

Corrigendum No 2

Clarification to queries of bidders

Clause No	Point to discuss	AS per specification	Queries of the Firm	Clarification
1.10	Live Tank	Outdoor mounted live tank type, single phase, single unit type current Transformers for protection and metering services in 33KV, 132KV, 220 KV & 400KV solidly grounded system.	We request you to kindly accept Dead Tank for CT as per the Tender Notice, & Cl. 4.1. Please find attached write-up for regarding advantages of dead Tank over live tank. CT is attached.	Confirmed that Live tank for CT as indicated in tender specification.
2.1 Sf No 4.12	IEC-185 / IS 2705 (Part-I to IV)	Standards for Current Transformer	IEC 61869 is latest edition of IEC & we shall offer CT based on the same. All utilities including PGCIL/NTPC accept IEC 61869(Latest edition) for Current transformers	IEC 61869 may be referred. It Supersedes IEC 60044. Standard for CT IEC 61869-1 & IEC 61869-2 and IS 2705 Part-1 to Part-4
2.30		The supplier is to furnish the latest edition of the standards as mentioned above from SI.1 to SI.15 with their amendments, if any, at their own cost, if required by the Purchaser.	Please be informed reference clauses can be submitted. However it is not recommended to submit copy of standard since license copy is for specific company and cannot be submitted.	Firm should facilitate the entire specification to inspecting officer for necessary reference while witnessing routine/acceptance test of CTs.
4.30	Stud Type terminal block	The terminal blocks shall be stud-type and provided with ferrules, indelibly marked or numbered. Amps.	We provide secondary terminal block instead of secondary studs. This is to have a better mechanical strength and reduce the chances of leakage. We request to accept the same. It as per ABB design and to avoid leakage through terminal box.	As per Tender specification. The Secondary terminals should be brought out in weather proof terminal box (IP55).Tan delta terminal for measurement capacitance and tan delta shall be provided. The secondary terminal shall be terminated to stud type non disconnecting terminal block inside the terminal box.
4.40	Grounding in Secondary terminal	Facility shall be provided for short-circuiting and grounding of the C.T. secondary terminals inside the terminal box	Grounding facility inside secondary terminal box is not recommended since same is available in Marshalling box	As per Tender specification. As per requirement facility of earthing to be provided in the terminal box.
4.12.2	Primary winding is of high purity, annealed, high conductivity electrolytic copper	The primary windings of current transformers shall be constructed of high purity, annealed, high conductivity electrolytic copper meeting to the requirements of IEC 28/IS:2705	We would like to clarify that IS/IEC do not specify selection of Primary conductor of primary terminal of current transformer. Selection of conductor is manufacturer's concern and we recommend to offer aluminium primary conductor for same and request to accept the same. We would like to bring in notice that OPTCL accept Aluminium/Copper primary for Current transformers for EPC packages specification and we have also supplied CTs to OPTCL for many projects with Aluminium primary and we have not received any complaints till now. We have been supplying CTs to major utilities in India including PGCIL/NTPC and abroad with Aluminium primaries and those are working satisfactory. Please find attached detailed write up and OPTCL Specs of lates: EPC tender.	As per tender specification.

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4.14	Primary terminal copper	The primary terminals shall be heavily tinned electrolytic of 99.9% conductivity. The minimum thickness of tinning shall be 1.5 microns.	We would like to clarify that IS/IEC do not specify selection of Primary conductor of primary terminal of current transformer. Selection of conductor is manufacturers concern and we request to accept Al/Cu as per manufacturers recommendation.	As per Tender specification.
4.16	Core material	The cores (Mumetal) used for protection shall produce undistorted secondary current under transient conditions at all ratios, with specified Current Transformer parameters.	We would like to clarify that the core material shall be CRGO as per the design. With the present standard requirement it cannot be guaranteed to give undistorted current under transient conditions. For gapless cores IEC do not specify any requirement of undistorted current for CTs at the event of transient.	Core lamination shall be of Cold Rolled Grain Oriented Silicon Steel or other equivalent alloys. Metal or nano - crystalline core can be used for metering cores.
4.17.1	Surface treatment	The tanks along with all ferrous parts shall be got dip galvanized as per relevant standard.	We recommend tanks and all ferrous parts will be painted with corrosion resistant paint. Please find attached justification write up.	As per Tender specification.
4.18.3		The exterior of this terminal box shall be hot dip galvanized	Exterior of secondary terminal box will be painted type for 220KV CTs. For 400KV CTs, secondary terminal box is made up of aluminium hence any type of external surface treatment is not recommended.	As per Tender specification. In case of exterior terminal box made up of Aluminium external treatment is not required.
4.18.4		For 400KV and 132KV CTs, at least one of the ratios should be achieved through secondary tapping(s).	For 400KV CT we are offering ratio selection by sec tapping. For 220KV CT we are offering primary reconnection.	The different ratio specified should be achieved through secondary tapping only.
4.18.5		The door shall have a sealing / locking arrangement and shall be suitable to prevent penetration of moisture and rainwater.	Sec terminal box is with fixed with nut and bolt hence locking arrangement is not required.	Should be IP55 compliant.
4.20	IS: 335.	The oil shall comply in all respects with the provisions of latest edition of IS: 335.	The oil shall comply to the latest edition of IEC 695	IS 355/ IEC 60296
4.22.2	PRD	Each Current Transformer shall be provided with a pressure-relieving device so as to protect bushing of the Current Transformer even under unfavorable Conditions. In case of non-provision of the PRD, the same should be brought out clearly in the offer with detailed explanation and proof.	We do not recommend PRD for offered design of CTs and request to accept. Justification attached.	As per Tender specification. However the CT should be designed for minimum risk for explosion in service. The manufacturer should bring out the details of measures taken by them to address the explosion risk.
4.22.4		Necessary string guides shall be offered which shall be of removable type.	String guides are not required to be provide hence same is not considered in our scope.	Acceptable
4.22.6		(i) 132/33KV C.T. – ACSR 'ZEBRA' conductor. (ii) 220 Kv.C.T – ACSR Moose conductor. (iii) 400 KV C.T. – ACSR 'TWIN MOOSE' conductor.	We are offering terminal connectors with single ACSR conductor for 145KV and Twin ACSR Moose conductor with sub conductor spacing 250 mm for 400KV & Twin ACSR Moose for 245 KV CT.	Please refer corrigendum No 1.

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9 (f)	Test reports with 0.2S class	Four copies of type test and special test reports shall be furnished to the purchaser with the tender offer for 0.2S accuracy class metering core CTs.	We would like to clarify that 0.2S class is metering class As per tender specification. implication except accuracy test hence all reports with CT of 0.2S class is not justified and same is also not requirement of IS/IEC.	As per tender specification.
10.00	Spare Parts		We do not recommend any spare parts for offered CT	
13 (f)	Bellows	Bellows made of stainless steel shall be used at top of hermetic sealing of CT.	We would like to clarify that we shall provide nitrogen acceptable cushion/ metal bellows for all ratings of CT's to take care of the oil expansion, which is also mentioned in CI.4.2	
13 (8)	CT Secondary wire - 2 A continuous rating	Accuracy class of metering should be 0.2s and the CT secondary wire shall be rated for 2A continuous rating.	The CT Secondary wire as per NIT shall be rated for 1A continuous rating for all ratings, which is also mentioned in CI.4.13	CT secondary winding shall be rated for 2A continuously.
Appendix I - point 10 (a)	Temperature rise winding < 45 deg C	Acceptable limit of temperature rise above 50°C ambient of temperature for continuous operation at rated continuous thermal current (a) winding 45 dec C	We request to accept temperature rise as per IS/IEC only. As per IEC 61869/60044-1 - limit of temperature rise of winding for ambient of 50 deg C is (65-10)= 55 degC & As per IS-2705 clause 7.2.1 table 2 this limit is (60-10) = 50 deg C	As per tender specification
Appendix I - point 12	RIV < 500 uV	Maximum ratio interference voltage at 1. 1 times the maximum rated voltage less than 500 micro volts	We request to accept < 1000 uV. As per IEC 60044-1/61869 the limit is 2500 uV.	<100microvolt for 40kV and 220kV & <500microvolt for 132kV.
Appendix I - point 15	Switching Impulse	Switching Impulse withstand and voltage (KVp) for 400KV CT 10500	There is typographical error , Switching Impulse of 400kV CT mentioned as 10500 kv, should be 1050kV and request to accept.	Please refer corrigendum No 1.
Appendix I - point 17	Creepage	Minimum creepage distance of porcelain Housing (mm) for 245KV CT as 10500 mm	There is typographical error. creepage for 245kV CT mentioned as 10500, should be 6125 mm and we request to accept.	Please refer corrigendum No 1.
General Terms & Conditions				
5	Training facilities	The supplier shall provide all possible facilities for training of Purchaser's Technical personnel, when deputed by the Purchaser for acquiring firsthand knowledge in assembly of the equipment, its erection, commissioning and for its proper operation & maintenance in service, wherein it is thought necessary by the purchaser	We would like to clarify that Training of personnel is not considered in ABB Scope of supply	As per tender specification

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14	Unloading at site	It will be the sole responsibility of the supplier for loading and unloading of materials both at the factory site and at the destination site/store. The Purchaser shall have no responsibility on this account.	We would like to clarify that unloading at site will be in Purchaser scope	As per tender specification
18	Guarantee Period	Equipment/material failed or found defective during the guarantee period shall have to be guaranteed after repair/replacement for a further period of 12 months from the date of commissioning or 18 months from the date of receipt at the store/site after such repair/replacement whichever is earlier	ABE shall consider a maximum warranty of 24 months from the date of receipt of materials at site, which includes the warranty of the replaced / repair part	As per tender specification
22	Penalty for Delay & Replacement service	During the guarantee period, if the Supplier fails to rectify/replace the equipment/material within 30 days from the date of intimation of defect by the purchaser, then the Price Reduction Schedule at the rate of half percent (0.5%) of the Total Taxable Value for each calendar week of delay or part thereof shall be recovered by the purchaser.	we request OPTCL to consider liquidated damages for delay instead of penalty. We would like to clarify that it is not possible to replace/rectify and major defect in 30 days and may require manufacturing time of equipments. We can intimate the time in 30 days however penalty for same is not acceptable in such case. We request to please consider and accept our clarification.	As per tender specification
	Delivery Schedule	3 Months from the date of PO	We request OPTCL to kindly accept 4 months from the date of drawing approval or manufacturing clearance, whichever is later for all the lots	As per tender specification
	General		Supervision is not in Scope of supply	As per tender specification
	General		Junction / marshalling box is not in Scope of supply	As per tender specification
	General		We have not considered any base plate (To match the mounting holes with structure) or stool structure (To increase/match the height) in our scope of supply.	As per tender specification



CHIEF GENERAL MANAGER (CPC)

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