

The Seven nos. firms participated in the pre -bid meeting and out which six nos. firms have raised the queries. The replies to the points raised by the various bidders during the pre-bid discussion held on 9th october,2017 at DHBVNL office, Hetri House, Gurugram-122001 is as detailed below:

**FIRM NO:-1**

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
1	Volume-I	Page 9 of 168	1. Scope of Bid SECTION – II	Departmental charges like permission charges/ licensee fees/ security deposit etc. to be paid to the Railways, Forest Deptt or any other Govt./ Statutory bodies will be borne by the Nigam on actual basis	Any Right of Way (ROW), Clearances & permissions from authorities like Railways, Forest Deptt or any other Govt./Statutory bodies shall be taken by purchaser directly and bidder will not be responsible for any kind of delays arising out of delay in getting the required permissions/clearances	No change. As per Bid document.
2	Volume-I	Page 9 of 168	1. Scope of Bid SECTION – II	The details of proposed electrical network infrastructure are enclosed separately for reference of the bidder	Details of existing infrastructure including layout drawings, existing cable route drawings and geographical co-ordinates of all 220/66/11 kV feeders shall be made available by purchaser. Proposed location of new 11 kV RMUs also to be identified and updated in existing drawings.	The layouts are available on haryanaeprocurement web portal along with the bidding documents. However, the other details shall be provided by the bidder as per tendert document.
3	Volume-I	Page 9 of 168	1. Scope of Bid SECTION – II	Up gradation & Integration of existing RTU's at sector 1 and sector 4 substations.	Scope to be clarified	Bidder has the option of augmenting existing RTU or provide new auxiliary RTU. The integration of new RTU with the existing RTU will be in the scope of Bidder.
4	Volume-I	Page 9 of 168	1. Scope of Bid SECTION – II	Installation of 80-inch Digital Monitoring screen (HD) at MCS with User administered 25-inch work centers at each sector substation.	Scope to be clarified	80" Digital monitor to be provided at MCC & 25" Digital monitor is at each 66/11 Kv Substation as per amended BOQ.
5	Volume-I	Page 9 of 168	1. Scope of Bid SECTION – II	Associated Civil works	Scope of civil works to be detailed out	Scope of civil works are as per the bid document.
6	Volume-I	Page 9 of 168	1. Scope of Bid SECTION – II	The contractor will ensure that no damage is done to the underground utility services during execution of works including underground cabling for linking of 11KV feeders through RMUs etc..	Details of underground facilities to be provided. Contractor shall not be responsible for any damage to underground facilities for which details have not been provided.	No change. As per Bid document.
7	Volume-I	Page 9 of 168	1. Scope of Bid SECTION – II	The existing electrical infrastructure (primary & secondary) has to be mapped (using Asset Mapping & Consumer Indexing activities) over the GIS platform (ESRI) and the GIS system in turn shall be integrated with the SCADA system over the DMS platform at a later date. Contractor at this stage shall provide the mapping of existing & proposed system and make all provisions of its integration with SCADA system compatible for integration with DMS at later date without any changes while ensuring that SCADA system will work properly after this integration.	We understand that GIS platform shall be procured separately by Nigam, the contractor shall provide only GIS co-ordinates for the new electrical infrastructure. GIS Integration will also not considered in bidder's scope. Please confirm	The Bidder shall provide the layout of proposed SCADA system on AutoCAD software or any other acceptable software which can later on be imported to any GIS platform. At this stage the coordinates of the assets (existing & proposed) shall be provided. The integration of the data on to GIS platform and SCADA system shall be covered under the services provided by the Bidder during the execution as well as during O&M period as per bid document.

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8	Volume-I	Page 14 of 168	1. Scope of Bid SECTION – II	Foot survey and network designing of the system: The proposed network sketches have already been provided for reference only.	Proposed network sketch is not available in RFP documents. The same to be provided to bidder	Already available on the haryana procurement web portal along with Bid document
9	Volume-I	Page 19 of 168	1. Scope of Bid SECTION – II	Training of DHBVN staff along with Operation and Maintenance of complete SCADA setup for 3 years after commissioning of entire project and Annual Maintenance contract (AMC) during 4th & 5th Year with the provision of extension for 6th,7th & 8th year .	Service Level Agreement specified in Annexure-D is missing in the RFP documents. Please provide the same	Already available at DHBVN web portal with Bid document
10	Volume-I	Page 19 of 168	1. Scope of Bid SECTION – II	Training of DHBVN staff along with Operation and Maintenance of complete SCADA setup for 3 years after commissioning of entire project and Annual Maintenance contract (AMC) during 4th & 5th Year with the provision of extension for 6th,7th & 8th year .	To be clarified whether Operation/maintenance and subsequent AMC of 11 kV RMUs and 11 kV Cable network is covered under the contract	Yes, these are part of the contract as per the Bid document.
11	Volume-I	Page 19 of 168	1. Scope of Bid SECTION – II	After the successful commissioning of the entire project, the contractor shall provide the support services which shall be include training of DHBVN staff & operation and maintenance of the complete SCADA system installed under the project for a period of 3 (three) year from the date of commissioning and handing over of the project. The contractor shall execute the Service Level Agreement with the Nigam for providing the support services for a period of 3 year as per Annexure-D given in the tender document.	In case commissioning is delayed beyond the stipulated project timeline of 9 Months due to reasons not attributed to bidder, the extended duration shall be considered under operations and maintenance period.	The O&M shall start after successful commissioning & hand over of the project as per the Bid document.
12		Page 89 of 168	26. Extension of Time for Completion. SECTION III	26.1 Causes for Extension of Time for Completion. The Contractor may claim an extension of the Time for Completion if he is or will be delayed in completing the Works by any of the following causes	Contractor shall also be entitled to get compensated for any additional costs incurred on account of the causes stated for extension of time for completion.	As per the Bid document.
13		Page 91 of 168	27. Penalty: - SECTION III	The project shall be considered as a one unit to be completed in all respects. The completion will be considered when all the sub-stations and entire distribution system under the scope of this bid is integrated including performance runs of 100 hrs and one month trial run with in the completion period.	Request completion of project to be considered in phases. Phase 1 : Implementation of SCADA system at MCC and integration of existing substations with SCADA system Phase 2 : Integration of 50% of the RMU quantities in the new SCADA system Phase 3 : Integration of balance 50% RMU quantities in the new SCADA system	As per the Bid document.

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14		Page 98 of 171	SECTION III 30.9	At the end of the guarantee period, the contractor's liability ceases except for latent defects. For latent defects, the contractor's liability as mentioned in Clause 30.1 through 30.7 above shall remain till end of three years from date of completion of guarantee period	Request deletion of this clause in view of the long DLP period	As per the Bid document.
15		Page 98 of 168	33. Terms of Payment SECTION III	<p>33.1 For Electrical Works: -</p> <p>33.2 Payment Line material: -</p> <p>a) Price Component for Material:</p> <p>i) 50% payment of the cost of material including GSTs, any other tax, duties and levies as applicable, freight, insurance etc. will be made on receipt of material after verification at the project site / stores.</p> <p>ii) 40% payment of the cost of material will be made monthly on prorata basis after the material has been erected / utilized at site and verified. Payment shall be released on the certification of the Engineer In charge of the work.</p> <p>iii) Balance 10% shall be paid after inspection, testing and clearance by the CEI, Govt. of Haryana and commissioning of work and inspection by the Engineer In charge and Third Party (existing, if any) jointly and handing over of the work to the Nigam. All the statutory requirement as well other formalities shall be got completed before release of final payment.</p>	<p>We propose the following payment terms :</p> <p>i) 10% payment of the cost of material including GSTs, any other tax, duties and levies as applicable, freight, insurance etc. will be made as interest free advance against submission of bank guarantee of equivalent value</p> <p>ii) 70% payment of the cost of material including GSTs, any other tax, duties and levies as applicable, freight, insurance etc. will be made on prorata basis on receipt of material after verification at the project site / stores.</p> <p>ii) 10% payment of the cost of material will be made monthly on prorata basis after the material has been erected / utilized at site and verified. Payment shall be released on the certification of the Engineer In charge of the work.</p> <p>iii) Balance 10% shall be paid after inspection, testing and clearance by the CEI, Govt. of Haryana and commissioning of work and inspection by the Engineer In charge and Third Party (existing, if any) jointly and handing over of the work to the Nigam. All the statutory requirement as well other formalities shall be got completed before release of final payment.</p> <p>In case Erection and handing over is delayed due to reasons not attributed to contractor, retention payments shall be released within 6 Months of receipt of material at site.</p>	As per the Bid document.
16		Page 98 of 168	33. Terms of Payment SECTION III	The delay in payments to the suppliers beyond the stipulated credit period indicated in the supply order, unless supported by cogent reasons and approved by a higher authority, would attract penal interest on the defaulting amount @ Rs. 25/- per one lac per day of delay beyond the stipulated credit period.	The delay in payments to the suppliers beyond the stipulated credit period indicated in the supply order, unless supported by cogent reasons and approved by a higher authority, would attract penal interest on the defaulting amount @0.05% per day of delay beyond the stipulated credit period.	As per the Bid document.
17		Page 106 of 171	36.1 Set off SECTION III	Any such money due and payable to the Contractor under the contract may be appropriated by the Owner and set-off against any claim of the Owner for the payment of sum of money arising out of or under this contract or any other contract entered into by the Contractor with the Owner	Request deletion of this clause , this should be treated as as separate contract	As per the Bid document.

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18		Page 106 of 171	36.2 Contractor;s Default Laibility SECTION III	In the interest...liquidated damages	We propose the following changes: In case of failure by Contractor to remedy any defect within [15] days of being notified, the Employer can terminate the Contract by providing a prior written notice of 30 days to the Contractor. The contractor shall be liable to pay to the Employer a sum equivalent to 5% of the undelivered portion of work as liquidated damages. Such LD shall be the sole remedy and should not be in addition to any other penalty to be recovered on account of delay in work. We need a clarity of what additional penalty we would be exposed to other than LD	As per the Bid document.
19		Page 107 of 171	37. Risk and Responsibility SECTION III	The risk of loss...Employer's Risks (37.4)	37.3: Employer's risk relate to the risks which are covered under Force Majeure and as per clause 43, neither party is liable for risk due to such events. 37.4: Contractor's risks are very broad and open ended (unforseeable at this stage). Request deletion of the entire clause.	As per the Bid document.
20		Page 110 of 171	42. Limitation of liability SECTION III	Liability after Expiry of Defect Liability Period. Except in cases of criminal negligence or willful misconduct: - a) The Contractor shall not be liable to the Employer, whether in Contract, or otherwise for any indirect or consequential loss or damage, provided that this execution shall not apply to any obligation of the Contractor to pay liquidated damages to the Employer. b) The aggregate liability of the Contractor to the Employer under the Contract shall not exceed the Contract price, provided that this limitation shall not apply to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.	<del>Liability after Expiry of Defect Liability Period.</del> Except in cases of criminal negligence or willful misconduct: - a) The Contractor shall not be liable to the Employer, whether in Contract, or otherwise for any indirect or consequential loss or damage, provided that this execution shall not apply to any obligation of the Contractor to pay liquidated damages to the Employer. b) The aggregate liability of the Contractor to the Employer under the Contract shall not exceed the Contract price, provided that this limitation shall not apply to any obligation of the Contractor to indemnify the Employer with respect to patent infringement. The referred clause should be applicable during the contract execution period also.	As per Bid document.This clause is applicable for Liability after Expiry of Defect Liability Period. However, as per bid document the defect liability period is applicable during the contract execution period.
21	Volume II	Page 33 of 180	Section B, Chapter 1	S. No 1 - Substation level	Does every Substation need a local LDMS for monitoring purpose along with Master Control SCADA based at 220 KV s/s for monitoring and control. Kindly Confirm.	Yes, already defined in the Bid document.
22	Volume II	Page 33 of 180	Section B, Chapter 1	S. No. 2 - Distribution Level (11 KV)	Does Field FRTU (RMU Location) will report to local LDMS of associated Substation and parallelly to Master Control SCADA based at 220KV S/S (Substation no 1). Or Field FRTU will report to Master Control SCADA only based at 220 KV S/S. Kindly Confirm.	Field FRTU will report to MCC for Control & Monitoring as defined in the Bid document. However the status of SCADA system FRTU/ Station will be available at each 66/11 Kv Substation for monitoring purpose.

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23	Volume II	Page 38 of 180	Section B, Chapter 2	The SCADA system shall be expandable in future and DHBVN, in future, may like to integrate this SCADA system with other application like GIS, DMS, load flows, AMI etc. This SCADA system shall be compatible & communicable with the hardware & software, such applications, their data & data base and protocols. Integration with such applications will be ensured by the bidders without any hardware replacement at later date of the system being planned under this system.	All field data of Substation and RMU are collected by respective RTU and FRTU which are getting complied at Master Control SCADA of IMT manaser. Master Control SCADA shall give data data on IEC - 104 / OPC via gateway to other systems.	The field data from each substation is collected by the RTU at respective substation, data from RMU is collected by FRTU. The RTU data & FRTU will get reported to MCC via IEC 104/OFC communication link.
24	Volume II	Page no 44 of 180	RTU please refer specification no -CSC-134 /R- 1/DH/UH/P&D/2016-17 of DHBVN Section B, Chapter 4 Clause no 1	Clause No 1.3 - Communication Port as per CSC-135/R-1/DH/UH/P&D/2016-17 RTU shall have four TCP/IP Ethernet port for communication with Master station(s) using IEC 60870-5-104/101 protocol.  Present tender Document; Volume II, Chapter No 13 (Page 151 of 180) Clause no 4 - Communication Port RTU shall have two TCP/IP Ethernet ports for communication with Master station(s) using IEC 60870-5-104.	There is a contradiction in RTU Communication Port requirement. Tender Specs calls for two Ethernet Port, while general DHBVNL RTU specs call for four Ethernet Port. As RTU is required to communicate on IEC 104 protocol to Master Station. This can be achieved via Single Ethernet port of RTU. Hence RTU with Single / Two ethernet port must be acceptable. Kindly confirm.	2 nos. of Ethernet port, 1 no. of RS485, 1 no. of USB are required as per bid document.
25	Volume II	Page 45 of 180	Section B, Chapter 4 Clause 2.1	There will be Self-Healing devices /FRTU with Self-Healing properties installed in all the automated RMUs including the feeder switch end of the DS connected over Optical Fiber communication media.	We understand Self Healing is a feature of FRTU and not to be achieved via additional device. By incorporating additional equipment, purpose of PLC programe in FRTU gets defeated. Hence additional harware should be avoided. Kindly confirm.	Self healing should be provided by FRTU, however if any additional device is required, it shall be in the scope of bidder.
26	Volume II	Page 45 of 180	Section B, Chapter 4 Clause 2.1	In case of any fault in the above feeder, the dedicated Self-Healing devices /FRTU with Self-Healing properties of each automated RMU will communicate amongst themselves over IEC61850 Goose messages using onboard redundant Fiber optic port (to ensure interference free, fast and reliable communication), isolate the faulty section, will restore the feeder through the Normal Isolation Point & sources sensing the VPI & FPI status.	We understand DHBVNL FRTU specs CSC-134/R-1/DH/UH/P&D/2016-17as per Clause no 2.3 (Communication Port) calls for IEC-104 protocol for communication to upstream SCADA and collection of field IED's inputs on Modus. However IEC61850 is a communication protocol, but not relevent to FRTU as per DHBVNL Specs. Self Healing should be acheived via Inbuilt PLC programming feature of FRTU. Kindly confirm.	The communication shall be on IEC-104 protocol.
27	Volume II		FRTU is described in specification No. CSC-134 /R-1/DH/UH/P&D/2016-17 Section B, Chapter 4 Clause 2.1	Clause No 2.3 - Communication Port FRTU shall have four TCP/IP Ethernet port for communication with Master station(s) using IEC 60870-5-104/101 protocol or serial port in case IEC60870-101	FRTU is required to communicate on IEC 104 protocol to Master Station. This can be achieved via Single Ethernet port of FRTU. Hence FRTU with Single / Two ethernet port must be acceptable. Kindly confirm. Even RTU in the tender is called with two Ethernet port only.	2 nos. of Ethernet port, 1 no. of RS485, 1 no. of USB are required as per bid document.

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28	Volume II	Page 46 of 180	Principle of Self-Healing Section B, Chapter 4 Clause 2.1	Communication systems primarily use the open IEC 61850 standard to support this decentralized application. IEC 61850 provides the required logic and flexibility for the realization of the self-healing functionality. Peer-to-peer functionality via IEC 61850 Generic Object-Oriented Substation Events (GOOSE) messages	As per DHBVNL FRTU specs CSC-134/R-1/DH/UH/P&D/2016-17 Clause no 2.18 calls for PLC programming (IEC61131) to achieve starting and shut down of equipment (Self Healing). IEC 61850 is a communication protocol and not relevant in FRTU requirement. Hence FRTU should support PLC programming to achieve Self healing be allowed. Kindly confirm.	The communication shall be on IEC-104 protocol.
29	Volume II	Page no 50 of 180	SCADA Communication Protocol. Section B, Chapter 5 Clause 2	SCADA system shall use the following Communication Protocols: I. Relays & other control / protection devices: Modbus, IEC 61850 II. RTU - IEC 870-5-104 III. MFTs – MODBUS IV. Data Exchange over IEC 61968-1 V. FRTU's & DT metering Units – IEC 104 Protocol	We understand i) Relay, MFM, iii) MFT will communicate on Modbus and send field data to RTU/FRTU. Further RTU/FRTU will send data to SCADA on IEC-104 protocol. Hence SCADA communication protocol shall be IEC-104 only. Kindly confirm.	For different IED'S like Energy meter, MFM, Relays, & MFT the communication shall be on RS485, Modbus, IEC-104/IEC-61850 at substation level. The SCADA communication to MCC shall be on IEC-104. As per tender document. The communication protocols have been mentioned in the bid document.
30	Volume II	Page no 50 of 180	SCADA Communication Protocol. Section B, Chapter 5 Clause 2	SCADA system shall use the following Communication Protocols: I. Relays & other control / protection devices: Modbus, IEC 61850 II. RTU - IEC 870-5-104 III. MFTs – MODBUS IV. Data Exchange over IEC 61968-1 V. FRTU's & DT metering Units – IEC 104 Protocol	Kindly clarify the requirement of Data Exchange over IEC 61968-1 for SCADA protocol.	As per Bid document.
31	Volume II	Page 52 of 180	SCADA System architecture: Section B, Chapter 5 Clause 4	Data exchange is to be realized using IEC 61850 protocol with a redundant managed switched Ethernet communication infrastructure	we understand as per clause no 2, RTU/FRTU will report data on SCADA via IEC-104 protocol. Hence IEC61850 data exchange as per clause no 4 is not relevant and should be deleted. Kindly confirm.	The data exchange at substation level and SCADA level shall be on IEC-61850, The data exchange to MCC Shall be on IEC-104
32	CSC-117/R1/DH/P&D/2016-17		Clause number : 4-Climate condition	Max Ambient temp: +50 deg C	Our RMU is designed at +40 deg C ; however RMU shall be operational upto +50 deg C with derating 579A	

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33	CSC-117/R1/DH/P&D/2016-17		Clause number : 6.2.1 ; Outdoor enclosure features ( for outdoor application only)	The outer enclosure shall be made of GI high tensile steel 2 mm thick	The outdoor enclosure for the outdoor RMU shall be made of 2 mm thick CRCA. This is our standard type tested design & suitable for Outdoor application we have already supplied RMU with CRCA to various utility which running successfully Kindly accept the same.	No change, Refer DHBVN latest specification available on web portal CSC-117/R-II/DH/UH/P&D/2016-17	
34	CSC-117/R1/DH/P&D/2016-17		Clause number : 6.2.4	The RMU shall be completed with all connection and tinned copper or silver plated copper bus bar with continuous current carrying capacity of 630	As bus bar along with switchgear housed in SF6 insulated SS Tank hence no plating required also Rmu is tested with bus bar without any plating for temperature rise test inside the SF6 gas tank.		
35	CSC-117/R1/DH/P&D/2016-17		Clause number : 6.2.5	The cables shall be earthed by an earth switch with short circuit making capacity in compliance with IEC 62271-102. Circuit breaker shall not be closed in case Earth Switch is closed.	The Interlocking between circuit breaker and earthswitch shall be provided in such manner to avoid accidental earthing of live bus bar.		
36	CSC-117/R1/DH/P&D/2016-17		Clause number : 6.3 Isolator	The RMUs shall be equipped with 630Amp fault making/load breaking spring assisted ring switches, each with integral fault making/load breaking earth switches.	The RMUs shall be equipped with 630Amp fault making/load breaking spring assisted ring switches, each with integral fault making earth switches		
37	CSC-117/R1/DH/P&D/2016-17		6.4 Circuit Breakers	CT: 600-300/1A for feeder & 100-50/1A for distribution transformer	We are considering all VCB for Distribution Transformer protection		As per the BOQ, all the RMU's are required with CT: 600-300/1A for feeder
38	CSC-117/R1/DH/P&D/2016-17		6.4 Circuit Breakers	The circuit breaker shall be associated with an integrated protection unit that will operate without any auxiliary power supply and shall include three toroid transformers incorporated in the transformer tee-off bushing.	current transformers incorporated in the cable chamber in place of on bushing		
39	CSC-117/R1/DH/P&D/2016-17		6.4 Circuit Breakers	ON/OFF/TRIP indication on Mimic	ON/OFF/EARTH indication on Mimic and Trip indication on relay		
40	CSC-117/R1/DH/P&D/2016-17		6.6 CT/PT	Protection CT shall be Epoxy Resin cast with 5VA for feeder & 2.5 VA for transformer	ON/OFF/EARTH indication on Mimic and Trip indication on relay		
41	CSC-117/R1/DH/P&D/2016-17		Clause - 6.7	ON/OFF/EARTH indication on Mimic and Trip indication on relay	As RMU is compact switchgear having limited space for mounting items hence CT burden shall be 2.5 VA Which is sufficient	No change, Refer DHBVN latest specification available on web portal CSC-117/R-II/DH/UH/P&D/2016-17	
42	CSC-117/R1/DH/P&D/2016-17		Clause - 6.9	The RMU outdoor metal clad	RMU shall be outdoor metal enclosed type.		

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43	CSC-117/R1/DH/P&D/2 016-17		6.12-Fault passage indicator	O/C setting shall be 200-1000A	O/C setting shall be 100-800A ; also RMU rating is 630A hence 1000A not required	
44	CSC-117/R1/DH/P&D/2 016-17		Clause - GTP (20.0)	Temp rise above ambient: 50 Deg C.	Temp rise above ambient as per IEC	
45	CSC-117/R1/DH/P&D/2 016-17		GTP, Sl. No. 32,	Moving contacts of Earthing switch shall be visible in closed position	Status of moving contact of earthing switch in closed position shall be visible through suitable indicator on mimic	
46	CSC-117/R1/DH/P&D/2 016-17		GTP, Sr. No. 34	Circuit Breakers: SF6 Type	As per Clause 6.1 the Vacuum Interrupter type Circuit breaker considered in SF6 filled tank	
47				kindly clarify metering scope Required OR not If required in which feeder it is required , what is CT detail for metering	kindly clarify metering scope Required OR not If required in which feeder it is required , what is CT detail for metering	No metering is required on outgoing feeders.
48				For RMU Part Relay shall be communicable on Modbus protocol through RS-485 port.kindly confirm the same	For RMU Part Relay shall be communicable on Modbus protocol through RS-485 port.kindly confirm the same	Accepted, however, the relay/other relay data shall be communicable on IEC 104.

**FIRM NO: 2**

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1	Volume-I	9		1.2 For civil works if any other item is required to complete the work then its price shall be paid as per the Haryana Schedule (HSR) Rates plus current premium applicable at the time of awarding the tender and +/- % over/below the estimated rates as per letter of award.	We request DHBVN to share Haryana Schedule Rates (HSR) and methodology to estimate premium applicable.	The document is available on net or can be procured from open market . DHBVN does not have soft copy.
2	Volume-I	10		1.2 iii. 220/66/11 KV substation, sector 1 iv. 66/11 KV substations sector 2, 3, 4 , 8 and Old Manesar	We request DHBVN to share DC voltage available at each substation locations.	220V AC is available, however provision of 48V DC has made in BOQ for each Substation.



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3	Volume-I	11		1.2 vii. Up gradation/ Update & Integration of existing RTU's at sector 1 and sector 4 substations.	We believe bidder have flexibility to propose different solution for Up gradation/ Update & Integration of existing RTU's at sector 1 and sector 4 substations.	Bidder has the option of augmenting existing RTU or provide new auxiliary RTU. The integration of new RTU with the existing RTU will be in the scope of Bidder.
4	Volume-I	11		1.2 Establish a Master Control Center (MCC), proposed at 220/66 KV sector 1, substation control room building. The control center at IMT Manesar at sector 1 shall be used as a master control center for IMT Manesar and all control, monitoring & report generation functions shall be performed from this center.....availability at the other designated command center without any hardware & software changes.	We request DHVBVN to share layout of 220/66 KV substation	Bidder is requested to visit the substation for details and assess the requirements for their clarity and information as per the tender document.
5	Volume-I	21		1.2 The existing electrical infrastructure (primary & secondary) shall be surveyed by the contractor and shall be mapped with details of the proposed SCADA infrastructure along with its components. The mapping shall be provided on any acceptable editable format that shall be compatible with GIS data base so that GIS integration can be done without any further field or office work. The system has to be mapped (using Asset Mapping & Consumer Indexing activities) over the GIS platform (ESRI) and the GIS system in turn shall be integrated with the SCADA system over the DMS platform. Contractor at this stage shall provide the mapping of existing & proposed system and ensure its integration with DMS at later date without any changes in hardware, while ensuring that SCADA system will work properly after this integration.	As per industry practice attributes related to electrical infrastructure are collected and get populated in GIS system. GIS models get exchanged with DMS system on standard interfaces. We request DHVBVN to remove this Asset Mapping and Consumer Indexing activities from current scope of work of SCADA.  There are multiple GIS platform available market. We understand DHVBVN is going to procure GIS in upcoming future. Hence we request DHVBVN to remove specific vendor name for GIS platform.	The Bidder shall provide the layout of proposed SCADA system on AutoCAD software or any other acceptable software which can later on be imported to any GIS platform. At this stage the coordinates of the assets (existing & proposed) shall be provided. The integration of the data on to GIS platform and SCADA system shall be covered under the services provided by the Bidder during the execution as well as during O&M period as per tender document.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
6	Volume-I	34		2.1 Technical Criteria:-Installation & integration of SCADA system: iii) The bidder should have supplied or installed at least 75 Nos of 11 KV RMU's with FRTU's for distribution system to one or more utilities / Discoms/ PGCIL / NTPC / Govt. Undertaking in India during last 3 year from the date of NIT. iv) The bidder should have also integrated at least 50 Nos of 11KV RMU's or VCB's with FRTU's for distribution automation or SCADA system or DMS for any utility /Discoms/ PGCIL / NTPC / NHPC / Govt. undertaking in India. The system should be successfully operational for at least one year.	We request DHBVN to amend clause iii) & iv) as following iii) The bidder should have supplied or installed at least 75 Nos of 11 KV RMU's with FRTU's for distribution system to one or more utilities / Discoms/ PGCIL / NTPC / Govt. Undertaking in India during last 3 year from the date of NIT. or iv) The bidder should have integrated at least 50 Nos of 11KV RMU's or VCB's with FRTU's for distribution automation or SCADA system or DMS for any utility /Discoms/ PGCIL / NTPC / NHPC / Govt. undertaking in India. The system should be successfully operational for at least one year.	As per the Bid document.
7	Volume-I	101		33 33. Terms of Payment 33.1 For Electrical Works: - 33.2 Payment Line material: - a) Price Component for Material: i) 50% payment of the cost of material including GSTs, any other tax, duties and levies as applicable, freight, insurance etc. will be made on receipt of material after verification at the project site / stores. ii) 40% payment of the cost of material will be made monthly on prorata basis after the material has been erected / utilized at site and verified. Payment shall be released on the certification of the Engineer In charge of the work. iii) Balance 10% shall be paid after inspection, testing and clearance by the CEI, Govt. of Haryana and commissioning of work and inspection by the Engineer In charge and Third Party (existing, if any) jointly and handing over of the work to the Nigam. All the statutory requirement as well other formalities shall be got completed before release of final payment.	In order to maintain positive cash flow in the project we request DHBVN to amend the payment terms as following: i) 10% advance payment of the price of material against submission of ABG. ii) 10% payment of the price of material against engineering drawing approval i) 50% payment of the price of material including GSTs, any other tax, duties and levies as applicable, freight, insurance etc. will be made on receipt of material after verification at the project site / stores. ii) 20% payment of the price of material will be made monthly on prorata basis after the material has been erected / utilized at site and verified. Payment shall be released on the certification of the Engineer In charge of the work. iii) Balance 10% shall be paid after inspection, testing and clearance by the CEI, Govt. of Haryana and commissioning of work and inspection by the Engineer In charge and Third Party (existing, if any) jointly and handing over of the work to the Nigam. All the statutory requirement as well other formalities shall be got completed before release of final payment.	Nochange. As per the bid document.
8	Volume-I	168 & 169 of 171	Schedule of Price, A2 - Bill of Quantities, Sr. No 10 ,11,12,13	Requirement of PT in various configuration of RMUs	Description of RMUs do not specify the requirement of PTs & metering core CTs while specification clause No 6.6 page 14 of 27 specify CTs & PTs for Metering. Please clarify your requirement of metering core CTs & PTs for various feeder & type of RMUs.	Please refer to DHBVN latest specification for RMU for these details.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
9	Volume-I	168 & 169 of 171	Schedule of Price, A2 - Bill of Quantities, Sr. No 10 ,11,12,13	One way smart Ring Main Unit (RMU) complete	lease clarify the requirement of 1 Way RMUs i.e. whether it will be used as standalone or as add on unit for existing RMU. In case if it is required as add-on unit, then 1 Way units should be bought without Auxiliary Transformer. Please confirm your requirement	The 1 way RMU shall be used as add-on-unit with out auxiliary transformer as per BOQ .
10	RTU/FRTU Specs		4	1.3 RTU shall have four TCP/IP Ethernet ports for communication with Master station(s) using IEC 60870-5-104	We request DHBVN to amend clause to RTU shall have 2 TCP/IP Ethernet ports for communication with four Master station(s) using IEC 60870-5-104	2 nos. of Ethernet port, 1 no. of RS485, 1 no. of USB are required as per tender document.
11	RTU/FRTU Specs		14	2.3 FRTU shall have four TCP/IP Ethernet port for communication with Master station(s) using IEC 60870-5-104/101 protocol or serial port in case IEC60870-101	We request DHBVN to amend clause to FRTU shall have 1 TCP/IP Ethernet port for communication with dual Master station(s) using IEC 60870-5-104.	2 nos. of Ethernet port, 1 no. of RS485, 1 no. of USB are required as per tender document.
12	Design & Operational Requirements of SCADA		49	1 . All SCADA applications . Information Storage and Retrieval (ISR) . Web server applications, Security applications . Network Management system (NMS)	We request DHBVN to specific hardware and software required for meeting the technical specification to be indicated in price schedule	The details have been provided in the amended BOQ.
13	Automatic disturbance file transfer		65	5.9 All recorded data from the IEDs with integrated disturbance recorder as well as dedicated disturbance recording systems shall be automatically uploaded (event triggered or once per day) to a dedicated computer and be stored on the hard disc.	We request DHBVN to add associated hardware and software in price schedule of project	The details have been provided in the amended BOQ.
14		10 of 27 & 14 of 27	Clause No. 6.2.4 & clause no. 6.5 GTP Sr. No. 51.0	The RMU shall be completed with all connection and tinned copper or silver plated copper bus bar with continuous current carrying capacity of 630A as per relevant IEC/IS	In RMUs busbar are enclosed in tank filled with SF6 gas (Inert gas) & hence tinning / silver plating on busbar is not required. Therefore busbar may be mentioned as bare copper.	Refer DHBVN latest specification available on DHBVN portal CSC-117/R-II/DH/UH/P&D/2016-17
15		6 of 27	Clause No. 5 (6.) Clause no. 6.2.7 GTP Sr. No. 26.0	Internal Arc test - ABFLR 20KA for 1 Sec	The internal arc classification maybe revised to IAC A FLR instead of IAC AB FLR.	Refer DHBVN latest specification available on DHBVN portal CSC-117/R-II/DH/UH/P&D/2016-17
16	NACDHBVNLIMIT MANESARSCADA-001				Given layout is typical Substation automation system architecture as per our understanding DHBVN is looking for SCADA control centre with following functionality i. Feeder Optimization ii. Feeder Management and load shedding	Please refer tech. specification Vol-1, Vol-2, section for clarify.

FIRM NO:3

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
1	Volume-I	Page 10 of 171, 19 of 171	1.2 Detailed scope of work would be as under: ix. Training of DHBVN staff along with Operation and Maintenance	Moreover, the CEI charges shall be borne by the bidders; no reimbursement in this regard shall be entertained.	Request DHBVN to confirm the inspection charges by CEI will be paid by DHBVN	As per the tender document
2	Volume-I	Page 9 of 171	1.2 Detailed scope of work would be as under:	AMC (4th & 5th year with the provision of extension for 6th, 7th & 8th year) of SCADA system including all hardware, software 2. However, Bidders are requested to separately quote their prices for AMC services. The evaluation of commercial bid will be done on the basis of total prices quoted by the bidder for implementation of SCADA including O & M services and the price quoted for the AMC during 4th & 5th Year with the provision of extension for 6th, 7th & 8th year	1. Request DHBVN to confirm whether bidder has to quote price for 4th to 8th year AMC or 4th to 5th Year AMC which will be used in bid evaluation. 2. Also AMC charges are not included in the A1 - Bill of Quantities & Cost Estimation : SCADA, so bidder has to change the bill of quantity and quote the same. Kindly confirm.	May refer to price schedule document for reference. As per the price schedule envelope, the bidder has to quote for AMC of 4th to 8th year and the same will be included for the bid evaluation.
3	Volume-I	Page 11 of 171	1.2 VIII Detailed scope of work would be as under:	Supply, installation/ retrofitting of Relays as per BOQ	1. As per A1 - Bill of Quantities & Cost Estimation only 1 relay is considered in each sub-station. Kindly confirm the type of relay which has to be retrofitted at each sub-station 2. Request DHBVN to kindly share the I/O list for each substation for System Sizing	The referred relay list is attached .
4	Volume-I	Page 11 of 171	1.2 VIII Detailed scope of work would be as under:	xii. Master Control Station for Real time data acquisition over IEC 60870-5-104 xiii. Installation of 80-inch Digital Monitoring screen (HD) at MCS with User administered 25-inch work centers at each sector substation. xvi. Establish a Master Control Center (MCC), proposed at 220/66 KV sector 1, substation control room building.	1. There is not Bill of Quantity for Master Control Center in A1 - Bill of Quantities & Cost Estimation 2. SCADA Architecture Layout Plan diagram differs with Technical requirements in Volume-II and A 1 Bill of Quantity 3. Request DHBVN to share the BOQ of the Hardware and Software required to be provided at Master Control Center quantity of which should be same in all the documents of tender i.e A1 - Bill of Quantities & Cost Estimation , SCADA Architecture Layout Plan diagram and Technical Specification for Hardware and Software given in the Volume -II of Tender Document	The BOQ has been amended and may be referred to.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
5	Volume-I	Page 14 of 171	i. Co-ordination by the contractors with the existing system:	The proposed SCADA system envisages retrofitting of all existing noncommunicable relays with Numerical relays in 11 KV switchgear panels at each substation as per the defined scope of work. A list of such devices has been prepared substation wise and is attached with this bidding document so as to provide clarity to bidders regarding the magnitude of this work.	Request DHBVN to kindly share the list of the non-communicable numerical relays in each sub-station which needs to be retrofitted as same is not available in the tender document	The relay list attached may please be referred to.
6	Volume-I	Page 14 of 171	i. Co-ordination by the contractors with the existing system:	This may require co-ordination & information from the manufacturers who had supplied these devices for IMT Manesar. This information shall be obtained by the bidders beforehand and DHBVN shall not entertain any claim on this account.	Request DHBVN to kindly help the successful contractor to arrange information for third party OEMS in case they refuse to share the information	As per the tender document
7	Volume-I	Page 16 of 171	iv. Laying of optical Fibre cables to establish communication network:	Optical Fibre cable (OFC) will be laid by using EHV line or 11KV line as per the availability of EHV or HT line. However, in case of non availability of EHV or HT line, the OFC cable will be laid underground.	We understand the Fiber cable will be laid on the existing EHV or 11KV lines only. Kindly confirm	Yes, as per the bid document.
8	Volume-I	Page 21 of 171	ix. Training of DHBVN staff along with Operation and Maintenance, VIII	During this five year period, entire responsibility for system maintenance, repairs, replacement of any system hardware shall be that of contractor which includes upgradation/Updates, augmentation/Update of software & hardware also. Any system up-gradation/Update like addition of new field equipment which needs to be integrated with the proposed SCADA system that are essentially required including hardware & software application augmentation/Update, shall also be part of the contractor's responsibility.	We understand warranty is for 5 years and in case of AMC for 6th, 7th and 8th Years any faulty material replacement is in scope of DHBVN.	During the warranty period which includes 3 year O&M period and 4th, 5th AMC period any repair, replacement will be covered under the scope of bidder. However as per the bid document, the warranty period given in the bid document or given in the technical specification, whichever is on higher side will be applicable. During the AMC period of 6th, 7th & 8th all the charges for repair & replacement will be paid by the DHBVN in case of expiry of warranty period on any equipment.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
9	Volume-I	Page 21 of 171	x. Facilitation of the assets mapping of 11KV feeders and RMUs for Distribution management System (DMS)	<p>The existing electrical infrastructure (primary &amp; secondary) shall be surveyed by the contractor and shall be mapped with details of the proposed SCADA infrastructure along with its components</p> <p>The system has to be mapped (using Asset Mapping &amp; Consumer Indexing activities) over the GIS platform (ESRI) and the GIS system in turn shall be integrated with the SCADA system over the DMS platform. Contractor at this stage shall provide the mapping of existing &amp; proposed system and ensure its integration with DMS at later date without any changes in hardware, while ensuring that SCADA system will work properly after this integration.</p>	<p>1. Request DHBVN to kindly confirm the GIS Survey of the existing and new electrical assets under this contract has to be done by successful contractor but supply of GIS SW and mapping on GIS Software (ESRI) will be done by DHBVN.</p> <p>2. We under GIS adaptor required for integration will be provided by DHBVN as same is not part of A1 - Bill of Quantities &amp; Cost Estimation and nor mentioned in Vol II of technical specification</p>	The Bidder shall provide the layout of proposed SCADA system on AutoCAD software or any other acceptable software which can later on be imported to any GIS platform. At this stage the coordinates of the assets (existing & proposed) shall be provided. The integration of the data on to GIS platform and SCADA system shall be covered under the services provided by the Bidder during the execution as well as O&M period as per tender document.
10	Volume-I	Page 23 of 171	xii. Miscellaneous:	The Earthing to be provided shall be as per the Bill of material with the required ohmic value as per the technical specifications. The requirements shall meet the relevant IS codes.	Request DHBVN to kindly confirm whether Earthing has to be provided at all the locations including MCC, S/s, RMU/FRTU locations for Installed Equipments	Yes, AS per the tender document & BOQ.
11	Volume-I	Page 24 of 171	xii. Miscellaneous:	The warranty period of the material to be applicable is defined in the tender documents which the bidder will procure from OEM. The bidder will supply the related documents indicating therein that the warranty period demanded by the utility of the equipment is also in line with the agreement made by the bidder with the OEM for purchase against this project. The contractor will supply the certified copy of the agreement between him and the OEM before commencing the supply.	Request DHBVN to confirm any particular format for the agreement which needs to be signed with OEM.	Will be finalized after award of work.
12	Volume-I	Page 40 of 171	2. Qualifying criteria: -General Requirements; 2.1 Technical Criteria:-Installation & integration of SCADA system:	The bidder should have supplied or installed at least 75 Nos of 11 KV RMU's with FRTU's for distribution system to one or more utilities / Discoms / PGCIL / NTPC / Govt. Undertaking in India during last 3 year from the date of NIT.	Since there is separate PQR requirement for the RMU OEM supplier we request DHBVN to kindly remove the requirement from the main bidder PQR	As per the bid document.
13	Volume-I	Page 50 of 171	16.3 Format of Bid	The original and copy of the NIT shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract.	Since this is e-tendering request DHBVN to confirm whether two hard copies has to be submitted apart from online submission	As per the biddocument.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
14	Volume-I	Page 56 of 171	27. Comparison of Bids.	The Bids shall be compared package-wise on the basis of lump sum prices (i.e. for supply portion and price for service to be rendered as quoted by the Bidder and price quoted for AMC for 4th & 5th year with the provision of extension for 6th,7th & 8th year) for the entire scope of the proposal as defined in the Bidding document.	Request DHBVN to confirm whether price for 6th, 7th and 8th year AMC also has to be quoted and will be used in bid evaluation	As per the biddocument.
15	Volume-II	Page 3 of 180	1.6 Optional Spares	The bidder shall identify and recommend the list of optional spare parts required together with their quantity to meet the specified performance for a period of five years. The item schedule and prices of these shall be given by bidder in the relevant schedule of BPS and shall not be considered for the evaluation of the bid. The bidder must also indicate the basis for recommendation of optional spares.	Request DHBVN to confirm prices for recommended spares will not be used during the price bid evaluation	As per the biddocument.
16	Volume-II	Page 38 of 180	1. Scope of work:	Intent of SCADA & Objectives:	1. There is no detailed specification of SCADA and DMS functionalities to be provided and neither are the software licenses for SCADA, DMS, NMS mentioned in A1 - Bill of Quantities & Cost Estimation 2. Request DHBVN to confirm the Software sizing to be considered in the present tender at MCC end.	The details have been provided as amendment and the BOQ has also been amended. Please refer to same.
17	Volume-II	Page 41 of 180	1. Existing System	Sheets detailing the requirement of equipment at each substation is attached as annexure –1 for the reference of Bidders	There is not equipment details mentioned in Annexure-1. Request you to kindly provide the same.	The details of relays are attached herewith as assesment detail.
18	Volume-II	Page 42 of 180	General Technical Requirements:	i) To achieve the compatibility, the RTU specifications shall be made consistent with the specification of RTUs provided by HVPNL at Sector-1 & Sector- 4 IMT Manesar.	1. Request DHBVN to kindly confirm whether RTU specification of HVPN or RTU specification mentioned in Chapter 13 Technical Specification of RTU has to be followed.	May follow HVPN latest specification.
19	Volume-II	Page 42 of 180	General Technical Requirements:	iii) Wherever such facility is available, the existing meters will be retained otherwise new FT's/MFMs will be installed at all interface points with two RS 485 ports, one each to be utilized by HVPNL & DHBVNL. New MFT's/MFMs can also be installed in parallel to existing meter without altering the interface point	Request DHBVN to kindly share the detailed BOQ and specification of MFTs, CMRs, HDRs, Transducers which needs to be supplied at each S/s along with the RTU IO sizing for each sub-station	The BOQ has been amended, however I/O sizing shall be done by bidder and approved by DHBVN at the time of detailed engineering.
20	Volume-II	Page 43 of 180	General Technical Requirements:	Integrate all FRTU's through OFC and directly link to existing RTU via Gateway to be installed at sector 1.	We understand FRTU will communicate with SCADA Server at MCC directly on OFC network and not with RTUs at S/s. Kindly confirm.	Yes, The FRTU will communicate with SCADA server at MCC through OFC link.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
21	Volume-II	Page 43 of 180	General Technical Requirements:	Creation of Master control center for DHBVL at sector 1 control room of 220/66/11KV Substation	Request DHBVNL to confirm the Bill of Quantity for the MCC as same is different in A1 - Bill of Quantities & Cost Estimation , SCADA Architecture Layout Plan diagram and Techncial Specification for Hardware and Software given in the Volume -II of Tender Document	The amended BOQ contains the details of hardware and software proposed for this project, the specification and other technical details relates to Hardware & software Part are attached.
22	Volume-II	Page 44 of 180	1 RTU (Remote Terminal Unit)	Digital Inputs: Digital Outputs: Analog Inputs:	Request DHBVNL to kindly provide the IO list and IO sizing for the RTUs and FRTUs to be supplied under this contract	This will be suggested by the Bidder during detailed engineering & approval by DHBVN.
23	Volume-II	Page 44 of 180	1 RTU (Remote Terminal Unit)	Control Voltage: Voltage converter to be provided by bidder for converting control DC voltage to required DC in case the control voltage is different from station supply.	Request DHBVN to kindly confirm the DC voltage available at S/s for the RTUs, Relays, Ethernet Switches etc.	220V DC & 220V AC is available at each substation and 48V DC has been considered at each substation as per the BOQ.
24	Volume-II	Page 49 of 180	Chapter -5 Design & Operational Requirements of SCADA	Generally, the following are to be classified as Critical functions: <ul style="list-style-type: none"> <li>   All SCADA applications</li> <li>   Information Storage and Retrieval (ISR)</li> <li>   Web server applications, Security applications</li> <li>   Network Management system (NMS)</li> <li>   The following are the Non-Critical functions</li> <li>   Database modification and generation</li> <li>   Display modification and generation</li> <li>   Report modification and creation</li> <li>   The SCADA system will be designed to have following SCADA functions:</li> </ul>	Request DHBVNL to kindly confirm the specification and BOQ for the software to be supplied at the MCC and Sub-stations as same is different in A1 - Bill of Quantities & Cost Estimation , SCADA Architecture Layout Plan diagram and Techncial Specification for Hardware and Software given in the Volume -II of Tender Document	The BOQ has been amended and the details are contained there in.
25	Volume-II	Page 49 of 180	4 SCADA System architecture:	The SAS shall be based on a decentralized architecture and on a concept of RTU, distributed intelligence.	Since this tender is for the SCADA system for the IMT Manesar, all the software specification at S/s and MCC should be for SCADA/DMS Software but software specification shared in the tender document is for Substation based SAS Software which doesn't work for the City based SCADA/DMS System.	The proposed tender contains SAS at Substation level and SCADA at distribution level. The system shall be SCADA integrated to be controlled at MCC level.
26	Volume-II	Page 60 of 180	vi. System supervision & display	The SAS system shall be comprehensively self-monitored such that faults are immediately indicated to the operator, possibly before they develop into serious situations. Such faults are recorded as a faulty status in a system supervision display.	Request DHBVN to kindly replace SAS Software specification in the tender document with the MCC based SCADA/DMS Software for the solution to work	
27	Volume-II	Page 65 of 180	vi. System supervision & display	5.9 Automatic disturbance file transfer 5.10 Disturbance analysis 5.11 IED parameter setting		
28	Volume-II	Page 66 of 180	5.13 Gateway	The SCADA System and its Master Control Center shall have the capability to support simultaneous communications with multiple independent remote master stations.	Request DHBVN to confirm the BOQ for the Gateway to be provided at MCC.	The requirement has been mentioned in the BOQ.



Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
29	Volume-II	Page 66 of 180	5.19 Interface Equipment	The Contractor shall provide interface equipment for communicating between Substation Automation system & distribution Automation system and Remote control center. In case of PLCC communication any modem supplied shall not require manual equalization and shall include self-test features such as manual mark/space keying, analogue loop-back, and digital loop-back.	Since the complete communication between RTUs, FRTUs and MCC is on Fiber, request DHBVN to kindly confirm who will be providing the router, FODP, SDH etc equipment for the Fiber network at MCC, FRTU and RTU end.	All equipment will be provided by the bidder as per the amended BOQ.
30	Volume-II	Page 66 of 180	5.24 Network Management System:	The contractor shall provide network management system software for following management functions:	Request DHBVN to confirm the BOQ for the NMS Software to be provided at MCC.	Provided in amended BOQ
31	Volume-II	Page 73 of 180	7 Hardware requirements:	The hardware shall include servers that typically serve as the source of data, displays and reports. All Peripheral device which includes Workstation consoles, WAN router, LAN, printer, Time & Frequency system, External Cartridge Magnetic tape drive, VPS, Firewalls etc. The redundant hardware such as Servers, Firewall etc. shall work in hot standby manner	Request DHBVN to kindly confirm the specification and BOQ for the software to be supplied at the MCC and Sub-stations as same is different in A1 - Bill of Quantities & Cost Estimation , SCADA Architecture Layout Plan diagram and Technical Specification for Hardware and Software given in the Volume -II of Tender Document	The amended BOQ contains the details of hardware and software proposed for this project, the specification and other technical details relates to Hardware & software Part are attached.
32	Volume-II	Page 73 of 180	7 Hardware requirements:	1. The redundant communication server shall be a functional unit that offloads the task of communication & preprocessing between RTUs/DTMUs & SCADA servers. All RTUs/DTMUs shall be connected to CFE through IEC 60870-5-104 link. 2. A non- redundant server to host Developmental applications shall be provided. Router shall be required for data exchange 3. The router shall have the following features: 4. The contractor shall also supply a video projection system based on modular DLP (Digital Light Processing) based high resolution Laser-lit rear-projection video wall technology. 5. Firewalls shall be provided as per requirement	Request DHBVN to kindly confirm the specification and BOQ for the software to be supplied at the MCC and Sub-stations as same is different in A1 - Bill of Quantities & Cost Estimation , SCADA Architecture Layout Plan diagram and Technical Specification for Hardware and Software given in the Volume -II of Tender Document	The amended BOQ contains the details of hardware and software proposed for this project, the specification and other technical details relates to Hardware & software Part are attached.
33	Volume-II	Page 77 of 180	9 Tests	The substation automation system offered by the bidder shall be subjected to following tests to establish compliance with IEC 61850 for sub-station equipment and distribution equipment installed in the field:	Since this tender is for the SCADA system for the IMT Manesar, all the software specification at S/s and MCC should be for SCADA/DMS Software but software specification shared in the tender document is for Substation based SAS Software which doesn't work for the City based SCADA/DMS System.	The proposed tender contains SAS at Substation level and SCADA at distribution level. The system shall be SCADA integrated to be controlled from MCC.
34	Volume-II	Page 81 of 180	14 Availability:	Each SAS shall have a total availability of 99.98 % i.e. the ratio of total time duration minus the actual outage duration to total time duration.	Request DHBVN to kindly replace SAS Software specification in the tender document with the MCC based SCADA/DMS Software for the solution to work	

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
35	Volume-II	Page 85 of 180	1. Training	Typical architectural drawing of substation automation system		
36	Volume-II	Page 113 of 180	Chapter -7 Technical Specification Relay & aux. Power Supply	3. Trip Circuit Supervision Relay: 4. D.C. Fail Alarm Relay: A) Transformer Differential Protection: B) Non-Directional Three Over Current + One Earth Fault Protection	Request DHBVNL to share the details of the relays which needs to be retrofitted at each sub-station	The details are provided as per the list of relays & item to be changed. Please refer the same. The field assesment detail is attached.
37	Volume-II	Page 113 of 180	Chapter -9 Tech. Specification of Battery Charger	Technical Specification Of 48 Volts 300/120ah SMPS Based Battery Charger Suitable for Vrla Maintenance Free Battery Bank	1. Request DHBVNL to kindly confirm the specification of 2 KVA UPS. 2. Request DHBVNL to confirm whether 48V DCPS can be given instead of 48V 100AH VRLA Vattery with boost cum Float Charger with DCDB at each s/s.	As per the tender document.
38	Volume-II	Page 149 of 180	Chapter 13 Technical Specification of RTU	The Remote Terminal Unit (RTU) shall be installed at primary substation to acquire data from Multifunction Transducers (MFTs), discrete transducers & status input devices such as CMRs etc.	Request DHBVN to kindly share the detailed BOQ and specification of MFTs, CMRs, HDRs, Transdcuers which needs to be supplied at each S/s along with the RTU IO sizing for each sub-station	Refer to the amended BOQ.
39				SCADA Architecture Layout Plan , Hardware Specification in Vol II and A1 - Bill of Quantities & Cost Estimation : SCADA	Since the Quantity in both the documents is not matching request DHBVN to share the correct documents showing same quantities	The amended BOQ is attached.

**FIRM NO: 4**

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
1		14 of 32	2.2 FRTU Functions	(n) It shall be possible to view the most important information locally on the front panel of the enclosure and remotely from the control centre.	Please let us know if this is a Mimic or an HMI or PC based visualization?	As per BID document
2		14 of 32	2.3 Communication Ports	FRTU shall have four TCP/IP Ethernet port for communication with Master station(s) using IEC 60870-5-104/101 protocol or serial port in case IEC60870-101	We have two nos. on-board TCP/IP ports. One number On-board Serial port. Addition of serial ports is possible. One dedicated USB port is also available for configuration.	Accepted, Provided all the requirements are met with this arrangement
3		14 of 32	2.3 Communication Ports	The FRTU shall support the use of a different communication data exchange rate (bits per second) and scanning cycle on each port.	Please clarify this requirement.	As per BID document
4		15 of 32	2.5 Status input	-	We understand RTU is mistyped in place of FRTU.	Yes, it is topographic error, may be read as RTU.
5		15 of 32	2.5 Status input	The RTU shall provide necessary sensing voltage, current, optical isolation and de-bounce filtering independently for each status input. The sensing voltage shall not exceed 48 Vdc/220VAC.	Please confirm signal voltage level.	All substations have 220V DC and 220V AC supply available, 48V DC has already been included in the BOQ

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
6		28 of 32	4.2 Master station-cum-RTU/FRTU simulator & protocol analyzer software tool	-	Please clarify this requirement.	As per BID document
7		46 of 180	2.1 Self-Healing Grid (SHG) in 11kV ring network using RMUs	-	1. NERC CIP is a very comprehensive directive basically saying "provide cyber security measures which are all state-of-the-art". Please specify which measures have to be included? 2. Is equivalent (eg. German BDEW) applicable? 3. Who will do the 3rd party inspection / network test for cyber-security?	As per BID document
8		46 of 180	2.1 Self-Healing Grid (SHG) in 11kV ring network using RMUs	-	One time configuration will be done. All details are to be shared by customer.	As per BID document. Any change in configuration shall be done in O&M period, as per tender document.
9		-	-	-	Please provide I/O details (Digital Inputs, Digital Outputs, Analog Inputs, no. of RS485 devices per RMU, no. of 61850 devices per RMU etc.)	Details of relays and other devices is attached. The I/O details shall be finalized during detail engineering.
10		47 of 180	2.4 Functions of Self-Healing grid	-	Please clarify this requirement.	The features as per BID document shall be provided.

**FIRM NO:5**

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
1		13 of 32	2.0 General	The supplied FRTU.	Please provide approved make list for FRTU. Request you to approve WAGO, Kalkitech and chemtrol as approved make for FRTU.	Vendors can get empanelled with DHBVN pre/post award of work as per the Nigam's policy.
2		14 of 32	2.2 FRTU Functions	(k) The principal communication for SCADA/ DMS shall be on optical fibre cable network therefore the FRTU shall have the requisite functionality for the same.	We support ethernet communication with on-board RJ45 Ethernet ports. Please confirm, FO to Copper converter needs to be provided.	Our communication is by OFC, any converter/ interface required at FRTU end shall be in scope of Bidder.
3		14 of 32	2.2 FRTU Functions	(l) Communication with at least two master stations simultaneously on IEC 60870-5-104	We support upto four master stations.	Noted
4		14 of 32	2.2 FRTU Functions	(n) It shall be possible to view the most important information locally on the front panel of the enclosure and remotely from the control centre.	Please let us know if this is a Mimic or an HMI or PC based visualization?	As per tender document.
5		14 of 32	2.2 FRTU Functions	(o) It shall be possible to view LBS/breaker status from the front mimic of FRTU with the help of green/red led indication.	Understand that MIMIC shall be for LBS and VSB operation (which is available for RMU front facia) no Oher HMI related MIMIC is required on Panel. If Required please provide details with clarification.	As per the tender document & DHBVN specification.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
6		14 of 32	2.2 FRTU Functions	(q) It shall be possible to retrieve and display on a laptop PC the time-stamped events recorded at the enclosure.	Please clarify if PC is required.	PC is required, as per amended BOQ.
7		14 of 32	2.2 FRTU Functions	(r) The FRTU shall have remote or local control mode switch on its front panel.	Please clarify Control panel dimensions. Else we shall understand that, It should be suitable as per offered FRTU dimensions.	As per DHBVN specification.
8		14 of 32	2.3 Communication Ports	FRTU shall have four TCP/IP Ethernet port for communication with Master station(s) using IEC 60870-5-104/101 protocol or serial port in case IEC60870-101	We have two nos. on-board TCP/IP ports. One number On-board Serial port. Addition of serial ports is possible. One dedicated USB port is also available for configuration. Please confirm or give clarification for 4 ports.	2 nos. of Ethernet port, 1 no. of RS485, 1 no. of USB are required as per tender document.
9		14 of 32	2.3 Communication Ports	The FRTU shall support the use of a different communication data exchange rate (bits per second) and scanning cycle on each port.	Please clarify this requirement.	As per the tender document.
10		15 of 32	2.5 Status input	-	We understand RTU is mistyped in place of FRTU.	This is a topographic error, Please read RTU in place of FRTU.
11		15 of 32	2.5 Status input	The RTU shall provide necessary sensing voltage, current, optical isolation and de-bounce filtering independently for each status input. The sensing voltage shall not exceed 48 Vdc/220VAC.	Please confirm signal voltage level. Our FRTUs DIs are 24 VDC. For higher voltage levels, relays will be required.	220V DC & 220V AC supply is available at each substation. Provision for providing of 48V DC at each substation is a part of BOQ. If any voltage converter is required, same shall be provided by the bidder for converting existing voltage into required voltage.
12		17 of 32	2.7.1 Heavy duty control output relays	The output contacts shall be rated for at least 5 Amps Continuous at 220Vdc	For offered FRTU, contact rating upto 110 VDC.	220V DC & 220V AC supply is available at each substation. 48V DC is provided at each substation in the BOQ. If any voltage converter is required, same shall be provided by the bidder for converting existing voltage into required voltage.
13		18 of 32	2.11 Input AC / DC Power Supply	FRTU power supply should be capable enough to drive (RMU) MV switch motorization Power at 24 V & external transmission modem (GPRS / CDMA) for communication.	We consider this as part of RMU power supply.	Auxiliary power source is considered for RMU as per BOQ. If the FRTU source is adequate to drive RMU same is acceptable, however, Reliability has to be assured by bidder.
14		18 of 32	2.11 Input AC / DC Power Supply	Battery sizing should be of adequate design to carry 10 open / close operations in absence of power with fully charged battery.	We consider this as part of RMU power supply.	
15		18 of 32	2.11 Input AC / DC Power Supply	The FRTU shall have adequate protection against reversed polarity, over current and under voltage conditions, to prevent the RTU internal logic from being damaged and becoming unstable causing mal-operation.	We consider this as part of RMU power supply.	

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
16		19 of 32	2.11 Input AC / DC Power Supply	FRTU Power supply should have capabilities of self-monitoring, like Loss of AC supply, 24Vdc motorisation fault, 12 V DC transmission equipment power fault. FRTU Power supply should have capabilities of Battery monitoring: - The power supply module should tests the battery status twice a day. When two tests are negative, an alarm should be generated and transmitted to the control centre.	We consider this as part of RMU power supply. Battery, Battery Charger etc. will be in RMU manufacturer's Scope. Please let us know about the capability of communication of battery charger over network (e.g. RS485)	As per the tender document.
17		21 of 32	2.19 List of information to be provided from FRTU	-	Confirmed	Accepted
18		28 of 32	4.1 RTU/FRTU Data base configuration & Maintenance software tool	-	Confirmed	Accepted
19		28 of 32	4.2 Master station-cum-RTU/FRTU simulator & protocol analyzer software tool	-	Please confirm if DHBVNL required the same.	Yes, as per the DHBVN specification
20		28 of 32	4.3 Laptop PC for above software tools along with interfacing hardware	-	Please confirm if DHBVNL required the same.	PC is required, as per amended BOQ.
21	Volume I	14 of 171	i. Co-ordination by the contractors with the existing system:	The devices already installed at each substation at IMT Manesar are also required to be integrated with the SCADA system, bidders are requested to examine the parameters of these devices provided in this bid. However, any additional information required shall be obtained by the bidders themselves. This may require co-ordination & information from the manufacturers who had supplied these devices for IMT Manesar. This information shall be obtained by the bidders beforehand and DHBVN shall not entertain any claim on this account.	Integration of existing devices is not possible without support of OEM. Any additional information needed from OEM for integration same will only be provided if the customer ask it to the OEM. Hence support of customer is must for this activity.	As per the tender document, DHBVN will provide the support to the extent possible.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
22	Volume 1	22 of 171	xii. Miscellaneous:	The project aims at converting the existing EHV and 11 kV overhead/UG system into SCADA enable system with use of equipments such as RMUs, RTUs, FRTUs etc.. Care has been taken to provide the possible line routes/SLDs as reference but the availability of securing right of way and other SLDs rests with the contractor, therefore, he shall satisfy himself of the right of way issues and shall be responsible for laying of the new system and their mounted equipments.	Request you to remove the responsibility of ROW from the scope of the bidder	As per the tender document.
23	Volume I	11 of 171	xii. Master Control Station for Real time data acquisition over IEC 60870-5-104		We understand that the customer required remote SCADA control centre which will be integrated with S/S RTU on IEC 104 protocol. If this is so, the customer should provide the specification Control centre SCADA. Further BOM/BOQ should also be clearly identified in the RFP.	The RTU communication processor should have the capability to communicate with all meter on RS485 connectivity. The processor should also have capability to integrate MODBUS. The protocol for two way communication between RTU & MCC should be IEC-60870-5-104. The BOQ has been amended.
24		11 of 171	xvi.	The automation system at IMT Manesar shall be designed in such a way that all the functions available at MCC IMT Manesar shall also be available at a second command center preferably located at Gurugram that shall be created as a part of R-APDRP IT provisions. The automation system for IMT Manesar shall have the provision of its availability at the other designated command center without any hardware & software changes.	We understand that the customer intends to have an integration between proposed control centre (CC) at Sector 1 and R-APDRP Gurgaon CC and also with other CC. How to achieve this is not mentioned anywhere in the tender. However This can be achieved through ICCP integration. Kindly add this point in the RFP.	Should be compatible for integration with MCC.
25	Volume I	159 to 171	SCHEDULE OF PRICES for Bidder		After looking at the price BOQ, it seems that there is no BoQ SCADA control centre. In addition there is no provision of any budget for SCADA control centre in this schedule. Considering the requirement of SCADA control centre and its substantial cost, it is necessary to provide the BOQ with budgeted prices. This will ensure fare comparison among the bidders as all bidders will quote according to the BoQ,	The BOQ has been amended.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
26	Volume II	74 of 180		The redundant communication server shall be a functional unit that offloads the task of communication & preprocessing between RTUs/DTMUs & SCADA servers.	Does the customer intends to procure DTMU in this tender. If not please remove it, as it do not in any way resembles with RTU.	Not required.
27	Volume I & II	11 of 171 & 42 of 180		Up gradation/ Update & Integration of existing RTU's at sector 1 and sector 4 substations. & Augment existing RTU's (C-264, Schneider Make) at sector 1 and 4 installed by HVPNL and integrate all 11KV breakers with the existing RTU. To achieve the compatibility, the RTU specifications shall be made consistent with the requirement of HVPNL at these locations.	In order to remove the dependancies of any specific OEM and bring fair competetiveness, bidder should be allowed to propose New RTU at Sector-1 and Sector-4 S/S. This will not only eliminate the coordinations issues but will also accomplish the work fast.	Bidder has the option of augmenting existing RTU or provide new auxiliary RTU. The integration of new RTU with the existing RTU will be in the scope of Bidder.
28	Volume II	43 of 180		Integrate all FRTU's through OFC and directly link to existing RTU via Gateway to be installed at sector 1.	In case of SCADA control centre, all the FRTUs will be intrgated to control Centre at Sector 1 on FEP server and not the gateway. Kindly clarify.	As per RFP all FRTU will be integrated at MCC at sector 1 on to the SCADA server in such a way that for future communication to a remote control gateway server may be required, which is in scope of bidder.
29	Volume I	12 of 171	XVII & XVIII	xvii. S & I of Server Based Redundant LDMS (Local Data Monitoring System) with data concentrator for real time data acquisition &Data storage system at Sector 1, MCC which will be jointly used by HVPNL and DHBVN with view & control user rights. The LDMS shall be complete with Ethernet Switches, SCADA / Automation Hardware, Data storage system, Application software server, HMI , View screens master & secondary , redundant gateway as defined in the technical specifications. xviii. S & I of Server Based Redundant LDMS (Local Data Monitoring System) with data concentrator for real time data acquisition & storage at Sector 1, MCC which will be jointly used by HVPNL and DHBVN with view & control user rights.	We did not understand this requirment. If the SCADA control centre is to be set up at Sector-1 S/S, The user rights can be provided by having remote VDUs	The MCC at Sector 1 substation will be used as main control center for SCADA system. The system shall be jointly used by HVPNL and DHBVN. It is proposed to have a sub control center at sector -1 for DHBVN who will have the monitoring rights for entire system and control rights for 11KV system. Such user rights shall be provided.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
30		20, 21 of 171		<p>i. DHBVN shall operate the system but contractor will provide maintenance services for 4th &amp; 5th Year with the provision of extension for 6th, 7th &amp; 8th year.</p> <p>viii. During this five year period, entire responsibility for system maintenance, repairs, replacement of any system hardware shall be that of contractor which includes upgradation/Updates, augmentation/Update of software &amp; hardware also. Any system up-gradation/Update like addition of new field equipment which needs to be integrated with the proposed SCADA system that are essentially required including hardware &amp; software application augmentation/Update, shall also be part of the contractor's responsibility.</p>	<p>From these clauses we understood that the bidder need to provide only non-comprehensive maintenance services during 4th and 5th year. For Any repairs, replacement during this period, the customer will pay to the bidder. Please confirm.</p>	<p>During the warranty period which includes 3 year O&amp;M period and 4th, 5th AMC period any repair, replacement will be covered under the scope of bidder. However as per the bid document, the warranty period given in the bid document or given in the technical specification, whichever is on higher side will be applicable. During the AMC period of 6th, 7th &amp; 8th all the charges for repair &amp; replacement will be paid by the DHBVN in case of expiry of warranty period on any equipment.</p>
31	Volume I		x. Facilitation of the assets mapping of 11KV feeders and RMUs for Distribution management System (DMS)	<p>The existing electrical infrastructure (primary &amp; secondary) shall be surveyed by the contractor and shall be mapped with details of the proposed SCADA infrastructure along with its components. The mapping shall be provided on any acceptable editable format that shall be compatible with GIS data base so that GIS integration can be done withoutv any further field or office work. The system has to be mapped (using Asset Mapping &amp; Consumer Indexing activities) over the GIS platform (ESRI) and the GIS system in turn shall be integrated with the SCADA system over the DMS platform. Contractor at this stage shall provide the mapping of existing &amp; proposed system and ensure its integration with DMS at later date without any changes in hardware, while ensuring that SCADA system will work properly after this integration.</p>	<p>Since there is no GIS system in place, the bidder can only provide the coordinates of the asset to be mapped. SCADA system supplied here will be capable of integrating with GIS through an Adaptor. The same adaptor will be considered in the present scope. Kindly confirm our understanding.</p>	<p>The Bidder shall provide the layout of proposed SCADA system on AutoCAD software or any other acceptable software which can later on be imported to any GIS platform. At this stage the coordinates of the assets (existing &amp; proposed) shall be provided. The integration of the data on to GIS platform and SCADA system shall be covered under the services provided by the Bidder during the execution as well as O&amp;M as per tender document.</p>



Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
32	Volume I	34 of 171	2.1 Technical Criteria:-Installation & integration of SCADA system:	The bidders should be an OEM in SCADA system & its components and should have supplied and implemented/commissioned at least two substation with SCADA / automation systems at 220/132/66 KV or higher voltage levels for any utility / Discoms/ PGCIL / NTPC / NHPC / Govt. undertaking in India during last 3 years from the date of NIT. The commissioned system should comprise of integration with at least two distribution substations of not less than 33 KV along with distribution system and with operation from one master control center.	Kindly clarify whether the customer wants an experience of implementation & commissioning Substation SCADA system for minimum 2 substation or an experience of implementation & commissioning of at least two substation with SCADA system.	As per DHBVN understanding, the bidders should be an OEM in SCADA system & its components and should have supplied and implemented/commissioned SCADA/ automation systems system on at least two substation at 220/132/66 KV or higher voltage levels for any utility / Discoms/ PGCIL / NTPC / NHPC / Govt. undertaking in India during last 3 years from the date of NIT.
33					As discussed and agreed during pre-bid meeting, amendment 1 to RMU specifications CSC 117/R-1/DH/UH/P&D/2016-17 is applicable for this tender also. Kindly confirm.	As per latest DHBVN specification no. CSC-117/R-II/DH/UH/P&D/2016-17
34				Multi Function Meter	We shall consider all Digital Multi Function Meter for All feeders of RMU.	As per DHBVN specification no. CSC-117/R-II/DH/UH/P&D/2016-17
35	Volume-I	168 and 169		RMU configuration	Please clarify the Exact requirement of RMUs. Is it same as mentioned on Page no. 168 & 169 of Vol-1. Please confirm exact requirement for 1way RMU i.e. required standalone or to be coupled with existing make RMUs. Please confirm exact qty also( if any change in config. else we shall consider the same as mentioned on above mentioned page nos.)	As per Tender document & amended BOQ.
36	Volume-I	9 of 171	1.2 - Detail scope of work	AMC for 6th, 7th & 8 th Year	Is it at same cost for these extension period	Bidder will quote the price as per price schedule given in the tender document.
37	Volume-I	15 of 71	Foot Survey & design	penalty for non submission of drawings	The clause is not mentioned in the bid says that in case of delay is from customer/third party vendor ( existing) this penalty clause will not be applicable	As per the tender document
38	Volume-I	18 of 71	Dismantling of existing system	Dismantling of existing system	Quantum of job should be clarified accordingly cost will be estimated for this activity	We do not envisage dismantling of the existing system, however, while laying the RMU, there might be some dismantling, which bidder has to estimate.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
39	Volume-I	92 of 171	Completion	The work shall be completed in 9 months including one month trial run	The implementation schedule shall be increased from 9 months to 15 months due to various parties are involved i.e civil works, third party vendors relays integration.	As per bid document
40	Volume-II	42 of 180	Augment of existing RTUs	Augmentation of Existing RTUs	DHBN/OEM support required for implementation of the same , it is suggested that DHBN has to make an agreement with OEM for support during execution period.	As per the tender document
41	Volume-II	105 of 180	4.12- Expected Battery life	The battery shall have minimum expected life of 20 Years at float operation	This is requirement may not be feasible and it is suggested same should be redeuced to less than 10 years	As per the tender document
42	Volume-II	36 of 180	XVI- Main control centre and Gurugram cc availability	R-APDRP IT control availability at Gurugram as backup system for main cc	when it will be available , Is it linked with completion of the project?	It is not linked with the project completion.
43	Vol -1	11 of 171	vii Up gradation/ Update & Integration of existing RTU's at sector 1 and sector 4 substations.		Please provide the below information: 1. Expanding capability 2. Can we supply new RTU and remove the existing RTU.	Bidder has the option of augmenting existing RTU or provide new auxiliary RTU. The integrating of new RTU with the existing RTU will be in scope of bidder.
44	Vol -1	14 of 171	i. The new relays will be compatible with Modbus /open protocol / IEC-60870-5-104 or IEC - 61850 -101 or as defined under section 5.6		IEC - 61850 -101 means IEC 103 or IEC 61850?	IEC-61850

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
45	Vol -1		During implementation of this project, co-ordination may be required with the relay & equipment manufacturers who have supplied existing relays & equipment at substation. The devices already installed at each substation at IMT Manesar are also required to be integrated with the SCADA system, bidders are requested to examine the parameters of these devices provided in this bid. However, any additional information required shall be obtained by the bidders themselves. This may require co-ordination & information from the manufacturers who had supplied these devices for IMT Manesar. This information shall be obtained by the bidders beforehand and DHBVN shall not entertain any claim on this account.		if OEMs are is not obliged by any contract it might be difficult to get data. Even if the relay has a communication port, Employer has to give a guarantee that it is working and data required is available from the port. At least an alternative has to be proposed in the document for non cooperating OEMs.	As per the tender document
46	Vol -1	20 of 171	b. Five year equipment warranty will be covered as per the conditions of contract given in Volume 1 & volume 2.		Warranty starts from the date of supply or from data of commissioning and handover?	As per the tender document.
47	Vol -1	61 of 171	38 Warranty Period		from when the warranty period starts?	As per the tender document.
48	Vol -2	3 of 180	1.6 Optional Spares		What technical particulars we should provide for considering these spares?	Volume-II
49	Vol -2	40 of 180	1. 220/66/11 KV substation:		Can we provide additional RTU for Integrating 11kV outgoing feeders Do we have additional communication port for new MCC? Can we replace the existing RTU and install a new RTU?	Bidder has the option of augmenting existing RTU or provide new auxiliary RTU. The integrating of new RTU with the existing RTU will be in scope of bidder.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
50	Vol -2	40 of 180	2. 66/11 KV Substation 4		Can we provide additional RTU for Integrating 11kV outgoing feeders Do we have additional communication port for new MCC? Can we replace the existing RTU and install a new RTU?	Bidder has the option of augmenting existing RTU or provide new auxiliary RTU. The integrating of new RTU with the existing RTU will be in scope of bidder.
51	Vol -2	41 of 180	3. 66/11 KV Substation 2,3,8 and Old Manesar:		Existing breaker panels have potential free contacts for Rtu integration? All Panels are motorized?	All breaker are motorized, however the exact requirement will be assessed by the bidder.
52	Vol -2	42 of 180	iii. Meter Interface points		Why two interfaces of meter are requested? Can we share the data from RTU to two different locations?	As per the tender document.
53	Vol -2	42 of 180	iv. Retrofit of RTU		Please provide the details of the existing RTU, Its spare capacity and installed spare capacity, Space available inside the panel. Existing connection between RTU and Relay should be elaborated more.	The bidder should assess the requirement by visiting the site.
54	Vol -2	44 of 180	1 RTU (Remote Terminal Unit)		Additional port requirement is not specifid, can we consider this as required?	Yes
55	Vol -2	65 of 180	5.9 Automatic disturbance file transfer		This functionality is requested for the IEDs to be supplied or this functionality is asked to be implemented in this project? If this functionality has to be implemented, are the existing communicating relays are capable in file transfer? Do you need this unit at each of the substations?	This should be the part of SCADA system. The requirement will be assessed by the bidder.
56	Vol -2	67 of 180	5.15 Printer		Do we need to provide printer at each substation?	Yes, as per ammended BOQ.
57	Vol -2	72 of 180	6 Power Supply		1. Do we need to provide Local display at each of the substations? 2. Do you need UPS for MCC Server Hardware?	Yes, as per ammended BOQ.
58	Vol -2	88 of 180	IRIG-B		DO we still need to provide IRIG-B? as we are considering IEDs to sync on SNTP.	As per the tender document.
59	Vol -2	95 of 180	viii)		NTP is not provided in the list, can we consider the same as one of the port?	Yes
60	Vol -2	100 of 180	Chapter -8		What is required backup time for 220 VDC system and 48 VDC DCPS?	As per technical specification, it is 10 hour backup for 48V DC.
61	Vol -2	102 of 180	4. Battery		Can we use 12 VDC battery instead of 2 VDC battery?	No change,As per the tender document.
62	Vol -2	115 of 180	6. General Technical Requirement:		Can we use 12 VDC battery instead of 2 VDC battery?	No change,As per the tender document.
63	Vol -2	150 of 180	(h) Internal battery backup to hold data in SOE buffer memory & also maintaining the time & date.		Can we use an alternative for store the SOE and maintain the date and time?	As per the tender document.
64	Vol -2	155 of 180	8. IED pass through		All IEDs are connected on LAN, Passthrough functionality may not be needed. As the configuration tool can directly reach IED with out going through RTU. Please elaborate its functionality and where you want to use it?	As per the tender document. This will be finalised during detailed engineering.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
65			Retrofit of Relay		The following details are required: 1. Type of Breaker? 2. Control mechanism in working condition? 3. Space for Retrofit? 4. How many relays are to be retrofitted?	This information is available at DHBVN web portal.

**FIRM NO:6**

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
1				The bidders should be an OEM in SCADA system and its components and should have supplied and implemented/commissioned at least two substation with SCADA/automation system at 220/132/66 KV or higher voltage level for any utility/ Discoms/PGCIL/NTPC/NHPC govt. undertaking in India during last 3 years from the date of NIT. The commissioned system should comprise of integration with at least two distribution substations of not less than 33 kV along with distribution system and with operation from one master control center.	We request DHBVN to incorporate "OEM or Authorized partner" in place of "OEM". Other conditions shall remain same as per tender documents.	No change. As per the tender document.
2				The bidder should have supplied and implemented/commissioned distribution automation system/distribution SCADA system/ DMS for at least utility/ Discom in India during last 3 years from the date of NIT.	We request DHBVN to incorporate "OEM or Authorized partner" in place of "bidder". Other conditions shall remain same as per tender documents.	No change. As per the tender document.
3				The bidder should have supplied or installed at least 75 nos. of 11 kV RMU's with FRTU's for distribution system to one or more utilities /Discoms/PGCIL/NTPC/NHPC/Govt. undertaking in India. The system should be successfully operational for at least one year.	We request DHBVN to incorporate "OEM or bidder" in place of "bidder". Other conditions shall remain same as per tender documents.	No change. As per the tender document.
4				The bidder should have also integrated at 50 nos of 11 Kv RMU's or VCB 's with FRTU's for distribution automation or SCADA system or DMS for any utility /Discoms/PGCIL/NTPC/NHPC/Govt. undertaking in India. The system should be successfully operational for at least one year.	We request DHBVN to incorporate "OEM or Authorized partner" in place of "bidder". Other conditions shall remain same as per tender documents.	No change. As per the tender document.
				Time of completion- Clause No. 25, Vol 1, Page No. 92 of 171:	As it includes engineering, Design, Procurement, Inspection and various shutdowns for completion of the required job, minimum 18 months shall	No change. As per the tender document.

Sl. No.	Volume/Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query/Clarification by bidder	DHBVN Reply
5				<p>"The work shall be completed and shall have passed the tests on completion within 9 months from the date of issue of letter of intent(LOI) including one month of trial run</p> <p>Date of inspection and clearance by Chief Electrical Inspector will be considered as date of completion of works"</p>	be required.	