

NIT No. RECPDCL/TECH/AMI-CED/e-Tender/2016-17/3932 Dated: 09.03.2017				
Amendment-1				Dated:31.03.2017
S. No.	Item	Page No. / Clause No.	Technical Specifications as per RFP	Amended Clause
1	Pre-Qualifying Criteria for bidder	Pg 146	b. Bidder should have Smart Grid Maturity Model Experience or equivalent	Deleted
2	Page 20, Section iv, Scope, Communication Canopy, Functional Specification	-	shall provide a means for extracting stored data directly from the device in the event of network communications or equipment failure. (Using local device RF / RS 232/ Ethernet)	shall provide a means for extracting stored data directly from the device in the event of network communications or equipment failure. (Using local device Firewall protected RF/ RS 232/ Ethernet)
3	Technical Specifications Section 2.1 Single Phase Whole Current Meters	2.1.4.32. Communication module of meter for AMI	As per clause no 1.2 (b) of IS 16444 PART-1	As per clause no 1.2 (b) of IS 16444
4	Technical Specifications Section 2.1 Single Phase Whole Current Meters	2.1.4.37. Communication capabilities and software feasibilities	n) There should not be any reservation of bidder on a particular frequency band to be used for communication.	865-867 MHz with +/- 2 MHz of Licence Band with 10 years of licence as per RFP
5	Technical Specifications Section 2.1 Single Phase Whole Current Meters	2.1.6. Terminals, Terminal Block	e) The terminals and connections shall be suitable to carry up to 120 % of I _{max} continuously (I _{max} 60 A). The size, design & material of Bus bar /Shunt/Terminal shall be with suitable cross sectional area so that temperature rise will not be more than 20 Deg C above ambient temperature of 45 Deg C at 150% of I _{max} loading for 06 hrs. continuous. This test of temp. rise shall be done on tender samples & will also be done on any samples from any supplied lot.	e) The terminals and connections shall be suitable to carry up to 120 % of I _{max} continuously (I _{max} 60 A). The size, design & material of Bus bar /Shunt/Terminal shall be with suitable cross sectional area so that temperature rise will not be more than 20 Deg C above ambient temperature of 45 Deg C at 120% of I _{max} loading for 06 hrs. continuous. This test of temp. rise shall be done on tender samples & will also be done on any samples from any supplied lot.
6	Technical Specifications Section 2.2 Three Phase Whole Current Meters	2.2.4.32. Communication module of meter for AMI	As per clause no 1.2 (b) of IS 16444 PART-1	As per clause no 1.2 (b) of IS 16444
7	Technical Specifications Section 2.2 Three Phase Whole Current Meters	2.2.5. Communication capabilities and software feasibilities	m) Communication of the meter at optical port /OTA (NAN/WAN) should be as per IS 15959 (Part-2):2016.	m) Communication of the meter should be as per IS 15959 (Part-2):2016 or latest amendment
8	Technical Specifications Section 2.3. Three Phase CT Operated Smart Meters	2.3.4.23 Internal diameter of the terminal holes and Depth of terminal hole.	5.5mm (minimum) and 25 mm	Agreed
9	Technical Specifications Section 2.3. Three Phase CT Operated Smart Meters	2.3.9. TERMINALS, TERMINAL BLOCK	2.3.9.5. Internal diameter of the terminal holes shall be minimum 5.5 mm; minimum clearance between adjacent terminals shall be 10 mm. Depth of the terminal holes shall be of 25 mm.	Agreed
10	General Query	C. Scope of work. Cl no. 36	The NIC/ communication module ceiling prices shall be revised downwards after every two years subject to market price	The NIC/ communication module ceiling prices shall be revised after every two years subject to market price
11	General Query	D. Approach and Methodology	The communication network may also have to support other communication technologies (Ethernet/cellular/PLC) for specific need based isolated deployment and if so, this shall have to be integrated into the same HES for ease of operation.	The communication network may also have to support other communication technologies (Ethernet/cellular) for specific need based isolated deployment and if so, this shall have to be integrated into the same HES for ease of operation.
12	General Query	GENERAL TECHNICAL REQUIREMENTS	2.1.4.4. Reference Conditions for testing the performance of the meter a) V _{ref} = 230 V ± 1 %	it should be 240 V ± 1 % as per IS 13779
13	General Query	GENERAL TECHNICAL REQUIREMENTS	2.2.4.4. Reference Conditions for testing the performance of the meter (a) V _{ref} = 230 V ± 1 %	it should be 240 V ± 1 % as per IS 13779
14	General Query	GENERAL TECHNICAL REQUIREMENTS	4.4 Reference Conditions for Testing the performance of the meter V _{ref} = 230 V ± 1 %	it should be 240 V ± 1 % as per IS 14697
15	General Query	2.3.5. COMMUNICATION CAPABILITIES AND SOFTWARE FEASIBILITIES	2.3.5.10. CED expected time for integration of meter with RF module is 04 months maximum. Meter should be supplied to CED along with integrated NIC card (bidder to purchase NIC card from CED approved RF supplier). NIC card should be plug in type with proper sealing arrangement	12 Month from the date of Award of contract
16	General Query	2.3.5. COMMUNICATION CAPABILITIES AND SOFTWARE FEASIBILITIES	2.3.5.15.3. Meter and IHD through RF.	Clause Deleted
17	General Query	F. General scope of work	1. Selected Bidder to establish proposed Advanced Metring Infrastructure System in Project Area i.e. operation subdivision no. 5 of CED within 6 months from the award of contract	1. Selected Bidder to establish proposed Advanced Metring Infrastructure System in Project Area i.e. operation subdivision no. 5 of CED within 12 months from the award of contract

18	General Query	C. QR for Meter Manufacturer (OEM)	3 Experience- OEM should have min 2 years of experience in Smart meter manufacturing in India and also have supplied at least 25,000 AMI/AMR meters on RF/GPRS/In-built modem & related equipment to Indian Power Utilities in any 2 years, during last 7 years and have manufactured at least 5000 meters for AMI project duly type tested as per BIS & NSGM guidelines in last 3 years.	OEM should have min 2 years of experience in Smart meter manufacturing in India and also have supplied at least 25,000 AMI/AMR meters on RF/GPRS/In-built modem & related equipment to Indian or Global Power Utilities in any 2 years, during last 7 years and have manufactured at least 5000 meters for AMI project duly type tested as per BIS & NSGM guidelines in last 3 years. Total rejection of meters should be less than 1% at field due to manufacturing defects and all such meters are installed and working well as AMR with all
19	General Query	C. QR for Meter Manufacturer (OEM)	6 Smart Meter Capability- The smart meters proposed should meet the relevant standards applicable in India and the meter supplier should have capabilities (both production and financial) to supply the full quantity of meters within 1 month of the award of contract	6 Smart Meter Capability- The smart meters proposed should meet the relevant standards applicable in India and the meter supplier should have capabilities (both production and financial) to supply the full quantity of meters within 6 months of the award of contract
20	1 Phase Meter	Reference conditions, 2.1.4.4.	Vref=230V	Vref=240V
21	1 Phase Meter	Communication capabilities and software feasibilities, 2.1.4.37.	Optical communication port shall be available for communication. Communication port shall not be affected by any type of injection/unauthenticated signals and having proper sealing arrangements. The complete data shall be downloaded within 2 minutes	Optical communication port shall be available for communication. Communication port shall not be affected by any type of injection/unauthenticated signals and having proper sealing arrangements. The complete data shall be downloaded <10 minutes
22	1 Phase Meter	Abnormal tamper conditions, 2.1.4.40.	(b) frequency in tamper snapshot (c) Logging of intensity of tamper as per Table 5 All tamper should be configurable...	(b) and (d) Agreed, (C) Refer RFP
23	1 Phase Meter	Terminal and terminal block, 2.1.6	(e) The terminals andany sample for any supplied lot (h) Terminals should be with Allen screw...	(e) Testing will be done at 120%, (h) Please refer RFP
24	1 Phase Meter	Billing parameters, 2.1.11.4	Counters- MD Reset Counter, Billing count	Deleted
25	1 Phase Meter	Special Test, 2.1.20.4	The bidder shall demonstrate.....in compatible with CED's CFW	Deleted
26	3 Phase Meter	Display Units, 2.2.19.	The kWh & kVAh.....8 digits LCD display....	Agreed

27	-	Single phase – 2.1.4.37-f Page no . 26	Android based or windows based HHU shall be preferred.	Agreed
28	-	Single phase – 2.1.6 Page no . 31	Terminal block :- Terminal block should be in single mould with meter body base.	Caluse Deleted
29	-	Three phase 20-100A – 2.2.26.3 Page no . 64	Acceptance test:- Error measurements with 38 abnormal condition as per Annexure -1	Deleted
30	-	SECTION-III INSTRUCTIONS TO BIDDERS (36) page no. 13	The NIC card /communication module ceiling price shall be revised downwards after every 2 years period subject to market price.	The NIC/ communication module ceiling prices shall be revised after every two years subject to market price
31	-	A. QR for Bidder (2) Page no 135	Quality Certification: Bidder should have Smart Grid Maturity Model Experience or equivalent model (internationally accepted) experience.	Pls refer amendment
32	-	Section 2, clause 25	It shall be the responsibility of solution provider to resolve any communication and IT Infrastructure related issues of meters and IT Infra of different OEMs. Failure Rate: Less than 0.75% failure rate per annum for all network communications equipment over the required operating life (i.e. 15 years) of the system. (Failure is defined as any occurrence when the equipment is not functioning per design specification.)	It shall be the responsibility of solution provider to resolve any communication and IT Infrastructure related issues of meters and IT Infra of different OEMs. Failure Rate: Less than 0.75% failure rate per annum for all network communications equipment over the required operating life (i.e. 10 years) of the system. (Failure is defined as any occurrence when the equipment is not functioning per design specification.), As per CED supply code 2010 page no 50, point no 5
33	-	Section F - General scope of work	Selected Bidder to establish AMI System in Operation Subdivision no 5 of CED within 6 monthis of award of contact	12 Month from the date of Award of contract
34	MANUFACTURER AUTHORIZATION FORM	Form-V (page-152)	We hereby extend our full guarantee and warranty in accordance with Clause 26 of the General Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.	We hereby extend our full guarantee and warranty in accordance with General Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.
35	Payment terms	Page-129		Revised Payment terms, Please refer Annexure-1
36	TENDER EVALUATION METHODOLOGY	Page-159		QCBS Approach, Please refer Annexure-2
37	Financial bid Form: 3 Communication system - VPN (MLLN/ MPLS) Broadband	Page-165 (sr. no.1.1)	Network Connectivity Charges for 2.0 MBPS MPLS-broadband Link for 6 Nos. S/stn for 36 months	Network Connectivity Charges for 2.0 MBPS MPLS-broadband Link for 6 Nos. S/stn for 48 months
38	Financial bid Form: Form: 1 Meters Cost (BOQ)	Page-146 (sr. no.1.7)	Data Concentrator Units -300 nos.	Data Concentrator Units to be filled by bidder. Revised Financial bid has been uploaded
39	General Conditions of Contract	Point No. 22 Page no. 133	Bidder to provide sizing of servers, storage and network bandwidth in the technical proposal. Although, supply of servers, storage and network is not part of bidder scope of work.	Bidder to provide sizing of servers, storage and network bandwidth in the technical proposal. Although, supply of servers, storage and network is a part of bidder scope of work.
40	Pre dispatch Inspection	Clause No. 2.3.21 Page no. 85-	Equipment shall be subject to inspection by a duly authorized representative of the CED. Bidder shall grant free access to the places of manufacture to CED's representatives at all times when the work is in progress. Inspection by the CED or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by CED.	Equipment shall be subject to inspection by a duly authorized representative of the RECPDCL. Bidder shall grant free access to the places of manufacture to RECPDCL's representatives at all times when the work is in progress. Inspection by the RECPDCL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by RECPDCL.
41	C. Scope of work	Sr. no. 20, Page no.14	There are other administrative expectations such as maintenance of local warehouse(s) at Delhi for storage of communication devices, checking by CED & subsequent distribution to end users.	There are other administrative expectations such as maintenance of local warehouse(s) at Chandigarh for storage of communication devices, checking by CED & subsequent distribution to end users.
42	Eligibility Criteria	Sr. no.6,Page no.135	The Bidder must have successfully executed & implemented AMR/AMI projects (meeting any of the below criteria) in an Indian Power Distribution Utility in the last 7 years (i.e. FY 2009-10 to till the previous date of publication of this tender). a. Successfully executed 01 AMR/AMI project covering implementation of minimum 24,000 nos. of Meters with required hardware, software and other associated accessories and project should have been OR b. Successfully executed 02 AMR/AMI project covering implementation of minimum 15,000 nos. of Meters with required hardware, software and other associated accessories and 01 project should have been operational for at least 01 year in last 05 years. OR c. Successfully executed 03 AMR/AMI project covering implementation of minimum 12,000 nos. of Meters with required hardware, software and other associated accessories and 2 project should have been operational for at least 01 year in last 05 years.	The Bidder must have successfully executed & implemented AMR/AMI projects (meeting any of the below criteria) in an Indian Power Distribution Utility in the last 7 years (i.e. FY 2009-10 to till the previous date of publication of this tender). a. Successfully executed 01 AMR/AMI project covering implementation of minimum 24,000 nos. of Meters with required hardware, software and other associated accessories and project should have been OR b. Successfully executed 02 AMR/AMI project covering implementation of Cummulatively minimum 15,000 nos. of Meters with required hardware, software and other associated accessories and 01 project should have been operational for at least 01 year in last 05 years. OR c. Successfully executed 03 AMR/AMI project covering implementation of Cummulatively minimum 12,000 nos. of Meters with required hardware, software and other associated accessories and 2 project should have been operational for at least 01 year in last 05 years.

S. No.	Milestone	Payment
1	Upon receipt of unconditional acceptance of LOA, and unconditional & irrevocable Bank Guarantee validity period upto 5.5 years from the date of LOA date in favor of RECPDCL amounting to advance amount and unconditional & irrevocable Performance Bank Guarantee (PBG) as per for ten percent (10%) of the total Contract price towards Contract Performance with a validity of 5 years 6 months' period from the date of Operational acceptance & Go Live.	Interest bearing 10% advance of Contract Price which will be prorata adjusted in each installment (from S. no.1 to 6) (The annual interest rate shall be calculated based on SBI MCLR as applicable from time to time.)
2	After Signoff of SRS, design documents and Data model and Factory Acceptance test (FAT) and Delivery of 30,000 Smart Meters along with related Hardware, Software and equipment at Project site (Payment will be made on Prorata basis considering six lots of 5,000 each.)	60% of Contract Price
3	Installation, commissioning and integration of all AMI Hardware, Software, field material in Project Area and Site Acceptance test (SAT).	10% of Contract Price **
4	Completion of minimum 3 billing cycles (monthly) with at-least 98% (on daily basis) AMI system performance and User Acceptance by utility.	10% of Contract Price **
5	Successful completion of all responsibilities and obligations and handing over of system to Utility	15% of Contract Price **
6	Completion of 1 year warranty + 3 years FMS period. The payment may be released earlier provided the suppliers submit the Bank Guarantee (BG) for an amount equivalent to 5% of contract value. This BG shall remain in force up to and including 6 months after FMS period.	5% of Contract Price **
7	Charges towards FMS during FMS period of 3 years after 1 year warranty period.	On Quarterly basis at the end of quarter on satisfactory completion of Management Services. (FMS price will be divided by 12 quarters)
** Price is sum total of all-inclusive cost for software, hardware supply and implementation and other related services.		

Sr. No	Perticulars	Requirement	Units	Criteria	Score
1	Bidder Financial Strength	The minimum average annual turnover of the bidder shall be a minimum of ₹ 30 Crores during the last 3 years ending 31st March of the previous financial year.	MAAT	>= 100 Crores	10
				>=30 Crs and < 100 Crs	8
				=30 Crores	6
2	Proposed MDM Experience	MDM global presence in last 5 years in terms of number of consumers in power, gas and water sector	No. of Consumers	>= 500 K	5
				>= 100 K and < 500 K	4
				>= 10 K and < 100 K	3
3	Man-power Experience	The Bidder should have at least 5 personnel on its rolls with a minimum AMR/AMI implementation experience of 2 years (either in his/her own or other organization). The roles & responsibilities of the personnel should include development and/or customization of AMR/AMI System.	No. of Persons	>=10	5
				> 5 and <10	4
				=5	3
		Experience of proposed Project Manager (with B.E. / B.Tech degree or equivalent) in power distribution / transmission sector.	Years of professional Experience after B.E./B.Tech	>= 10 Years	5
		=> 7 Years to <10 Years	4		
		=> 5 Years to <7 Years	3		
4	Experience	The Bidder must have successfully executed & implemented AMR/AMI projects in an Indian Power Distribution Utility in the last 7 years covering implementation of minimum 12,000 nos. of Meters with required hardware, software and other associated accessories and project should have been operational for at least 01 year in last 05 years.	No. of Projects	Single project completed with >= 50,000 meters installation with same project in operation for at least 02 year within last 05 years, during last 07 years	30
				01 No. of project completed with min. 24,000 meters installation with same project in operation for at least 01 year within last 05 years, during last 07 years	20
				02 Nos. of projects completed, each with Cumulatively min. 15,000 meters installation with any 01 project in operation for at least 01 year within last 05 years, during last 07 years	15
				03 Nos. of projects completed, each with Cumulatively min. 12,000 meters installation with any 02 project in operation for at least 01 year within last 05 years, during last 07 years	10
5	Experience in Smart Grids implementation	To establish the experience of Smart Meters / AMI Systems, bidder must have implemented / implementing at least 1000 Nos. of Smart Meters having single & three phase Smart Metering System.	No. of Smart/AMI Meters	> = 50,000	10
				>= 1000 and < 50,000	7
				= 1000 Nos.	5
6	Indian Power Distribution Utility	Bidder must have successfully executed & implemented AMR/AMI projects in an Indian Power Distribution Utility in the last 7 years	No. of Projects	> = 10	10
				>= 6 and < 10	7
				>= 2 and < 6	5
7	Quality Compliance	CMM Level Certification of Bidder	CMMi Level	CMMi Level 5	10
				CMMi Level 4	8
				CMMi Level 3	6
8	Meter Capacity	Min 2 years of experience in Smart meter manufacturing and supplied at least 25,000 AMI/AMR meters on RF/GPRS/In-built modem & related equipment to Indian Power Utilities in any 2 years, during last 7 years.	No. of AMI/AMR Meters	>= 1,00,000	10
				>= 25,000 and < 1,00,000	8
				=25000	6
	Manufactured at least 5000 meters for AMI project duly type tested as per BIS & NSGM guidelines in last 3 years.	No. of AMI Meters	>= 30,000	5	
			> 5,000 and < 30,000	4	
		=5000	3		