

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
1.	Sheet no 5 of 15, CL C, iii. MODIFICATION OF EXISTING CRP:	For bays under present scope, PMU IEDs are already existing in a separate panel. Refer Annexure IV for Existing PMU details. Required modification in wiring of analog and digital signals to existing PMU is included under present scope.	As understood that Existing PMU's are already under operational in Separate Panel and no further modification of wiring is required inside panel. However, New CT & PT cable need to be layed and terminated in PMU Panel located in control room from outdoor SGMU Panel. Please confirm our understanding is correct.	Confirmed. Present scope also include wiring of Binary inputs required for PMU operations
2.	Sheet no 13 of 15, CL 7, SPECIFIC REQUIREMENT	Before commencing the replacement of the existing system, the new IEC 61850 Process Bus based Control & Protection system shall be installed and commissioned with all Process Level IEDs and will be subjected to testing, validation & verification. Once the overall system is found to be satisfactory, the replacement process shall be started.	Existing Control Room doesn't have enough space to install new process bus protection panel. Hence, Based on shutdown plan CRP Panel, SGMU, CT & VT Juction Box and Cabling works will be initiated. Please accept.	Necessary vacant space shall be intimated by POWERGRID during detailed engineering.
3.	Sheet no 10 of 15, CL 2.1.4,	All materials required for the Civil and construction /installation work shall be supplied by the Contractor. The cement and steel shall also be supplied by the Contractor.	Going forward to your PGCIL confirmation ; (A) We understand that civil works in the existing control room building i.e. removal of tiles, modification in the existing base frame for mounting CRP, PMU,PLCC panels, cutting the groove on the floor, re-fixing of the tiles and	A. Bidder understanding is in order. Plan and program of work shall be provided during the execution stage. B. Bidder understanding is in order  However Panel details along with loading etc. shall be provided by bidder for design of Civil foundation.

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			<p>restoration of the tiles back to original position will be executed by PGCIL. After the clear front is provided by PGCIL , the bidder will be responsible to mount the CRP panels / PMU panels / PLCC panels and complete the installation, testing &amp; commissioning works. We wish to request PGCIL to confirm the plan / program of completion of these works so that installation scheduel can be prepared and submitted by bidder for approval for seamless execution of works at site.</p> <p>(B) The civil foundation for SGCMU / DIR / DIT alongwith supply &amp; setting up of anchor plates, anchor bolts &amp; fastners , base frame will be executed by PGCIL and the bidder will be responsible for mounting &amp; fixing the MU, DIR, DIT panels on these foundations in the switchyard.</p>	
4.			Earthing materials supply & installation work for SGCMU, DIR, DIT : PGCIL will supply & install the earthing materials like Earth risers, Electrode, Clamps/	Confirm

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			<p>Connectors, GI strip/ flats, chamber cover, nut/ bolts and washers , test link as the same is not asked by PGCIL in Bid Price Schedule and scope of work. The design calculations will also be performed by PGCIL based on Earth Resistivity report.</p>	
5.		<p>No. of MUs shall be such that failure of any one Merging unit shall not cause failure of a protection function in both Main-I and Main-II protection systems.</p>	<p>To meet this requirement , Generally in</p> <p><b>Normal condition:</b> Main-1 IED shall be subscribed with SV values published by MU-1 and MU-2. The same logic for main-2 IED will be followed.</p> <p><b>In such condition,</b> MU-1 failed to publish SV then Main-I IED will detect the loss of SV and will switch-over to take reference of MU-2 SV which is already subscribed in Main-1 IED. The same logic will be followed in Main-2 IED.</p> <p>With the above, technical specification requirement will be achieved.</p> <p>Please accept.</p>	<p>Failure of single MU shall not cause failure of protection function in both Main I and Main II Protection relays. Change over to SV Stream from another MU is not envisaged.</p>

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6.		IED devices should have the capability to be time synchronized via IEEE 1588v2 (Precision Time Protocol – PTP). No separate cable is envisaged for time synchronization purpose. Ethernet based Data Network which will be used for SMV transmission shall also be used for time synchronization purpose.	As understood that IED and Mus are time synchronized via PTP protocol. SNMP, SNTP, PPS protocols are not allowed for time synchronization. Please confirm our understanding is correct.	IEDs in process bus shall be necessarily synchronized with PTP. Devices in station bus may be synchronized with PTP/SNTP as per TS.
7.		Approved Make of Ethernet Switches for Process Bus Substation.	For Process Bus application, Approved make of Network switch is only Ruggeddcom / Belden. Please confirm.	Bidder to quote as per bidding document.
8.			Considering the criticality of the LBB function, we propose implementing the LBB protection as an inbuilt feature within the Main-I and Main-II merging units (MUs) along with back up o/c and E/f feature , rather than using a standalone LBB relay dependent on sampled value subscription.  Under all conditions, both merging units will have hardwired CT inputs and operate independently, if required the same LBB function will be	Bidder to quote as per bidding document.

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			enabled in main protection relay as a back up. Kindly accept the proposal.	
<b>B</b>				
9.	2 Scope of work	Storage and erection	Space available inside the control room can be utilized for storing the control and relay panel . We request PGCIL to consider erection in their scope of work .	Bidder to quote as pe bidding document. Kindly refer to CL.9) 12 and 13 of Section project for provision of storage
10.	c. MODIFICATION OF EXISTING CRP:	i) Dismantling of the existing energy meter	We request PGCIL to consider the dismantling and mounting of the energy meter in their scope. The compatibility to use the TVM device in the existing out door environment to be ensured by PGCIL.	Bidder to quote as per bidding document.
11.	c. MODIFICATION OF EXISTING CRP:	ii) Shifting of existing CSD Device	As CSD is a breaker device we request PGCIL to make necessary modification /Changes done directly by the respective breaker manufacturer . The compatibility to use the CSD device in the existing out door environment to be ensured by PGCIL.	Bidder to quote as per bidding document

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12.	c. MODIFICATION OF EXISTING CRP:	iii) PMU modification	Hope CT and PT to be connected to the PMU device from the switchyard, whether the existing cable to be retained for this scope, else new cable to be laid .	New Cable shall be provided for CT & PT of PMU device. Cable for BI/BO also required.
13.			Our understanding is that scope related to Dismantle of old Panels shall be in the scope of PGCIL. Kindly confirm.	Dismantling of existing panel in not envisaged under present scope
14.		Existing Cable remove scope clarity	We understand that “ dismantling of old cable will be done by PGCIL” and the same will be done bay wise after commissioning by Power Grid Plz confirm. Bidder scope shall only be related to FO cable will be laid over and above the existing control cable . Please confirm.	Dismantling of old cables is not envisaged under present scope. The supply, laying & termination of new control, power & FO cable (and special cables, if any) applicable under the scope of work shall be covered under the bidder's scope of work
15.		Storage and erection	Space available inside the control room can be utilized for storing the control and relay panel – plz confirm .	Bidder to quote as per bidding document. Kindly refer to CL.9) 12 and 13 of Section project for provision of storage

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16.			Since bay wise commissioning will be performed , we request PGCIL to consider per man-days commissioning charge in the price schedule which will be beneficial to both GE as well as to Power Grid.	Bidder to quote as per bidding document.
17.		Missing FO cable quantity	Request Powergrid to share the quantity of FO cable inline with as shared for power cable.	Cost of FO cable is deemed to be included in overall SAS cost of the respective substation
18.		Material Delivery/Shut Down	<p>1. Please confirm whether shutdown will be provided in one go or it will be in scattered manner ( DIA wise ) . if it is in scattered manner please share the detailed shutdown plan / priority bays planning.</p> <p>2. Please also confirm whether Shutdown/shutdowns shall be on fixed particular dates for or It will be on basis of rediness of materials &amp; site activity in line with L-2.</p> <p>3. Inline to the above mentioned points , whether panels can be delivered in multiple lots else we need to deliver in a single lot.</p>	<p>1. Shutdown of elements shall be provided on availability basis. The shutdown plan shall be provided during the execution stage</p> <p>2. Shall be confirmed during execution stage.</p> <p>3. Provisions of Bidding Documents shall prevail.</p>

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19.	General	EHS - LOTO	PGCIL shall maintain safe working conditions at the Site, including, without limitation, implementing appropriate procedures regarding Hazardous Materials, confined space entry, and energization and de-energization of power systems (electrical, mechanical and hydraulic) using safe and effective lock-out/tag-out ("LOTO") procedures including physical LOTO or a mutually agreed upon alternative method.	Bidder to quote as bidding document
20.	General	Evacuation	If, in GE's reasonable opinion, the health, safety, or security of personnel or the Site is, or is apt to be, imperiled by security risks, terrorist acts or threats, the presence of or threat of exposure to Hazardous Materials, or unsafe working conditions, GE may, in addition to other rights or remedies available to it, evacuate some or all of its personnel from Site, suspend performance of all or any part of the Contract, and/or remotely perform or supervise work. Any such occurrence shall be considered an excusable event. PGCIL shall reasonably assist in any such evacuation.	Bidder to quote as bidding document

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21.	General	Medical resources availability during deputation of commissioning engineers	As all these Sites are PGCIL owned, we request PGCIL to make its Site medical facilities and resources available to Seller personnel who need medical attention.	Bidder to quote as per bidding document.
22.	General	Hazardous Materials	If GE encounters Hazardous Materials in PGCIL's equipment or at the Site that require special handling or disposal, GE is not obligated to continue work affected by the hazardous conditions. In such an event, PGCIL shall eliminate the hazardous conditions in accordance with applicable laws and regulations so that GE's work under the Contract may safely proceed, and GE shall be entitled to an equitable adjustment of the price and schedule to compensate for any increase in GE's cost of, or time required for, performance of any part of the work. PGCIL shall properly store, transport and dispose of all Hazardous Materials introduced, produced or generated in the course of GE's work at the Site.	Bidder to quote as per bidding document

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23.	General	Indemnification	PGCIL shall indemnify GE for any and all claims, damages, losses, and expenses arising out of or relating to any Hazardous Materials which are or were (i) present in or about PGCIL's equipment or the Site prior to the commencement of GE's work, (ii) improperly handled or disposed of by PGCIL or PGCIL's employees, agents, contractors or subcontractors, or (iii) brought, generated, produced or released on Site by parties other than GE.	Bidder to quote as per bidding document
24.	General	Supplier/contractor rights to stop work is missing	Supplier/contractor may suspend performance or evacuate its personnel, at any time, without liability, if it reasonably believes its personnel are at risk. Supplier/contractor shall not be responsible to dispose of any toxic substances, hazardous substances, batteries or hazardous waste encountered at site unless produced or brought on site by Supplier/contractor it self during the performance of the PO.	Bidder to quote as per bidding document

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25.	General	EHS	As per our Global directive, we need the distance of the nearest speciality/super speciality hospitals from the site location where the GE engineers shall be working under the present scope of contract. Kindly provide the same.	Please refer clause 1.5 of Section project wherein it is mentioned that <i>"The bidders are advised to visit the substation sites and acquaint themselves with the topography, infrastructure and also the design philosophy prior to bid."</i>
26.	General	EHS	1) Please confirm that first aid facility & ambulance is available at site and in case of emergency same shall be available for bidder representative working at site. 2) Please confirm that details of hospital available near site.	Bidder to quote as per bidding document
27.	General	EHS	Cables in the trench have to be laid on live cables. Thus, person has to go inside the trench for laying some cables. Kindly confirm PGCIL will give Shutdown while laying the cables or some other safety measures have to be implemented for the same. Accordingly you are requested to change the Terminology in the tender documents and Price schedules	Bidder to quote as per bidding document

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28.	General -Meerut station & Mandola	BOQ, Capex, O&M	Price Schedule has been segregated as BOQ , CAPEX and O&M , on what basic it has been segregated clarity required .	Bidder to quote as per bidding document
29.	`	No variation shall be admissible on account of Installation of Cables/supply and installation of associated accessories, irrespective of variation (either positive or negative) in supply quantity of Cable specified in BPS	We request PGCIL to reconsider this clause and to do necessary claim if in case additional cable required during commissioning.	Bidder to quote as per bidding document
30.	SPECIFIC EXCLUSIONS	Civil work	Hope necessary floor cutting to place the new panels in the existing control room will be arranged by PGCIL .	Confirm
31.	SPECIFIC EXCLUSIONS	Civil work	Hope minor civil work if required in the control room once after panel erection to be performed by PGCIL .	Bidder to quote as per bidding document

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32.		Scope of work	Whether we need to remove all the existing panels else only few panels will be removed to accommodate our present scope , in that case covering of floor with tiles may not be required.	Dismantling of existing panels is not included in the scope of work.
33.		Scope of work	It is understood that “dismantling of cable will be done by PGCIL” and the same will be done bay wise after commissioning by Power Grid -Plz confirm	Any dismantling of Control & POWER cable is not envisaged under present scope. However necessary removal & installation of cables from Primary equipment as envisaged under present scope is in bidder's scope.
34.		Scope of work	Since bay wise commissioning will be performed, in that case per man-days commissioning charge will be quoted which will be beneficial to both GE as well as to Power Grid.	Bidder to quote as per bidding document
35.		Scope of work	After digital s/s, there will be 2 SAS systems. As per PGCIL site / Engg, 2 SAS solution need to implemented. As there is NO interface between 2 systems control uniqueness can not be maintained however as confirmed by the PGCIL site engineer it will be handled via operation SOP. Reporting to NTAMC & RLDC will be done	Co-ordination between different SAS at Meerut S/s such that only one equipment is operated at a time shall be finalised during detailed engineering.

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			separately .	
36.		Scope of work	it is understood from the survey that NO space available in the existing Cable trays in control room area, this has to be handled by providing additional supports hope it is under PGCIL scope .	Laying of cable i.e. in existing trench, new trench etc shall be finalised during detailed engineering.
37.		Scope of work	Hope only the shifting of the meters from the existing panel to the newly supplied MU Panel will be in bidder's Scope, and necessary online integration and sending date to the remote RLDC will be in PGCIL scope, please confirm .	After shifting of the meters, restoration of original connection for data transfer is included under present scope.

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38.		Scope of work	Auxiliary system is excluded in the scope, but as per site requirement it may be required, hence request PGCIL to take care if required at the later stage .	Refer Amendment No-II
39.		Scope of work	For mandola station : Bus & Line Series Reactors have GIS modules. Hope the existing LCC bays will be dismantled, and control will be from the newly supplied BCU , please confirm .	Existing LCC panels shall be retained. Interface requirements shall be finalised during detailed engineering.
40.		Yard Space for SGMU Panels	It is understood that SGMU/SGCMU panels shall be installed in the switchyard near respective bays. Kindly confirm that identified locations, foundations, mounting structures, and accessibility for these panels shall be provided by the Owner. Any civil works such as foundation construction, trench extension, or structural modifications, if required, shall be under Owner's scope unless specifically defined in BOQ.	Confirm

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41.		Cable Trenches / Cable Vault Availability	Kindly confirm that adequate space in existing cable trenches/cable vaults shall be available for routing of new control, power and communication cables under the present scope. In case of inadequate space, congestion, or requirement of new trench/cable vault construction/modification, the same shall be in Owner's scope.	Confirm
42.		Cable Routing & Crossing	Please confirm that all cable routing paths from switchyard to control room and between bays are accessible and available without major civil constraints. Any requirement of: Road cutting Trench crossing HDD / ducting RCC trench modification Shall be considered under Owner's scope unless explicitly mentioned.	Confirm
43.		Cable Entry & Termination Provisions	Kindly confirm that sufficient cable entry provisions (openings) are available in existing panels, junction boxes and control room entry points. Any modification required in existing panels/buildings for cable entry shall be in Owner's scope.	Provisions of Bidding Documents shall prevail.

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44.		DC System Availability	Kindly confirm availability of adequate spare feeders and capacity in existing DCDB for feeding new Control, Protection, SAS and SGMU panels. In case augmentation is required, the same shall be under Owner's scope .	Confirm
45.		Cable trenches occupied full/partial	It is observed that the existing cable trays for OFC routing paths, trays, and ducts are largely occupied/full. Any requirement of additional cable tray, supports, new trench/duct/tray installation, o r modifications for routing of new OFC cables shall be in PGCIL's scope.	Confirm
46.		Cable removal	Kindly clarify the scope regarding existing contol/power cables whether existing cables shall be removed by PGCIL or new cables shall laid over/alongside existing cables. In case removal is required, the same is excluded from GEV's scope.	New cable shall be laid over/along side of existing cable. Dismantling of existing cable is not envisaged under present scope.
47.		Panel configuration	Kindly clarify the panel configuration requirement per bay under present scope. It is proposed to accommodate Main 1, Main 2 & BCU in a single panel per bay (separate panel for Tie bays). Please confirm if this arrangement is	No. of Panels may be optimized for Process Bus based substations. However, IEDs of different feeders shall not be placed in the same panel

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			acceptable, or if separate panels are required for Main-1 and Main-2 protections.	
48.		Panel dimension	Kindly specify if there is any restriction on height/dimension for SGCMU panels to be installed in the switchyard. Also confirm any requirements related to Mounting/Foundation height, clearances from primary equipment.	Height of the panel shall meet the minimum phase to earth clearance from the charged objects. Outdoor Panels shall be erected such that a minimum height of 1000mm is maintained between FGL & bottom of the Panel.
49.		Water logging/drainage issue	Any requirement for drainage improvement due to water logging shall be under PGCIL scope.	Confirm
50.		Panel removal	It is understood that removal/dismantling of existing CRP shall be carried out by the PGCIL. Kindly confirm that dismantling, shifting and transportation of removed panels shall be under PGCIL scope.	Confirm

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51.		PMU panel	As per understanding, the existing PMU panels shall be retained under present scope. Only modification of wiring is envisaged. No replacement or re laying of existing cables connected to panels required. Hope our understanding is correct .	Bidder understanding is in order. However new CT and PT cable and cable for BI/BO need to be layed from Switchyard to PMU panel
52.		LCC panel clarification	Some bays are GIS type. Kindly clarify the scope regarding existing LCC panels. Whether LCC panels are to be retained as is or dismantaled and removed. If retained, kindly clarify interface requirements with new SAS/SGCMU system.	Existing LCC panels shall be retained. Interface requirements shall be finalised during detailed engineering
53.		Additional bays at Ballabgarh	It is observed that 2 Nos. of additional bays at ballabgarh substation have been recently commissioned, which are not covered in the BOQ. The scope of work is limited to the bays defined in BOQ, and these additional bays are excluded from present scope.	Ballabhgarh SS is not under present scope of work

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54.		Islanding panel at Mandola	It is observed that an Island panel at Mandola Substation is presently not in operation and is not included in the BOQ. The scope of work is limited to the bays defined in BOQ, and these additional bays are excluded from present scope.	Bidder to quote as per bidding document.
55.	General	Scope of work	We understand that BUS VT analog PT inputs can be taken in any one of the Bay merging units and a dedicated Merging Unit is not needed for gathering the BUS VT input	Confirm
56.	General	Scope of work	Inter tripping between different voltage levels (400KV and 220KV) will be hardwired. Please confirm the same.	Bidder to quote as per bidding document
57.	General	Scope of work	We understand that Supply of RTCC relay/Panel is not in present scope. Kindly Confirm	Supply of RTCC panels is not in the scope of work. However, Two Nos. of Redbox shall be provided for integrating Transformer and Reactor Monitoring equipment and digital RTCC relays with station bus. Integration of existing IEC 61850 compliant Transformer and Reactor Monitoring equipment (like DGA,

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				ODS, FOTS etc.) and Digital RTCC relays with New SAS shall be covered under scope of work. Kindly refer to Cl. 2.2.1 (a) & 2.2.2 (a) Of Section project
58.	General	Scope of work	We understand that all the analog and digital inputs from Bushing CVTs/CTs and LA will be brought to the MU cum SCU Main-1 and Main-2. No separate MU or and SCU will be placed near the CVT or an LA. Kindly confirm.	Bidder to quote as per bidding document
59.	General	Scope of work	We understand that all the field signals shall be redundant and will be wired to both MU cum SCU Main-1 and main-2. In case some signals are intended to be redundant and some non-redundant then please share their quantity for each typical.	Field signals shall be wired to both SGC /MU I and II (as per TS) .Signal list shall be finalised during detailed engineering.
60.	General	Scope of work	We understand that no contactor/CMR shall be provided for routing a field signal to 2x SGC cum MU. 2 separate contacts shall be provided for all the signals from the respective equipment junction/marshalling box. Kindly confirm.	Wiring to SGC MU shall be finalised during detailed engineering

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
61.	General	Scope of work	It is understood that Main-1 and Main-2 protection IEDs for transformer and reactor protection can be of same make with different hardware platform. Kindly confirm	For Transformer and reactor protection, the IEDs can be of same make and Platform
62.	General	Scope of work	Kindly confirm whether we can propose HDPE pipe for FO cable , kindly confirm .	Bidder to quote as per bidding document
63.	General	Scope of work	We understand that during shifting/commissioning of any existing equipment/system that fails during establishing the communication, Bidder shall not be held responsible for the said failure and replacement of the faulty system/devices of the existing system shall be in the scope of Employer. Kindly confirm	Bidder's understanding is correct.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
64.	Specific Exclusion	Cable Sealing is missing in specific Exclusion of Mandola substation	Kindly add the same in the Mandola substation as well.	Bidder is to quote as per Bidding document
65.		Integration of existing Auxiliary BCU in new SAS in both Meerut & Mandola	Please share the make and complete model of existing Auxiliary BCU.	Make & Model No of Auxiliary BCU: - 1. Mandola: - Micom C264 2. Meerut: - Micom C264
66.	2.2.2.f	As details Provided in Annexure-IV, Protection couplers for some of the bays under present scope are existing. Same may be integrated with new protection panels being supplied under present scope as per requirement of the scheme. Cost of the same shall be deemed to be included in the cost of the CRP panels. As per Annexure IV S.No. Details of existing DTPC (Make & Bay No.) to be integrated in process bus scheme <b>Mandola-</b> a) 4 Nos, Hitach NSD towards Bawana#1 (404,406) &	1. As per details of existing DTPC's, PLCC provided for integration we understand existing DTPC (Hitachi NSD 70) towards Bawana-1&2 are non IEC61850 Complaint & hence same cannot be integrated with new IEC 61850 Process bus based CRP system. 2. Please provide details of existing PLCC's with make & Model a) at Mandola S/S towards Meerut-3 & 4 direction. b) at Meerut S/S towards Mandola -3 &4, Muzaffarnagar, Baghpat-1 &2, Bareily-1&2, All 220kv Lines PLCC being non IEC61850 compliant	1. Non-compliant existing DTPCs / PLCCs to be integrated with New CRP system through Hard wiring 2 & 3: Detail of existing PLCC (make & model) shall be provided during detailed engineering. Retrofitting of existing PLCC (given in Sr No-3 of Annexure-IV of Section-Project) with new DTPC is not considered. Same to be integrated with New CRP system through Hard wiring. Re-configuration in FOTE is not in the scope of bidder

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
		<p>Bawana#2(407,408)                      b) Existing PLCC shall be used towards Meerut-3 &amp; 4  <b>Meerut-</b> Existing PLCC shall be used towards Mandola -3 &amp;4, Muzaffarnagar, Baghpat-1 &amp;2, Bareilly-1&amp;2, All 220kv Lines</p>	<p>these PLCC's are not possible to be integrate with new IEC 61850 Process bus based CRP system. Why existing PLCC details are provided under existing DTPC's to be intergarted in new process bus based CRP system, whether eisting PLCC's are to be replaces with new DPC.                      3. Please confirm that these existing PLCC's Analog Protection Couplers &amp; DTPC's on above lines will be interfaced with new CRP panel after removing from existing CR Panel through available control cable. KIndly confirm that existing PLCC &amp; DTPC's are not be interfaced with new process bus based scheme. Also confirm that existing DPC's are already integrated with available FOTE system                      Also re-configuration of existing PLCC's &amp; DTPC's (if required) will be arranged by Purchaser. Please confirm</p>	
67.	2.2.2.f	<p>As details Provided in Annexure-04, In bays where new digital protection coupler is envisaged as per BPS, Supply, installation, testing and commissioning of the Digital Protection Couplers (DPCs) shall be covered under present</p>	<p>1. Specification of IEC61850 based DTPC's are not provided alongwith Tender documents. Please provide TS for offering compliant DTPC's (viz. number of ethernet port, communication interfaces, PTP/SNTP synchronisation, number of</p>	<p>1. Bidder to offer Digital Tele-Protection coupler as per Technical Specification of DTPC provided in Bidding Documents (Ref Annexure-S8 of Specific Req. rev 10)                      Moreover, the offered product should</p>

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
		<p>scope. The DPC shall be integrated with process bus through IEC 61850 GOOSE Messages. The new DPCs may be kept in CRP panels of the respective line or associated Tie bay being supplied under present scope. The GOOSE publish and subscribe capabilities of the DPCs shall be similar to those of other protection and control IEDs.</p> <p>Integration of the new DPC with the existing communication channel is also included under present scope. All converters required to interface DPC with existing channel shall also be part of DPC. As per Annexure IV Number of DTPC channel with corresponding transmission line directions are provided as follows:  <b>Mandola S/S - 16 Nos. (08 Mandola, 04-Dadri, 04-Meerut) (Dadri-1&amp;2 &amp; Meerut-1&amp;2)</b></p>	<p>commands, Power supply, IEC61850 Edition etc...)</p> <p>2. Connectivity with S/S IEC 61850 SAS based Ring switch will be on Electrical Interface or Optical Interface (Multimode 1310nm). Port availability in switch to be ensured.</p> <p>3. Please confirm for remote end s/s scope of Mandola S/S (Dadri &amp; Meerut) for IEC61850 Goose interfacing on existing CR panel.</p> <p>4. Please confirm following:  a. We understand new DTPC's will be integrated with process/station bus through IEC61850 Goose Messages .No Hard wiring/Interfacing of new IEC 61850 process bus based CR Panel with proposed new DPC through control cable required to be done only interfacing through goose messaging will be required.  b. Purchase will arrange for SCD/ICD files for interfacing DPC with existing IEC 61850 IED's/relays.  c. These DPC's are proposed to be installed in new CR Panels.In case of existing CR panels/PLCC/FOTE panels same shall be installed in existing panels. No new panel to be proposed for new DPC's.</p>	<p>be suitable for integration in IEC61850 based Process bus system</p> <p>2. Bidder to quote as per Bidding documents</p> <p>3. For remote end, new DTPC is to be integrated with existing CRP through Hard wiring</p> <p>4. (a) Confirmed. However the Power supply to new DTPC as per Bidding documents shall be ensured by the bidder.  (b) Bidder scope includes all the works associated for interfacing DPC with existing IEC 61850 IED's/relays.  (c) Bidder understanding is generally in order.  (d) Confirmed  (e) For New DTPC at remote end stations Existing Power, Earthing &amp; Control Cables can be used</p>

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
			<p>d. Proposed DPC's will be integrated with existing FOTE system through E1 interface. Configuration of E1 channel for interfacing DPC with existing SDH will be in scope of purchaser.</p> <p>e. Existing Power, Earthing &amp; Control Cables are to be used</p>	
68.	4. Details of existing PMU (Make & Bay No) to be integrated in Process Bus Based.	Existing PMU MICOM P847 to be integrated in Process bus scheme	Existing PMU MICOM P847 is old supplied relay which is not Process bus compliant. Please clarify the detailed scope of work which is PGCIL is expecting to do in case existing relays are not integrated in Process bus scheme.	Please refer 2.2.1 c (iii) & 2.2.2 c (iii) wherein it is mentioned that <i>“For bays under present scope, PMU IEDs are already existing in a separate panel. Refer Annexure IV for Existing PMU details. Required modification in wiring of analog and digital signals to existing PMU is included under present scope.”</i>
69.	2.2.1.a Pg. No. 4/16	Meerut Substation have 765kV, 400, 220kV Switchyards. Presently all 765kV bays, 5 nos. 400kV diameters and 2 nos. 220kV Bays are having separate Conventional SAS (Make: - Schneider) and balance 400kV and 220kV bays are having non	As per the section project Process bus based system to be provided for the Conventional system only. We understand that existing SAS (Schneider make) will be separate from the process bus and there is no integration work of existing Sas to new Process bus based SAS system. Kindly confirm.	Bidder understanding is generally in order.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
		automation convention control panel-based system		
70.	2.2.1.b Pg. No. 4/16	<b>400kv busbar Protection</b> Further for these bays necessary provision for Binary Input / Output cards in SGCMU along with necessary wiring to meet the requirement of Busbar Scheme shall be in present scope.	Kindly confirm the location of SGMU/MU for busbar protection inputs for the bays which are not covered in Process Bus based system, either near to existing CRP or Switchyard.	Location of SGC/MU panel shall be near to existing Switchyard.
71.	2.2.1.b Pg. No. 5/16	<b>220 kV Bus Bar Protection</b> Further for these bays necessary provision for Binary Input / Output in SGCMU along with necessary wiring to meet the requirement of Busbar Scheme shall be in present scope.	Kindly confirm the location of SGMU/MU for busbar protection inputs for the bays which are not covered in Process Bus based system, either near to existing CRP or Switchyard.	Location of SGC/MU panel shall be near to existing Switchyard.
72.	2.2.1.c.i Pg. No. 5/16  2.2.2.c.i Pg. No. 8/16	Shifting of all existing Energy Meters to the SGMU Panels in the switchyard.	Any integration/calibration of Energy meter is excluded from bidder's scope. Kindly Confirm.  Also, Request you to kindly provide Dimension details of existing meter.	Shifting and reinstallation of Energy meter is in present scope.  Required details shall be provided during detailed Engineering.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
73.	2.2.1.c.iii Pg. No. 5/16  2.2.2.c.iii Pg. No. 8/16	For bays under present scope, PMU IEDs are already existing in a separate panel. Refer Annexure IV for Existing PMU details. Required modification in wiring of analog and digital signals to existing PMU is included under present scope.	Our scope is limited to wiring modification (wiring of analog & digital signals) only. Any configuration, integration is not in bidder's scope.	Bidder understanding is generally in order.
74.	2.2.2. Pg. No. 7/16	a Integration of existing Station Auxiliary BCU to new SAS is also under present scope.	We understand that existing Aux. BCU is communicable & IEC 61850 compliant with FO ports. Kindly confirm.	Bidder understanding is generally in order.
75.		DPC/PLCC	We understand that CRP, DPC and FOTE(SDH) cabinets will be placed in control room at SS hence E1 to FO converters are not necessary. However, we do not have information of the REMOTE stations. Are any of the remote stations kiosk based stations? If yes, provide details of such (kiosk based) substations and tentative distances between Kiosks and control room so that length of FO cable and no. of E1/FO converters can be considered.	As per clause 1.5 of Section Projects, bidders are advised to visit the substation sites and acquaint themselves with the topography, infrastructure and also the design philosophy prior to bid.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
76.	2.2.4 Pg. No. 9/16	All materials required for the Civil and construction/installation work shall be supplied by the Contractor. The cement and steel shall also be supplied by the Contractor.	<p>We understand that any civil (minor/major) work is not in bidder's scope. Hence, Mentioned clause "SECTION PROJECT Clause 3.3 and Provided document "5_Civil Works Rev 11A" is not applicable for this tender. Kindly confirm.</p> <p>Also, we understand that Foundation shall be constructed by PGCIL/Employer for mounting CT-CVT MB/SGC cum MU Panels and CRP/SAS (if required). Kindly Confirm.</p>	Confirmed.
77.	2.2.6 Pg. No. 10/16	Training of Employer's manpower	There is no line item in Customer's price schedule regarding Training. Hence, we have not considered any training in our scope.	Bidder to quote as per bidding document
78.	9.2 Pg. No. 12/16	Before commencing the replacement of the existing system, the new IEC 61850 Process Bus based Control & Protection system shall be installed and commissioned in the available space of control room along with all Process Level IEDs and will be subjected to testing, validation & verification.	We understand that new building for Control room (Ballabgarh) is to be constructed by PGCIL. Any dismantling/shifting of existing panels to new Building shall be in PGCIL scope. Kindly confirm.	Ballabgarh SS is not under present scope of work.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
		Once the overall system is found to be satisfactory, the replacement process shall be started.		
79.	20.5 21.9		It is understood that Main-1 and Main-2 protection IEDs for transformer and reactor protection can be of same make and on same platform. Kindly confirm.	Confirm
80.	28.17	Each Fault recorder shall have its own time generator and the clock of the time generator shall be such that the drift is limited to +0.5 seconds/day, if allowed to run without synchronisation. Further, Fault recorder shall have facility to synchronise its time generator from Time Synchronisation Equipment having output of following types:  • Voltage signal: (0-5V continuously settable, with 50m Sec. minimum pulse duration)	We understand that, since separate Disturbace recorder is not applicable for 400kV & 220kV Line bays. Hence, mentioned clasu and item is not applicable for this tender. Kindly confirm.	Confirm, However inbuilt fault recorder shall be provided in Main-I & Main-II IEDs.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
		<ul style="list-style-type: none"> <li>• Potential free contact (Minimum pulse duration of 50 m Sec.)</li> <li>• IRIG-B</li> <li>• RS232C</li> <li>• SNTP</li> <li>• IEEE 1588 PTP</li> </ul>		
81.	4.1.6 Pg. No. 17/40	Firewall and Router	Kindly confirm which spec to be followed for Firewall: "6.0 Section-Sub-station Automation_Rev04A clause 4.1.6" <b>Or</b> Annexure_SAS_X: NextGen Firewall	Please Refer Amendment No-II
82.	2.2 Pg. No. 37/40	The fibre optic cables shall be run in G. I. conduit pipes.	We understand that instead of GI pipe, we can propose HDPE pipe for FO cable run. Kindly accept.	Bidder may quote as per provision of biding documents
83.	18.0 Pg. No. 37/40	Additional station level equipment (for sub-station where new SAS is envisaged)  i) Jump Server as per Annexure SAS_XIII ii) NTAMC remote console as per Annexure SAS XIV	We understand that mentioned clause is not applicable for this process bus project. Kindly confirm.	Jump server and NTAMC remote console is included under present scope

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
84.	1	CSD	Kindly provide the make/Model of existing CSD.	Required details shall be provided during detailed engineering
85.	1	CSD	Kindly confirm the existing CSDs are communicable. Also confirm the compliant protocol and communication ports.	Required details shall be provided during detailed engineering
86.	1	CSD	We understand that Supply of CSD is not in present scope. Kindly Confirm.	Confirm
87.	2	Details of New DTPC required as per BPS to be integrated in Process Bus Based Scheme. Mandola: 16 Nos. (08 – Mandola, 04 – Dadri, 04- Meerut)	Kindly confirm the qty of DPC to be supplied. As per Price schedule to 24 nos. of DPC to be supplied. However, in the mentioned clause total qty showing 16 nos.	Please refer Amendment No-II

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
88.	2	Details of New DTPC required as per BPS to be integrated in Process Bus Based Scheme. Mandola: 16 Nos. (08 – Mandola, 04 – Dadri, 04- Meerut)	As per the section project new supplied DPC shall be mounted in CRP. Kindly confirm whether new panel shall be supplied for remote end DPC or same will be retrofitted in existing CRP.	For remote end, new DTPC can be mounted in existing PLCC/DTPC Panels and to be integrated with existing CRP through Hard wiring
89.	Sch-1	Time Synchronization Equipment	Kindly clarify the mentioned 5 nos. qty. We understand that total 2 nos. GPS will be sufficient for the complete substation.	Bidder may quote as per BPS.
90.	Sch-1	400 KV SGC/MU PANELS	As there is clearly defined SGC/MU panels for the bays. Hence, we understand that BUS VT analog PT inputs can be taken in any one of the Bay merging units and a dedicated Merging Unit is not needed for gathering the BUS VT inputs.	Confirm
91.	Scope		We understand that Supply of RTCC relay/Panel is not in present scope. Kindly Confirm.	Confirm

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
92.	General		Intertripping between different voltage levels (400KV and 220KV) will be hardwired. Please confirm the same.	Bidder to quote as per provision of bidding documents
93.	General		We understand that all the field signals shall be redundant and will be wired to both MU cum SCU Main-1 and main-2. In case some signals are intended to be redundant and some non-redundant then please share their quantity for each typical.	Bidder to quote as per provision of bidding documents
94.	General		We understand that no contactor/CMR shall be provided for routing a field signal to 2x SGC cum MU. 2 separate contacts shall be provided for all the signals from the respective equipment junction/marshalling box. Kindly confirm.	Bidder to quote as per provision of bidding documents
95.	General		We understand that there are no spare ICT or Rectors in any of the voltage level. Hence CT switching shall not be applicable at any voltage level. Kindly confirm.	Confirm

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
96.	Storage		Kindly confirm the availability of Closed Storage for Panels and other equipments.	Bidder to quote as per provision of bidding documents
97.	Order of precedence		We understand in case of any ambiguity between requirement of price schedule and requirement stated elsewhere in any other tender document including section project, the requirement of price schedule shall prevail. Please confirm our understanding.	Please refer FAQ 1.1 for order of precedence.
98.	General		We understand that during shifting/commissioning of any existing equipment/system that fails during establishing the communication, Bidder shall not be held responsible for the said failure and replacement of the faulty system/devices of the existing system shall be in the scope of Employer. Kindly confirm.	Confirm

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
99.	General		During shifting & Integration job, any equipment/system that shall be required to be Re-integrated into SAS/system and the same if in Warranty, Employer shall employ the respective OEM as required during successful commissioning of the same.	Bidder to quote as per provisions of bidding documents
100.	General		We understand that any dismantling of existing Panels, removing of existing cables are excluded from bidder's scope as same is not mentioned in SECTION PROJECT. Kindly confirm.	Please refer reply to similar query above
101.	Cable	1.1kV grade Power Cables (PVCinsulated)along withlugs,glands,straight joints &accessories,etc.	Request you to kindly provide following data :- 1. Existing Cable Schedule. 2. Cable Routing 3. Substation layout 4. Earthing cable requirement 7. Quantity and type of cable if any other cable to be supplied.	Required details shall be provided during detailed engineering
102.	Cable	Cable BOQ	If Cable length increase shall have additional cost and time impact. Kindly confirm the unit Quoted Prices or revised prices applicable.	Bidder may quote as per provision of bidding documents.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
103	"Power and Control Cables"		BOQ mentions Quantities of power and control cables. Do these quantities included the power/control cable requirement for the remote end DPC's also. Kindly confirm.	Bidder to quote as per bidding document
104			Kindly share the complete layout for respective substation	Required details shall be provided during detailed engineering. However, Bidder is requested to visit site as per Cl. 1.5 of section project
105	clause no. 1.4	Additional item if any	Understand that the present scope is BOQ based. Kindly mention the additional item (if any) which are not covered in BOQ.	Bidder to quote as per bidding document
106			Kindly share the existing make of Circuit Breaker and CSD.	Required details shall be provided during detailed engineering
107		FO cables and other item	There is good quantity of FO cable, Pipes and accessories are not appearing the BOQ. Request you to mention the required item in the BOQ	Cost of FO, PVC pipes, GI pipes etc. are deemed to included cost in SAS cost
108	General	Laying of FO cables	Understand that separate pipes are not required for armoured FO cable	Bidder may quote as per provision of bidding documents.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
109	General	Testing of existing equipment	We understand that testing of existing equipment are not in present scope	Confirm
110	General	Laying method of FO cable	Understand that main and redundant FO cable shall be laid in same pipe (if pipe is required)	Main and redundant FO cable shall be laid in different G I conduit pipes.
111		Price adjustment	We understand that Price adjustment is applicable for LV Cable and Installation works without any caping	Bidder may quote as per provision of bidding documents.
112	SCC 27 Supplementing the GCC Clause 11	Copyright	We request to amend the clause as below: Notwithstanding the provisions of Clause GCC 11.1 above, the copyright in all the drawings, documents and other materials containing data and information for design(s) which have been developed by the Contractor or by any third party under the Contract	In accordance with the provisions of SCC Clause No. 23, the copyright in all drawings, documents, and other materials containing data and information shall vest with the Employer, as per the scope and manner specified in the Technical Specifications (Vol-II) of the Bidding Documents.

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
			<p>shall remain vested in the <del>Employer</del> <b>Contractor</b> for the material and in the manner as detailed in the Technical Specification, Vol-II of the Bidding Documents.</p>	<p>However, for the subject package (CRP-02), it is noted that no specific copyright provisions have been stipulated in the Technical Specifications (Vol-II).</p> <p>Accordingly, the applicability of copyright shall be governed as per SCC Clause No. 23 read in conjunction with the Technical Specifications.</p>
113	Terms of Payment	Advance	<p>We request you to amend the clause as below:            Interest <del>Bearing free</del> <b>free</b> initial Advance (Optional*): Ten percent (10%) of the <del>Ex works price component of Main Equipment/Materials (including Mandatory Spares)</del> <b>Total Price</b> shall be paid as an interest bearing initial advance after signing the Contract Agreement and on submission of (a) Proforma invoice(s), (b) Advance Payment Security for 110% (one hundred ten percent) of the amount of Advance, in line with GCC Clause 9.2, (c) Performance Securities in line with GCC Clause 9.3 and (d) Detailed PERT Network/Bar chart and its approval by the Employer.</p>	CS may reply

Clarification No-I (Technical) dated 19.06.2026 to the Bidding Documents for **Package RCP-02 for retrofitting of existing conventional control and protection system with new IEC 61850 Process Bus bases Control & Protection System at 400kV Meerut Substation and 400kV Mandola Substation. Specification No.: CC/NT/W-MISC/DOM/A06/26/01785**

Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
114	General	BOCW Cess	Kindly clarify whether it shall be applicable on the complete order value i.e. Supply+ETC+Civil OR only on Services i.e. ETC+Civil. Please confirm.	CS may reply
115	General	Divisible contract	In the event of award of contract, request you to: 1. Issue 2 separate Purchase Orders for the activities under defined Scope of Work i.e. a) Supply, b) Installation, Testing & Commissioning and c) Civil Works. OR 2. Issue separate Price Schedules and detailed breakup for the above mentioned activities under one Purchase Order.	CS may reply
116	Retrofit of control and protection system RCP-02 Technical Specification, Section – Project	f. TELE PROTECTION EQUIPMENT: As details Provided in Annexure-IV, Protection couplers for some of the bays under present scope are existing. Same may be integrated with new protection panels being supplied under present scope as per requirement of the scheme. Cost of the same shall be deemed to be included in the cost of the CRP	a. kindly clarify new DPC required with Goose interface or Contact transfer based interface, also confirm remote end relay also is with Goose interface. b. request you to kindly any type of work in existing system, since it is from different OEM and support also may not be available.	a Please refer reply to similar query above b. Bidder to quote as per provision of bidding documents

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Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
		<p>panels.                      As details Provided in Annexure-04, In bays where new digital protection coupler is envisaged as per BPS, Supply, installation, testing and commissioning of the Digital Protection Couplers (DPCs) shall be covered under present scope. The DPC shall be integrated with process bus through IEC 61850 GOOSE Messages. The new DPCs may be kept in CRP panels of the respective line or associated Tie bay being supplied under present scope. The GOOSE publish and subscribe capabilities of the DPCs shall be similar to those of other protection and control IEDs. Integration of the new DPC with the existing communication channel is also included under present scope. All converters required to interface DPC with existing channel shall also be part of DPC.</p>		

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Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
117	Annexure-II Spare list		DPC spare is not mentioned, please add in price schedule If required	Bidder to quote as per provision of BPS
118	Annexure_III SPECIFIC REQUIREMENT' S (Section- Project) C/ENGG/SPEC/SE C- PROJECT/SPECIFIC REQUIREMENT REV NO 10	The DPC can be housed either in offered Control & Protection Panel / PLCC Panel or in separate panel. Generally SDH Equipment are placed in communication room of Control room where as DPC is placed in panel room. The connection between SDH equipment and each DPC shall be through Optical fiber. Necessary cables, converter(s) for converting E1 signal to optical fiber at both ends (at Panel Room as well as at Control room) along with FODP shall be in the scope of the contractor	Kindly confirm following :- a. New cabinet required for DPC or space shall be provided to mount DPC in existing cabinet. b. Distance between DPC and SDH at each station. c. Distance between DPC and Distance relay at each station.	a. Please refer reply to similar query above b & c :- Please refer clause 1.5 of Section project wherein it is mentioned that <i>"The bidders are advised to visit the substation sites and acquaint themselves with the topography, infrastructure and also the design philosophy prior to bid."</i>
119	Annexure-IV RCP_02 Mandola	2.Details of New DTTPC required as per BPS to be integrated in Process Bus Based Scheme. 16 (08 – Mandola, 04 – Dadri, 04- Meerut) Both Channels of 400kV Mandola- Meerut-1 &2 and 400kV Mandola-	a. Quantity mentioned in BOQ and quantity mentioned in annexure is different. B. All lines provided in SLD is not mentioned for new DTTPC c. Quantity of new DTTPC not matching with line details provided for	A & C :- Please refer Amendment No-II B & D Bidder to quote as per provisions of bidding documents.

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Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
		Dadri-1 &2 3. Details of existing DTPC (Make & Bay No) to be integrated in Process Bus Based Scheme. 4 Nos. Hitachi make NSD 70 Bawana#1 (404, 406) & Bawana#2 (407, 408) Existing PLCC shall be Used Mandola-Meerut-3 & 4	new DTPC. d. kindly exclude any type of work in existing system.	
120	Annexure-IV RCP_02 Meerut	2.Details of New DTPC required as per BPS to be integrated in Process Bus Based Scheme. 0 Already covered under Mandola-Meerut-1 &2 3. Details of existing DTPC (Make & Bay No) to be integrated in Process Bus Based Scheme. Existing PLCC shall be Used. 400 kV Mandola-Meerut-3 & 4, Meerut-MuzafarNagar, Meerut-Baghpat 1-2, Meerut-Bareilly 1-2, All 220 kV Lines	a. All lines provided in SLD is not mentioned for new DTPC b. kindly exclude any type of work in existing system.	Please refer reply to similar query above

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Sl. No.	Clause No.	Description	Bidder's Query	POWERGRID's Reply
121	Annexure - S8 :	Specification of Digital Protection coupler	Specification is of normal DPC without Goose, where as relay is process bus based for local end, kindly clarify medium of communication between relay and DPC at local end and remote ends.	Please refer reply to similar query above
122	3. Details of existing DTPC (Make & Bay No) to be integrated in Process Bus Based Scheme.		We understand all existing PLCC and DPC is with contact transfer based interface for Relay trip communication, also Goose is not supported in major existing equipment, hence kindly let us know solution desired for connecting existing equipment with relay, can we provide contact transfer based interface in relay for PLCC and DPC communication?	Please refer reply to similar query above

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