CORRIGENDUM-II

Ref: Tender Enquiry No.: TPCODL/P&S/102/2020-21/Corrigendum/002

Dated:03.11.2020

Sub-Reply to the pre-bid queries against our open tender for Rate contract for Supply, Erection, Testing Commissioning of Protection and Auxiliary Relays, CRP

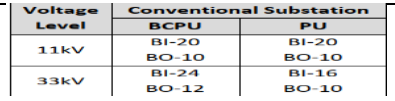
Replies to the Pre-Bid Queries received within stipulated time are enclosed for information of all prospective bidders.

All other terms & conditions of the above tender remain un-altered.

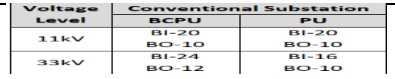
For detail tender Specifications & terms and conditions read along with subsequent corrigenda, please visit our website https:/tpcentralodisha.com. Interested bidders to download the tender documents from our website https:/tpcentralodisha.com. All future corrigendum (if any) to the above tenders, it will be informed on our website**.**

Encl: As above

Pre- Bid Clarifications for Tender Enquiry No.: TPCODL/P&S/102/2020-21 (RATE CONTRACT FOR SUPPLY ERECTION TESTING COMMISSIONING OF PROTECTION AND AUXILIARY RELAYS, CRP)

Sl.No.	Section	clause no.	Description	queries/Remarks	TPCODL REPLY
1	General Construction of IED	4.2 (PDF page -181of 206)	All PCB used in relays should have harsh environmental coating as per standard IEC 60068 (HEC) to increase the particle repellency and thereby increasing the life of relay.	offered relays is with harsh environment protection as per IEC 60068 & G3 standard without any additional PCB coating & it is already type tested at 3rd party lab for 60068-2-60 & G3 standards. Please confirm	We need conformal coated relays
2	General Construction of IED	4.2 (PDF page -182 of 206)	The display should have minimum 4 pages to cater sequential values (positive, negative and zero) of voltages and current along with other important displayable parameters like total harmonic distortion of electrical parameters..	Our proposd relay shall support only harmonic measurement for Voltage and current through disturbance recorder which can be triggered manually. Pls note that, THD shall not be measured in DR, since this is Power quality requirement which needs CT input from Metering core as per general recommendation , but relays works from Protection core (PS class/5P10).please confirm	Solution is welcome. Please see without triggering DR if they can be made readily available in display pages. The purpose is to capture prevalent harmonics that may cause spurious tripping. Their level should be understood
3	General Construction of IED	4.2 (PDF page -188 of 206)	Web HMI should be made available in the relay so that relay can be accessed from remote from computer browser.	Our proposd relay will be offered with license free software which can be used in any PC which is connected in the network to communicate to Relay using IP address.in this way it meets the requirement of web based HMI	Apart from software the relays should be accessed from web browser
4	General Construction of IED	4.2 (PDF page -188 of 206)	Forcing of all kinds of protection functions & Transient play back facilities in the IED software	In our proposed relay O/P contacted can be forced for testing purpose. Trnsient playback can be performed in any suitable type of test kit like Omicron CMC 356 etc.	Please raise your concerns in technical deviation. We need forcing of all kind of protection functions, inputs and outputs
5	General Construction of IED	4.2 (PDF page -184 of 206)		Please confirm feeder wise qty of 11KV BCPU ,11KV PU and 33KV BCPU and 33KV PU also any tranformer differntial is need to consider because specification calls for differeintial protection	Do not consider PU for 11 KV and 33 KV.
6	Spares, Accessories and Tools	4.2 (PDF page -202 of 206)	Spares for Project job for New Grids / Bay Extension	Please confirm qty of spare relays as per feeder wise .	it will be 10% of the offered quantity
7	General Construction of IED	4.2 (PDF page -194 of 206)	Being new installation or retrofitting activity there should be always presence of OEM engineer though OEM or any party may put in third party for the said job.	Seprate scope of retrofitting ,testing and commissioning of relays with master trip is not mentioned in the tender documents please share scope of complete work at site.	IEDs to be replaced on selective panels while 86 to be replaced in every panel. Installation of 86 relay will be done by TPCODL where bidder will not install 86 relay
8	General Construction of IED	4.2 (PDF page -194 of 206)	Being new installation or retrofitting activity there should be always presence of OEM engineer though OEM or any party may put in third party for the said job.	As a tender is retrofitting and testing of BCPU of 190 relays and 841 Master trip relays at site ..please confirm list of station where all need to be retrofit with qty wise and dimentions of blanking plates with colour code need to supplied during retrofitting.	Since this is an RC, quantity of each material will be given requirement wise. List of station will be provided later on at the time of detailed engineering stage. Successful bidder will carry out survey of substations for detailed scope of work. In many substations drawing schematic may not be available
9	Fibre Optic Cable	4.3 (PDF page -194 of 206)	Between Control Room and Switchyard/Switchgear Room: 4 Core, 62.5/125µm Multi-mode, Loose tube, Jelly filled, Armoured Fiber Optic Cable Within Control Room: 2 Core, 62.5/125µm Multi-mode Fiber Optic Patch Chord	Please confirm supply and laying of fiber optics cable is in scope of bidder if yes please share length of cable consider per station	It will be dependent on type of relays. Supply of ethernet cable or fiber optic cable will be in part of TPCODL but laying and termination will be done by bidder

10	CAT – VI	4.3 (PDF page -194 of 206)	4 Pairs, 23 AWG Solid Bare Copper Conductor, PE Insulation, Unshielded Twisted Pair (UTP) with separator and PVC Outer Jacket It should be designed to the ANSI/TIA-568-C.2 | ISO / IEC 11801 Category 6 requirements and transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 250 MHz and suitable for 10BASE-T, 100BASE-TX Fast Ethernet and 1000BASE-T / 1000BASE-TX (Gigabit Ethernet).	Please confirm supply and laying of CAT-VI cable is in scope of bidder if yes please share length of cable consider per station.	It will be dependent on type of relays. Supply of ethernet cable or fiber optic cable will be in part of TPCODL but laying and termination will be done by bidder
11	Training	11(PDF page -200 of 206)	The successful Bidder all provide training for relay configuration with goose messaging at supplier's works/ users location - 4 persons 3 days minimum to Engineers before dispatch. Venue of the training all be Bidders works or TPCODL Office and same all be finalized by TPCODL at the time of project closure/completion of SAT. The training all cover Engineering configuration of the IED, IED setting calculations, uploading/downloading, secondary injection testing on computerized IED testing kit, checking of DC logic etc. No extra charges all be payable for training However, lodging/boarding/transportation of trainees all be borne by TPCODL.	Please confirm training of TPCODL engineer for 4 persons 3 days is at site or at bidder's place .	Training to be done in TPCODL premise with all kind of facility extended by bidder
12	General Construction of IED	4.2 (PDF page -184of 206)	There should be minimum 4 power contacts to handle high current rating applications. The current rating of the power contacts to be provided by the bidder. Programming of outputs can be done freely both from software and relay fascia	All contact is with offered relays carry contact rating of 30 A for .2 sec and 5 A Carry continuously	Please confirm if the programming can be done from relay fascia and relay independently
13	General Construction of IED	4.2 (PDF page -187 of 206)	Master trip relay (86) The relay shall be electrical and hand reset type having operating time not more than 12 ms. The relay should be flush mounting type.	please confirm required number of NO and NC in master trip relays and also confirm the aux voltage for all 841 Qty for different station's.	Proper counting to be done. However tentative 540 number will be for 48V DC and rest for 24V DC.
14	SCOPE:PROTECTION IED SPECIFICATIONS FOR 33kV/11kV	1.1. Scope of work(pdf page 6 of 206) & 1.0 Scope(pdf 178 of 206)	The scope of this specification covers the technical requirements of design, manufacture, testing at manufacturer's works, packing, forwarding, supply and unloading of IEDs and all other items & tools required for protection of 33Kv and 11kV power system as mentioned in the specification, at site/stores complete with all accessories including supply, installation, testing and commissioning of efficient and trouble free protection system	Pls confirm that whether the scope of Installation consists of any modification work in the existing system.	After awarding the order to successful bidder, bidder will carry out survey station wise to capture modification work

15	General Construction of IED	4.2 (PDF page -181of 206)	All PCB used in relays should have harsh environmental coating as per standard IEC 60068 (HEC) to increase the particle repellency and thereby increasing the life of relay.	offered relays is with harsh environment protection as per IEC 60068 & G3 standard without any additional PCB coating & it is already type tested at 3rd party lab for 60068-2-60 & G3 standards. Please confirm	Already mentioned in the very first point, please find.
16	General Construction of IED	4.2 (PDF page -182 of 206)	The display should have minimum 4 pages to cater sequential values (positive, negative and zero) of voltages and current along with other important displayable parameters like total harmonic distortion of electrical parameters..	Our proposd relay shall support only harmonic measurement for Voltage and current through disturbance recorder which can be triggered manually. Pls note that, THD shall not be measured in DR, since this is Power quality requirement which needs CT input from Metering core as per general recommendation , but relays works from Protection core (PS class/5P10).please confirm	Replied above
17	General Construction of IED	4.2 (PDF page -188 of 206)	Web HMI should be made available in the relay so that relay can be accessed from remote from computer browser.	Our proposd relay will be offered with license free software which can be used in any PC which is connected in the network to communicate to Relay using IP address.in this way it meets the requirement of web based HMI	Replied above
18	General Construction of IED	4.2 (PDF page -188 of 206)	Forcing of all kinds of protection functions & Transient play back facilities in the IED software	In our proposed relay O/P contacted can be forced for testing purpose. Trnsient playback can be performed in any suitable type of test kit like Omicron CMC 356 etc.	Replied above
19	General Construction of IED	4.2 (PDF page -184 of 206)		Please confirm feeder wise qty of 11KV BCPU ,11KV PU and 33KV BCPU and 33KV PU also any tranformer differntial is need to consider because specification calls for differeintial protection	Replied above
20	Spares, Accessories and Tools	4.2 (PDF page -202 of 206)	Spares for Project job for New Grids / Bay Extension	Please confirm qty of spare relays as per feeder wise .	Replied above
21	General Construction of IED	4.2 (PDF page -194 of 206)	Being new installation or retrofitting activity there should be always presence of OEM engineer though OEM or any party may put in third party for the said job.	Seprate scope of retrofitting ,testing and commissioning of relays with master trip is not mentioned in the tender documents please share scope of complete work at site.	Replied above
22	General Construction of IED	4.2 (PDF page -194 of 206)	Being new installation or retrofitting activity there should be always presence of OEM engineer though OEM or any party may put in third party for the said job.	As a tender is retrofitting and testing of BCPU of 190 relays and 841 Master trip relays at site ..please confirm list of station where all need to be retrofit with qty wise and dimentions of blanking plates with colour code need to supplied during retrofitting.	Replied above
23	Fibre Optic Cable	4.3 (PDF page -194 of 206)	Between Control Room and Switchyard/Switchgear Room: 4 Core, 62.5/125µm Multi-mode, Loose tube, Jelly filled, Armoured Fiber Optic Cable Within Control Room: 2 Core, 62.5/125µm Multi-mode Fiber Optic Patch Chord	Please confirm supply and laying of fiber optics cable is in scope of bidder if yes please share length of cable consider per station	Replied above
24	CAT – VI	4.3 (PDF page -194 of 206)	4 Pairs, 23 AWG Solid Bare Copper Conductor, PE Insulation, Unshielded Twisted Pair (UTP) with separator and PVC Outer Jacket It should be designed to the ANSI/TIA-568-C.2 | ISO / IEC 11801 Category 6 requirements and transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 250 MHz and suitable for 10BASE-T, 100BASE-TX Fast Ethernet and 1000BASE-T / 1000BASE-TX (Gigabit Ethernet).	Please confirm supply and laying of CAT-VI cable is in scope of bidder if yes please share length of cable consider per station.	It will be dependent on type of relays. Supply of ethernet cable or fiber optic cable will be in part of TPCODL but laying and termination will be done by bidder

25	Training	11(PDF page -200 of 206)	The successful Bidder all provide training for relay configuration with goose messaging at supplier's works/ users location - 4 persons 3 days minimum to Engineers before dispatch. Venue of the training all be Bidders works or TPCODL Office and same all be finalized by TPCODL at the time of project closure/completion of SAT. The training all cover Engineering configuration of the IED, IED setting calculations, uploading/downloading, secondary injection testing on computerized IED testing kit, checking of DC logic etc. No extra charges all be payable for training However, lodging/boarding/transportation of trainees all be borne by TPCODL.	Please confirm training of TPCODL engineer for 4 persons 3 days is at site or at bidder's place .	Replied above
26	General Construction of IED	4.2 (PDF page -184of 206)	There should be minimum 4 power contacts to handle high current rating applications. The current rating of the power contacts to be provided by the bidder. Programming of outputs can be done freely both from software and relay fascia	All contact is with offered relays carry contact rating of 30 A for .2 sec and 5 A Carry continuously	Replied above
27	General Construction of IED	4.2 (PDF page -187 of 206)	Master trip relay (86) The relay shall be electrical and hand reset type having operating time not more than 12 ms. The relay should be flush mounting type.	please confirm required number of NO and NC in master trip relays and also confirm the aux voltage for all 841 Qty for different station's.	minimum 6NO+2NC
28	General	1.1 (PDF page -6 of 206)	33kV Feeder & 33kV Transformer	Pls share the auxiliary volateg for 33kV Feeder & 33kV Transformer	All are 24 V
29	General	1.1 (PDF page -6 of 206)	33kV Feeder & 33kV Transformer	Pls share the Protection Requirement for 33kV Feedeer & 33kV Transformer	It is mentioned in specifications
30	General	1.1 (PDF page -6 of 206)	33kV Feeder & 33kV Transformer	We understand that Control & Protection of 33kV Transformer shall be limited upto 33kV side only	Yes you are appropriate
31	General		33kV Feeder & 33kV Transformer	As per specification,BCPU has been asked.So,we understand that BCPU with Non-Directional O/C Protection is required for 33kV Feeder & 33kV Transformer	It is mentioned in specifications, we need directional protection in 33 KV and we need same BCPU for transformer and line panel. No different order code will be accepted
32	General	1.1 (PDF page -6 of 206)	33kV Feeder & 33kV Transformer	We understand that conventional type Metering,Annunciation & Indication devcies are not required in proposed CRPs	Metering will be integral part of CRP with 0.5 class. If any better class is required then the same will be intimated at the stage of detailed engineering
33	General Construction of IED	1.1 (PDF page -183 of 206)	The sampling frequency should not be less than 32 samples/ cycle.	All protection realys are having sampling frequency in the range of 16-20 samples per cycle.Pls acknowledge	Please propose relays which can accommodate specifications
34	General Construction of IED	1.1 (PDF page -182 of 206)	Tactile keypad or navigation keys for browsing and setting the relay menu. There should be user configurable LEDs (minimum 10) in the relay fascia for suitable annunciation configuration as per site suitability	We propsoe IEDs with minimum 7 confugrable LED and the same is sufficient to cater the scheme requirement	Please comply to the specification

35	Protction Function	1.1 (PDF page -184 of 206)	Negative Phase Sequence protection with minimum 2 stages ault locator (Analogue value, same to be mapped at SCADA) Broken conductor(I2/I1) with minimum 2 stages Auto reclose feature with minimum 4 shots with adjustable time settings for every shot intervals and shot properties (dead time, reclose time etc) High impedance protection I2T feature to monitor breaker wear and tear	We understand that the mentioned Protection functions shalll not be applicable for 33kV Feeder.Furhte,Pls elaborate the 12T Protection Requirement	All mentioned protection functions required for 33 KV. I2T function is required in the relay to monitor breaker contact wear and tear
36	Transformer Differential Protection Relay	(PDF page -187 of 206)	REF Protection	We understand that High Impedance REF Protection is required in Transformer Diff Relay	Yes, along with the calculation
37	Oscillography	(PDF page -187 of 206)	The oscillogrphic record can be exported to comtrade format. Nature of storage is FIFO minimum 20 sec	We propose the IED with Approx. 5 s in total oscillographic record.Kindly acknowledge	Please comply to the specification
38	System Events:	(PDF page -187 of 206)	600 Events minimum	We propose the IED with 200 events .Kindly acknowledge	Please comply to the specification
39	NIT 7.5 (Pg-15)	Payment Terms	Payment shall be released within 60 days from the date of submission of certified Bills. Supply – 40% of supply part on completion of supplies. Balance 60% on successful installation of prorate basis. If ITC delayed 1 year due to reason attributable to TPCODL then 60% payment can be released after 1 year. ITC – 100% to be released against successful installation on prorate basis	Request fot the payment terms as below: a) 80 % on receipt of material within 30 days b) 20 % on Completion of testing and Commissioning or 60 days from the date of last despatch ever is earlier. Please Confirm	Existing provisions under clause no- 7.5 of Tender Specification shall prevail
40	GCC-15.0	Liquidated Damages	LD @1% of the total executed contract value per week or part thereof, for the period of delay in integrated completion, subject to maximum 10% of the value of the contract	LD @ 0.5 % per week to Max 5% on the undelivered Portion. Please confirm	Existing provisions under clause no-15.0 of GCC of Tender Specification shall prevail
41	GCC 26.0	Cancellation	The Company reserves the right to cancel, add, delete at its sole discretion, all or any terms of this GCC or any contract, order or terms agreed between the parties in pursuance without assigning any reasons and without any compensation to the Associates	Cancelation should be either mutual consent of both parties. Please confirm	Existing provisions under clause no-26.0 of GCC of Tender Specification shall prevail
42		1.1. Scope of work	Master trip relays (86) - Quantity 841 nos.	We will supply the master trip relay. But installation of only mastertip at different sub-station will attract huge price implication.	Master trip relay to be installed by the bidder as per TPCODL requirement as a part of installation of BCPU. In rest of the locations master trip relay will be installed by TPCODL itself
43		1.1. Scope of work	Protection relays - Quantity 190 nos.	Nos of relays and type of feeders needs to be provided.	It will be BCPU. 33 KV feeder and transformer will be having same BCPU

44		1.1. Scope of work	TPCODL reserves the right to conduct the reverse auction (instead of public opening of price bids) for the products/ services being asked for in the tender.	Request you to confirm whether reverse auction will be carried out or not.	Reverse auction to be carried out
45		1.0_scope	The scope of this specification covers the technical requirements of design, manufacture, testing at manufacturer's works, packing, forwarding, supply and unloading of Panels as mentioned in the specification, at site/stores	We understood that Making site store , watch & ward is not in bidder scope. Shifting of material from central store to site in not considered .	TPCODL will provide place where relay and other accessories can be stored. But watch ward will be in part of bidder scope. In case bidder wants to rent their own place, they are welcome.
46		3.0_Climatic Conditions of the Installations	Maximum relative humidity 95%	Relative humidity - <93%, non-condensing	Please comply to specifications
47		4.1_General Requirements from the Business Associates	The BA should provide necessary training to the personnel recommended by TPCODL to maintain the system and troubleshooting reports	We uderstood that we have to provide site training during order execution stage.	site training or classroom training that will be confirmed. But training course should be such that after training TPCODL engineer will be able to do everything in the IED without the help of bidder
48		4.3_Fibre Optic Cable	Between Control Room and Switchyard/Switchgear Room: 4 Core, 62.5/125µm Multi-mode, Loose tube, Jelly filled, Armoured Fiber Optic Cable Within Control Room: 2 Core, 62.5/125µm Multi mode Fiber Optic Patch Chord	Length of FO Cable needs to be specified along with Nos of LIU and patchcord	it will depend on the type of relay. Supply of FO cable/ lan cable is in the scope of bidder
49		4.4_CAT – VI	4 Pairs, 23 AWG Solid Bare Copper Conductor, PE Insulation, Unshielded Twisted Pair (UTP) with separator and PVC Outer Jacket lt should be designed to the ANSI/TIA-568-C.2 | ISO / IEC 11801 Category 6 requirements and transmit data at 1000 Mbps (~1 Gigabit per second) with a frequency of 250 MHz and suitable for 10BASE-T, 100BASE-TX Fast Ethernet and 1000BASE-T / 1000BASE-TX (Gigabit Ethernet).	Length of UTP Cable needs to be confirmed	it will depend on the type of relay. Supply of FO cable/ lan cable is in the scope of bidder
50		5.2_Constructional Features	However, the width of panels that are being offered to be placed in existing switchyard control rooms, should be in conformity with the space availability in the control room	Existing switchyard control room layout needs to be provided.	after placement of order till manufacturing clearance bidder will survey our sites and then it will be discussed
51		5.2_Constructional Features	Panels shall have dual exhaust fan at its rear end for dissipation of heat	Offered panel donot have any exhaust fan.	please make provision for heat dissipation
52		5.2_Constructional Features	Likewise the top lines of all meters, relays and recorders etc.	We have not considered any recorder in our offer	we don’t need recorder
53		5.2_Constructional Features	At existing station, panels shall be matched with other panels in the control room in respect of dimensions, colour, appearance and arrangement of equipment	Offerd control panels are identical in size bu ot will not match with the existing panel dimentsion.	accepted
54		5.4_Panel Internal Wiring	All wiring shall be with 660/1100 V grade, single core, PVC insulated stranded copper conductor	We are confirming that all wiring shall be with 660/1100 V grade single core stranded copeer wire with PVC insulated .	noted

55		5.4_Panel Internal Wiring	Wires shall be vermin proof. Minimum size of conductor shall be 2.5 sq. mm in general, but for CT & VT circuits it shall be 4 sq.mm. CT VT wiring will be colored as per standard sign color configuration including neutral and neutral CT wiring. Rest wiring will be in grey color and earthing will be done by green colored control cable	Size of conductor shall be 1.5 sq. mm in general/control circuit/VT circuit, but for CT circuits it shall be 2.5 sq.mm	accepted
56		5.4_Panel Internal Wiring	Suitable contactor arrangement to be made in 33 KV line incomer panel/ 11 KV incomer panel so that in case of station DC failure the power pack driven by PT circuit powers up the relay and tripping circuits and keeps protection in service.	We understood that we have to consider DC change over scheme between station DC supply and power pack supply at single point for complete board. Rating of DC contactor required for DC change over scheme needs to be confirmed.	It is clearly mentioned that it will be on 33 KV and 11 KV incomers so it will be dependent on number of incomers of 33 KV and 11 KV
57		5.5_Terminal Blocks	At least 20% spare terminals shall be provided on each panel	Spare terminal means, we understood that we have to provide terminal blocks only without wiring.It may not be possible to accomodate 20% TBs in all panel, as it depends on the availablity of space after complete wiring. We can provide 10% spare TBs based on space availability.	20% TBs are must
58		5.5_Terminal Blocks	All CT &PT circuits: minimum of two of 4 sq. mm copper. AC/DC Power Supply Circuits: One of 6 sq. mm Copper. All other circuits: minimum of one of 2.5 sq. mm Copper	All CT circuits: minimum of two of 2.5 sq. mm copper. AC/DC Power Supply Circuits: One of 6 sq. mm Copper. All other circuits: minimum of one of 1.5 sq. mm Copper	accepted
59		5.5_Terminal Blocks	There shall be a minimum clearance of 250 mm between the first row of terminal blocks and the associated cable gland plate or panel side wall. Also the clearance between two rows of terminal blocks edges shall be minimum of 150mm.	We will try to maintain the clarance suggested by customer.Clearance depends on wiring and available space and can be finalised during detailed engineering.	accepted
60		5.12_Energy Meters	Supply and Integration of Energy Meters with Software for centralized meter data reading shall be in supplier's scope. Supplied Software shall have independent for meter make or OEM to retrieving the meter data.	We have not considered any integration of energy meter with the existing centralized meter data reading.	Energy meter to be integrated
61		5.12_Energy Meters	Laying of Communication Cable along with conduit shall be in supplier's scope	Supply of cable and conduit is not considered in our offer. Length of cable needs to be laid shall be informed.	after placement of order till manufacturing clearance bidder will survey our sites and then it will be discussed
62		5.12_Energy Meters	Supply and Installation of RJ11 Splitters shall be in supplier's scope	Purpose of the splitter needs to be informed.	This is for energy meter integration
63		5.12_Energy Meters	Supply, Installation and Configuration of TCP/IP to Serial Converter shall be in supplier's scope if required.	Purpose and system architecture needs to be informed. If any specific make and model of meter is required, same needs to be informed.	This is for energy meter integration
64		5.12_Energy Meters	The BCS and CMRI Software shall be supplied by the bidder for free of cost. Training for the use of the software shall also be provided by the bidder	We have not considered any BCS or CMRI. If any specific make and model of meter is required, same needs to be informed.	This is for energy meter integration
65		5.12_Energy Meters	There should be PT selection scheme in line panel for selection of BUS-PT and Line PT for metering purpose	Purpose and logic of selection scheme needs to be informed.	in case of line PT failure BUS PT can be used for measurement purpose

66		5.12_Energy Meters	In transformer panel PT selection scheme in the transformer panel is also required based on bus isolation selection.	Purpose and logic of selection scheme needs to be informed.	Measurement purpose. The transformer will get the PT on which bus it is
67		7.0_test	An integrated-FAT shall be conducted as per the TPCODL I-FAT Document (ENG-EHV-1006 Rev. 00 - Annexure-III). If the complete system consists of parts from various suppliers or some parts are already installed on site, in such case supplier will arrange the intra-communication between RTU/DC and such IEDs to meet the requirement.	We have not considered integrated FAT in our offer	FAT to be considered. The panels will be sample tested against desired signals in any third party software compliant to IEC 61850. 15 days prior to IFAT bidder should submit complete configuration file
68		9.0_Pre-Dispatch Inspection	Inspection may be made at any stage of manufacture at the option of the purchaser.	Stage inspection is not envisaged. Inspection shall be carried out as per the approved QAP	Factory acceptance test will be carried out prior to release of MDCC
69		Guarantee/Warranty	Bidder shall stand guarantee towards design, materials, workmanship & quality of process/manufacturing of items under the contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Company up to a period of 60 months from the date of commissioning	Warranty :- 54 months from the date of commissioning or 60 months from the date of supply whichever is earlier	Please comply to specifications
70		Guarantee/Warranty	Bidder shall further be responsible for 'free replacement' for another period of three years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Company	Latent defect will be considered within the warranty period.	This is kept in tender keeping in view huge failure rate of IED
71		Quality Control	The bidder shall submit with the offer, quality assurance plan indicating the various stages of inspection, the tests and checks	Stage inspection is not envisaged. Inspection shall be carried out as per the approved QAP	Factory acceptance test will be carried out prior to release of MDCC
72		Ethernet Switches	Should have minimum of 12 Ports, number of switches minimum 2	Kindly inform total Nos. of switches needs to be considered.	Switches shall be supplied by TPCODL
73		Spares for Project job for New Grids / Bay Extension	20% spare material required for every item like TNC switch and other switches, indicating lamps, terminal blocks and any other auxiliary relays, if used.	Nos of protection relays needs to be considered as spare shall be clarified.	clearly mentioned in the scope. You can consider 10%
74		4.1_GeneralRequirements from the Business Associates	The numerical relay must have an IEC 61850 Edition 1, Edition 2 level A certification from DNVGL / KEMA and Relay shall also support site selectable minimum RSTP	offered relay will support both HSR and PRP . RSTP is not available.	PRP and HSR are better than RSTP so they are accepted
75		4.2_General Construction of IED	The draw out design should be such that there be no cards left in the relay after the draw out process	Voltage and communication card are not the part of draw out portion. And shall be removed separately.	The design is moving in new era, please try to incorporate this feature
76		4.2_General Construction of IED	All the terminals should be ring type. No terminals shall be vertically aligned looking from the straight rear of the IED.	Only CT terminal shall be of ring type and others are of pin type	Please comply to specifications

77		4.2_General Construction of IED	important displayable parameters like total harmonic distortion of electrical parameters.	Total Harmonic Distortion of electrical parameters not available.	Solution is welcome. Please see without triggering DR if they can be made readily available in display pages. The purpose is to capture prevalent harmonics that may cause spurious tripping. Their level should be understood
78		4.2_General Construction of IED	lowest time delay of 20 ms.	For PHLPTOC/PHHPTOC/EFHPTOC/EFLPTOC Function block lowest time delay is 40ms Only, Under Voltage /Over Voltage / Under Frequency / Over Frequency protection lowest time delay is 60 ms.	accepted but nothing more than 40 ms
79		4.2_General Construction of IED	TMS selection with resolution of 0.001 lowest at 0.01)	Time Multiplier setting 0.05...15.00 step 0.01, please take deviation.	The design is moving in new era, please try to incorporate this feature
80		4.2_General Construction of IED	TMS selection with resolution of 0.001 lowest at 0.01)	Time Multiplier setting 0.05...15.00 step 0.01, please take deviation.	The design is moving in new era, please try to incorporate this feature
81		4.2_General Construction of IED	Broken conductor(I2/I1) with minimum 2 stages	Single Stage available only	Not accepted
82		4.1_General Requirements from the Business Associates	Transformer differential protection	Binary Input & Output details not specified in the spec for Trafo Diff Relay	it is PU in 33 kV for transformer
83		4.1_General Requirements from the Business Associates	The relay shall be electrical and hand reset type having operating time not more than 12 ms. The relay should be flush mounting type.	For Separate Master Trip Relay. At Operating Voltage 24V & 48V , Operating time is 20-25 ms whereas for 110V /220V DC Operating Voltage, Operating Time is 10ms.	we don't have much margin, we need 86 which operates in 12 ms or less