Amendment-I

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RMU(CSC 117/R-1/DH/UH/P&D/2016-17)

Sl. No.	Clause No.	Existing Provision	Amended Provision
1	Clause No. 5 (6.)General technical Requirement (page 6 of 27) Clause no. 6.2.7 GTP Sr. No. 26.0	Internal Arc test - **ABFLR** 20KA for 1 Sec	Internal Arc test - **AFLR** 20KA for 1 Sec
2	Clause number : 6.2.1	The outer enclosure shall be made of **GI high tensile steel** 2 mm thick	The outer enclosure shall be made **of CRCA** of 2 mm thick
3	Clause No. 6.2.4 (page 10 of 27) clause no. 6.5 (page 14 of 27) GTP Sr. No. 51.0	The RMU shall be completed with all connection and **tinned copper or silver plated copper bus bar** with continuous current carrying capacity of 630A as per relevant IEC/IS	The RMU shall be completed with all connection and **copper bus bar within the SF6 enclosure and tinned copper or silver plated copper for air exposed parts** with continuous current carrying capacity of 630A as per relevant IEC/IS
4	Clause - 6.2.5	The cables shall be earthed by an earth switch with short circuit making capacity in compliance with IEC 62271-102. **Circuit breaker shall not be closed in case Earth Switch is closed.**	The cables shall be earthed by an earth switch with short circuit making capacity in compliance with IEC 62271-102. **The Interlocking between circuit breaker and earthswicth shall be provided in such manner to avoid acidental earthing of live bus bar.**
5	Clause - 6.3	The RMUs shall be equipped with 630Amp fault making/load breaking spring assisted ring switches, each with integral fault making**/load breaking earth switches.**	The RMUs shall be equipped with 630Amp fault making/load breaking spring assisted ring switches, each **with integral fault making earth switches**.
6	Clause - 6.3(2)	Mechanism for manual and motorised operation with integrated earthing switch	**Mechanism for manual operation with integrated earthing switch**
7	Clause 6.4 Circuit Breakers	**There shall be provision for testing of cable without opening the front door by suitable arrangements. In case** cables are to be tested with front door open, doors shall have interlocks such that doors can be opened only with earth switch in closed position & a cable test rod shall be provided which can be fixed on the terminations to facilitate testing. Termination boots as approved by the Purchaser's should have a proper opening to facilitate the testing. The opening shall be covered by means of removable protection cap.)	Cables are to be tested with front door open, doors shall have interlocks such that doors can be opened only with earth switch in closed position & a cable test rod shall be provided which can be fixed on the terminations to facilitate testing. Termination boots as approved by the Purchaser's should have a proper opening to facilitate the testing. The opening shall be covered by means of removable protection cap.

8	Clause No. 6.4 Circuit Breakers (page 12 of 27)	An operating mechanism shall be used to manually close the circuit breaker and charge the mechanism in a single movement in manual mode or electrically motor operated.	An operating mechanism shall be used to manually close the circuit breaker and charge the mechanism in a single movement in manual mode or electrically motor operated.**In manual mode the operating mechanism of breaker shall be such that spring charging shall be through the handle and on/ off operation through push button.**
9	Clause No. 6.4 Circuit Breakers (page 12 of 27)	The circuit breaker shall be associated with an integrated protection unit that will operate without any auxiliary power supply and shall include three toroid transformers incorporated in the **transformer tee-off bushing.**	The circuit breaker shall be associated with an integrated protection unit that will operate without any auxiliary power supply and shall include three toroid current transformers incorporated **in the cable chamber as per manufacturer standard type test design.**
10	Clause No. 6.4 Sr. No. 11	**ON/OFF/TRIP indication on Mimic**	**ON/OFF/EARTH indication on Mimic and Trip indication on relay**
11	Clause No. 6.4 Circuit Breakers	There shall be provision of **hinged doors** in the RMU.	There shall be provision of hinged doors or **bolted type door as per manufacturer standars type tested design.**
12	Clause - 6.7	The breaker shall have the **provision of flag Relay for indication** of Trip on Fault High set (DT)	The breaker shall have the **provision of LED indication** of Trip on Fault High set (DT)
13	Clause No. 6.9 Earthing (page 16 of 27)	The RMU outdoor **metal clad**	The RMU outdoor **metal enclosed**
14	Clause No. 6.13 Motors (page 17 of 27)	Peak current of motor shall be **9 amp**	Peak current of motor shall **be as per manufacturer standard type tested design with max power rating of 240W.**
15	GTP, SI. No. 32,	**Moving contacts of Earthing switch shall be visible in closed position**	Status of moving contact of earthing switch **in closed position shall be visible through suitable indicator on mimic.**
16	Clause - GTP (20.0)	Temp rise above ambient: **50 Deg C.**	**Temp rise above ambient as per IEC 60694**
17	5 (12) & GTP (15.0)	Number of operations at rated short circuit current on CB : **25 nos** for 11 kV VCB.	Number of operations at rated short circuit current on CB **: 20 nos for** 11 kV VCB.

CABLES(POWER AND LT)

Sl. No.	Clause No.	Existing Provision	Amended Provision
1	Technical Specifications for LT AB Cable/Clause 1.1/Scope	This specification covers the design, manufacture, testing & inspection at manufacturer's work, supply & delivery F.O.R. destination of ISI marked 5 core Aerial Bunched Cable (16 to 150 mm²) with cross-linked polyethylene (XLPE) insulation & bare messenger wire conductor (for Earthing) for voltages up to & including 1100 volts, suitable for solidly grounded system.	This specification covers the design, manufacture, testing & inspection at manufacturer's work, supply & delivery F.O.R. destination of ISI marked**(as per ISS)** 5 core Aerial Bunched Cable (16 to 150 mm²) with cross-linked polyethylene (XLPE) insulation & bare messenger wire conductor (for Earthing) for voltages up to & including 1100 volts, suitable for solidly grounded system.

2	SPECIFICATION NO - CSC-13-R-II/ DH/ UH/ P&D/ 2015-16/Clause No - 4/General Requirement/Sub Clause-4.1	ISI marked PVC insulated armoured cables shall confirm to IS:1554(Pt-1)/1988 with latest ammendment and bear BIS certification mark.	ISI marked**(as per ISS)** PVC insulated armoured cables shall confirm to IS:1554(Pt-1)/1988 with latest ammendment and bear BIS certification mark.
3	SPECIFICATION NO - CSC-13-R-II/ DH/ UH/ P&D/ 2015-16/Clause No - 5.4/ARMOURING	**Armouring shall be of galvanised round steel wires for cable size 6 sqmm. Whereas armouring shall be of galvanised steel strips for cable sizes above 6 sqmm.**	**Armouring shall be as per IS 1554 part1 method b of table 5**
4	SPECIFICATION NO - CSC-13-R-II/ DH/ UH/ P&D/ 2015-16/Clause No - 6.6.2/Type of Armors Dimensions	**The Armor shall consists of galvanised round steel wires for cable size 4 sqmm & 6 sqmm. Whereas it shall be galvanised steel strips for cable sizes above 6 sqmm with dimensions as specified in Table 6 of IS:1554(Pt-1)/1988.**	**Armouring shall be as per IS 1554 part1 method b of table 5**

TRENCHES

Sl. No.	Clause No.	Existing Provision	Amended Provision
1	Drawing of 11KV Power & Optical Fibre cable in Excavated Trench	As per drawing, Sand cusion requirement is as follows: 100 mm sand cusion shall be provided below the cable & 150 mm sand cusion above cables shall be provided.	**Only 100 mm jamuna sand is to be provided below the cable. Single layer of brick partition is to be provided between 2 cables**
	Schedule of Price Item S No - 28(f,g,h,i)	As per Schedule of Prices, Sand cusion requirement is as follows: 100mm Jamuna Sand shall be provided.	

LT Feeder Panel (CSC-133/R-I/DH/UH/P&D/2016-17)

Sl. No.	Clause No.	Existing Provision	Amended Provision
1	Clause 7.1.2	**Busbar-ACB terminal joint termperature sensing feature should be on modbus as per communication architecture defined in clause 8.1 below**	**Deleted**

2	CSC-133/R-1/DH/UH/P&D/2016-17, Page 15 of 40,Clause 7.1.3	There shall be **mechanical indicator** on the front panel for "Ready to close" situtation for the breaker by checking all interlocks.	There shall be **mechanical or electrical** indicator on the front panel for "Ready to close" situtation for the breaker by checking all interlocks.
3	Clause 7.1.3	**Mechanical & electrical anti pumping devices sahll be incorporated in the ACB's as required.**	**ACB shall have anti pumping feature as per manufacturer standard type tested design**
4	7.1.5 Protection Release	The release should have LCD/LED display phase currents and voltages (running, average &max) **parameters the bar graphs** to show percentage loading of the breaker to be available	The release should have LCD/LED display phase currents and voltages (running, average & max) **in absolute numerical** parameters to show percentage loading of the breaker to be available.
5	Clause 8.1	**Panel should be ready with switchgear status on modbus over Ethernet/RS 485 depending on communication port availability at SCADA/FRTU.Panel manufacture should include necessary wiring ,hardware to make panel communicationas per system architecture.**	**Panel should be ready with plc gateway for communicating switchgear status though hardwired potential free contact to FRTU. Panel manufacturer should include necessary wiring, hardware to make panel ready for communication.**
6	CSC-133/R-1/DH/UH/P&D/2016-17, Page 14 of 40,Clause 7.1.2	The circuit breaker shall have indication of mechanical wear of contacts enabling visible indication of contact life.	The circuit breaker contacts shall have marking for mechanical wear enabling evalution of contact life by **opening arc chute.**
7	7.2.1	The breaker shall provide **class II insulation** between the front panel and internal power circuits to avoid any accidental contact with the live main current carrying path with the front cover open.	The breaker shall provide **double layer insulation** between the front panel and internal power circuits to avoid any accidental contact with the live main current carrying path with the front cover open.
8	7.2.3	MCCB should be of cross bolted termination for cable connections to with stand higher thermodynamic stress.	MCCB should be having termination for cable connections **in accordance with IEC 60947 part 1 & 2** to with stand higher thermodynamic stress.
9	Thermal Magnetic Release: - 7.2.2. Sr. No. 13A	Magnetic Release-Not existing	**Magnetic release- fixed up to 250A & adjustable for 400A & 630A**
10	Clause 6.14	Min. three anti theft type hinges. Hinges shall not be visible from outside and hence not removable. Tight fit brass type - **100mm** ID, 12.7mm OD & 20mm length. All accessories such as hinges, screws shall be of non-corroding material	Amendment -Min. three anti theft type hinges. Hinges shall not be visible from outside and hence not removable. Tight fit brass type - **10mm** ID, 12.7mm OD & 20mm length. All accessories such as hinges, screws shall be of non-corroding material
	N.B.:		
1	**The queries raised/ clarifications sought by various firms/ companies have been adequately replied and amendments have been made as given above. After the posting of the above amendment/ clarifications on the e-procurement portal & publication in press, no further queries/ clarification/ suggestion/ request etc in the matter shall be entertained.**		
2	**While care has been taken to reply to all the observations/queries/ suggestions of the various stakeholders, however, in case any observations/queries/ suggestions of any stakeholder has been left un-replied, then in that case the same shall be considered to be applicable as per the terms and conditions of the tender documents, the replies already given and the amendments made.**		