yes	
3.28	240-56030625	3.3.h)	Nominal thickness of insulation		XXXXXXX	

3.29	240-56030625	3.3.h)	The lowest measured thickness of the insulation shall comply to SANS 60840		Yes	
3.30	240-56030625	3.3.i)	Actual conductor screen radial stress at U_0	kV/mm	≤ 8,0	
3.31	240-56030625	3.3.i)	Actual core screen radial stress at U_0	kV/mm	≤ 4,0	
3.32	240-56030625	3.3.j)	The core screen shall comply with the requirements of NRS077		Yes	
3.33	240-56030625	3.3.k)	The cross linking of the core insulation and screens shall be as per NRS077		Yes	
3.34	240-56030625	3.3.l)	The cable shall have a corrugated seamless aluminium sheath and shall comply with the requirements as specified in NRS077		Yes	
3.35	240-56030625	3.3.m)	The corrugated seamless aluminium shall have an earth fault current rating of 40 kA for 1 sec;		Yes	
3.36	240-56030625	3.3.n)	The corrugated seamless aluminium sheath shall provide a radial water block for the cable		Yes	
3.37	240-56030625	3.3.o)	Water penetration test as described in SANS 60840 as per NRS077 submitted		Yes	
3.38	240-56030625	3.3.o)	Provide details of the water barriers		XXXXXXX	
3.39	240-56030625	3.3.p)	Outer sheath shall be applied over the corrugated seamless aluminium sheath		Yes	

3.40	240-56030625	3.3.p)	Outer sheath shall comply to the requirements of NRS077		Yes	
3.41	240-56030625	3.3.q)	The outer heath shall have a semi-conductive extruded coating and no graphite shall be on allowed on the outer sheath layer		Yes	
3.42	240-56030625	3.3.s)	The mass of the cable shall be stated in kg/m	kg/m	XXXXXXX	
3.43	240-56030625	3.3.t)	State the DC resistance of the conductor at 20 °C, in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.44	240-56030625	3.3.u)	AC resistance of the conductor at 70 °C and 90 ◦C, in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.45	240-56030625	3.3.v)	AC resistance of the sheath with the conductor at 70 °C and 90 ◦C in ohms per kilometre (Ω/km	Ω/km	XXXXXXX	
3.46	240-56030625	3.3.w)	70 °C and 90 ◦C Reactance per phase when cables are laid in closed trefoil Eskom DDT 0892, in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.47	240-56030625	3.3.w)	70 °C and 90 ◦C Reactance per phase when cables are laid in flat formation with 2D spacing in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.48	240-56030625	3.3.w)	70 °C and 90 ◦C Reactance per phase when cables are laid in flat formation with spacing as per Eskom DDT 0892, in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.49	240-56030625	3.3.x)	Capacitance per phase per kilometre	nF/km	XXXXXXX	

3.50	240-56030625	3.3.y)	70 °C and 90 °C Zero sequence reactance and resistance when cables are laid in closed trefoil Eskom DDT 0892, in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.51	240-56030625	3.3.y)	70 °C and 90 °C Zero sequence reactance and resistance when cables are laid in flat formation with 2D spacing in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.52	240-56030625	3.3.y)	70 °C and 90 °C Zero sequence reactance and resistance when cables are laid in flat formation with spacing as per Eskom DDT 0892, in ohms per kilometre (Ω/km);	Ω/km	XXXXXXX	
3.53	240-56030625	3.3.z)	Zero sequence capacitance, per kilometre	nF/km	XXXXXXX	
3.54	240-56030625	3.3.aa)	Conductor losses for the maximum conductor operating temperature	kW/km	XXXXXXX	
3.55	240-56030625	3.3.bb)	Provide a dimensioned drawing of the cable cross-section.		Yes	
3.56	240-56030625	3.3.bb)	The dimensioned drawing of the cable cross section shall indicate the location and type of water barriers used to achieve longitudinal water blocking (including the conductor).		Yes	
3.57	240-56030625	3.3.cc)	Minimum installation bending radius	m	XXXXXXX	
3.58	240-56030625	3.3.dd)	Emergency current rating (calculated in accordance with SANS 60853-2) of the cable shall be provided	kA	XXXXXXX	

3.59	240-56030625	3.3.ee)	Load profile for cyclic loading			
3.60	240-56030625	3.3.ee)	Cyclic current rating of the cable . This current rating shall be calculated in accordance with SANS 60853-2.			
3.61	240-56030625	3.3.ff)	Cable life expectancy calculations with all circuit parameters shall be given for the standard installation conditions given in this standard for operating temperatures of 70 °C and 90°C shall be done and handed as a tender receivable;		Yes	
3.62	240-56030625	3.3.gg)	Length of cable required	m		