

Record Notes of Discussion of Pre-Bid Conference-III

**Sub: Package for procurement of Smart Meters including associated Communication Infrastructure, Head End System (HES), Meter Data Management system (MDM) for implementation of Advanced Metering Infrastructure Project(s) in Central & Western India;
Specification No.: RTN1001566/OTHERS/DOM/A02**

Meeting Date & Time: 21 st September 2022, 11:30 AM	
Participants:	
M/s GMR Group M/s Cyanconnode Pvt. Limited M/s Allied Engineering Works Pvt. Limited M/s NES M/s Reliance JIO M/s Vodafone Idea Limited M/s Adani Transmission M/s Iskraemeco M/s Secure	M/s TATA Power M/s Ashoka Buildcon M/s IntelliSmart Infrastructure Pvt. Ltd. M/s Genus Power Infrastructure Ltd. M/s Cuculus Gmbh M/s Bharti Airtel M/s Anvil Cables M/s Bentec India M/s Subhasree Projects Pvt. Limited

Third Pre-Bid Meeting for subject package was held on 21st September 2022 at 11:30 hrs. through video conferencing to apprise prospective Bidders on Testing requirements for Communication Performance Evaluation.

1. POWERGRID presented the proposed testing requirements for communication as a part of technical bid evaluation (**Copy of the presentation is enclosed**)

Salient features of the presentation are as follows:

- a. Communication Technology considered
 - Cellular: 5G/4G/NB-IOT with fall back on any other cellular technology
 - RF Technology
- b. Bidders are required to carry out the demonstration in Lab Environment for verifying communication performance for
 - 1000 nos. of RF Meters with Self-Healing Capabilities
 - 1000 nos. of meters primarily on 5G/4G/NB-IOT with fallback capabilities on any other cellular technology
- c. If Bidder proposes more than one cellular technology solution, then same testing shall be carried out on additional sample of 1000 nos. of smart meters
- d. Sole Bidder/duly authorized Partner in case of JV Bids, through all the Smart Meter Manufacturer(s) proposed in the bid, shall demonstrate the Performance Evaluation Testing. The total number of Smart Meters for the purpose of Testing shall be as per above mentioned point (b)

- e. Bidders shall be required to successfully demonstrate the performance of each of the proposed communication technology(ies) within 2 months from the date of First Envelope Bid Opening.
 - f. Performance Parameters such as Load Profile Data Read, Billing Profile Data Read, On Demand Meter Read, Remote Connect/Disconnect, Ping Response, Events, Firmware Upgrade Over the Air (FOTA) shall be complied daily for 7 (seven) days.
2. Post Presentation participants were invited to raise their queries regarding the proposed communication performance testing.
Summary of queries and clarifications of POWERGRID is enclosed (*P.T.O*).

SUMMARY OF DISCUSSION HELD DURING PRE-BID MEETING

S.N	Participant	Query	POWERGRID Reply
1	M/s GMR Group	<p>Prospective Bidders have already participated in REC empanelment process successfully. Requirement of Performance Evaluation on 1000 nos. of Meters is difficult to demonstrate. POWERGRID may excuse bidders who have successfully participated in REC empanelment process. Alternatively, POWERGRID may reduce the quantity of meters for testing purpose.</p>	<p>REC empanelment and certification is a compulsory requirement for this tender as well. However, this Communication Performance Evaluation requirements have been framed to ensure the suitability of communication technology proposed by the bidder and ascertain the network capability to handle data.</p>
2	M/s HPL	<p>a. Whether field demonstration of already installed meters shall be allowed.</p> <p>b. A Bidder who is a smart meter manufacturer may also offer meters to other bidders participating in the tender. Whether in such case, the meter manufacturer has to demonstrate Communication Performance Evaluation independently as well as with all other Bidders to which it is a sub-contractor.</p>	<p>a. In view of data security of consumers, Utility concerns and to demonstrate connect/disconnect, FOTA etc. suitably, it is proposed to carry out the testing in Lab Environment only. Further, a lab testing shall provide a uniform platform for all the prospective bidders participating in the process.</p> <p>b. A bidder has to demonstrate the Performance Evaluation Testing with all of the proposed meter manufacturers. If a proposed meter make has already been tested successfully with certain communication technology (primary + fallback for cellular), meter of same make may not be required to be tested again for the same technology. However, if same meter is proposed with any other technology, it needs to be tested again.</p>

S.N	Participant	Query	POWERGRID Reply
3	M/s Ashoka Buildcon	<p>a. Choice of communication Technology i.e. Cellular or RF should be left to bidder.</p> <p>b. POWERGRID may share area for installation of Smart Meters for better planning of communication network.</p> <p>c. Whether list of labs for the demonstration process shall be shared by POWERGRID.</p>	<p>a. This query has already been answered multiple times through various clarifications issued in the past. Communication Technology for meters shall be as per prevailing Bill of Quantities.</p> <p>b. Lot-1 and Lot-2 of the subject tender have been proposed to be allocated for MGCVCL & UGVCL respectively.</p> <p>c. No. Bidder may carry out the testing in any lab (including manufacturer's factory).</p>
4	M/s Cyan Connode	<p>a. If Bidder proposes two nos. meter OEMs for RF-technology, does the bidder need to demonstrate communication performance evaluation with both?</p> <p>b. Whether a bidder failing to demonstrate any one of the communication technologies shall be considered for further evaluation.</p>	<p>a. In such case, bidder has to demonstrate the performance testing on all the meter makes proposed for RF Technology.</p> <p>b. No. A bidder has to successfully demonstrate with both RF and Cellular Communication technology.</p>
5	M/s Reliance JIO	Arranging 1000 nos. of meters connected with load may be a challenge. POWERGRID may please clarify the requirement.	The intent of this demonstration is to evaluate communication technologies for which all meters (a combination of single phase & three phase) need to be powered on simultaneously
6	M/s Secure	Does a bidder need to compulsorily propose RF & Cellular Communication?	Yes. Both cellular and RF technology needs to be proposed and demonstrated.

S.N	Participant	Query	POWERGRID Reply
7	M/s Schneider	<p>a. If a communication technology (say 4G with fallback upon 2G) is successfully demonstrated by a bidder, whether same technology proposed by another bidder needs to be demonstrated separately?</p> <p>b. In case of award, does a bidder mandatorily has to implement the solution with the meter manufacturer(s) and communication technology used in demonstration?</p>	<p>a. Yes, every bidder needs to demonstrate its proposed communication technologies.</p> <p>b. Yes. Bidder has to implement the solution with the same meter manufacturer(s) and on same communication technology(ies) through which he qualifies and demonstrates performance evaluation testing</p>
8	M/s IntelliSmart	<p>a. If demonstration of Cellular meters (with a particular technology) have been successfully carried out with one telecom service provider, does it require to be demonstrated with other TSPs?</p> <p>b. Does the demonstrate needs to be carried out with all types of meters (including LTCT/HTCT)?</p>	<p>a. Demonstration of Smart Meters on Cellular technology is independent of Service Provider</p> <p>b. Demonstration with single phase and three phase smart meters shall suffice.</p>
9	M/s Vodafone Idea	Whether demonstration of cellular meters shall involve testing of fallback capabilities.	Yes, fallback capabilities shall be required to be demonstrated for Cellular Meters during testing
10	M/s Fluentgrid	Whether parameters shall be evaluated on HES or MDM dashboard?	Bidder needs to carry out the demonstration and provide data reports from HES or MDM. As this demonstration is aimed for evaluating communication, Bidder may use any HES or MDM for testing.

S.N	Participant	Query	POWERGRID Reply
11	M/s Kalkitech	a. Whether RF and Cellular meters need to be demonstrated with single HES b. Are all meters under demonstration required to be located in a single location?	a. For demonstration purpose RF and Cellular meters can be demonstrated on single or separate HES b. Yes, all meters for demonstration are required to be placed at the same location for same technology
12. Participants having similar queries were requested to refer replies given during the course of discussion.			

POWERGRID informed that, amendment in similar lines, as proposed in presentation, shall be issued shortly.

Note: Amendments to the Bidding Documents as issued by POWERGRID shall prevail over this Minutes of Pre-bid meeting in case of any discrepancy

21st Sep, 2022

Pre-Bid Meeting



**Advance Metering Infrastructure
Project in Central and Western
India**

- ❑ Implementation of End-to-End Smart Prepaid Metering solution.
- ❑ 1 Crore Smart Meters along with associated Supply/Services.
 - Four Lots comprising of 25 lacs Smart Meters each.

❑ **Bid submission Date** : Soft copy by 11 AM, 30th Sep 2022
Hard copy by 11 AM, 4th Oct 2022

❑ **Bid Opening Date** : 11:30 AM, 4th Oct'2022

Amended Bidding Provisions

S.No.	Amendment & Clarification	Issuance Date
1.	Amendment-1 and Clarification-1	16-03-2022
2.	Amendment-2 and Clarification-2	02-05-2022
3.	Amendment-3	20-05-2022
4.	Amendment-4 and Clarification-3	26-05-2022
5.	Amendment-5 and Clarification-4	06-06-2022
6.	Amendment-6 and Clarification-5	10-06-2022
7.	Amendment-7	17-06-2022
8.	Amendment-8	18-06-2022
9.	Amendment-9 and Claification-6	05-07-2022
10.	Amendment-10	12-08-2022
11.	Amendment-11 and Claification-7	18-08-2022
12.	Amendment-12 and Claification-8	20-08-2022
13.	Claification-9	23-08-2022
14.	Claification-10	08-09-2022
15.	Claification-11	19-09-2022

- ❑ Demonstration in Laboratory environment for each type of proposed communication technology .
 - RF Technology: **1000 nos.** with self-healing capabilities
 - Cellular Technology: **1000 nos.** of meters primarily on **5G/4G/NB-IOT** with fallback capabilities on any other cellular technology
 - If Bidder proposes more than one cellular technology solution, then same testing shall be carried out on additional sample of 1000 nos. of smart meters
- ❑ Sole Bidder/duly authorized Partner in case of JV Bids, through all the Smart Meter Manufacturer(s) proposed in the bid, shall demonstrate the Performance Evaluation Testing. The total number of Smart Meters for the purpose of Testing shall be as per above mentioned point.
- ❑ Bidders shall be required to successfully demonstrate the performance of each of the proposed communication technology(ies) within 2 months from the date of First Envelope Bid Opening.

Testing Requirements

Data Type	Performance Requirement
1. Load Profile Data Read	
Periodic collection of the interval load profile data for the day	95% of meters within 8 hours 98% of meters within 12 hours
Previous days interval energy and total accumulated energy	99.5% of meters within 24 hours after midnight
On Demand collection of 7 days interval energy data and the current total accumulated energy from a group of 10% of installed base of meters (configurable)	100% complete within 4 hrs
2. Billing Profile Data Read	
Collection of billing data	More than 99.5% of meters within 72 hours of the scheduled periodic collection.
3. On-Demand Remote reads of meters	
Collection of 7 days of interval energy data and the current total accumulated energy from a selected individual meter	within 2 minutes
4. Remote connect / disconnect	
Remote connect / disconnect of the Smart Meters	Action performed 99.5% of meters within 6 hours
Action to response for individual meter	within 3 mins

Testing Requirements

Data Type	Performance Requirement
5. Ping Response with acknowledgement/ response for selected meters	
For meters under testing	More than 98% of meters within 5 Minute
For an individual meter	within 3 seconds
6. Meter loss and restoration of supply	
Receiving of alert for all affected Smart meters	within 3 minutes for more than 60% of meters
7. Events / Alerts	
Receiving of alert for an individual meter	within 3 minutes
For All the Smart Meters under test	100% of meters within 24 hours
For reading the full event log remotely for installed AMI meter	100% of meters within 6 hours
9. Firmware upgrade with acknowledgement/ response for selected meters	
For All the Smart Meters under test	100% of meters within 24 hours
10. Remotely altering settings in meter	
For installed Smart meters (for a batch of at least 20% of installed base)	100% of meters within 24 hours

Thank You

