

Tender no. -TPCODL/ CCG /2026-27/1000012648			
Tender Ref: Rate Contract for SITC of Indoor Switchgear for TP Odisha DISCOMs			
Prebid Queries Responses			
Sl. No.	Tender Reference (Document name/Page no./Clause no./Clause name)	Pre-Bid Queries	TP Odisha Response
1	7. Condition monitoring: Space heater along with dehumidifier and hygro-thermostat (communicable type/SCADA compatible) to be considered for Cable-chamber and suitable ratings of space heater with thermostat to be considered for all other busbar, breaker and control cubicle chamber.	we have provide hygrothermоста which is non communicable. Same is offered	Dehumidifier , space heater along with hygrothermostate is required . (1)Space heater and Thermostate to be considered for all 4 chambers i.e. cable , Breaker , busbar and control cubicle. (2)Dehumidifier along with hygrothermostate is required for cable and busbar chamber Only
2	23 Power pack battery capacity shall be 18 Ah instead of 7 Ah to cater for a minimum of 10 tripping operations with one-hour backup.	shall be 10 mins	Power pack VA capacity to be decided during detailed engineering , As of Now we are considering 100VA capacity .It will only required for Tripping of TCI or TC2 of Incoming only when there is failure of Station DC
3	6.1.1 Ratio (TRD During Detailed Engineering)	CTR as per notes	Consideration for For 11kV 2000A : Incoming Panel 1600-1300/1-1-1 and For O/G- 600-300/1-1 For 11kV 1250A : Incoming Panel : 1200-800/1-1-1 and for O/G-600-300/1-1, However during detailed engineering it will be decided the exact CT ratio and all based on PTR ratings. Ratio /5 or /1 also will be finalised during detailed engineering.
4	14.0.1.1 Indicate To be provided	we understand it is voltage presence indicator , no additional ILL offered	Yes , it is VPI
5	15.0 Numerical Communication Relay with Over Current, Earth Fault, Line/line Earth Fault, Breaker Failure, Negative Sequence Current and Overload, overcurrent (BCPU): 2 nos. Capacitor - 2 nos. This includes /Bus section (BCPU) 1 nos. Outgoing (BCPU)- 1 nos, rating to be specified Local Transformer (BCPU)-1 nos, rating to be specific	Single relay shall be offered covering all the protection24BU1400- Relay, with all protection. Transformer differential separate relay- 200A 1000V	Yes, BCPU Relay should have 24BI & 14 BO & Trafo should have 20BI/10BO
6	3) Vertical panels shall be assembled to form a continuous line-up of uniform height.	shall be as per type tested design	Noted
7	7) Independent pressure flaps shall be provided for all HV compartments, i.e., bus bar, cable and breaker compartments and each compartment for exit of gas due to internal arc shall have type test certificate for withstanding internal arc fault.	shall be as per type tested design	Noted
8	28)All colour caps shall be similar and interchangeable and all LEDs shall be of same type and ratings. The LED lamps shall be furnished 20% in excess of actual numbers required colour caps shall be furnished 10 % in excess of actual numbers used for each colour. Separate DC MCB should be provided for LEDs to avoid tripping of main DC supply due to any failure of LEDs.	Please confirm space requirement we shall provide base for indication circuit.	Shall be decided during detail engineering , 20% Spares in terms of TBs are mandatory to kept inside each panel.
9	31.3a) MCB shall be used for 10kA short circuit rating	Shall be as per load rating and calculation.	Noted , however STC for MCB 10kA to be considered
10	32) Wherever CB contacts are to be multiplexed, latch type relay shall be used for contact multiplexification. Auxiliary contact multiplexing relays shall be separate units and selected on the basis of customers Current carrying capacity and meet voltage. The fluctuation in voltage level shall be accounted for (+/-) 10% continuously.	voltage fluctuation as per type tested design. Latched type relay shall be provided where current lugs and interpose is required. Thus all other contacts shall be multiplexed using plug-in type relays	All BO shall be executed through CMR/IPR/Multiplier relay with potential free contacts and For Relay BI and Indications shall be come through separate potential free contacts. However shall be decided during detailed engineering. Transformer Aux Protection relay should have 4 NO contacts atleast - for 86,NFPPS,Trafo protection relay and TMU etc.
	35) Capacitor bank switching device shall be provided with suitable gas interlock mechanism with cable key along with timer to ensure safety. Provision of 0-500 mV analog sensor on Capacitor Bank along with Push Button shall be made for monitoring 'Vibrantless Capacitor Current'.	Please confirm capacitor type breaker. Timer shall be part of main relay	Not required for this tender.
	36) CT, PT, TRP, CLOSE CT links shall be different coloured coded for easy identification in breaker panels for all Incoming and Outgoing panels. 37) CT, PT, breaker name plate details shall be embossed on front, back side of breaker Panel	Shall be as per Manufacturer standard. Sickness shall be provided	As per TS and SOP, Don't sticker and Name plate in visible part to be stickerd
	44) The back door opening shall be possible only when cable is in dead condition.	we understand it is Rear Door solenoid	Noted it is ok with M/Js ABB for good initiative and generally door limit switch interlock shall be considered
	45) Cattle key interlock or mechanical interlock to be provided in such a way that for opening of back door cattle key shall be required.	we will provide rear door solenoid	Noted and for rack in interlocking is required , if BET inserted .
	46) VPIS indication required at rear and front side.	We have offered VPIS on front side. Rear side is not offered kindly confirm if required	Yes ,required on both the side VPI on front side should be communicable type and rear side is non communicable type
	48) Hygrotherm with space heater to be provided in breaker, bus bar, LT chamber and cable compartment. Hygrotherm shall be communicable type with Temperature & humidity data on control server through RS485 port.	We have offered hygrotherm and thermostat	Noted
	50) Provision of mounting of ethernet switches to be provided in Adapter panel, Bus PT Bus riser PT. All auxiliary relays like contact multiplexing, Lock-out relay shall be fast acting relays with flag	is ethernet switch required?	Ethernet switch is not required but the associated ethernet cable /communication cable from relay and MFM to be laid and wired up to Ethernet switch cabinet. Cable details shall be confirmed during detail engineering.
	59) The Bidder can also consider Centralized protection system with intelligent outgoing unit	we have not offered any ethernet switch, please confirm	Noted
	63) Adapter panel, Bus PT can from this riser panel front side & back side should have removable FID sheet , cable machine avoid direct access.	we have not offered wires much, please confirm	Noted , However safety to be considered
	65) Breaker, Busbar & cable compartments shall be with temperature sensor for monitoring the temperature and humidity sensors for monitoring humidity. These sensors should be integrated with RTU/ SCADA using wireless communication.	Please note IEM requirement. Shall be as per ABB type tested design. Please confirm humidity sensors required for which panels. We propose to become only at cable side We understand temp & PD sensors are required & cable compartment only. We have considered temp sensors in all incoming & outgoing panels. We will offer single IEM for entire switchboard & display temp values & PD indication. Temperature & HS receivers will be communicable on MODBUS-RTU protocol.	Dehumidifier , space heater along with hygrothermostate is required . (1)Space heater and Thermostate to be considered for all 4 chambers i.e. cable , Breaker , busbar and control cubicle. (2)Dehumidifier along with hygrothermostate is required for cable and busbar chamber Only
	5.3.3 This shall be verified by a type test in which the line voltage will be applied between the shrouded main bus bar and an aluminium hot support directly around the insulation over a length of at least 500mm. All bus bars shall be insulated with heat-shrinkable, colour-coded PVC-insulating sleeves. (b) Bus bars shall be permanently marked with Red, Yellow and Blue colour tags for easy phase identification at angles internal and at every point up and down.	Our design is type tested design. We do not conduct any additional type test Busbars shall be colour coded with stickers, no tags shall be provided	Noted ,However phase marking is mandatory whereever the access is to view whether to CT or Busbar
	7) VPIS 2NO+2NC shall be present in each Outgoing feeder with 230V (+/-) 10% DC aux voltage. (b) If back-charging lamp shall be provided on backside of individual breaker panel.	VT Back-charging lamp we have not provided in our own supply. Only voltage presence indicator	Noted
	8) The BCPU shall support fibre-optic port (Rx and Tx) for fault-tolerant fibre optic ring or RS-485 port for making star connection at switch.	Relay communication port is RS485 port	Shall be decided with complete MFB model of offering relays during detailed engineering.
	9) The Multi-Function Meter shall be Communicable to RTU on RS485 MODBUS including bus coupler. This can be eliminated by taking analog data from BCPU, correct can be viewed at the BCPU's built-in high-calling work can be avoided. Aux supply shall be 230 V DC. (ii) The Multi-Function Meter to be considered for all UC & O/G feeders except bus coupler communication.	is Multifunction meter required?	MFM is Required with modbus communication feature
	5.7. PQM Meter	is PQM required, please confirm parameters. Also make shall be as per OEM standard	Not Required
	(1) Two wires shall not be crimped on a single lug. CT Terminals shall have reference of CT Core and CT Taps	Shall be as per Manufacturer standard. Asided TB type shall have space constraints in the panel	As per TS
	5.10(i) An earthing conductor of 40kV sq mm Cu (minimum) shall be provided extending the whole length of switchgear and control gear to sustain the Rated short time withstand current	The Earthing Bus shall be 30X20mm	Can be considered , however detail calculation will be verified during detailed engineering
	5.17 Asset monitoring systems		
	5.17 Asset monitoring systems: The Asset Monitoring System shall be as per the requirement of the tender. If this system is required a separate line item shall be added to the Bidding Bill of Materials and shall be required. Asset Monitoring System is for Condition Based Predictive Maintenance for the Switchgear Panels. It should have interoperability with other make panels & relays, cyber security, user licenses etc.	We can offer temperature, humidity & PD sensors with necessary receivers and optional IEM as a part of asset monitoring system which is communicable with SCADA or MODBUS-RTU protocol. We can offer condition based maintenance system and we do not have any predictive maintenance system in our product offering. This system does not directly interface with any relay meter in the switchgear panel. We will offer asset monitor as below in each panel: 1. 12 nos. temp sensors 2. 1 nos. PD sensor 3. 1 nos. Humidity sensor 4. 3 nos. arc sensors (Arc protection shall be integral part of numerical relays) 5. 1 nos. ambient temp & humidity sensor per switchgear room 6. We do not have position or dual sensor in our product portfolio, hence the same cannot be offered. We can provide online condition monitoring. Features like data storage, reporting can be done at SCADA end. We do not have any maintenance support system / advisory services / health prediction systems in our product portfolio. Our monitoring system can provide online monitoring of temperature, humidity, partial discharge data, with necessary alarms based on threshold settings, however end user needs to take necessary actions.	Dehumidifier , space heater along with hygrothermostate is required . (1)Space heater and Thermostate to be considered for all 4 chambers i.e. cable , Breaker , busbar and control cubicle. (2)Dehumidifier along with hygrothermostate is required for cable and busbar chamber Only
	Table with 2 columns: Sensor Type, Sensor Location, Remarks. Temperature Sensor: Bus Bar Compartment, Breaker Compartment, Upper and Lower End, Cable Compartment Partial Discharge Sensor: Cable Compartment Arc Sensor: Arc Chamber Room Temperature and Humidity Sensor: Outside the Panel Board inside the Switchgear room Position of Dual Sensor: Outside the Panel Board inside the Switchgear room		

Asset Monitoring System: The Asset Monitoring System shall be as per the requirement of the tender. If this system is required a separate line item shall be added in the BoQ, else this system shall not be required. Asset Monitoring System is for Condition Based Predictive Maintenance for the Switchgear Panels. It should have interoperability with other make panels & relays, cyber security, user licenses etc. Sensor Based Remote Maintenance Care system shall have following sensors:		Noted, relay will independently communicate the CB monitoring data with SCADA. It shall not be linked with OTMS system. Our scope will be limited to supply of sensors, data concentrators and necessary protocol converters for connecting OTMS system with SCADA. We do not have any license based system to offer, we can provide configuration / monitoring software for OTMS system.	Asset monitoring system is not required, <u>only</u> Dehumidifier, space heater along with hygrothermostate is required. (1)Space heater and Thermostate to be considered for all 4 chambers i.e. cable, Breaker, busbar and control cubicle. (2)Dehumidifier along with hygrothermostate is required for cable and busbar chamber Only														
<table><tr><th>Sensor Type</th><th>Sensor Location</th></tr><tr><td>Temperature Sensor</td><td>Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment</td></tr><tr><td>Partial Discharge Sensor</td><td>Cable Compartment</td></tr><tr><td>Humidity Sensor</td><td>Cable Compartment</td></tr><tr><td>AC sensor</td><td>Bus Chamber</td></tr><tr><td>Power Temperature and Humidity Sensor</td><td>Outside the Panel Board inside the Switchgear room</td></tr><tr><td>Minimum 4 per panel</td><td></td></tr></table>		Sensor Type	Sensor Location	Temperature Sensor	Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment	Partial Discharge Sensor	Cable Compartment	Humidity Sensor	Cable Compartment	AC sensor	Bus Chamber	Power Temperature and Humidity Sensor	Outside the Panel Board inside the Switchgear room	Minimum 4 per panel		We will offer wireless temperature sensor & wind humidity sensors. Temperature sensors will communicate with data concentrator on wireless Zigbee protocol & humidity sensor will communicate with data concentrator on MODBUS-RTU protocol. Data concentrator will communicate with upstream SCADA on MODBUS-RTU protocol through RS485 port.	Asset monitoring system is not required, <u>only</u> Dehumidifier, space heater along with hygrothermostate is required. (1)Space heater and Thermostate to be considered for all 4 chambers i.e. cable, Breaker, busbar and control cubicle. (2)Dehumidifier along with hygrothermostate is required for cable and busbar chamber Only
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(3) Breaker, Busbar & cable compartments shall be with temperature sensor for monitoring the temperature and humidity sensors for monitoring humidity. These sensors should be integrated with RTU/ SCADA using wireless communication.																	
5.19 : GALVANIZING		as per manufacturer standard	Noted														
7. TESTS		as per manufacturer standard QAP	QAP to be submitted by OEM and shall be approved by TP Odisha DISCOM Quality team. During technical evaluation, Standard QAP to be shared for review														
14. TRAINING		Please confirm training requirement	For Each DISCOM 2 days to be considered														
18. SPARES, ACCESSORIES & SPECIAL TOOLS / GAUGES a) Trip Coil: Minimum 2 nos or 10 % of tender quantity of breakers b) Charging coil: Minimum 2 nos or 10 % of tender quantity of breakers/ Spring charging motor: Minimum 2 nos or 10 % of tender quantity of breakers c) Vacuum Interrupter: 10 % of tender quantity of breakers d) F-N-C Switch: Minimum 2 nos or 10 % of tender quantity of breakers e) Lock/interlock selector switch: Minimum 2 nos or 10 % of tender quantity of breakers f) Tally Finger contact: Minimum 6 nos or 30 % of tender quantity of breakers (for FC & O/G Panel separately) g) Indication LED's: 50 nos h) Auxiliary switches: 10 nos i) CTs for FC panel: Minimum 1 nos or 15 % of tender quantity whichever is maximum. j) CTs for O/G panel: Minimum 4 nos or 10 % of tender quantity whichever is maximum. k) PFI for FC panel: Minimum 1 nos or 15 % of tender quantity whichever is maximum l) Bus PFI: Minimum 1 nos or 15 % of tender quantity whichever is maximum m) Spare busbar: Minimum 2 nos or 10 % of tender quantity of breakers n) Operating mechanism: Minimum 2 nos or 10 % of tender quantity of breakers o) Panel side contact for incoming: Minimum 2 nos or 10 % of tender quantity of breakers p) Panel side contact for outgoing: Minimum 2 nos or 10 % of tender quantity of breakers In addition to above bidder shall submit recommended list of spares for 3 years of operation, if any with unit prices and recommended quantity. 5.1.6) Non-sagging cable gland plates shall be provided for busbars whenever single core cables are used. 5.5.1.18 The supplier shall submit Type Test report from CPR IERDA to prove the above		d) We do not envisage interrupter in spares since it is encapsulated- Hence not applicable. e) What is operating mechanism? f) Spares requirement not clear g) Spares requirement not clear	D) Noted. Spare Requirement : Minimum requirement is mentioned but if the 10% Or 15% of ordered qty will be higher then higher qty to be considered														
		Cable Clench shall not be in ABB scope of supply	Noted														
		Our Panels are type tested at PHELA Germany	Noted, However Complete Type Test Report with proper index to be considered														
5.1.18 is preferred to have condition based monitoring in switchgear using Heat and Humidity sensors in Bus-Bar, Breaker and Cable Compartments. These sensors should be integrated with RTU/ SCADA using wireless communication		If we provide the sensors on the breaker then this will have interchangeability issues	Asset monitoring system is not required, <u>only</u> Dehumidifier, space heater along with hygrothermostate is required. (1)Space heater and Thermostate to be considered for all 4 chambers i.e. cable, Breaker, busbar and control cubicle. (2)Dehumidifier along with hygrothermostate is required for cable and busbar chamber Only														
5.1.19 POWER AND CONTROL SUPPLIES		Arrangement of AC supply (230VAC) and DC Supply (48VDC) at site shall not be in ABB scope. Also, supply of battery and battery chargers etc shall not be in ABB scope.	Noted														
4.1.1 Accession			Noted														
Mod-Clad air insulated		shall be noted enclosed	Noted														
5.1.6 Cable glands shall be of double compression type and made of brass.		Cable Clench shall not be in ABB scope of supply	Noted														
5.1.18 The supplier shall submit Type Test report from CPR IERDA to prove the above		Our Panels are type tested at PHELA Germany	Noted, However with proper index all documents to be shared for review during technical evaluation round														
5.1.18 is preferred to have condition based monitoring in switchgear using Heat and Humidity sensors in Bus-Bar, Breaker and Cable Compartments. These sensors should be integrated with RTU/ SCADA using wireless communication 5.1.19 provision shall be made on the earth bus bars of the end panels for connecting the same to the earthing grid. b) An earthing conductor of 40x10 sq mm G.I (minimum) shall be provided extending the whole length of switchgear and control gear to connect the Busbar enclosure without any cover.		If we provide the sensors on the breaker then this will have interchangeability issues The Earthing Bus shall be 30x30mm	SCADA integration is not required Accepted, however during detailed engineering M/A ABB to submit calculation sheet for verification														
Section-A/Scope of Work for Substation Automation System		As this is active SCADA and out of our manufacturing scope this shall be out of ABB scope.															
4.6.2-200-400-800V 5-5.5 A (or 100-200-400/5-5.5 A (TRD during detailed engg.)		CT Ratio as per Notes: 5a	CT Ratio for 230V for incoming and Outgoing shall be either 800-400/1-1-1 / 5-5-5 or 400-200/1-1-1 or / 5-5-5, However during detailed engineering it will be decided based on PFR ratings														
4.6.2-200-400-800V 5-5.5 A (or 100-200-400/5-5.5 A (TRD during detailed engg.)		CT Ratio as per Notes: 5a	CT Ratio for 33kV for incoming and Outgoing shall be either 800-400/1-1-1 / 5-5-5 or 400-200/1-1-1 or / 5-5-5, However during detailed engineering it will be decided based on PFR ratings														
5.1.19 POWER AND CONTROL SUPPLIES		Arrangement of AC supply (230VAC) and DC Supply (48VDC) at site shall not be in ABB scope. Also, supply of battery and battery chargers etc shall not be in ABB scope.	Noted														
Tender Clause	Clause	Deviations/ Queries	TP Odisha Response														
STANDARD TECHNICAL SPECIFICATION COVER SHEET Specification No. : ENG-4HV-1011 Specification Name : Specification of 33KV Indoor Switchgear Panel	5.1.18 It is preferred to have condition based monitoring in switchgear using Heat and Humidity sensors in Bus-Bar, Breaker and Cable Compartments. These sensors should be integrated with RTU/ SCADA using wireless communication.	5.1.18 It is preferred to have condition based monitoring with common HMI per switchboard for temperature monitoring as of switchgear using Heat 3 no. of Temperature sensors and 1 no. of Humidity sensor per switchboard. These sensors data via condition monitoring system should be integrated with RTU/ SCADA using wireless communication. MODBUS TCP/IP protocol	Should be decided during Technical evaluation														
TECHNICAL SPECIFICATION COVER SHEET Document No. : TPU-D-ENG-HV-20051 Document Title : Technical Specification for 11 KV Indoor Switchgear Panel Release date : 03-12-2025	10) Breaker, Busbar & cable compartments shall be with temperature sensor for monitoring the temperature and humidity sensors for monitoring humidity. These sensors should be integrated with RTU/ SCADA using wireless communication.	10) Breaker, Busbar & cable compartments shall be with 3 no. of temperature sensor for local temperature monitoring line temperature and 1 no. of humidity sensor per switchboard for local humidity monitoring humidity. Local temperature and humidity monitoring using common HMI per switchboard. These sensors data via Local monitoring system per switchboard should be integrated with RTU/ SCADA using wireless communication. MODBUS TCP/IP protocol	Should be decided during Technical evaluation														
TECHNICAL SPECIFICATION COVER SHEET Document No. : TPU-D-ENG-HV-20051 Document Title : Technical Specification for 11 KV Indoor Switchgear Panel Release date : 03-12-2025	5.1.7 Asset monitoring system: The Asset Monitoring System shall be as per the requirement of the tender. If this system is required a separate line item shall be added in the BoQ, else this system shall not be required. Asset Monitoring System is for Condition Based Predictive Maintenance for the Switchgear Panels. It should have interoperability with other make panels & relays, cyber security, user licenses etc.	5.1.7 Asset monitoring system-Condition based temperature and humidity monitoring system The Asset Monitoring System- Condition based temperature and humidity monitoring system shall be as per the requirement of the tender. If this system is required a separate line item shall be added in the BoQ-else this system shall not be required. Asset Monitoring System Condition based temperature and humidity monitoring systems for Condition Based Predictive Maintenance for the Switchgear Panels. It should have interoperability with other make panels & relays and support cyber security standards, user licenses etc.	Should be decided during Technical evaluation														
TECHNICAL SPECIFICATION COVER SHEET Document No. : TPU-D-ENG-HV-20051 Document Title : Technical Specification for 11 KV Indoor Switchgear Panel Release date : 03-12-2025 5.1.7 Asset monitoring system:	Sensor Based Remote Maintenance Care system shall have following sensors:		Should be decided during Technical evaluation														
TECHNICAL SPECIFICATION COVER SHEET Document No. : TPU-D-ENG-HV-20051 Document Title : Technical Specification for 11 KV Indoor Switchgear Panel Release date : 03-12-2025 5.1.7 Asset monitoring system:	Temperature Sensor Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment	Temperature Sensor Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment	Should be decided during Technical evaluation														
TECHNICAL SPECIFICATION COVER SHEET Document No. : TPU-D-ENG-HV-20051 Document Title : Technical Specification for 11 KV Indoor Switchgear Panel Release date : 03-12-2025 5.1.7 Asset monitoring system:	Partial Discharge Sensor Cable Compartment	Partial Discharge Sensor Bus Bar Compartment, Cable Compartment	Should be decided during Technical evaluation														
TECHNICAL SPECIFICATION COVER SHEET Document No. : TPU-D-ENG-HV-20051 Document Title : Technical Specification for 11 KV Indoor Switchgear Panel Release date : 03-12-2025 5.1.7 Asset monitoring system:	Humidity Sensor Cable Compartment	Humidity Sensor (1 no. per switchboard) Cable Compartment (any one of the switchgear panel of switchboard)	Should be decided during Technical evaluation														
TECHNICAL SPECIFICATION COVER SHEET Document No. : TPU-D-ENG-HV-20051 Document Title : Technical Specification for 11 KV Indoor Switchgear Panel Release date : 03-12-2025 5.1.7 Asset monitoring system:	Online condition monitoring, asset health monitoring, data storage, reporting and maintenance support, health prediction of electrical distribution network assets, allow engineers/managers to gather data and insight that allows them to make more informed decisions about asset health. It should have Circuit Breaker Parameter Monitoring (input through protection relay), Substation Monitoring Device/Data Concentrator Unit, Data usage & Analytics with inbuilt algorithm. All the accessories required for successful operation of this system shall be in the bidder's scope. Bidder has to submit BoQ for this system along with tender bid. The license of this system shall be provided for at least 5 years to minimum 10 persons. The complete architecture shall be as per the requirement	Online condition based monitoring-asset health monitoring, data storage, reporting and maintenance support, health status index based on analysis of Online temperature and humidity monitoring/prediction of electrical distribution network assets MV AIS Switchgear, allow engineers/managers to gather data and insight that allows them to make more informed decisions about asset health. It should have Vacuum Circuit Breaker Parameter Monitoring (input through protection relay which is IEC61850 compliant), Substation Monitoring Device/Data Concentrator Unit, Data usage & Analytics with inbuilt algorithm. All the accessories required for successful operation of this system shall be in the bidder's scope. Bidder has to submit BoQ for this system along with tender bid. The One-time license of this system shall be provided for at least 5 years to minimum 10 persons. The complete architecture shall be as per the requirement of bidder Tata Power-ODisha. Please refer the below specs	Should be decided during Technical evaluation														

	Siemens inputs on condition based Temperature monitoring system for 33kV and 11kV AIS switchboard	Siemens inputs on condition based Temperature monitoring system for 33kV and 11kV AIS switchboard	Condition based temperature monitoring system for 33kV and 11kV AIS switchboard: -Temperature monitoring at busbar compartment of VCB Panels (typicals excluding Bus PT, Bus riser + bus PT panel) of 33kV and 11kV switchboard -Temperature monitoring at busbar and Cable termination within the Cable compartment of VCB Panels (typicals excluding Bus PT, Bus riser + bus PT, bus coupler panel) of 33kV and 11kV switchboard -The system consists of an industry-grade processing unit with an interactive common touch screen HMI of minimum 15" for local visualization at each switchboard -The system shall collect, analyze, and visualize data into meaningful insights over the common HMI installed in LV compartment of the any one of the panel of 33kV and 11kV switchboard -Continuous temperature monitoring, eliminating the need for periodic manual inspections -Graphical representation of switchboards/switchgear for intuitive visualization -Provide the detailed window which can be accessed from switchgear front view, single panel view of switchgear and single line representation view -Asset specific windows which provide parameterization, operational values, switching states, statistics, alarms, and trends displays -Provide health status index (normal, warning, alert/critical) based on analysis of online temperature monitoring using domain rules for proposed 33kV and 11kV AIS switchgears. These health indices should be added to the switchgear state to better manage risks and improve operation and maintenance plans -Support display trends for historical data analysis for 1 year	Shall be decided during Technical evaluation
Sl.No	Documents name/Page No/Clause/Clause name	Prebid Queries / Deviation / Clarification	TP Odisha Response	
1	Standards & codes	We have offered switchboard as per following :- 1) Our HT panels and VCB are as per IEC 62271-200 & 100 respectively. 2) We have offered CT/PT as mentioned attached Scope of Supply (BOQ/BOM). Request you to verify &	Noted , PTs : 3No 1 Phase PT to be considered i nstead of 3 phase PT	
2	General arrangement & Construction	Offered panels shall comply only to IEC standards as follows :- Panels - IEC 62271-200 VCB - IEC 62271-100	Noted	
3	Page no-8 / Scope	Offered panels shall be as per given specification, clarification/ deviation listed below and enclosed scope of supply (BOQ/BOM).	Scope clarity is already mentioned in the tender	
4	Page no-2 / Annexure / (Additional for TP Odisha DISCOM Requirement) - 17 / Trip Coil Supervision Relay (TCS) shall be provided for supervision of both trip coils.	First trip will be supervised by numerical relay and second trip coil will be supervised by Auxilary TCS relay.	No , 2 No TC along with 2 NO 2 TCS shall be provided	
5	19. Interlocking with Isolator:	Scope of Isolator is not offered.	Supply of Isolator/ES will not be in the scope of Bidder , only for remote operation and for status of Isolator ,L/R selection switch along with IPR/CMR with potential free contacts , MCB with add-on contacts to be considered. For Status , BI and For command Relay SO to be assigned	
6	4.2.6 Max. Permissible temp. rise at rated normal current	We have considered following:- Ambient Temp :- 50 Deg C End temp :- End Temp as per IEC 62271	Noted	
7	GENERAL TECHNICAL REQUIREMENTS/23) 1.12 Degree of Protection Enclosure / Partitions/for meters, relay & BCU	Our panels are designed for IP4X degree of protection without any gaskets. Hence no neoprene gaskets required as per panel design Offered panels are type tested for IP-4x externally & IP-2X within compartments as per IEC 62271-200. Offered panels are not totally enclosed, dust-tight, damp proof and vermin proof.	Noted	
8	2) A minimum clearance	Clearance as per type tested design	Noted , However clearance details shall be verified during detail engineering	
9	3.13 Short circuit / page no 12 /breaker current 25kA for 3 Sec or better (Decided during tendering) /3.14 wRated short circuit withstand current 25kA for 3 sec or better (Decided during tendering) /3.15 Rated short circuit making current 62.5 kA Peak (Decided during Tendering)	Please decide during bidding stage.	STC 25kA for 3 Sec or better is accepted	
10	Page no 12 / Clause No: 3.19 Insulation Resistance > 50 M Ohms	As per IEC 62271.200	Noted	
11	Clause no 5.1 : SWITCHGEAR / Page no-8 Panels shall have structural steel frame-work enclosed on all sides and top by CRCA sheet steel of minimum thickness as specified below: • Frame : 3 mm • Doors & Covers : 2 mm	Offered panels are type tested with following design:- Structure Material - CRCA Frame - 2.0 mm, High Voltage Door - 2.0 mm, Low Voltage Door - 2.0 mm, Pressure Relief Flaps - 1.0 mm, Partitions between compartments - 2.0 mm, Shutters - 1.0 mm, Partitions between panels - 2.0 mm, Bottom Plate - 2.0 mm, Rear Side Covers - 2.0 mm, End Covers - 2.0 mm. Structure shall be of bolted type.	Structural frame to be considered 3mm CRCA	
12	Clause np 8.62 / All doors, cutouts and removable covers shall be gasketed all round by neoprene cork gaskets	Offered panels are type tested without the use of any neoprene gaskets, hence, any gaskets are not necessary.	To be discussed during technical evaluation	
13	Page no-17 / Castle key interlock or mechanical interlock to be provided in such a way that for opening of back door castle key shall be required.	Instead castle key ronies key interlock offered.	To be decided during detailed engineering	
14	Clause no 46 / Cable back charge indicating LED on front & rear side of panel is to be provided /46) VPLS indication required at rear and front side.	we can offered only at one side i.e either front or back side.	VPLs to be considered in both the side	
15	22) Suitable removable type eyebolts shall be provided for the lifting of the panel/shipping section. These bolts, when removed shall not leave any opening in the panels.	As per design not offered,panels can directly lifwth the help of belt and crens	Noted	
16	Clause no 24 / Page no 17 /The overall dimension of each switchgear bay should not exceed 1.6 M X 0.8 M X 2.8 M (DXWXH) for Incomers, Bus Riser, Bus Coupler, Bus PT, Adaptor panels and 1.6 M	Tentitive dimenitions - H- 3300mm, W-800/1000mm,D-1500/2100mm	Shall be decided during detailed engineering	
17	Clause no 47 /All TBs in breaker control panel shall be DISCONNECTING Type	Not possible due to space and wire size	Shall be decided during detailed engineering	
18	Clause no 34 / Page no 20 / Capacitor bank switching device shall be provided with suitable gate interlock mechanism with castle key along with timer to ensure safety.	Not in Siemens scope	Noted	
19	Clause no 16 / Page no 24 / Breaker, Busbar & cable compartments shall be with temperature sensor for monitoring the temperature and humidity sensors for monitoring humidity. These sensors should be integrated with RTUs/ SCADA using wireless communication.	Temperature sensors offered in cable and bus bar chamber only and humidity sensors offered in 1x per switchboard.kindly confirm.	Space heater and thermostat shall be considered for all 4 Chambers i.e. Cable , BKR, Busbar,Control cubicle etc and dehumidifier to be considered for Cable and Busbar chamber	
20	Clause no 5.1.18 / page no 11 / It is preferred to have condition based monitoring in switchgear using Heat and Humidity sensors in Bus-Bar , Breaker and Cable Compartments. These sensors should be integrated with RTUs/ SCADA using wireless communication.	We offered 3x temperature sensors in cable and 3x temperature sensors in Busbar compartment along wit 1x Himidity sensor for entire switchboard, Temperature sensors in Breaker compartment is not in Siemens scope.	Space heater and thermostat shall be considered for all 4 Chambers i.e. Cable , BKR, Busbar,Control cubicle etc and dehumidifier to be considered for Cable and Busbar chamber and dehumidifier along with hygrothermostat to be considered for Panel board	
21	Clause no 5.2.2 / Page no 12 / Anti-pumping relays	Inbuilt feature of VCB, no separte relay offer.	Noted	
22	Clause no 5.3.1 / Page no 25 / Bus bars and all other electrical connections between various components shall be made of copper of rectangular cross-section	For 33kV switchboard triangular type main bus bars offered.	As per type Tested design is preferred	
23	Clause No 5.4/ Page no 26/ Current Transformer - Window type	As per design upto 1250A wound type CT.	For 2000A -Indoor AIS panel requirement is 1600-1200/1-1-1 or 5-5-5 and for 1250A Panel upto 1250A CT is acceptable	
24	Clause no 9 / Page no 27 / The VTs in the panels & Spare VTs shall be applied with silicone paint.	As per design not offered.	Line PT as well as BusPT is required , this is as per DISCOM requirement	
25	Clause no 5.16 / Page no 32 /CABLE TERMINATION / POWER AND CONTROL SUPPLIES	We have not considered power cables, cable glands, cable supports, cable lugs, termination kits, sealing material for cable entry, bolts, nuts and washers. etc in our scope. We shall only provide cable termination facility in offered panels.	Noted	
26	Clause no 5.15 / Page no 31 / PANEL WIRING	VT secondary wiring-2.5 sq mm CT secondary wiring-4 sq mm Local control cables-1.5sq mm	Shall be decided during detailed engineering	
27	Clause no 1/ Page no 17 / Bidder shall be solely responsible for looping all protection relays up to the BCU/BCPU or DC as per the requirement. Network cable required to	our scope is limited upto switchboard only,outside scope of wiring is not considered and offered.	Noted	
28	Clause no 5.15 EARTHING / page no 19 / Separate earth bus bar to be run along switchgear for protecting earthing of relays and communication equipment and LEDs and shall be insulated from the frame.	Inside switchboard only one bus (40*5)run through panel	Calculation details shall be verified during detailed engineering	
29	Clause no 5.20 / page no 37 / PAINTING	Painting shall be as per attached Siemens standard painting procedure.	Noted	
30	Clause no 5.21/ page no 37 / GALVANIZING	As per IEC we will provide.	Noted	
31	Clause no 5.18 / page no 21 / SYSTEM ARCHITECTURE AND COMMUNICATION / 5.19 DATA CONCENTRATOR /	This scope is excluded from Siemens scope	Support for SCADA integration is required	
32	5.20 CONTROL,METERING AND PROTECTION	Incomer switchgears only one relay provided for both protection and metering,controlling purpose.	for 33kV Incomer -One BCPU relay to be considered but for PTR protection feeder : Bay protection along with Transformer protection relay to be considered	
33	Type Tests: 8. TYPE TEST CERTIFICATES	Any type test is not considered in our scope. However, we shall submit type test reports for type tests carried out on similar product. Any stage inspection is not envisaged. We have not considered any tests at site. We do not envisage any integrated FAT as same is not possible at our works. Kindly note our observations on your ITP.	Will review QAP after submission during Technical evaluation	

34	5.19 Asset monitoring system (Optional Requirement)	We have not offered Asset monitoring System .	Noted
35	Earthing truck	We have offered separate earthing trucks (fault withstand type without VCB and and anunciation) instead of integral earthing switch in panel. Request your acceptance.	Noted
36	Numerical relay	Please note protection relays shall be of numerical type. We have offered Siemens 7SR5 make numerical relays IEC61850 with R345. Change in protocol shall have price implication.Any hardware such as laptop,SCADA, interfacing cables, connectors etc required for relay programming / communication is not included in our scope.Relay setting , testing & commissioning is not	As per Earlier supply , 24BI and 14 BO is required for Bay protection relat and for Trakb 20BI and 10 BO is to be considered
37	Integration with SCADA	Supply of ethernet switch, communication cable, connectors, integration with SCADA, it's associated hardwares are excluded from our scope.	Ethernet switch supply will not be part of Bidder scope , but the communication cable upto ethernet cabinet to be laid and wired up to for the same.Support for SCADA integration is required
38	Caluse No 41/42 9. PRE DISPATCH INSPECTION / 10. INSPECTION AFTER RECEIPT AT STORES / 7. TESTS	Inspection and Testing shall be as per attached FAT. Only fully assembled switchboard shall be offered for inspection of routine tests. We shall submit test certificates of bought out items and no separate tests shall be conducted on these equipments at our works. Inspection shall be carried out as per our standard quality assurance plan(attached for your ref). Any fresh type test is not	QAP to be submitted during technical evaluation round , and it will be reviewed and approved by Quality (TP Odisha DISCOM)
39	Clause no 42 /Warranty	We shall provide warranty on offered panels with standard warranty period of 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier. Any increase in warranty period shall have cost implications.	As per Tender requirement
40	12. PACKING	As per our standard packing process	Noted
Sl. No.	Tender Reference (Document name/Page no./Clause no./Clause name)	Pre-Bid Queries	TP Odisha Response
1	Delivery - Clause No 6- Delivery shall be made within 10 weeks from the date of issuance of CAT-A approval / issuance of BO whichever is later.	Delivery shall be made within 24 weeks from the date of issuance of CAT-A approval / issuance of BO whichever is later.	Tender terms & Conditions shall remain same

Sl. No.	Tender Reference (Document name/Page no./Clause no./Clause name)	Description as per Bid Document	Pre-Bid Query raised by Bidder	CEG Response																																																																																																																							
1	Tender Document_SITC of Indoor Switchgear Odisha DISCOMs	<table><tr><th>S. No.</th><th>Material Description</th><th>UOM</th><th>TPCOOL</th><th>TPNODL</th><th>TPWOOL</th><th>Grand Total Qty</th></tr><tr><td>1</td><td>Lot - I (11 KV Indoor Switchgear Panel)</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>a</td><td>11KV 1250A I/C 1250A VCB W/ C/P & RELAY FR FR</td><td>EA</td><td>5</td><td>7</td><td>3</td><td>8</td></tr><tr><td>b</td><td>11KV 1250A B/CPT PANEL WITH 2X20S 1PH-PT</td><td>EA</td><td>3</td><td>4</td><td>1</td><td>10</td></tr><tr><td>c</td><td>11KV 1250A B/C 1250A VCB PANEL W/ C/P & RELAY</td><td>EA</td><td>3</td><td>4</td><td>1</td><td>10</td></tr><tr><td>d</td><td>11KV 1250A I/C 1250A B/CPT W/ C/P & RELAY FR FR</td><td>EA</td><td>5</td><td>20</td><td>6</td><td>11</td></tr><tr><td>e</td><td>11KV 1250A BUS PT PANEL WITH 2X20S 1PH-PT</td><td>EA</td><td>1</td><td>3</td><td>2</td><td>10</td></tr><tr><td>f</td><td>11KV 1250A ADAPTER PANEL</td><td>EA</td><td>1</td><td>3</td><td>4</td><td>4</td></tr><tr><td>g</td><td>11KV 1250A Indoor 1250A VCB</td><td>EA</td><td>0</td><td>2</td><td>0</td><td>0</td></tr><tr><td>h</td><td>11KV 2000A I/C 2000A VCB W/ C/P & RELAY FR FR</td><td>EA</td><td>6</td><td></td><td>6</td><td>6</td></tr><tr><td>i</td><td>11KV 2000A B/CPT PANEL WITH 2X20S 1PH-PT</td><td>EA</td><td>6</td><td></td><td>6</td><td>6</td></tr><tr><td>j</td><td>11KV 2000A B/C 2000A VCB PANEL W/ C/P & RELAY</td><td>EA</td><td>6</td><td></td><td>6</td><td>6</td></tr><tr><td>k</td><td>11KV 2000A I/C 200A VCB W/ C/P & RELAY FR FR</td><td>EA</td><td>30</td><td></td><td>30</td><td>30</td></tr><tr><td>l</td><td>11KV 2000A BUS PT PANEL WITH 2X20S 1PH-PT</td><td>EA</td><td>6</td><td></td><td>6</td><td>6</td></tr><tr><td>m</td><td>11KV 2000A ADAPTER PANEL</td><td>EA</td><td>3</td><td></td><td>3</td><td>3</td></tr><tr><td>n</td><td>Busbar for Indoor VCB 1250A</td><td>M</td><td>50</td><td>0</td><td></td><td>50</td></tr><tr><td>o</td><td>Busbar for Indoor VCB 2000A</td><td>M</td><td>50</td><td>0</td><td></td><td>50</td></tr></table>	S. No.	Material Description	UOM	TPCOOL	TPNODL	TPWOOL	Grand Total Qty	1	Lot - I (11 KV Indoor Switchgear Panel)						a	11KV 1250A I/C 1250A VCB W/ C/P & RELAY FR FR	EA	5	7	3	8	b	11KV 1250A B/CPT PANEL WITH 2X20S 1PH-PT	EA	3	4	1	10	c	11KV 1250A B/C 1250A VCB PANEL W/ C/P & RELAY	EA	3	4	1	10	d	11KV 1250A I/C 1250A B/CPT W/ C/P & RELAY FR FR	EA	5	20	6	11	e	11KV 1250A BUS PT PANEL WITH 2X20S 1PH-PT	EA	1	3	2	10	f	11KV 1250A ADAPTER PANEL	EA	1	3	4	4	g	11KV 1250A Indoor 1250A VCB	EA	0	2	0	0	h	11KV 2000A I/C 2000A VCB W/ C/P & RELAY FR FR	EA	6		6	6	i	11KV 2000A B/CPT PANEL WITH 2X20S 1PH-PT	EA	6		6	6	j	11KV 2000A B/C 2000A VCB PANEL W/ C/P & RELAY	EA	6		6	6	k	11KV 2000A I/C 200A VCB W/ C/P & RELAY FR FR	EA	30		30	30	l	11KV 2000A BUS PT PANEL WITH 2X20S 1PH-PT	EA	6		6	6	m	11KV 2000A ADAPTER PANEL	EA	3		3	3	n	Busbar for Indoor VCB 1250A	M	50	0		50	o	Busbar for Indoor VCB 2000A	M	50	0		50	1. Please provide discom wise panel board configuration for TPCOODL, TPNODL, and TPWOOL. 2. The ratings and quantities for the cable earthing truck and bus earthing truck are not mentioned in the BOQ. Kindly confirm the required quantity and rating for both [Cable earthing truck and Bus earthing truck]. 3. For Sr. No. 1(g), We understand that the item is a stand alone VCB only. Kindly confirm the same. 4. Grand total of all panel mentioned in TPCOODL, TPNODL and TPWOOL are mismatch. Kindly amend the same.	Panel will be different configurations and this will be as per DISCOM Requirement. For Grand Total : Will inform to Contract to correct the same. Refer Scope details in the Floated tender
S. No.	Material Description	UOM	TPCOOL	TPNODL	TPWOOL	Grand Total Qty																																																																																																																					
1	Lot - I (11 KV Indoor Switchgear Panel)																																																																																																																										
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c	11KV 1250A B/C 1250A VCB PANEL W/ C/P & RELAY	EA	3	4	1	10																																																																																																																					
d	11KV 1250A I/C 1250A B/CPT W/ C/P & RELAY FR FR	EA	5	20	6	11																																																																																																																					
e	11KV 1250A BUS PT PANEL WITH 2X20S 1PH-PT	EA	1	3	2	10																																																																																																																					
f	11KV 1250A ADAPTER PANEL	EA	1	3	4	4																																																																																																																					
g	11KV 1250A Indoor 1250A VCB	EA	0	2	0	0																																																																																																																					
h	11KV 2000A I/C 2000A VCB W/ C/P & RELAY FR FR	EA	6		6	6																																																																																																																					
i	11KV 2000A B/CPT PANEL WITH 2X20S 1PH-PT	EA	6		6	6																																																																																																																					
j	11KV 2000A B/C 2000A VCB PANEL W/ C/P & RELAY	EA	6		6	6																																																																																																																					
k	11KV 2000A I/C 200A VCB W/ C/P & RELAY FR FR	EA	30		30	30																																																																																																																					
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o	Busbar for Indoor VCB 2000A	M	50	0		50																																																																																																																					
2	Tender Document_SITC of Indoor Switchgear Odisha DISCOMs	111KV 1250A ADAPTER PANEL o 11KV 2000A ADAPTER PANEL	1. Kindly confirm the exact purpose of the adapter panel and whether it is intended to be coupled with the existing panel. 2. If it is required to be coupled with the existing panel, we request a detailed cross-sectional drawing of the existing panel, including all relevant dimensions such as phase-to-phase and phase-to-earth clearances. This information is essential to assess the technical feasibility of the inter-panel coupling arrangement. 3. Kindly inform us whether the inter-panel coupling between the existing panels and the new panel will be carried out using busbars or cables.	1. If it is to be added with existing other make panels then only will consider adapter panel for the same. 2. Shall be informed during detailed engineering. 3. Shall be confirmed during detailed engineering.																																																																																																																							
3	Tender Document_SITC of Indoor Switchgear Odisha DISCOMs	q Busbar for Indoor VCB 1250A M 50 p Busbar for Indoor VCB 2000A M 50	The main busbar is part of bill of material of the main panel. Kindly clarify whether this requirement 50 Mtrs of loose busbar is as spare.	50Mtr Loose Busbar as per rated ampacity is required for coupling with existing panels																																																																																																																							
4	TPU-D-ENG-HV-20051(R01) 6.0 CURRENT TRANSFORMER	6.1.1 Ratio (TBD During Detailed Engineering) I/C (Incomer): 800-1200-1600/5-5A or 1-1-1A or 1-5-1A & 400-800/5-5A or 1-1A B/C (Bus Coupler): 800-1200-1600/5-5A or 1-1A & 400-800/5-5A or 1-1A O/G (Outgoing): 300-600/5-5A or 1-1A & 300-600/5-5A or 1-1A	Kindly confirm the following CT details for the I/C, B/C and O/G panels: 1. CT Primary Current: a. I/C: 800-1200-1600A & 400-800A b. B/C: 800-1200-1600A & 400-800A 2. CT Secondary Current: a. I/C: 5-5-5A / 1-1-1A / 1-5-1A & 5-5A / 1-1-1A b. B/C: 5-5A / 1-1A c. O/G: 5-5A / 1-1A	Shall be decided during detailed engineering																																																																																																																							
5	TPU-D-ENG-HV-20051(R01) 7.0 Bay Control & Protection Unit (BCPU)	7.1 CB control and function & Measurement of Three phases Currents & voltages, PF, Active, reactive (Import & export Lag & Lead) & Apparent energy and power, Frequency etc - As per Specification of Substation & protection Automation System	1. Kindly provide the detailed technical specification for the BCPU relay / Substation & Protection Automation System. 2. Alternatively, we request you to provide the feeder-wise requirements for the main numerical relay, covering the following: a. Protection functions b. Communication protocol c. Communication port d. No. of communication ports e. Location of communication ports – Front/Rear f. No. of DI & DO g. Any specific make/model of relay recommended by TP Odisha	For BCPU : 24BI and 14 BO and for PTR protection : 20BI and 10 BO to be considered. For SCADA Interface, Communication cable from MFMM and Relay to be wired upto Ethernet switch Cabinet. Preferred like REX615 /7SR5111 may be considered																																																																																																																							
6	TPU-D-ENG-HV-20051(R01) 7.0 Bay Control & Protection Unit (BCPU)	6.0 Numerical Communicable Relay with Over Current, Earth Fault, Sensitive Earth Fault, Breaker Failure, Negative Sequence Current and Overload. (For details Protection Philosophy Specification To be followed) Incomer (BCPU)- 2 nos. Capacitor – 2 nos. Bus coupler / Bus section (BCPU) 1 nos. Outgoing (BCPU)- 1 nos., rating to be specified Local Transformer (BCPU)-1 nos., rating to be specified																																																																																																																									
7	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 2) The High Voltage Switchboard shall be metal enclosed and shall comprise of standard prefabricated, Alu zinc sheet units assembled to form a rigid, freestanding, and dead front structure without any external bracing. As a minimum, 2mm Alu zinc shall be used for all front and rear doors and covers, and 2 mm Alu zinc steel for inter-panel partitions. Frame 3 mm, Removable Gland plate 3 mm, Frame 3 mm, Removable Gland plate 3 mm wherever required, stiffeners shall be provided to increase stiffness of large size doors and covers.	We will provide CRCA sheet instead of Alu-Zinc sheet, in line with our earlier supplies to TP Odisha. Kindly confirm your acceptance.	Noted																																																																																																																							
8	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 24) The overall dimension of each switchgear bay should not exceed 1.6 M X 0.8 M X 2.8 M (DXW X H) for incomer, Bus Riser, Bus Coupler, Bus PT, Adapter panels and 1.6 M X 0.65 M X 2.6 M (DXW X H) for outgoing panels. Dummy panel if required as per site conditions shall be included	Our proposed panel depth is more than 1.6 meters. Kindly confirm your acceptance.	Noted , shall be decided during detailed engineering																																																																																																																							
9	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 26) Isolating switch fuse units shall be provided at the panel for incoming AC and DC supplies.	We will provide MCBs for both AC and DC circuits in the panel. Please confirm acceptance.	Noted , Please refer attached annexure in Technical specification , Requirement of MCB																																																																																																																							
10	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 27) All the HV design shall ensure conformity to IEC-62271-200 and must be Type tested for Internal Arc Test. It shall withstand 31.5 kA for 1 sec.	We will provide Internal Arc Rating of 25 kA for 1 Sec. Kindly confirm your acceptance.	Noted																																																																																																																							
11	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 35) Capacitor bank switching device shall be provided with suitable gate interlock mechanism with cable key along with timer to ensure safety. Provision of 0-500 mA analog ammeter on Capacitor Bank along with Push Button shall be made for monitoring 'Unbalance Capacitor Current'.	As per the BoQ, the capacitor panel is not required, and therefore the capacitor bank switching device is not applicable. Kindly confirm.	Noted																																																																																																																							
12	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 36) Each switchgear panel shall have 20% spare terminals.	20% spare terminals shall be provided, subject to space availability in the LV compartment.	Noted																																																																																																																							
13	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 49) Hygrotherm with space heater to be provided in breaker, bus bar, LT chamber and cable compartment. Hygrotherm shall be communicable type with Temperature & humidity data on central server through RS485 port.	Please provide the detailed specification of the Hygrotherm.	Space heater along with thermostat to be considered for Breaker , Cable ,Busbar and Control cubicle chamber and dehumidifier with hygrothermostat to be considered for cable and busbar chamber .																																																																																																																							
14	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 58) The Bidder can also consider Centralized protection system with intelligent merging unit.	Requirement is unclear to us. Please provide more details for the same.	Merging unit is not require																																																																																																																							
15	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.1 : SWITCHGEAR 60) The bidder shall further refer protection & automation specifications of Purchaser for constructional and other requirements.	Please provide protection & automation specifications of TPCOODL / TPNODL / TPSODL / TPWOOL for constructional and other requirements. Same is required for relay selection	Attacehd specification																																																																																																																							
16	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.2 : Circuit Breaker: 5) Vacuum Interrupter, Breaker and Switchboard should be of same make. Made in India VI to be preferred.	Kindly confirm whether other makes of VIs are also acceptable such as ABB.	shall be of own make VI with Type tested design																																																																																																																							
17	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.2 : Circuit Breaker: 14) Line PT shall be mounted in a separate draw out carriage. In case of truck mounted breaker, line PT shall be provided in a separate panel/ compartment.	We will offer Voltage transformer [mounted on separate trolley] in the circuit breaker compartment. Kindly accept the same.	Line PT is required in incomer part only and requirement will informed during issuance of RO . BusPT /BUS Riser cum BUS PT is required																																																																																																																							
18	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.2 : Circuit Breaker: 16) Breaker, Busbar & cable compartments shall be with temperature sensor for monitoring the temperature and humidity sensors for monitoring humidity. These sensors should be integrated with RTUs/ SCADA using wireless communication.	We understand that this sensors are not required as part of supply. Kindly confirm your acceptance.	Noted , however Spaceheater , dehumidifier along with hygrothermostat to be considered for Indoor AIS Panel board .																																																																																																																							
19	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.3 : BUS BAR CONNECTORS: 7) All bus bar joints and all tap-off connections from the main horizontal bus bars shall be provided with removable FRP shrouds.	As per the product design, Polyolefin shrouds will be provided at the main busbar joints. These are more flexible and durable in nature. Kindly accept the same.	Noted																																																																																																																							
20	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.4 : CURRENT TRANSFORMERS: 11) The Current Transformers shall be of Epoxy Cast Resin, Window type construction and rated for 500 MVA (3 sec) with details as per General technical requirements of clause no 4.0.	We kindly request you to accept the Wound Type CT as well, as some CT manufacturers offer wound-type designed CTs for lower ratios.	Noted																																																																																																																							
21	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.6 : PROTECTION METERING & CONTROL: 9) The Multi-Function Meters shall be Communicable to RTU on RS485 MODBUS excluding bus coupler. This can be eliminated by taking analog data from BCPU. current can be viewed in the BCPU itself & huge cabling work can be avoided. Aux supply shall be 220 V DC.	Please provide detailed specifications for the Multi-Function Meter (MFM).	Will share TS																																																																																																																							

22	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.7 : PQM Meter (Optional Requirement –To be decided during Technical evaluation) PQM meters shall be provided by bidders in 11kV incomers. Separate droppable links shall be provided in Metering circuit and space on front door to be provided. Power Quality Meter make are A-Eberle, METRUM, UNPOWER, Elspec. Communication Port as per the BCPU's communication port. The PQM meter needs to be connected in switch network so that data can be transferred to the central system.	1. Please provide the detailed specifications for the PQM Meter. If unavailable, please provide the details listed below. a. Model No: b. Functions: c. Accuracy class: d. Comm. port and protocol: e. Inputs/Outputs: f. Power Supply: g. Mounting: h. Features: 2. Please accept Schneider-PM8000/Siemens-Q100 or equivalent make as well.	Not Required
23	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.18 : EARTHING: 3) Earthing trolley shall be provide separately to earth the bus bar and cables adequate interlocking facilities such that earthing trolley can't be 'ON' when bus bar l cable is energized and it should have only mechanical closing facility. The offered trolley shall be of sufficient capacity to carry the current. One bus bar earthing truck & one cable earthing truck shall be supplied per switchboard. In case the sizes are different for Incoming and outgoing, separate earthing trucks shall be provided. (Earthing truck not required for TPC Mumbai and TPDDL)	We will provide Non-Fault Making Type Earthing Trolleys without Audio/Visual Indication.	Shall be decided during detailed engineering
24	TPU-D-ENG-HV-20051(R01) 5. GENERAL CONSTRUCTIONS	5.19 Asset monitoring system (Optional Requirement) The Asset Monitoring System shall be as per the requirement of the tender. If this system is required a separate line item shall be added in the BoQ, else this system shall not be required. Asset Monitoring System is for Condition Based Predictive Maintenance for the Switchgear Panels. It should have interoperability with other make panels & relays, cyber security, user licenses etc. Sensor Based Remote Maintenance Care system shall have following sensors:	We understand that this Asset monitoring system is not required as part of supply. Kindly confirm your acceptance.	Asset monitoring system is not required
25	TPU-D-ENG-HV-20051(R01) 7. TESTS:	Type Tests 1. Test to verify the protection of person against dangerous electrical effects. 2. Electromagnetic compatibility Tests of Auxiliary and control circuits (Emission & Immunity test) 10. Test to prove the satisfactory operation of the included switching device and removable parts (Mechanical operation test)	Type test: 1. Not applicable 2. This applies to the relay part. We will provide the relay type test report at the time of execution. 10. This is part of routine testing. Hence no separate type test is available	Noted
26	TPU-D-ENG-HV-20051(R01) 8. TYPE TEST CERTIFICATES	The bidder shall furnish the type test certificates for the tests as mentioned above as per the corresponding standards.	We will provide Type Test Reports instead of Type Test Certificates.	Noted
27	General	Ethernet switches	Ethernet switches are not with our scope of supply. Kindly confirm.	Supply is not in the scope of Bidder , only communication cable upto ethernet switch cabinet is to be considered
28	General	Make list	Kindly share the approved make list.	Specific: on which equipment required

Sl. No.	Tender Reference (Document name/Page no./Clause no./Clause name)	Description as per Bid Document	Pre-Bid Query raised by Bidder	CEG Response																																																		
1	Tender Document_SITC of Indoor Switchgear_Odisha DISCOMs	<table><tr><th></th><th>TPCOOL</th><th>TPNKOL</th><th>TPKOOL</th><th>Spare Part Req</th></tr><tr><td>1. 33kV Indoor Breaker with Control panel & Relay for feeder protection</td><td>EA</td><td>11</td><td>1</td><td>10</td></tr><tr><td>2. Bus Riser on 33kV Voltage Bus PT Suitable for 120A</td><td>EA</td><td>3</td><td>2</td><td>1</td></tr><tr><td>3. Bus Coupler Breaker 120A with Control panel & Relay</td><td>EA</td><td>15</td><td>2</td><td>12</td></tr><tr><td>4. 33kV Outgoing Breaker Breaker with 120kVmp suitable for Feeder Protection</td><td>EA</td><td>9</td><td>4</td><td>12</td></tr><tr><td>5. 33kV Outgoing Breaker with 120kVmp suitable for Feeder Protection</td><td>EA</td><td>0</td><td>10</td><td>0</td></tr><tr><td>6. 33kV Voltage Bus PT Suitable for 120kVmp Bus bar</td><td>EA</td><td>5</td><td>3</td><td>5</td></tr><tr><td>7. 33kV 3 Phase 1250A Adapter Panel</td><td>EA</td><td>3</td><td>2</td><td>3</td></tr><tr><td>8. Feeder Bus is 33kV or Trolley for not having Feeder neutral</td><td>EA</td><td>1</td><td>2</td><td>0</td></tr><tr><td>9. Bus bar suitable for 120kVmp for interconnecting between Panels</td><td>W</td><td>30</td><td>2</td><td>30</td></tr></table>		TPCOOL	TPNKOL	TPKOOL	Spare Part Req	1. 33kV Indoor Breaker with Control panel & Relay for feeder protection	EA	11	1	10	2. Bus Riser on 33kV Voltage Bus PT Suitable for 120A	EA	3	2	1	3. Bus Coupler Breaker 120A with Control panel & Relay	EA	15	2	12	4. 33kV Outgoing Breaker Breaker with 120kVmp suitable for Feeder Protection	EA	9	4	12	5. 33kV Outgoing Breaker with 120kVmp suitable for Feeder Protection	EA	0	10	0	6. 33kV Voltage Bus PT Suitable for 120kVmp Bus bar	EA	5	3	5	7. 33kV 3 Phase 1250A Adapter Panel	EA	3	2	3	8. Feeder Bus is 33kV or Trolley for not having Feeder neutral	EA	1	2	0	9. Bus bar suitable for 120kVmp for interconnecting between Panels	W	30	2	30	1. Please provide discom wise panel board configuration for TPCOOL, TPNKOL and TPVKOOL. 2. The ratings and quantities for the cable earthing truck and bus earthing truck are not mentioned in the BOQ. Kindly confirm the required quantity and rating for both. 4. Grand total of all panel mentioned in TPCOOL, TPNKOL and TPVKOOL are mismatch. Kindly amend the same.	Panel will be different configurations and this will be as per DISCOM Requirement. For Grand Total - Will inform to Contract to correct the same. Refer Scope details in the Finalized tender
	TPCOOL	TPNKOL	TPKOOL	Spare Part Req																																																		
1. 33kV Indoor Breaker with Control panel & Relay for feeder protection	EA	11	1	10																																																		
2. Bus Riser on 33kV Voltage Bus PT Suitable for 120A	EA	3	2	1																																																		
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9. Bus bar suitable for 120kVmp for interconnecting between Panels	W	30	2	30																																																		
2	Tender Document_SITC of Indoor Switchgear_Odisha DISCOMs	g. 33kV 3 Phase 1250A Adapter Panel	1. Kindly confirm the exact purpose of the adapter panel and whether it is intended to be coupled with the existing panel. 2. If it is required to be coupled with the existing panel, we request a detailed cross-sectional drawing of the existing panel, including all relevant dimensions such as phase-to-phase and phase-to-earth clearances. This information is essential to assess the technical feasibility of the inter-panel coupling arrangement. 3. Kindly inform us whether the inter-panel coupling between the existing panels and the new panel will be carried out using busbars or cables.	1. If it is to be added with existing other make panels then only will consider adapter panel for the same. 2. Shall be informed during detailed engineering. 3. Shall be confirmed during detailed engineering.																																																		
3	Tender Document_SITC of Indoor Switchgear_Odisha DISCOMs	j. Bus-bar suitable for 1250Amp for interconnecting between Panels	The main busbar is part of bill of material of the main panel. Kindly clarify whether this requirement 50 Mtrs of loose busbar is as spare.	50Mtr Loose Busbar as per rated ampacity is required for coupling with existing panels																																																		
4	ENG-EHV-1011(R1) 1. SCOPE	Any material or accessories, which may not have been specifically mentioned in the specifications but which are usually necessary for satisfactory, safe, trouble free, operation shall be provided without any extra charges.	In order to avoid ambiguities during order execution, we kindly request you to define all of your items in bill of material of each type of panel at tender stage only.	Shall be decided during detailed engineering																																																		
5	ENG-EHV-1011(R1) 4. GENERAL TECHNICAL REQUIREMENTS	4.2 BUS BAR 4.2.6 Max. Permissible temp. rise at rated normal current : 115 Degree Celsius	We shall confirm the maximum permissible temperature rise as per the applicable IEC standard.	For BCUPT -24BI and 14 BO and for PTR protection : 20BI and 10 BO to be considered. For SCADA Interface, Communication cable from MF and Relay to be wired upto Ethernet switch Cabinet. Preferred like REX615 /7SR5111 may be considered																																																		
6	ENG-EHV-1011(R1) 4. GENERAL TECHNICAL REQUIREMENTS	4.3 Circuit Breaker 4.3.10 Max. Power consumption of Trip Act coils - 200 W	The trip coils are rated for 450W as per the product design. Kindly accept the same.	No, Shall be as per TS																																																		
7	ENG-EHV-1011(R1) 4. GENERAL TECHNICAL REQUIREMENTS	<table><tr><th>4.6 CURRENT TRANSFORMER</th><th>Notes: CT Ratio subject to change during detailed Engineering</th></tr><tr><td>4.6.1 Location</td><td>LINC, BIC and Transformer</td></tr><tr><td>4.6.2 Ratio</td><td>200,400,800/5 & 5 A or 100-200,400/5 & 5 A (TRD during detailed Engineering). Secondary Current Shall be 1A to be decided during detailed engineering.</td></tr><tr><td>4.6.3 Burden & Class (Measuring and Protection)</td><td>PS Class CT shall be a separate one from Metering as well as SP20 protection class CT.</td></tr><tr><td>4.6.4 Core-I</td><td>0.25, 10VA, 10/15</td></tr><tr><td>4.6.5 Core-II</td><td>SP20, 100VA for 1 A, 0.5 A C.T., VA to be changed accordingly</td></tr><tr><td>4.6.6 Core-III</td><td>PS, Wp-250 at Centre Tap V; Im=100mA at Vp/2; Rd=6 ohm</td></tr></table>	4.6 CURRENT TRANSFORMER	Notes: CT Ratio subject to change during detailed Engineering	4.6.1 Location	LINC, BIC and Transformer	4.6.2 Ratio	200,400,800/5 & 5 A or 100-200,400/5 & 5 A (TRD during detailed Engineering). Secondary Current Shall be 1A to be decided during detailed engineering.	4.6.3 Burden & Class (Measuring and Protection)	PS Class CT shall be a separate one from Metering as well as SP20 protection class CT.	4.6.4 Core-I	0.25, 10VA, 10/15	4.6.5 Core-II	SP20, 100VA for 1 A, 0.5 A C.T., VA to be changed accordingly	4.6.6 Core-III	PS, Wp-250 at Centre Tap V; Im=100mA at Vp/2; Rd=6 ohm	1. Please confirm the final CT ratios for Line, Bus Coupler, and Transformer feeders. 2. We understand that the third core is required only for the Transformer feeder. Kindly confirm. 3. Please confirm whether the PS core should be considered in a single set (i.e., a combined core for Metering, Protection, and PS), or if separate sets of CTs are to be provided — one for Metering and Protection, and another for PS class. 4. Kindly confirm the secondary current rating of all CTs, whether it shall be 5A or 1A.	Noted																																				
4.6 CURRENT TRANSFORMER	Notes: CT Ratio subject to change during detailed Engineering																																																					
4.6.1 Location	LINC, BIC and Transformer																																																					
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8	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.1 The panels shall be of Metal Clad compartmentalized design with all the High Voltage compartments viz. Circuit Breaker, Bus Bar, Current Transformers and Voltage transformers separated by metallic partitions.	If the line PT is required in the panel then same can be provided in the breaker compartment. There is no separate PT compartment in our panel design.	Noted, shall be decided during detailed engineering																																																		
9	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.1 Panels shall have structural steel frame-work enclosed on all sides and top by CRCA /Aluzinc sheet steel of minimum thickness as specified below: - Frame : 3 mm (Design shall be shared by OEM for Base frame fabrication work at site) - Doors & Covers : 2 mm - Removable glass plate : 3mm.	We will provide CRCA sheet instead of Alu-Zinc sheet, in line with our earlier supplies to TP Odisha. Kindly confirm your acceptance.	Noted, Please refer attached assurance in Technical specification, Requirement of MCB																																																		
10	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.3 Panels shall be mounted and bolted to a common base channel. The channel in turn shall be fixed to the foundation bolts at site. All foundation equipment, anchor bolts etc. including the supporting channel shall be furnished by successful bidder in advance for completion of Civil Works prior to dispatch of panels.	1. As per our VCB panel design, a base frame is not required. Please Confirm your acceptance. 2. Power cable glands shall be excluded from scope of supply. Kindly confirm	Noted																																																		
11	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.4 Isolating switch fuse units shall be provided at the panel for incoming AC and DC supplies.	We will provide MCBs for both AC and DC circuits in the panel. Please confirm acceptance.	Noted																																																		
12	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.23 Capacitor bank switching device shall be provided with suitable gate interlock mechanism with cascade key along with timer to ensure safety.	As per the BOQ, the capacitor panel is not required, and therefore the capacitor bank switching device is not applicable. Kindly confirm.	Noted																																																		
13	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.24 Each switchgear panel shall have 20% spare terminals.	20% spare terminals shall be provided, subject to space availability in the LV compartment.	Space heater along with thermostats to be considered for Breaker, Cable Bushbar and Control-cable chamber and dehumidifier with hygrothermostat to be considered for cable and busbar chamber																																																		
14	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.25 The bidder shall further refer to ENG Automation specifications & protection specifications for constructional and other requirements.	Kindly provide the ENG Automation specifications and Protection specifications, as the same are not available in the tender document.	Merging unit is not required Attached specification																																																		
15	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.1.29 Multi-function meter to be considered of suitable class in section excluding bus coupler.	Please provide detailed specifications for the Multi-Function Meter (MFM).	shall be of own make VI with type tested design																																																		
16	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.2 Circuit Breaker 5.2.2 Vacuum Interrupter, Breaker and Switchboard should be of same make.	Kindly confirm whether other makes of VIs are also acceptable such as ABB.																																																			
17	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.3 BUS BARS AND CONNECTORS 5.3.4 All bus bar joints and all tap-off connections from the main horizontal bus bars shall be provided with removable FRP shrouds.	As per the product design, Polyolefin shrouds will be provided at the main busbar joints. There are more flexible and durable in nature. Kindly accept the same.	Line PT is required in incoming part only and requirement will be informed during issuance of RD. BusPT /BIS Riser comm BUS PT is required																																																		
18	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.4 Current Transformer The Current Transformers shall be of Epoxy Cast-Resin Type with Window type construction and rated for 1600 MVA and be of the single-phase type, with separate core for metering, protection and differential.	We kindly request you to accept the Wound Type CT as well, as some CT manufacturers offer wound-type designed CTs for lower ratings.	Noted, however Spacohaster, dehumidifier along with hygrothermostat to be considered for Indoor AIS Panel board.																																																		
19	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.5 Voltage Transformers Line PT: For Line PT Rear Side Access and BPT will be Front side access.	If Line PT is required shall be provided with front-side access. Kindly confirm acceptance.	Noted																																																		
20	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.6 Relays (a) Relay shall support purchaser's protection philosophy. However, the substation operation shall comply with the integrated automation requirements with the MASTER SCADA. (b) BCUPT Relay should have at least 24BI and 14BO and Transformer protection relay have 20BI and 10 BO at least. The bidder shall further refer to Protection specification and Automation specifications.	Please provide Purchaser's protection philosophy as per protection & automation specifications for: 1. Specific Make and Model of relays 2. Communication Protocol 3. Communication Port and its number (e.g. single or dual) 4. Protection functions required in each relay	Noted																																																		
21	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.18 Earthing (a) Earthing trolley shall be provided separately to earth the bus bar and cables adequate interlocking facilities such that earthing trolley can't be ON when bus bar/cable is energized and it should have only mechanical locking facility. The offered trolley shall be of sufficient capacity to carry the peak fault current. One bus bar earthing truck and one cable earthing truck shall be supplied per switchboard. In case the sizes are different for incoming and outgoing separate earthing trucks shall be provided.	We will provide Non-Fault Making Type Earthing Trolleys without Audio/Visual Indication.	Will share TS																																																		
22	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.18 SYSTEM ARCHITECTURE AND COMMUNICATION 5.19 DATA CONCENTRATOR (Optional Requirement) 5.20 CONTROL, METERING AND PROTECTION 5.21 TRANSFORMER MONITORING UNIT (Optional requirement) 5.22 REMOTE MONITORING AND MAINTENANCE STATION (Optional Requirement) 5.23 CONTROL PHILOSOPHY 5.24 OPERATIONAL PHILOSOPHY 5.25 PROTECTION PHILOSOPHY	We also understand that clauses 5.18, 5.19, 5.20, 5.21, 5.22, 5.23, 5.24 and 5.25 are not applicable to Steineac and also not part of the scope of work.	Not Required																																																		
23	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.26 PQM Meter (Optional Requirement) PQM meters shall be provided by bidder in Transformer outgoing panel. Separate disposable links shall be provided in Metering circuit and space on front door to be provided. Power Quality Meter make are A-Electric, METRUM, UNIPOWER, Elapac. Communication Port as per the BCUPT's communication port. The PQM meter needs to be connected in switch network so that data can be transferred to the central system	1. Please provide the detailed specifications for the PQM Meter. If unavailable, please provide the details listed below: a. Model No. b. Functions: c. Accuracy class: d. Comm port and protocol: e. Input/Output: f. Power Supply: g. Mounting: h. Features. 2. Please accept Schneider-PM8000/Siemens-Q100 or equivalent make as well.	Shall be decided during detailed engineering																																																		
24	ENG-EHV-1011(R1) 5. GENERAL CONSTRUCTIONS	5.27 Asset monitoring system: (Optional Requirement) The Asset Monitoring System shall be as per the requirement of the tender. If this system is required a separate item shall be added in the BOQ, else this system shall not be required. Asset Monitoring System is for Condition Based Predictive Maintenance for the Switchgear Panels. It should have interoperability with other make panels & relays, cyber security, user licenses etc. Sensor Based Remote Maintenance Care system shall have following sensors: 1. Temperature 2. Humidity 3. Vibration 4. Gas (SF6) 5. Oil Level 6. Oil Temperature 7. Oil Pressure 8. Oil Quality 9. Oil Color 10. Oil Viscosity 11. Oil Dielectric Strength 12. Oil Acidity 13. Oil Water Content 14. Oil Oxidation 15. Oil Sulfur Content 16. Oil Nitrogen Content 17. Oil Phosphorus Content 18. Oil Chlorine Content 19. Oil Fluorine Content 20. Oil Iodine Content 21. Oil Bromine Content 22. Oil Antimony Content 23. Oil Arsenic Content 24. Oil Bismuth Content 25. Oil Cadmium Content 26. Oil Cobalt Content 27. Oil Copper Content 28. Oil Chromium Content 29. Oil Gallium Content 30. Oil Germanium Content 31. Oil Gold Content 32. Iron Content 33. Oil Lead Content 34. Oil Lithium Content 35. Oil Magnesium Content 36. Oil Manganese Content 37. Oil Mercury Content 38. Oil Nickel Content 39. Oil Niobium Content 40. Oil Potassium Content 41. Oil Rhenium Content 42. Oil Rubidium Content 43. Oil Selenium Content 44. Oil Silver Content 45. Oil Strontium Content 46. Oil Tellurium Content 47. Oil Thallium Content 48. Oil Tin Content 49. Oil Vanadium Content 50. Oil Zinc Content 51. Oil Zirconium Content	We understand that this Asset monitoring system is not required as part of supply. Kindly confirm your acceptance.	Asset monitoring system is not required																																																		
25	ENG-EHV-1011(R1) 7. TESTS	Type Tests 5. Tests to prove the satisfactory operation of the included switching devices and removable parts (Mechanical Operation tests) 6. Tests to verify the protection of persons against approach to live parts and contact with moving parts 7. Tests to verify the protection of persons against dangerous electrical effects. 8. Electromagnetic Compatibility: Emission and Immunity tests (for secondary system) Special Type Test 1) Tests to verify protection of the equipment against external effects due to weather. 2) Tests to verify the protection of the equipment against mechanical damage 3) Tests to detect certain defects in the solid insulation of the equipment by the measurement of partial discharges. However, in case any type test is not carried out at in-house laboratories, the same shall be decided for acceptance as per the mutual agreement between the Purchaser and Bidder.	Type test: 5 This is part of routine testing. Hence not separate type test is available 6. Not applicable 7. Not applicable 8. This applies to the relay part. We will provide the relay type test report at the time of execution. Special Type Test 1. If test report can be submitted. 2. Not applicable. 4. We will provide CTs, PTs & insulator type test report at the time of execution.	Shall be decided during technical evaluation																																																		
26	ENG-EHV-1011(R1) 17. SPARES, ACCESSORIES AND TOOLS	17.1 Spares: Bidder should quote unit rates for following mandatory spares along with the bid. However, the exact quantity of these shall be as per the BOQ attached with the tender. a) Trip Coil b) Closing Coil c) Spring charging motor d) T.N.C Switch e) Local remote selector switch f) Trip/Finger contact g) Indication lamps h) Auxiliary switches i) LED for cable charge indication j) Relay (Feeder Protection) k) Relay (Transformer protection)	Please inform whether the spares list as provided in clause no. 17.1 is for the entire lot qty of tender.	refer attached TS (11V), same qty will be in 33kV indoor also																																																		
27	General	TVM Smart Energy meter	Kindly confirm whether an energy meter is required for the 33kV panel. If yes, please clarify whether the energy meter is under our scope of supply or if we are only required to provide space provision.	TVM will be in the scope of Client, only connection upto TTB shall be provided. MFM with modulus connectivity to be considered																																																		
28	General	Ethernet switch	In case only space provision is required, wiring up to the TTB will be provided by us. Kindly share the cut-out dimensions required for mounting the TVM.	Supply is not in the scope of Bidder, only communication cable upto ethernet switch cabinet is to be considered																																																		
29	General	Make list	Kindly share the approved make list.	Specific on which equipment required																																																		

Sl. No.	Tender Reference (Document name/Page no./Clause no./Clause name)	Description as per Bid Document	Pre-Bid Query raised by Bidder	CEG Response
1	Detailed Scope of work for ITC Sr no-14	Shifting of new panel / material from store to work location by Hydra shall be in Scope of Supplier	Clarification Required – Unloading & Shifting of Panels As per Sl. No. 6, unloading of panels at site is mentioned under the Supplier's scope. However, there is some confusion regarding the exact location where unloading is to be carried out. Kindly clarify whether the Supplier's scope for unloading/shifting includes: 1) Shifting of panels from the storage location outside the substation/site premises to the Switchboard Room (actual work location) 2) Shifting of panels from the Main Store to the Site/Work Location using Hydra/Truck. Since shifting of panels from the storage area to the Switchboard Room may require a Hydra crane and truck, kindly confirm the exact scope and responsibility for the same to avoid any ambiguity during execution.	6.Shall be confirmed prior to dispatch
2	Detailed Scope of work for ITC Sr no-40	Necessary Documents for Inspector Approval	Clarification Required – Documents for Inspector Approval. Kindly clarify the list of documents required to be submitted for Inspector Approval.	Drawing , FAT Reports , SAT Reports
3	Detailed Scope of work for ITC Sr no-44	Insurance of material at site	Clarification Required – Warranty Liability & Insurance of Materials at Site We shall provide defect liability for the equipment/components of the panels strictly as per the applicable warranty terms and conditions. However, we shall not be responsible for any theft, pilferage, or loss of materials at site	Shall be as per Tender requirement , Shall be confirmed by Contract
4	Detailed Scope of work for ITC Sr no-54	SCADA hook up & integration.	We shall provide the Relay ICD files required for SCADA integration with the existing SCADA network and RTU. However, the detailed scope of SCADA integration work is not clear. Kindly clarify the exact activities to be carried out under the Supplier's scope.	Shall be decided during technical evaluation time
5	Detailed Scope of work for ITC Sr no-25	AC and DC auxiliary cable & connection material supply	Clarification Required – Control Cable & Cable Tray Scope 1) Please clarify the scope of control cable supply, cable laying, cable tray laying, and termination/connection work, particularly for connections with the existing ACDB/DCDB. 2) Whether cable tray/trunking, supports and associated accessories required for laying the cables are to be supplied and installed by the Supplier. 3) Whether cable laying and dressing from the new panels to the existing ACDB/DCDB is included in our scope.	1)AC/DC Cable from DCDB or ACDB to Panel supply will not be in Bidder's Scope. 2) Cable trays/trunking are not in the scope of Bidder.

Sl. No.	Tender Reference (Document name/Page no./Clause no./Clause name)	Pre-Bid Query raised by Bidder	CEG Response
1	Scope: Point No: 9, Identification and marking of control and HT cable of exiting HT panel	1. What is that we have to do with existing panel. 2. We understand that scope includes SITC of 11/33 HT breakers at new substations not for replacement. Kindly confirm. 3. Please confirm whether the termination of HT breakers is in the scope of bidder or TPCDDL.	Scope :SITC of Indoor AIS panel board .HT cable termination is not in the scope of Bidder. Base frame drawing shall be provided by OEM prior to start of constructional activities
2	Scope: Point No: 10, Dis connection / dismantling of exiting connection of control and cable connection	1. The scope is not clear. 2. Kindly confirm whether the HT breakers has to be replaced with existing panels.	Refer Scope details
3	Scope: Point No: 11, Dismantling of exiting panel	Whether the new panel has to be installed at existing panel (To be dismantled) locations. If yes kindly provide the layout drawing of the locations.	Refer Scope details
4	Scope: Point No: 23, Connection of Control cable for Transformer and Motor	Our scope is limited to SITC of HT breakers only. However, connection of HT/Control cable for Transformer and Motor is not in our scope. Please confirm.	Refer Scope details
5	Scope: Point No: 24, AC and DC auxiliary cable connection at panel side	Please ensure the availability of AC and DC auxiliary power supply for VCB panels.	Noted , AC /DC supply will not be in Bidder's scope
6	Scope: Point No: 27, Earthing Connection (External)	Please confirm whether the earthing facility for HT breakers is available at the substations. We will provide only the earthing connections of HT breakers.	Noted
7	Scope: Point No: 54, SCADA hook up and integration	The SCADA hook up and integration with the HT breakers should be in the scope of SCADA supplier. However, we will extend our support for integration with SCADA.	Noted
8	Open Tender Notification: CL.No: 1.1 (Scope of work) in table Point No: "g" - 11kV 1250A Indoor 1250A VCB.	Kindly confirm whether the requirement is only for VCB breaker or VCB panel. If it is for VCB panel please mention whether it is for Incoming or Outgoing or Buscoupler.	Refer Scope details
9	Open Tender Notification: CL.No: 1.1 (Scope of work) in table Point No: "i" - 11kV 2000A O/G 630A VCB W CP & RELAY FDR PROT	1. Kindly confirm the Outgoing VCB current rating 2000A or 630A. 2. Also, please confirm "VCB W CP & Relay FDR PROT" which means it required separate Control panel & relay.	Incomer 2000A , 1250A and O/G 630A Or 800A
10	Open Tender Notification: CL.No: 3.1 (Price basis) Price shall be Variable during the contractual period. & CL.No: ANNEXURE IV : Schedule of Commercial Specifications, Point-1 Firm or Variable both has specified.	Kindly confirm price basis is Firm or Variable.	
for 11kV Switchboard			
11	Annexure I / Page 1 1. Line Item: I. Incomer with Line PT (2000A/1250A) (DISCOM Specific Requirement) II. Incomer without Line PT (2000A/1250A) (DISCOM Specific Requirement) III. Bus-coupler (2000/1250A) IV. Bus PT V. Bus Riser cum Bus PT VI. Outgoing VII. Adopter	Annexure I / Page 1 1. Line Item: As per BOQ we have considered only 1250A/1600A VCB for Incomer,Outgoing, Bus Coupler. We have considered only Bus Earth Truck & Cable Earth Truck.	As per the Busbar rating , Panel Incomer , buscoupler to be considered i.e. for 2000A , both will be 2000A and for 1250A , both will 1250A . All the dropper and riser and cable connectivity part to be considered as per Panel incomer/Bus coupler rating.
12	Annexure I / Page 3 20. Interlocking: CB closing Interlock: a) In Soft logic and hardwiring for closing I/L (i) Isolator close (ii) Earth switch open (iii) EM push button not operated (iv) Rear door close TC1 & TC2 healthy (In Series) (v) Master trip not operated (vi) Spring charging CB in Service Breaker off position (vii) 2 nos. of Future I/L Upstream breaker ON (for 11kV INCOMER) (viii) Synch Check BO if Synch check is enabled with Line PT and Bus PT input : For Incomer and Bus Coupler BET not inserted (for Adjacent Incomer and Bus coupler) BRPT rear DOOR not open (For Incomer 2 and Bus coupler) Isolator ON & Earth switch OFF.	Annexure I / Page 3 20. Interlocking: CB closing Interlock: a) We supply VCB panels with suitable supporting mechanism & we have not considered isolator / Earth switch in our scope of supply. However, we will provide separate Earthing truck/trolley in Cable side separately. 1 No. Kindly mention the Location of Isolator & we require the OPEN/CLOSE status of the ISOLATOR to make Hardware & Soft logic Purpose.	Supply of isolator and E/S will not be in the scope of Bidder but the hardware and soft interlocks shall be considered for remote operation of Isolator and E/S and necessary BU/BO to be assigned in relay side and all the status and commands to be executed through CMR/IPR/Potential Free contacts Only
13	Annexure I / Page 10 3.0 CIRCUIT BREAKER FOR IC/BC/OG (INCOMER, BUS COUPLER AND OUTGOING FEEDER) 3.9 Rated Normal Current - 1250 A, 1600 A, 2000 A (Incomers, Bus coupler), 630 A, 800 A (outgoing) 3.12 Max. Power consumption of Trip & close coils - 100W	Annexure I / Page 10 3.0 CIRCUIT BREAKER FOR IC/BC/OG (INCOMER, BUS COUPLER AND OUTGOING FEEDER) 3.9 As per BOQ we have considered only 1250A/1600A VCB for Incomer,Outgoing, Bus Coupler. 3.12 Max. Power consumption of Trip & close coils - 300W	As per the Busbar rating , Panel Incomer , buscoupler to be considered i.e. for 2000A , both will be 2000A and for 1250A , both will 1250A . All the dropper and riser and cable connectivity part to be considered as per Panel incomer/Bus coupler rating. *** Max Power consumption of Tripping and closing coil : Shall be decided during technical evaluation round , as the 300W will be in higher side means it will 12A approx for 24V DC Control supply <i>Refer to the SCADA Panel Call record, Appendix, version 6.04, pg.3</i>
14	Contents / Page 11 5.0 Voltage Transformer for Bus PT & Line PT VT ratio should be Single Phase - 3 Nos	Contents / Page 11 5.0 Voltage Transformer for Bus PT & Line PT VT ratio should be Three Phase - 1 No	As per TS , 1 Phase 3 No is required
15	CL.No: 4 (General Technical Requirements, Point 1.11 IAC-A FLR as per IEC 62271-200 Shall withstand 25kA for 1 Sec. Contents / Page 17 27) All the HV design shall ensure conformity to IEC-62271-200 and must be Type tested for Internal Arc Test. It shall withstand 31.5 kA for 1 sec.	As per our type test we have considered the Internal Arc Test for 25 kA for 1 sec. Kindly confirm.	Noted
16	Contents / Page 20 5.1 : SWITCHGEAR 49) Hygrotherm with space heater to be provided in breaker, bus bar, LT chamber and cable compartment. Hygrotherm shall be communicable type with Temperature & humidity data on central server through RS485 port	Contents / Page 20 5.1 : SWITCHGEAR We have not considered Space heater of (Communicable Type / SCADA Compatible).	Space heater with thermostat and Dehumidifier along with hygrothermostat to be considered . 01- Dehumidifier along with Hygrothermostat will be considered for cable and busbar chamber and space heater along with thermostate will be considered for Cable , Bkr, Busbar and Control cubicle chamber

17	Contents / Page 27 5.6 : PROTECTION METERING & CONTROL: 18) The Metering architecture shall be as per the Tata Power-DDL metering philosophy. All required accessories, like communication cables (Cat-6 or FO), Splitters, Moxa converters shall be provided by Bidder for successful communication of meter to the existing system. Metering Software (If required) to be provided by the bidder. For Meters ENG-EHV-1025 Specification (latest revision) shall be followed.	Contents / Page 27 5.6 : PROTECTION METERING & CONTROL: Kindly share the Automation specifications.	BCPU Relay : 24BI and 14BO and for PTR relay : 20BI And 10BO to be considered. MFM with Modbus to be considered . ** For RTU Connectivity : All communication cables from MFM and relay to be laid and wired upto Ethernet switch cabinet and for all other details shall be decided during detailed engineering														
18	Contents / Page 27 5.7 : PQM Meter (Optional Requirement) PQM meters shall be provided by bidders in 11kV incomers. Separate droppable links shall be provided in Metering circuit and space on front door to be provided. Power Quality Meter make are A-Eberle, METRUM, UNIPOWER, Elspec. Communication Port as per the BCPU's communication port. The PQM meter needs to be connected in switch network so that data can be transferred to the central system.	Contents / Page 27 5.7 : PQM Meter (Optional Requirement) We have not considered PQM.	Not Required														
19	Contents / Page 35 5.19 : Asset Monitoring System (Optional Requirement) The Asset Monitoring System shall be as per the requirement of the tender. If this system is required a separate line item shall be added in the BoQ, else this system shall not be required. Asset Monitoring System is for Condition Based Predictive Maintenance for the Switchgear Panels. It should have interoperability with other make panels & relays, cyber security, user licenses etc. Sensor Based Remote Maintenance Care system shall have following sensors: <table><thead><tr><th>Sensor Type</th><th>Sensor Location</th></tr></thead><tbody><tr><td>Temperature Sensor</td><td>Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment</td></tr><tr><td>Partial Discharge Sensor</td><td>Cable Compartment</td></tr><tr><td>Humidity Sensor</td><td>Cable Compartment</td></tr><tr><td>Arc Sensor</td><td>Arc Chamber</td></tr><tr><td>Room Temperature and Humidity Sensor</td><td>Outside the Panel Board inside the Switchgear room</td></tr><tr><td>Pollution or Dust Sensor</td><td>Outside the Panel Board inside the Switchgear room</td></tr></tbody></table>	Sensor Type	Sensor Location	Temperature Sensor	Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment	Partial Discharge Sensor	Cable Compartment	Humidity Sensor	Cable Compartment	Arc Sensor	Arc Chamber	Room Temperature and Humidity Sensor	Outside the Panel Board inside the Switchgear room	Pollution or Dust Sensor	Outside the Panel Board inside the Switchgear room	Contents / Page 35 5.19 Asset Monitoring System (Optional Requirement) Not Considered in our scope. Sensor Based Remote Maintenance Care system shall have following sensors: We have not considered any sensor for Remote Maintenance Care system.	Only Space heater , dehumidifier along with hygrothermostat to be considered in the panel board, No other asset monitoring system is required
Sensor Type	Sensor Location																
Temperature Sensor	Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment																
Partial Discharge Sensor	Cable Compartment																
Humidity Sensor	Cable Compartment																
Arc Sensor	Arc Chamber																
Room Temperature and Humidity Sensor	Outside the Panel Board inside the Switchgear room																
Pollution or Dust Sensor	Outside the Panel Board inside the Switchgear room																
20	Contents / Page 36 5. Approved Sub-vendor for bought out items: -	Contents / Page 36 5. Approved Sub-vendor for bought out items: - We have considered Megawin Make Epoxy Resin Cast CT & PT	Noted , But Type Test Report along with performance report to be submitted for vendor inclusion.														
21	Contents / Page 39 7. Tests A) For Breaker panels Point 2: Electromagnetic compatibility Tests of Auxiliary and control circuits (Emission & Immunity test)	The Electromagnetic compatibility Tests of Auxiliary and control circuits (Emission & Immunity test) test is not applicable for AIS switchgear. Hence, we have not considered the same. Kindly confirm.	Shall be decided during tender evaluation														
22	Contents / Page 42 14. TRAINING The vendor shall include in his offer Training for Tata Power engineers. The training shall cover development, integration, installation and commissioning of both software & hardware components of the system. The training of 2 days shall be given at site by OEM at DISCOM level. The vendor shall provide hands-on training on the system. All required training materials such as system catalogues, test instruments, demo equipment, and simulation jigs, etc. shall be provided by the vendor. The training shall equip the Purchaser's engineers for installation, commissioning, operation and post-warranty maintenance of hardware, software (Operating System, Administration and Applications), protocols and all third-party systems.	Contents / Page 42 14. TRAINING Training shall be provided in our Factory premises based on the requirement.(Accommodation / Travel of Engineer is not in our Scope).	2 days at DISCOM level , Training session to be arranged														
23	Contents / Page 42 18.1 SPARES For other requirements of Training, Support, Services, Maintenance and Spares, bidder shall refer protection & automation specifications of Purchaser for new grids based on IEC-61850 protocol	Contents / Page 42 18.1 SPARES Networking & automation is not in our scope.	But for Support for SCADA Integration is required														

for 33kV Switchboard																	
24	Annexure I / Page 1 1. Line Item: I. Incomer with Line PT (2000A/1250A) (DISCOM Specific Requirement) II. Incomer without Line PT (2000A/1250A) (DISCOM Specific Requirement) III. Bus-coupler (2000/1250A) IV. Bus PT V. Bus Riser cum Bus PT VI. Outgoing VII. Adopter	Annexure I / Page 1 1. Line item: As per BOQ we have considered only 1250A VCB for Incomer,Outgoing,Bus Coupler. We have considered only Bus Earth Truck & Cable Earth Truck.	Noted														
25	Annexure I / Page 1 7. Conditional Monitoring: Space heater along with dehumidifier and hygro-thermostat (communicable type/SCADA compatible) to be considered for Cable chamber and suitable ratings of space heater with thermostat to be considered for all other busbar, breaker and control cubicle chamber.	Annexure I / Page 1 7. Conditional Monitoring: We have not considered Space heater of (Communicable Type / SCADA Compatible).	Space heater with thermostat and Dehumidifier along with hygrothermostat to be considered . 01- Dehumidifier along with Hygrothermostat will be considered for cable and busbar chamber and space heater along with thermostat will be considered for Cable														
26	Annexure I / Page 2 14. Auto Reclose selector switch shall be incorporated for 11kV outgoing feeders to enable proper selection, control and isolation of the auto reclosing function. BO used with HMI/Remote closing shall be same for Reclosing. AR function enable /disable shall be integrated from Remote.	Annexure I / Page 2 14. In 33kV Panel, closing of 11kV Outgoing Feeder using Auto Reclose selector switch is not applicable.	Auto reclosing feature is required for both 11kV AND 33kV side														
27	Annexure I / Page 3 20. Interlocking: CB closing Interlock: a) In Soft logic and hardwiring for closing I/L (i) Isolator close (ii) Earth switch open (iii) EM push button not operated (iv) Rear door close TC1 & TC2 healthy (In Series) (v) Master trip not operated (vi) Spring charging CB in Service Breaker off position (vii) 2 nos. of Future I/L Upstream breaker ON (for 11kV INCOMER) (viii) Synch Check BO if Synch check is enabled with Line PT and Bus PT input : For Incomer and Bus Coupler BET not inserted (for Adjacent Incomer and Bus coupler) BRPT rear DOOR not open (For Incomer 2 and Bus coupler) Isolator ON & Earth switch OFF.	Annexure I / Page 3 20. Interlocking: CB closing Interlock: a) We supply VCB panels with suitable supporting mechanism & we have not considered Isolator / Earth switch in our scope of supply. Kindly mention the Location of Isolator & we require the OPEN/CLOSE status of the ISOLATOR to make Hardware & Soft logic Purpose.	Supply of isolator and E/S will not be in the scope of Bidder but the hardware and soft interlocks shall be considered for remote operation of Isolator and E/S. and necessary Bi/BO to be assigned in relay side and all the status and commands to be executed through CMR/IPR/Potential Free contacts Only														
28	Annexure I / Page 3 21. Interlocking with Isolator: The permissive conditions shall include the following: Circuit Breaker (CB) shall be in OPEN condition, Earth switch shall be in OPEN condition. Local/Remote (LR) switch position as per outdoor reference Isolator status confirmation through software (soft logic feedback). The isolator operation shall be enabled only when all the above permissive conditions are satisfied to ensure safe and reliable switching operations.	Annexure I / Page 3 21. Interlocking with Isolator: We are in need Local / Remote (LR) switch operation philosophy required for framing Isolator Closing Permissive logic.	Kindly consider one more L/R Selection switch for remote operation of isolator in all outgoing feeders and CMR/IPR with potential free contacts to be considered for status and command execution of isolator and E/S														
29	Annexure I / Page 5 21. Interlocking with Isolator: Other General points An IR inspection window shall be provided for the power cable compartment	Annexure I / Page 5 21. Interlocking with Isolator: Other General points We have not considered IR inspection window for Cable Compartment.	Shall be decided during tender evaluation														
30	Contents / Page 21 5.5 Voltage Transformer Line PT: For Line PT Rear Side Access and BPT will be Front side access	Contents / Page 21 5.5 Voltage Transformer Line PT: For Line PT we can provide Front Access only.	Noted														
31	Contents / Page 28 5.18 SYSTEM ARCHITECTURE AND COMMUNICATION The bidder shall refer to Automation specifications for System architecture and communication requirements.	Contents / Page 28 5.18 SYSTEM ARCHITECTURE AND COMMUNICATION Automation specifications for System architecture and communication is not in our scope.	Scope is cleared in TS , for automation part , SCADA Intergration support is required.														
32	Contents / Page 28 5.19 DATA CONCENTRATOR (Optional Requirement) The bidder shall refer Automation specifications for Data concentrator requirements Armored CAT-6 cable around 60 meters to be provided along with Managed Ethernet Switch (16 Ports).	Contents / Page 28 5.19 DATA CONCENTRATOR (Optional Requirement) Kindly share the Automation specifications.	Not Required														
33	Contents / Page 28 5.21 TRANSFORMER MONITORING UNIT (Optional requirement) Please Refer Automation specifications 5.22 REMOTE MONITORING AND MAINTENANCE STATION (Optional Requirement) Please Refer Automation specifications	Contents / Page 28 5.21 TRANSFORMER MONITORING UNIT (Optional requirement) 5.22 REMOTE MONITORING AND MAINTENANCE STATION (Optional Requirement) Kindly share the Automation specifications.	TMU is not in the scope of Bidder , however 60No TBs required for TMU termination shall be considered														
34	Contents / Page 29 5.26 PQM Meter (Optional Requirement) PQM meters shall be provided by bidders in Transformer outgoing panel. Separate droppable links shall be provided in Metering circuit and space on front door to be provided. Power Quality Meter make are A-Eberle, METRUM, UNIPOWER, Elspec. Communication Port as per the BCPU's communication port. The PQM meter needs to be connected in switch network so that data can be transferred to the central system	Contents / Page 29 5.26 PQM Meter (Optional Requirement) We have not considered PQM.	Not Required														
35	Contents / Page 29 Sensor Based Remote Maintenance Care system shall have following sensors: <table><thead><tr><th>Sensor Type</th><th>Sensor Location</th></tr></thead><tbody><tr><td>Temperature Sensor</td><td>Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment</td></tr><tr><td>Partial Discharge Sensor</td><td>Cable Compartment</td></tr><tr><td>Humidity Sensor</td><td>Cable Compartment</td></tr><tr><td>Arc Sensor</td><td>Arc Chamber</td></tr><tr><td>Room Temperature and Humidity Sensor</td><td>Outside the Panel Board inside the Switchgear room</td></tr><tr><td>Pollution or Dust Sensor</td><td>Outside the Panel Board inside the Switchgear room</td></tr></tbody></table>	Sensor Type	Sensor Location	Temperature Sensor	Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment	Partial Discharge Sensor	Cable Compartment	Humidity Sensor	Cable Compartment	Arc Sensor	Arc Chamber	Room Temperature and Humidity Sensor	Outside the Panel Board inside the Switchgear room	Pollution or Dust Sensor	Outside the Panel Board inside the Switchgear room	Contents / Page 29 Sensor Based Remote Maintenance Care system shall have following sensors: We have not considered any sensor for Remote Maintenance Care system.	Asset monitoring system is not required
Sensor Type	Sensor Location																
Temperature Sensor	Bus Bar Compartment, Breaker Compartment (Upper Arm and Lower Arm), Cable Compartment																
Partial Discharge Sensor	Cable Compartment																
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36	We refer to the above tender and wish to inform that we are very much interested to participate in the tender. We request you to kindly extend the tender due date for further 21days time i.e up to 28.09.2026 & oblige.																
	Please refer revised tender Tender Timeline																