Tender Notification for

Meter Data Management System for AMI Solution in BRPL

NIT NO CMC/BR/18-19/RS/PG/757

Due Date for Submission: 01.03.2019, 1600Hrs

BSES RAJDHANI POWER LTD (BRPL)

Corporate Identification Number: **U74899DL2001PLC111527**
Telephone Number: +91 11 3009 9999
Fax Number: +91 11 2641 9833
Website: www.bsesdelhi.com

BSES Rajdhani Power Limited

Table of Contents

Information to Bidder (ITB)

1. Event Information

BRPL invites sealed tenders in 2 envelopes for following scope of work-

Sl. No.	Description	Estimated Cost (Rs.)	Qty.	Delivery & Installation at
1	**Meter Data Management System for AMI Solution in BRPL**	23.5 Crore	As per BOQ Attached	Delhi, Sites

The bidder must qualify the requirements as specified in clause 2.0 stated below.

All envelopes shall be duly super scribed "Meter Data Management System for AMI Solution in BRPL, **BRPL - NIT NO CMC/BR/18-19/RS/PG/757.**

1.1. The schedule of specifications with detail terms & conditions can be obtained from address given below against submission of non-refundable demand draft of **Rs.1180/-** drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi. The tender documents & detail terms and conditions can also be downloaded from the website **"www.bsesdelhi.com --> Tenders --> BSES Rajdhani Power Ltd --> Open Tenders"**.
In case tender papers are downloaded from the above website, then the bidder has to enclose a demand draft covering the cost of bid documents.

1.2. Bids will be received up to **01.03.2019, 1600 HRS** at the address given at 3.01 below. Part A of the Bid shall be opened on **01.03.2019,1630 HRS**

Part B of the Bid will be opened in case of Techno-Commercially qualified Bidders and the date of opening of same shall be intimated in due course. It is the sole responsibility of the bidder to ensure that the bid documents reach this office on or before the last date.

1.3. BSES Rajdhani Power Ltd reserves the right to accept/reject any or all Tenders without assigning any reason thereof in the event of following -

i. **Earnest Money Deposit (EMD)** of value Rs **23,50,000/-** is not deposited in shape of Demand Draft/Pay Order/Bank Guarantee drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi.
ii. The offer does not contain prices indicating break-up towards all taxes & duties in prescribed format
iii. Complete Technical details are not enclosed.
iv. Tender is received after due date and time
v. Technical offer contains any prices
vi. Prices are **not FIRM** and subject to Price Variation

2. Qualification Criteria

Bidder shall meet the following qualifying criteria to be eligible to participate in the bid.

2.1 The bidder should have annual turnover of minimum of Rs. 100 Crores & positive net worth in last three financial years. Copy of audited Balance Sheet and P&L Account to be submitted in this regard.

2.2 The bidder should be either an OEM of MDMS or System Integrator proposing MDMS and should have further implementation experience of SAP ISU. Authorization along with MOU of OEM & SI to be submitted in this regard.

2.2.1 For Products

- Proposed MDMS should be Global COTS application working in at least 3 countries.
- Proposed MDMS should have at least three live implementations for Smart Metering scenario with a Power Utility with each having more than 1 Million Smart Meter installed.
- The cumulative MDMS install base should be at least 5 Million meter points, Test report should be submitted in this regards.
- MDMS OEM should have office in India for smooth support.

2.2.2 For System Integrator / Implementation Agency

- Should have experience of proposed MDMS implementation and integration to SAP IS-U & HES for 0.5 Million Smart Meters in at least 2 utilities. Out of these smart meters, 80% should be interval meters and data is being collected at a frequency ranging from 15 min to 24 hours at HES. Purchase Order Copies along with completion report to be submitted in this regard.

- Should be CMMI Level 5.
- SI should be Authorized SAP Partner with experience of implementing SAP ISU, at least 2 ISU implementations out of this 1 to be in India.

2.3 The bidder should submit certificate of the proposed solution for scalability up to minimum 5 million meters (per month) for 15 min / 30 min interval read data delivered daily.

2.4 The bidder should have experience of integrating its system with GIS (ESRI) System, SAP System and SCADA / DMS / OMS and call center application. Order copy & user acceptance or any other supporting documents should be submitted.

2.5 MDMS should have capabilities to deliver all the technical and functional requirements including integration with third party system at MDMS end along with legacy system integration, supported by documentation.

2.6 The Bidder should have experience of integration with utilities legacy system working on Oracle / SQL Database and Corporate Website.

2.7 Bidder should have experience of successfully deployment of Energy Auditing, Virtual metering, Billing Determinant, VEE, Revenue protection module in at least 2 separate utilities. Credentials, Certificates and Name of contact persons from those utilities should be shared.

2.8 Bidder should have experience of integration of Customer Web Portal & Mobile App with MDMS as per features mentioned in technical requirement.

2.9 The bidder must have valid PAN no., GST registration no. in addition to other statutory compliance as per GoI Act. The bidder must submit the copy of registration and submit an undertaking that the bidder shall comply all the statutory compliances as per the applicable laws / rules before the start of the work.

2.10 The bidder should not have been blacklisted or debarred in any utility in India and abroad. Bidder shall submit a self-declaration in this regard.

Notwithstanding anything stated above, BRPL reserves the right to assess bidder's capability to perform the contract, assess the capability and installed capacity of the Bidder for carrying out the supplies, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.

3. Bidding and Award Process

Bidders are requested to submit their offer strictly in line with this tender document. NO DEVIATION IS ACCEPTABLE. BRPL shall response to the clarifications raised by various bidders and the will be distributed to all participating bidders through website.

3.1. Bid Submission

The bidders are required to submit the bids in Two (2) parts to the following address:

Head of Department
Contracts & Material Deptt.
BSES Rajdhani Power Ltd
1st Floor, C - Block, BSES Bhawan,
Nehru Place, New Delhi - 110019

PART – A: TECHNICALBID comprising of following (1 original + 1 copy)

i. EMD in prescribed format
ii. Non-refundable demand draft for Rs 1180/- in case the forms are downloaded from website
iii. Documentary evidence in support of qualifying criteria
iv. Technical Details / Filled in GTP/Type test report/network Design Documents etc.
v. Qualified Manpower available & Organization Chart
vi. Testing Facilities
vii. Copies of Orders, Execution /Performance Certificate & Other supporting Documents to support the QC as per clause 2.0
viii. Original Tender documents duly stamped & signed on each page as token of acceptance
ix. Acceptance to Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, PBG etc.

PART – B: FINANCIAL BID comprising of (1 original only)

i. Price strictly in the Format enclosed indicating Break up of basic price, taxes & duties, transportation etc.

3.2. Time Schedule

The bidders should complete the following within the dates specified as under:

S. No.	Steps	Date
i.	Date of sale of bid documents	08.02.2019, 1700Hrs
ii.	Last date of Queries, if any	22.02.2019, 1700 Hrs
iii.	Last date of receipt of bid documents	01.03.2019,1600Hrs
iv.	Date & time of opening of tender – Part A	01.03.2019,1630Hrs

This is a two part bid process. Bidders are to submit the bids in 2(two) parts.

Both these parts should be furnished in separate sealed covers super scribing NIT no. DUE DATE OF SUBMISSION, with particulars as PART-A TECHNICAL BID & COMMERCIAL TERMS & CONDITIONS and Part-B FINANCIAL BID and these sealed envelopes should again be placed in another sealed cover which shall be submitted before the due date & time specified.

PART – A: Technical Bid should not contain any cost information whatsoever and shall be submitted within the due date.

PART – B: This envelope will be opened after techno-commercial evaluation and only of the qualified bidders.

REVERSE AUCTION: Purchaser reserves the right to use REVERSE AUCTION through SAP-SRM as an optional tool as an integral part of the entire tendering process. All techno-commercially qualified bidders shall participate in this event.
Guideline for the Reverse Auction is **APPENDIX III**

BIDS RECEIVED AFTER DUE DATE AND TIME MAY BE LIABLE TO REJECTION

4. Award Decision

4.1. Purchaser intends to award the business on a lowest bid basis, so bidders are encouraged to submit the bid competitively. The decision to place purchase order/LOI solely depends on purchaser on the cost competitiveness across multiple lots, quality, delivery and bidder‘s capacity, in addition to other factors that Purchaser may deem relevant.

4.2. In the event of your bid being selected by purchaser (and / or its affiliates) and you subsequent DEFAULT on your bid; you will be required to pay purchaser (and / or its affiliates) an amount equal to the difference in your bid and the next lowest bid on the quantity declared in NIT/RFQ.

4.3. In case any supplier is found unsatisfactory during the delivery process, the award will be cancelled and BRPL reserves the right to award other suppliers who are found fit.

5. Market Integrity

We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules prior to participating. In addition to other remedies available, we reserves the right to exclude a bidder from participating in future markets due to the bidder's violation of any of the rules or obligations contained in the Terms & Condition. A bidder who violates the marketplace rules or engages in behavior that disrupts the fair execution of the marketplace restricts a bidder to length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

- Failure to honor prices submitted to the marketplace
- Breach of the terms of the published in Request for Quotation/NIT

6. Supplier Confidentiality

6.1. All information contained in this RFQ is confidential and shall not be disclosed, published or advertised in any manner without written authorization from BRPL. This includes all bidding information submitted.

6.2. All RFQ documents remain the property of BRPL and all suppliers are required to return these documents to BRPL upon request.

6.3. Suppliers who do not honor these confidentiality provisions will be excluded from participating in future bidding events.

7. Contact Information

Technical clarification, if any, as regards this RFQ shall be sought in writing and sent by post/courier/mail to following address.

	Technical	**Commercial**
Contact Person	Mr. Sheshadri Krishnapura (Head-CES)	Mr. Robin Sebastian
Address	BSES Rajdhani Power Ltd , 2nd Floor, B- Block, BSES Bhawan, Nehru Place, New Delhi 110019	BSES Rajdhani Power Ltd , 1st Floor, D-Block, BSES Bhawan, Nehru Place, New Delhi 110019
Email	sheshadri.krishnapura@relianceada.com	robin.sebastian@relianceada.com

8. Bid Form

The Bidder shall submit one "Original" and one "Copy" of the Un-priced Bid Form, Price Schedules &Technical Data Sheets duly filled in as per attached specification/BOM etc. enclosed.

9. EMD

The bidder shall furnish, as part of its bid, an EMD amounting as specified in the RFQ. The EMD is required to protect the Purchaser against the risk of Bidder's conduct which would warrant forfeiture.

The EMD shall be denominated in any of the following form:

i. Banker's Cheque /Demand Draft drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi.
ii. Bank Guarantee valid for One hundred Eighty (180) days after due date of submission or amended due date of submission drawn in favour of BSES Rajdhani Power Ltd, BSES Bhawan, Nehru Place, New Delhi 110019.

The EMD may be forfeited in case of:

i. The Bidder withdraws its bid during the period of specified bid validity

OR

ii. The case of a successful Bidder, if the Bidder does not

a. Accept the Purchase Order, or
b. Furnish the required performance security BG

10. Bid Prices

10.1. Bidders shall quote for the entire Scope of Supply/Work with a break-up of prices for individual items and Taxes & Duties. The total Bid Price shall also cover all the Supplier's obligations mentioned in or reasonably to be inferred from the Bidding Documents in respect of Design, Supply, Transportation to site, all in accordance with the requirement of Bidding Documents The Bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total Price with taxes, duties & freight upto destination.

10.2. The prices offered shall be inclusive of all costs as well as Duties, Taxes and Levies paid or payable during execution of the supply work, breakup of price constituents, should be there.

10.3. Prices quoted by the Bidder shall be **"Firm"** and not subject to any price adjustment during the performance of the Contract. **A Bid submitted with an adjustable price/ Price Variation Clause will be treated as non -responsive and rejected.**

10.4. The qty break-up shown else-where in Price Schedule is tentative. The bidder shall ascertain himself regarding material required for completeness of the entire work. Any item not indicated but is required to complete the job, shall be deemed to be included in the prices quoted.

11. Bid Currency

Prices shall be quoted in Indian Rupees Only.

12. Period of Validity of Bid

12.1 Bids shall remain valid for **180 days** from the due date of submission of the Bid & subsequent corrigendum/amendment/extension of due date of submission.

12.2 Notwithstanding Clause 12.01 above, the Purchaser may solicit the Bidder‘s consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing and sent by post/courier.

13. Alternative Bid

Bidders shall submit Bids, which comply with the Bidding Documents. Alternative Bids will not be considered. The attention of Bidders is drawn to the provisions regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the Bidding Documents.

14. Format and Signing of Bid

14.1 The original Bid Form and accompanying documents, clearly marked "Original Bid" and “Copy” must be received by the Purchaser at the date, time and place specified pursuant to Clauses 15.0 and 16.0. In the event of any discrepancy between the original and the copy, the original shall govern.

14.2 The original and copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the Bidder. **Such authorization shall be indicated by written Power-of-Attorney accompanying the Bid.**

14.3 The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.

15. Sealing and Marking of Bid

15.1 Bid submission: One original, Copy-1, (hard copies) of all the Bid Documents shall be sealed

and submitted to the Purchaser before the closing time for submission of the bid.

15.2 The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be super scribed with —"Technical & EMD" The price bid shall be inside another sealed envelope with super scribed "Financial Bid" Both these envelopes shall be sealed inside another big envelope. All the envelopes should bear the Name and Address of the Bidder and marking for the Original, Copy-1, and the envelopes should be super scribed with —"Tender Notice No. & Due date of opening".

15.3 The Bidder has the option of sending the Bids in person. Bids submitted by Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to the Purchaser to collect the proposals from Courier/Airlines/Cargo Agents etc shall be entertained by the Purchaser.

16. Deadline for Submission of Bid

16.1 The original Bid, together with the required copies, must be received by the Purchaser at the address specified earlier.

16.2 The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

17. One Bid Per Bidder

Each Bidder shall submit only one Bid by itself. **No Joint Venture/ Consortium is acceptable**. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

18. Late Bid

Any Bid received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, pursuant to Clause 16.0, will be declared "Late" and may be rejected and returned unopened to the Bidder.

19. Modification and Withdrawal of Bid

The Bidder is not allowed to modify or withdraw its Bid after the Bid's submission.

20. Purchaser's Right to Accept and Reject Any or All Bids

The Purchaser reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at any time prior to award of Contract, without thereby incurring any liability to the

affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser‘s action.

21. Award of Contract

The Purchaser will award the Contract to the successful Bidder whose Bid has been Determined to be the lowest-evaluated responsive Bid, provided further that the Bidder has been determined to be qualified to satisfactorily perform the Contract. Purchaser reserves the right to award order to other bidders in the tender, provided it is required for timely execution of project & provided he agrees to come to the lowest rate.

22. Letter of Intent/Notification of Award

The letter of intent/ Notification of Award shall be issued to the successful Bidder whose bids have been considered responsive, techno-commercially acceptable and evaluated to be the lowest (L1). The successful Bidder shall be required to furnish a letter of acceptance within 7 days of issue of the letter of intent /Notification of Award by Purchaser. The date of LOI/LOA shall be treated as Start date of work.

23. Performance Bank Guarantee

Within 15 days of the receipt of Notification of Award/ Letter of Intent/PO from the Purchaser, the successful Bidder shall furnish the Performance Bank Guarantee towards faithful performance of Contract for an amount of **10%** (Ten percent) of the Contract Price. The Performance Bond shall be valid upto defect liability period (i.e. **5 Years** post ‘System Acceptance Testing’ / Go Live of MDMS) plus 3 months claim period. Upon submission of the performance security, the EMD shall be released.

24. Specifications and Standards

As per Volume – 1: Technical

25. Completion Period

Bidder shall ensure successful completion of all activities including deployment of equipments, Integration and complete Operational Acceptance Test with debugging within**12 months** from the date of LOI/PO.

Bidder has to ensure approval and sign off from BRPL after successful completion of work/milestones.

BSES Rajdhani Power Limited

Volume – I: Technical

Technical Specifications of

Meter Data Management System

1. Introduction

BSES Rajdhani Power Ltd. (BRPL) is a joint venture company between Reliance Infrastructure Ltd. and Delhi Government. BRPL distributes electricity in the south and west region of Delhi serving more than 2.5 million customers spread over an area of 750 square kilometer with an annual addition of about 4%-6% consumers. BRPL distribution network comprises of 97 no. 66 KV /33 KV /11 KV grid sub stations, 9,000 distribution transformers and about 2 lakh electricity poles, which is growing to meet the ever expanding consumer base.

In line with the National Tariff Policy 2016 and regulatory directive, conventional electronic meters are expected to be replaced with smart meters in a phased manner. Key benefits envisaged from the implementation of smart meters include improvement in operational efficiency, reduction in operating cost, revenue protection etc. BRPL intends to implement a Smart Grid, starting with implementation of smart meters, communication canopy and Meter Data Management System (MDMS)to create an Advanced Metering Infrastructure (AMI).

MDMS would collect the data from various Head End Systems (HES) and Hand Held Devices of BRPL and maintain the data to be utilized across all relevant systems mentioned in this RFP.

Treading the journey of making power distribution smarter every day, BRPL desires to leverage the benefits of Advanced Metering Infrastructure for taking power quality and reliability to the acme of excellence. Accordingly, BRPL has prepared an ambitious plan for rollout of Advanced metering infrastructure. Details of plan are given in subsequent sections.

2. Advanced Metering Infrastructure (AMI) Rollout Plan

BRPL intends to implement smart metering programme in phases as per regulatory approval. Phase-1 of the programme which accounts for about 3,00,000 endpoints has been approved by DERC. Phase-1 includes consumers having average monthly consumption of more than 500 units. Phase-2 consists of around 10,00,000 endpoints for which approval is in process. This includes consumers with average monthly consumption between 200 – 500 units. The indicative year-wise implementation plan subject to BRPL requirements and DERC approval is given below.

Year	FY2018-19	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24
DERC Mandate	**Phase – 1** (Avg consumption > 500 units pm)			**Phase – 2** (Avg consumption 200 - 500 units pm)		
Target Coverage	**Stage-1** - Subdivision(1/2) - All DTs - Key customers	**Stage-2** - All Key customers - High value 3Ph customers - High value 1Ph customers		- All 3Ph customers - High value 1Ph customers - New connections		
Smart Meters	50,000	1,00,000	1,50,000	3,00,000	3,50,000	3,50,000

<u>Phase – 1</u>: For ease of implementation Phase-1 has been divided into two stages

Stage-1: During this stage BRPL is planning to deploy smart meters in one or two chosen sub-division (having total area of around 10 sq km and approx. 35,000 end points) on RF mesh for all types of consumer smart meters, DER integration, EV charging points, streetlight points etc. In addition to this BRPL intends to cover all DTs and DA points spread across the distribution area on dual technology i.e. RF and Cellular NIC. The exact quantities of the NICs will be decided during the execution.

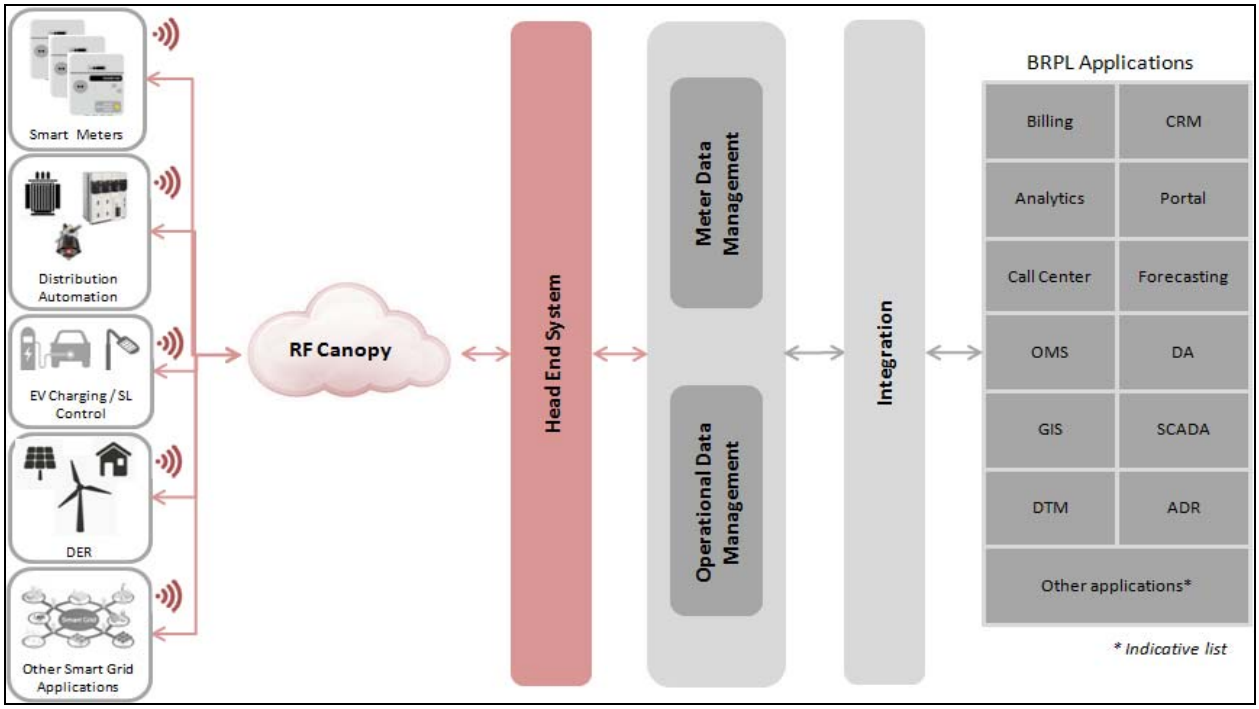
All relevant use cases pertaining to utility applications will be implemented and analyzed during this stage. After completion of Stage-1 deployment, detailed performance assessment of AMI system will be carried out to finalize the strategy for rollout of subsequent Stages.

Stage-2: All consumers having average consumption of more than 500 units per month will be covered under this stage. These consumers are spread across BRPL license area of ~750 sq km. Implementation of this phase shall commence after detailed performance assessment and successful sign off of Stage-1. This stage would include remaining key consumers and high value three and single phase consumers.

<u>Phase – 2</u>: This phase shall comprise of consumers having average consumption between 200 - 500 units per month subject to regulatory and other approvals. These consumers are spread over the BRPL license area of 750 sq km. Phase – 2 plan has been included for reference purpose only.

3. Proposed AMI Architecture

Proposed AMI architecture is given below. Considering that AMI solutions are still evolving, appropriate changes to optimize system performance may be made in the architecture during the course of technical evaluation. The envisaged high level architecture diagram is given below:



List of Integration for the Field Devices and not limiting to:

- Consumer meters
- Network meters like DT meters, grid meters, interface meters etc.
- Substation / FSS automation
- DA devices
- APFC, switching capacitors
- Switchgears, FPI etc.
- Sensors with FRTU, air quality, temperature sensors etc.
- Streetlight meter/ streetlight points
- Electric vehicle
- Distributed generation
- Net meter for solar generation
- Storage devices

BRPL intends to select and deploy IPv6 based 6LoWPAN RF mesh network technology solution that shall meet all the utility requirements while providing scalability and certain level of future

proofing. Any bidder making a proposal must demonstrate compliance to the applicable IS standards and Government of India directives.

BRPL plans towards implementation of smart metering in a phased manner. Discom has prepared a roadmap for implementation of smart meters as per govt. and regulatory directives. The performance of the AMI system including seamless integration with the existing system and Distributed Automation capability will be the deciding factor for mass scale implementation.

4. Scope of MDM Supply

4.1 The scope of this RFP is to procure a Meter Data Management System (MDMS) solution to manage the Meter Data for the meter volume and support functions mentioned in this RFP including- design a solution specific to BRPL, documentation- technical and user manuals, supply of related software and licenses including the licences required in ISU and other integrated systems for AMI implementation, hardware , configuration, development, customization, integration, with other systems, conducting testing- unit testing, integration testing, end-to-end system operational acceptance testing including security and privacy testing of entire MDMS, provide support during 'Go Live', technical training, user training etc. for successful implementation of MDMS in BRPL. (The Guidelines for the Operational Acceptance test will be finalized during the Detailed engineering stage)

4.2 Undertake enhancements in the SAP ISU and other integrated systems including SAP ISU - AMI Integration, Implementation of SAP Prepaid Metering Solution, Enhancement in existing SAP ISU Device Management, Billing & Invoicing, Consumer Services, Net Metering Systems, etc. Enhancement in Consumer App and Portal. **Any additional SAP Licenses required to fulfill the requirements of implementation scope including SAP – AMI, SAP prepaid and EDM to be provided by Bidder.**

4.3 The bidder is expected to submit detailed implementation methodology and technical solution for this project along with names and profiles of the resources being deployed. The implementation methodology should include the enhancement requirements of SAP ISU and other integrated systems.

4.4 The technical solution should include-

4.4.1 Technical architecture including MDMS internal architecture and existing systems required to be integrated

4.4.2 Approach on DC and DR replication details

4.4.3 Proposed approach on cyber/ data security

4.4.4 Complete BOM for hardware and software including license, SAN storage etc. necessary keeping in view the functional scope and requirements of integrated systems including SAP ISU.

4.4.5 The bidder is expected to optimize the hardware by considering BRPL existing landscape (bidder can get details from BRPL if required).

4.5 The bidder is expected to propose latest versions of all software, hardware for the project and should be supported by OEMs for at least 7 years from operational acceptance test.

4.6 The scope includes completion of all works as per the schedule mentioned in this RFP.

4.7 The scope also includes providing onsite warranty support for 5 years post 'Operational Acceptance Testing' / Go Live of MDMS for all software, hardware, integration and other deliverables.

4.8 Bidder should also provide all the updates free of cost during warranty and AMC period. Bidder should also provide the required training to the users for operating, developing system and administrative training to selective persons for running system after support period free of cost.

4.9 Any software updates, upgrades, patches released till the completion of warranty period shall be supplied, installed and commissioned under scope of this contract.

4.10 Bidder should provide the required training to the users for operating, developing system and administrative training to selective persons for running system after support period free of cost.

4.11 Training to BRPL personnel on new version of software from the OEM or OEM's certified training partner shall be arranged by the bidder.

4.12 Maintain the Hardware and software on 24X7 basis during Warranty period as per agreed SLA. Bidder to ensure seamless operation including but not limited to SLA maintenance, recovery in case of system failure, bug fixing, patch updates, updated virus definition and data maintenance.

4.13 The MDMS should interface with all the existing HES and any future HES's of metering vendor for BRPL

4.14 The MDMs should have standard interface/connector available to interface with SAP IS-U system and there shouldn't be any further licensing impact on BRPL.

4.15 Bidder to specify that MDMS comply with MultiSpeak specifications.

4.16 Bidder to provide all the systems and documentation in English (British / US) language.

4.16.1 Product documentation

4.16.2 Training documentation

4.16.3 Process documentation

This scope should include all the licenses required by the BRPL's existing applications service providers for implementation of AMI and MDM functionalities as mentioned further in the RFP.

The Software licenses will be in the name of BRPL and will be perpetual in nature.

5. Meter Data Management System Functionality overview

An MDMS shall meet following requirements:

Sr	Functionality	Overview
A	Meter Data Sources	MDMS should be capable of receiving the meter data from HES in BRPL with reading frequency defined by BRPL along with - Handheld Devices, Cellular (Mobile) , Fixed Network, PLC, RF mesh, etc. MDMS shall utilize TCP/IP as the general communication protocol.
B	Device Management & Installation	• MDMS should maintain unique device id for each meter and synch with device identifier from BRPL asset management system in SAP. • Also support device provisioning as per SAP process. MDMS should also allow define unmetered points in the network.
C	Meter Data & Management, Data Retention	• MDMS should maintain the time series meter data from all types of meters with BRPL like 1 Phase, 3 Phase, DT Meters, LTCT meters, HT meters, System Meters etc. for Residential, Commercial, Industrial and system with different time

		intervals from 15 Mins to 60 Mins. • Perform programmatic data integrity checks including for example checksum, time check, etc. • MDMS should facilitate to store 3 years data in live system and 7 years data in archived form. MDMS should be able to retrieve and use achieved data when required.
D	Meter Reads & Communication	• MDMS application shall be able to perform scheduled reads as per the routes defined by BRPL. • MDMS should also be able to perform on-demand reads triggered from various business processes (and systems) or manually. • MDMS should maintain the time stamp and user id when perform on-demand read.
E	Real Time Support	MDMS should be able to log and trigger alerts on receiving events from meters such as tamper, alarms, outages etc.
F	Bill Determinants and VEE	• MDMS should process and aggregate meter data for all types of Billing including- Cumulative Billing, Time-of-Use billing, Net Metering Billing etc. to calculate 'Billing determinants' to be used in SAP ISU for billing a customer. • MDMS should provide a calculation engine that can perform Validation, Estimation, Edits & Exceptions (VEE) – both manual and automatically, enable event management and provide analytic and operational reporting on exceptions from VEE. • Aggregate meter data for a specified number of service points or channels for consolidated billing, summary billing, support the virtual metering, finding coincident peaks and DT level EA requirements.
G	Remote Disconnect/ Connect	MDM should be able to remotely perform hard disconnects and re-connects of customers, and enabled/disable load limiting.
H	Event Handling &	Maintain an audit trail of meter and billing data changes.

	Audit Trails	
I	Administration User Interface	MDMS should provide a comprehensive user management facility along with roles and rights.
J	Reports, Trends & Graphs	MDMS should have facility for calculations on the measured and derived values produce reports, graphs and trends on the results.
K	Integration	MDMS should be integrated with different legacy systems with BRPL like- SAP, ISU, In house built OMS, GIS (ESRI), Distribution Planning Tools, DMS and Analytics, Call Center etc.
L	Security	MDMS should comply with IT security standards and provide multi level password protections and encryption.
M	Other Supports	MDMS should support/ compliment initiatives of BRPL like- Net Metering, Revenue Protection, Network Planning, Demand Response, EV Charging etc.
N	Performance and Standards	MDMS should comply with performance standard expectations in terms of data acquisition, process and user interfaces response for meters volume of BRPL next 5 years.
O	Technical Requirements	MDMS should meet all the technical requirements of BRPL.
P	Outage Data	MDMS should store the outage data and able to provide the outage intervals for defined or required period.

6. MDMS Functionalities Details

6.1 Meter Data Read Sources

6.1.1 The MDM should be capable of receiving the meter data from multiple Head end Systems (HES) with BRPL with reading frequency ranging from 15 min, 30 min, 60 min, daily, monthly – for different types of meters. And should be ready to comply regulatory requirements in future.

6.1.2 The MDMS shall support special reads and associated analysis, such as momentary outage counters, sustained outage counters, voltage sags, voltage spikes, etc., that comes back to the MDMS.

6.1.3 When on-demand reads are requested via the MDMS and the data is subsequently received from the applicable communication system, the data must be stored within the MDMS along with the user id of the person who requested and date-time stamp of the read (to support history requirements).

6.1.4 The MDMS shall utilize TCP/IP as the general communication protocol.

6.2 Device Management and Installation

6.2.1 The MDMS should provide a view of the devices in the form of a network hierarchy and allow managing the view to add/ delete / modify with complete audit trail.

6.2.2 The MDMS shall maintain information and relationships between the installed meter location (apartment, shop, industry/ address etc.), Consumer information (Name etc.), Consumer Account No, Meter ID, Type of Meter (type of consumer, 1 phase/ 3phase, etc.), Meter configuration (Demand integration period, Load profile capture period etc.), GIS supplied information (longitude, latitude , connection with feeder/ transformer/ pole etc.) etc.

6.2.3 The MDMS should support tracking the status of meters and communication equipment from the date when they are installed in the field. The history of in-service asset location is maintained throughout the device life with start and end dates associated with each in-service location reference.

6.2.4 Ability to report and log any damage / deterioration in the meter attributable to consumer /utility.

6.2.5 The MDMS should support device lifecycle management from device registration, installation, provisioning, operations and maintenance to decommissioning etc. The MDM shall generate exceptions for meter or modules not delivering the correct meter data after installation.

6.2.6 The MDMS should provide a reconciliation report that identifies the meters that have been installed but not communicating for a designated (configurable) period. MDM shall generate reports on the number of meters installed in comparison to the number of meters successfully communicating.

6.3 Meter Data & Management

6.3.1 The MDMS should facilitate as ‘online meter data repository’ to provide online meter data versioning for various meter data such as- registers, consumptions data, interval data, events and other meter data.

6.3.2 The MDMS should allow maintain business entities relate to meters in synch with CIS data from SAP ISU.

6.3.3 The MDMS should identify and maintain the source of the meter data i.e. HES or handheld etc.

6.3.4 The MDMS shall have the ability to track and maintain service point information (e.g. device changes, device sets, multiplier changes, unit of measure, communication module info, network address and connectivity, load transfers etc.) by effective dates and time of the changes. This information may be obtained from various sources like CIS, GIS, OMS etc.

6.3.5 The MDMS shall store both general device information and communication module information, if applicable. (e.g., serial number, purchase date, manufacturer information, test data, size, location, etc.).

6.3.6 When applicable, the MDMS shall maintain the relationship between communication module information and the device (serial number, install/remove dates, association/disassociation dates, battery dates, all device characteristics etc.) where it is installed.

6.3.7 The MDMS shall track and maintain history of the relationship, both static and dynamic, between devices and transformers via interface of the information from other systems like GIS, OMS, DMS etc.

6.3.8 The MDMS shall have the ability to track device sets and changes by interfacing with CIS and/or the device tracking system like DMS , GIS (as appropriate).

6.3.9 The MDMS shall maintain a view of the device inventory (set and in inventory), device locations, operating jurisdiction, etc. The system of record for this data may be the device tracking system but all associated data must be available to MDMS.

6.3.10 The MDMS shall be able to handle updates on a daily basis of device and AMI network information during deployment and ongoing operations.

6.3.11 The MDMS shall maintain information related to the account/service point/meter/device relationship within the system, including historical lookup. For example, the MDMS shall make it possible to easily determine total usage for a particular service point over time through multiple device change-outs or customers.

6.3.12 The MDMS shall keep track of whether each device read stored is an actual read, an estimate, or a manually edited read. This status code must be available to other systems.

6.3.13 The MDMS shall provide a mechanism for updating missing or estimated reads with actual read data if it is available at a later point in time. Based on user defined parameters, the system must automatically send out updated data to applicable systems.

6.3.14 The MDMS shall have the ability to identify and store information associated with customer owned devices if any.

6.3.15 The MDMS shall have the ability to receive, process, and store device data from electric meter both time interval and cumulative or scalar data. The time series data

could be 15 mins load survey and from 15 min, 30 min, 60 min, daily, monthly billing data.

6.3.16 The MDMS should have ability to receive, process and store the meter readings on half hourly, hourly, daily and monthly basis with all date-time stamp the data as it is received.

6.3.17 The MDMS shall date-time stamp the data for each interval represented. The interval time stamp shall be the time at the end of the interval.

6.3.18 The MDMS shall have the ability to store interval reads with load survey and billing data.

6.3.19 The MDMS shall have the ability to extract reads for different intervals from different meters.

6.3.20 The MDMS shall store interval data in engineering units.

6.3.21 The MDMS shall maintain read schedules within the system. This shall include the ability to handle the coordination of a single schedule that includes multiple sources of data (e.g. handhelds, RF, PLC, etc.).

6.3.22 The MDMS shall maintain special read schedules, e.g. TOD for each jurisdiction, and shall process in peak/off-peak/normal and pass to billing system as billing variants.

6.3.23 The MDMS shall have the ability to process electric meters register reads.

6.3.24 The MDMS shall recognize the receipt of interval (s) that already exists in the MDMS database.

6.3.25 The MDMS shall have the ability to automatically cycle the unmatched device data through the device recognition process.

6.3.26 The user shall have the ability to invoke the process to identify unmatched devices on an adhoc basis.

6.3.27 The MDMS shall have the ability to set a user-defined frequency (e.g. Daily) for the device recognition process.

6.3.28 The MDMS shall handle multiple events in any given period, e.g. hourly, daily, monthly.

6.3.29 The MDMS shall have the ability to allow user configuration of key MDMS variables (such as rounding rules, number of decimal points retained) as well as Maintenance variables (escalate vs. pending events based on pre-defined priority thresholds) by jurisdiction.

6.3.30 The MDMS shall have the ability to store customer account information, such as customer ID, premise information, rate schedule, etc.

6.3.31 The MDMS shall provide user and system interfaces for the definition of channel configuration by meter class, group or type.

6.3.32 The MDMS shall provide user and system interfaces to define an override channel configuration for individual meters.

6.3.33 MDMS should facilitate to store 3 years data in live system and 7 years data in archived form. MDMS should be able to retrieve and use achieved data when required.

6.3.34 Perform programmatic data integrity checks including for example checksum, time check, etc.

6.3.35 The MDMS shall have the ability to install a check meter at a premise along with the actual meter and should provide the variance report.

6.3.36 The MDMS shall have the ability to process the event database based on the requirement of BRPL.

6.4 Meter Readings

The MDMS application shall be able to perform scheduled reads as per the routes defined by BRPL. MDMS should also be able to perform on-demand reads triggered from various business processes (and systems) or manually. The MDMS should maintain the time stamp and user id when perform on-demand read.

6.4.1 General

A. The MDM should be capable of receiving the meter data from 'Head end Systems' HES in BRPL with reading frequency of 15 min, 30 min, 60 min, daily, monthly for different meters based on category of consumers.

B. When on-demand reads are requested via the MDMS and the data is subsequently received from the applicable communication system, the data must be stored within the MDMS along with the user id of the person who requested and date-time stamp of the read (to support history requirements).

C. The MDMS shall utilize TCP/IP as the general communication protocol.

6.4.2 Input from meters

A. The MDMS shall support the collection of usage and home area network information (in future) from devices.

B. The MDMS shall be capable of collecting data from applicable electric meters/devices in the following aspects: 1) conforming to tariffs, 2) Multiple interval levels, and 3) Timing (how often to receive data).

C. The MDMS shall be capable of processing usage data in a variety of data types, including pulse, engineering units, etc.

D. The MDMS shall be capable of loading usage data from "hand-held" systems (details will be provided by BRPL).

E. The MDMS shall have the ability to receive data through a data push or a data pull mode from the meters.

F. The MDMS shall have a flexible process engine for collection of reads. The process engine shall be have the ability to: 1) detect a push event whereby

device reads have been asynchronously sent to the MDMS, 2) schedule a pull event in which device reads are requested by the MDMS, and 3) initiate a request-response event based on external requests from BRPL systems (e.g., an on-demand read or power status check).

G. The MDMS shall store all device event messages for review.
H. The MDMS shall have the ability to receive, store and process multiple events (connect / disconnect / load limiting) for an individual meter/device or a group of meter/devices based on need.
I. The MDMS shall have the ability to process electric meter/device register reads.
J. The MDMS shall have the ability to export electric validated usage to external clients.
K. The MDMS shall have the ability to export un-validated device reads to external clients.
L. The MDMS shall have the ability to process certain event messages in a real-time manner.
M. The MDMS shall have the ability to receive event commands from associated systems (such as CIS) and issue a command to the device to complete the command according to a user configurable priority.
N. The MDMS shall have the ability to receive, store, process, and report on multiple events (connect / disconnect / demand response) scheduled for a single meter or group of meters.
O. The MDMS shall have the ability to schedule field orders for any device service and prioritize those orders by type, date, time and other factors. Users shall be able to configure the prioritization algorithm.
P. The MDMS shall have the ability to receive and respond to a command from the associated system to stop all, or a subset of orders (e.g. Field Service Offices). Users shall be able to configure the subset of orders to be stopped.
Q. The MDMS shall be capable of measuring all registers (internal & external), without rounding or truncating, including all decimal points for storage.
R. The MDMS shall calculate engineering units using the device specific pulse multiplier.
S. The MDMS shall be able to recognize and indicate when a device is AMI capable.
T. The MDMS shall have the ability to capture the export & import parameters in case of bi-directional meters, and process them as per the requirement of BRPL.

6.4.3 On-Demand Meter Communication

A. The MDMS shall have the ability to issue commands to AMI device(s)/ Smart Meters on demand.
B. MDMS users shall have the ability to initiate any available command to the device from the MDMS (subject to security access controls).
C. The MDMS shall have the ability to automatically initiate commands (such as on-demands reads) to the AMI devices.
D. The MDMS shall have the ability to send messages (e.g. Demand Side Management event data) to HAN-enabled meters.
E. The MDMS shall have the ability to receive acknowledgement messages from the HAN-enabled appliances.

6.4.4 Communication Prioritization and Management

A. The MDMS shall have the ability to prioritize commands sent to devices. Prioritization shall be user-configurable.
B. The MDMS shall have the ability to delay commands, based on user configuration, in order to manage AMI communication network activity when necessary.
C. The MDMS shall have the ability to set a specified time for a command to be executed.
D. The MDMS shall have the ability to set a specified delay prior to certain commands being sent to the device based on business requirements.
E. The MDMS shall allow commands to be sent to groups of devices.
F. The MDMS shall have the ability to send commands based on a pre-set schedule.
G. The MDMS shall allow the ability to override a command either for a specific device or the entire group by canceling the command.
H. The MDMS shall have the ability to balance scheduled device reads evenly across the daily device reading period.
I. The MDMS shall support the automatic re-balancing of the distribution of scheduled device reads across the device read period (potentially longer than 1 day).
J. The MDMS shall have the ability to manage and balance alternate (non-daily, e.g. hourly) device read schedules.
K. The MDMS shall have ability to spread batch commands according to a pre-determined time span.

6.4.5 Message Grouping

A. The MDMS shall allow specified users to create a group of devices by individually selecting devices from the overall pool of devices.

B. The MDMS shall allow specified users to create a group of devices by importing device identifiers using common desktop tools such as Excel.
C. The MDMS batch commands may contain multiple, individual commands (i.e. a message to the customer as well as an updated hourly device schedule).
D. The MDMS shall allow groups to be created utilizing information / criteria from interfacing systems.

6.4.6 Logging and Events

A. The MDMS shall have the ability to store / maintain a record history of all commands sent to the devices.
B. The MDMS shall have the ability to verify completion of the command(s) sent to and received from the devices (e.g. verify successful disconnect).
C. The MDMS shall have the ability to link the command and output and shall able to provide on demand.

6.4.7 AMI Communications

A. The MDMS shall have the ability to communicate with multiple AMI data collection systems (HES) and existing data collection systems of BRPL.
B. The MDMS shall provide the capability to interact directly with AMI data collection system / HES to perform on-demand assessments of a device's status in the field.
C. The MDMS shall interface directly with communication systems to perform on-demand commands of devices in the field.
D. The MDMS shall update the AMI data collection system / HES with device data when devices are converted to AMI.
E. The MDMS shall be able to receive and process connectivity status responses from the AMI data collection system / HES.
F. The MDMS shall have the ability to supply customer, premise, service point, meter and / or device and connectivity information to AMI data collection systems to support meter and/or device communications. Ongoing operational changes would be reflected in this interface.
G. The MDMS shall have the ability to request and receive device reads from AMI data collection systems/ HES.
H. The MDMS shall have the ability to forward AMI network equipment installation data to AMI data collection system / HES.
I. The MDMS shall have the ability to forward connect / disconnect command and data to AMI data collection system / HES.
J. The MDMS shall have the ability to receive results/status of connect/disconnect action commands and device read commands from AMI data collection system / HES.

K. The MDMS shall have the ability to receive asynchronous notifications from AMI data collection system / HES.

6.5 Meter Events

6.5.1 The MDMS should be able to log and trigger alerts on receiving events from meters such as tamper, outages etc.

6.5.2 The MDMS should support on demand meter reads and "pinging" of the meters on requests from other systems of BRPL like OMS, CRM etc.

6.5.3 The MDMS should be able to process outage notification event (last gasp) and outage restoration (first gasp) of the meters. Such events should be filtered against the known service orders (including declared outages from OMS) before passing it to OMS.

6.5.4 The MDMS should have ability to differentiate fictitious and momentary outages from meters before passing to OMS.

6.5.5 The MDMS should be capture date and time stamps of all events- both from meter and MDMS.

6.5.6 The MDMS should have ability to process the events such as demand thresholds, voltage high / low in the form of a trigger to other systems in BRPL or alerts to designated users in the form of workflow.

6.6 Billing – Bill Determinants, Validation Estimation & Edition , Aggregation

6.6.1 Calculation Engine

A. The MDMS should provide a calculation engine that can perform validation, estimation and edits (VEE) – both manual and automatically, enable event management and provide analytic and operational reporting on exceptions from VEE.

B. The MDMS shall have a configurable billing determinant calculation engine that supports both the definition of billing determinant rules and the application of rules to tariffs.

C. The MDMS billing determinant calculation engine shall include a robust mechanism to aggregate data in a flexible manner through an easy to understand user interface.

D. The MDMS shall have configurable billing determinant rules driven by effective date and/or bill cycle ID.

6.6.2 Calculation of Billing Determinants

A. The MDMS shall be able to process data into billing determinants from interval meter/device or consumption data (e.g. kWh, kW, kVAR usage, kVARh, kVAR, kVA, power factor, load factor etc.) for all types of meters with BRPL in the required time period.

B. The MDMS billing determinate calculation engine shall perform billing data validation prior to calculating billing determinants.
C. The MDMS shall be able to calculate billing determinants for all types of tariffs in BRPL.
D. The MDMS shall be able to calculate billing determinants for complex C&I tariffs as well as customers with bi-directional energy flow and metering (Net Metering Customers).
E. The MDMS shall be able to calculate billing determinants from monthly reads for both time interval meters and cumulative or scalar meter data.
F. The MDMS shall be able to calculate billing determinants from hourly/ half hourly/ 15 mins and daily reads for both time interval and cumulative or scalar meter data.
G. The MDMS shall be able to calculate billing determinants from special rate scheduled reads, e.g. TOD, CPP, RTP etc. with facility for settlements.
H. The MDMS shall be able to calculate billing determinants for Net, subtractive, additive metering and aggregation for customers.
I. The MDMS shall use previously calculated billing determinants and estimated values, whenever required.
J. The MDMS shall be able to calculate billing determinants for readings based on tariff requirements (e.g. 15/30/60 minute, daily and monthly readings).

6.6.3 Special Circumstances

A. The MDMS shall be able to handle special contract calculations, for example, curtailable or interruptible. Special contracts should be configurable.
B. The MDMS should be capable of handling device changes occurring during the billing period while calculating bill determinants.
C. The MDMS shall factor changes to the billing interval length while calculating bill determinants.
D. The MDMS shall be able to handle multiple events in a given bill period (device change out, equipment cycles, tariff changes, etc.).
E. MDMS shall be able to receive data and transmit data to and from a third party or handheld devices.

6.6.4 Adjustments and Re-bills

A. The MDMS shall have the ability to track and store corrections and adjustments between billing determinants for end use customer billing.
B. The MDMS shall have the ability to process billing determinants for re-bills for multiple billing periods.
C. The MDMS shall have the ability to process the variants for re-bills for any account originally billed (e.g. totalized, aggregated accounts, etc.).

D. The MDMS shall have the ability to process mid-cycle / mid re-bill period changes (ex. Tariff change, device change, program events, etc.).
E. The MDMS shall have the ability to handle Bill Period changes, with or without change in interval level usage.
F. The MDMS should have the ability to re-calculate estimated intervals/reads upon receipt of actual data.
G. The MDMS shall be able to perform VEE processing daily as reads are provide to it from AMI and monthly. The MDMS should not enforce restrictions on when the VEE process is executed.
H. The MDMS shall have the ability to communicate with the billing system for re-bills extending before the AMI device installation.

6.6.5 VEE

A. The validation, editing, and estimation (VEE) engine within MDMS shall validate energy consumption according to BRPL data quality requirements and provide estimates for the inevitable missing and incorrect data that comes from meter data if required by BRPL.
B. The MDMS should have configurable VEE rules driven by effective date and/or bill cycle ID and tracking the changes.
C. The VEE Engine shall support parameter-based validation and estimation algorithms, user-defined validation and estimation algorithms, and editing of individual values and statuses in the MDMS' embedded user interface.
D. With user-defined validation rules, the user should be able to specify both the validation logic and the value to apply the logic against.
E. The MDMS shall have the ability to estimate interval data and profile reads in conformance with configurable rules.
F. The MDMS shall have the ability to identify and report the algorithm that is used to calculate an estimate.
G. The MDMS shall have the ability to use historical usage data from legacy data systems obtained either via conversion or by system interface.
H. The MDM should provide various estimations like profile based estimation, linear interpolation, interval estimation, averages etc. for the missing values.
I. The MDMS shall have the ability to manually override automatic VEE intervals and profile reads (Manually overridden data should have an audit trail).
J. The MDMS shall have the ability to VEE (in any interval desired) daily and monthly information.
K. The MDMS shall have the ability to provide VEE data for any interval gaps.

L. The MDMS shall be able to distinguish between: 1) legitimate zero energy values when no energy is used, 2) zero values based on power outages, 3) missing data.

M. The MDMS shall have the ability to calculate billing determinants and communicate them to the billing systems for rebilling on-demand when requested by a user and by batching changes to be forwarded as part of a scheduled update. The batching mechanism shall be configurable by an administrator.

6.6.6 Exceptions

A. The MDM should be able to carry out the data validations before processing such exceptions through opening actions or workflow

B. The common validations should include, not limited to -

- Communication link loss
- Meter replacement
- Main and Backup meter reading comparison
- Absence of voltage in one or more phases
- Comparison of parameters (CCEE code)
- Constants
- Fiscal page deviations
- No data
- Time drift
- Media replacement
- National holidays
- Meter re-programmed
- Interval data status

C. MDM should interpret the validations, events, alarms, flags etc. From meter data and correlate and filter with other systems data such as OMS before opening actions in workflow.

D. The MDM should have facility to apply validations/exceptions automatically or on demand.

E. The MDM should have flexibility to apply specific rules or a set of rules to a specific customer or a class of customers.

F. The MDM should handle all VEE events in a work flow type environment and notifications must be sent through email, SMS etc.

G. The MDMS will provide VEE and exception handling for all types of meters like- consumer meters, transformer meters, feeder meter and border meters in BRPL.

H. The MDMS should provide proper work flow functionality for VEE and Exceptional Handling.

6.7 Remote Disconnect/ Connect Meters

6.7.1 The MDMS shall have the ability to recognize if the installed device is capable of remote connect / disconnect regardless of a meter's configuration.

6.7.2 The MDMS shall be able to remotely issue generated connect / disconnect service commands for an effective date/time to the appropriate customer meter(s) or group of customers based on conditions like- default, fraud, tech failure, construction works, maneuvering, release of selective loads, inability to access, shutoff by customer request etc.

6.7.3 BRPL shall provide the details of customers with such capabilities at an appropriate time.

6.7.4 The MDM should be able to facilitate to handle BRPL need to handle temporary/provisional connections by getting activation command from CIS system.

6.7.5 Similarly the MDM should also handle the prepayment metering by receiving meter connect from prepaid vending system or CIS and issue a meter disconnect when the customer credit demand is reached.

6.7.6 The MDMS shall be able to read and process response data associated with remotely issued CIS connect / disconnect events to customer meters.

6.7.7 The MDMS shall have the ability to receive and respond to a connect / disconnect command to facilitate to implement programs like DR, DSM, RTP, pEV, Selective load release, New Customer Activation, Urgent Interruption etc. by MDM package or BRPL systems responsible.

6.7.8 The MDMS shall have the ability to receive and respond to a command from BRPL systems to cancel all, or a subset of (e.g. Field Service Offices) connects / disconnects orders.

6.7.9 The MDMS shall have the ability to schedule connect / disconnect orders by date, time and other factors. Users shall be able to configure the scheduling algorithm.

6.7.10 The MDMS shall check for cancellation requests prior to initiating connect / disconnect command to the device.

6.8 Energy Audit

6.8.1 MDMS should provide for Energy Audit functionality at all levels based on the Meter data and electrical hierarchy maintained in the system

6.8.2 Any additional SAP licenses required for supporting this functionality has to be provided by bidder

6.8.3 The Bidder will need to further provide for AT& C calculation system in SAP ISU

6.8.4 MDMS should provide standard reports <format being shared during BPD phase>, but not limited to

6.8.4.1 Loss analysis for different groups and categories of consumer on daily/weekly/monthly basis
6.8.4.2 T&D loss calculation on monthly basis
6.8.4.3 Accounting and Auditing at sub-station, feeder and DT level
6.8.4.4 Graphical representation of all results and export facility in pdf / excel / CSV / text formats.

6.9 Event processing

6.9.1 The MDMS shall have a processing engine that provides automated as well as manual handling of events (based on configuration rules) described in VEE section.

6.9.2 The MDMS processing engine shall be configurable to support business rules without IT programming (e.g. VEE failures, non-responding meters, meter and network alerts, etc.).

6.9.3 The MDMS shall support the ability to send subscription based meter events notifications to the relevant individual(s) (e.g. to work flow, email accounts, pagers, other systems, etc.). Subject to access controls, the system shall support event notification to any type of user (e.g. super users, administrators, operations support, PHI third party vendor, PHI customers, etc.). The individuals and the means by which they are notified shall be administratively configurable.

6.9.4 The MDMS shall allow an administrator to set event thresholds to limit the sending of work flow or other notifications.

6.9.5 The MDMS shall allow an administrator to define rules for collecting notifications and sending them in batches.

6.10 Audit

6.10.1 The MDMS shall support auditing for all logical data entities.

6.10.2 The MDMS shall record that events have occurred, e.g. Demand Response events.

6.10.3 The MDMS shall maintain a record of all data that is modified. The record of modifications is referred to below as an audit log.

6.10.4 When data is modified, the MDMS shall include the following information in an audit log record: the user or system id making the change, a date-time stamp, reason code, whether the new value is actual, estimated, or edited as well as the new data value.

6.10.5 When data is modified, the MDMS shall maintain the previous data value and audit record attributes. For example, user or system id, date-time stamp, reason code, whether the data is actual or estimated, etc.

6.10.6 The list of valid reason codes must be maintained in a configurable table accessible by an authorized administrator.

6.10.7 The MDMS audit log shall provide a mechanism to easily search and review entries.

6.10.8 The MDMS shall not allow users to edit or update entries in the audit log.

6.10.9 The MDMS shall allow super-users to copy or archive an audit log.

6.10.10 The MDMS shall allow super-users to edit or update entries in the audit log.

6.10.11 The MDMS shall have the ability to self audit to ensure possible errors or regulatory / rule violations do not occur, or when violations have occurred to have the ability to notify users.

6.10.12 The system must provide a mechanism to easily see the history of a particular data item as well as any changes that are made to that item.

6.11 Administration & User Interface

6.11.1 The MDMS shall have the ability to provide different levels of security that allow different groups to have different access levels (i.e. provisioning of level of responsibilities).

6.11.2 The MDMS user interface shall support viewing and updating of data subject to security provisions in order to limit the ability to make manual changes to data.

6.11.3 The MDMS user interface shall support viewing of reports.

6.11.4 The MDMS user interface shall support initiating, updating and closing of service commands.

6.11.5 The MDMS shall provide drop down menus for data entry to minimize user input error.

6.11.6 When a user edits data values, (e.g., read values, account information, etc.), the MDMS shall store and present the data including the value prior to edits along with the new value and a trail of the actions/values (e.g., billing constant change will show change from and to value).

6.12 System Configuration

6.12.1 The MDMS shall support the configuration of business and data processing to reflect new business rules without the need to modify source program code and without proprietary skills. The scope of this requirement is not limited to but must include VEE, handling of AFEs and events, and scheduling.

6.12.2 MDMS shall support modification and configuration of system messages, including messages to end users and events without the need to modify source program code and without proprietary skills.

6.13 User Help

6.13.1 The MDMS shall have an easily accessible, fully integrated on-line help function.

6.13.2 The MDMS shall have online context sensitive help functionality.

6.13.3 The MDMS help functionality shall include an index, general search and advanced search capabilities.

6.13.4 The MDMS help contents shall be customizable.

6.14 Web Interface

6.14.1 The MDMS shall provide a thin client, web-based interface.

6.14.2 The MDMS interface shall be customizable to BRPL standards, including content (images and text), format and functionality, and user help. Customization of the interface shall not require the use of additional software.

6.15 System Updates

6.15.1 The MDMS shall allow for the grouping of commands for execution in a batch process.

6.15.2 The MDMS shall allow administrators to define time-windows for execution of commands based on pre-defined customer classes or rate schedules.

6.15.3 The MDMS shall have the ability to call separate events based on customer classes or rate schedules.

6.16 Specific Reporting

6.16.1 The MDMS shall have robust reporting capabilities supporting the generation of vendor supplied (standard), user generated and 'query based' reports on a scheduled, event based, or manual basis across the users defined by BRPL. The reports types supported should be - configurable parameter reports, comparative reports, exception reports.

6.16.2 The MDMS shall have the ability to generate all reports in a format of BRPL choice, e.g. PDF, Excel, Word, etc.

6.16.3 The MDMS shall be capable of creating output files in standard file formats for processing by BRPL legacy billing systems.

6.16.4 The MDMS shall have the ability to generate reports about the data collection system, the AMI network, all AMI system end points and non-AMI end points.

6.16.5 Users of the MDMS shall have the ability to create reports via report writer (e.g. Crystal Reports) or SQL and will have the option to save these reports if so desired.

6.16.6 The MDMS shall have the capability to restrict report availability based on user security settings (e.g. reports that are only available to supervisors, administrators, etc.).

6.16.7 The MDMS shall support the option to distribute user generated reports.

6.16.8 The MDMS shall maintain an online catalog listing reports.

6.16.9 The MDMS shall allow BRPL to add user-defined or custom reports to the online catalog.

6.16.10 The MDMS shall display a full online catalog listing of all (user-defined and product) reports including detailed descriptions.

6.16.11 MDMS should generate reports not limited to:

A. Operation and Planning, time data and 15 minutes, executed on a daily basis
B. Operation and Planning, 15-minute data, executed on a weekly basis or on demand
C. Follow-up of load of the free items
D. Comparison of energy registered between the main meter and the back part - the system shows only the clients the variation of which is above a certain value
E. Parameter report of the meter
F. Analysis of the tax page
G. Overload/saturation of TCs
H. Meters lacking data, informing the period without data
I. Checking, whether all programmed channels are effectively generating data; CCEE parameters
J. Overload of transformers
K. Interruption points (lack of voltage)
L. Number of reading attempts per meter
M. Performance of communication of the collection system
N. Sending of data to third parties (export of mass memory) - time active energy data sent - to free clients
O. Export from MDMS to Billing system
P. Internal data report for follow-up - generators, co-generators
Q. Any other reports those will be finalized during initial phase of the project

7. Integration with Other Systems

MDMS should support / compliment initiatives of BRPL like- CIS Billing with SAP ISU, Work Management, Data Warehouse, Net Metering, Prepaid Billing, OMS, Mobile Apps, Website Customer Portal, Online Energy Accounting, Network Planning, Demand Response, EV Charging, Virtual Metering etc.

The enhancements required in the existing systems to support the MDMS implementation will be part of MDMS implementation.

7.1 Customer Information System (CIS) - SAP

A. The MDMS shall have the capacity to prepare, initiate and send daily reads , interval data, and usage data to CIS.
B. The MDMS shall be able to receive and process CIS issued 'on-demand' device commands.

C. The MDMS shall be able to send CIS the responses from the on-demand device commands.
D. The MDMS shall be able to communicate, in real time or in batch, with BRPL's CIS billing system.
E. The MDMS shall be able to receive and respond to system commands for bill cycle routes from the CIS system.
F. The MDMS shall be able to respond to, in real-time or in batch, and satisfy system commands for billed usage data from the CIS system.
G. The MDMS shall be able to request and process billable reads from the CIS environment.
H. The MDMS shall be able to provide the CIS application with the latest read for use in service order processing.
I. The MDMS shall be able to receive meter/device class and individual meter channel configurations from CIS or other systems.

7.2 Work Management

A. The MDMS shall have the ability to support the automatic allocation of work orders to a work force management system.

7.3 Customer Data Presentment

A. The MDMS shall be able to process service commands for customer data access.
B. The MDMS shall be able to send customer data in response to a service command.
C. The MDMS shall be able to receive and process CIS commands for customer usage data for cancel rebilling.
D. The MDMS shall be able to send customer usage data to CIS for cancel rebilling purposes.
E. The MDMS shall be able to provide data to internal data presentment applications (e.g. portal, dash boards etc.).

7.4 Data Warehouse

A. The MDMS shall have the ability to act as a data warehouse or interface with third-party data warehouse / data lake applications.
B. The MDMS shall have the ability to transfer data to a data warehouse / data lake for analytics, staging and downstream processing. The types of data to be transferred and transfer schedule shall be user-configurable.

7.5 Operations - Meters

A. The MDMS shall be able to create, update, complete, and cancel all device field orders.
B. The MDMS shall be able to receive and process all meter field orders response and status data (completed field order/mobile dispatch data).
C. The MDMS shall be able to receive CIS generated updates associated with newly installed AMI meters and will be capable of sending a connectivity validation message to those meters.
D. The MDMS shall be able to update the CIS environment with the AMI Meter installation validation response messages.
E. The MDMS shall be able to receive and process daily CIS customer, premise, service point, rate, tariff, and meter read information files.
F. The MDMS shall be able to receive and process full data synchronization files (customer, premise, service point, rate, tariff, meter read information) from the CIS system.
G. The MDMS shall allow access to generate reports for purposes of meter diagnostics such as query based on user-defined factors, e.g. cycle, zone, meter type, interval meter read data.
H. The MDMS shall be able to receive meter/device asset information from AMS system.

7.6 Operations - Network

A. The MDMS shall be able to create, update, complete, and cancel all network field orders and send to Network Field Order Processing System (SAP in this case).
B. The MDMS shall be able to receive and process all network field orders response and status data (completed field order/mobile dispatch data).
C. The MDMS shall have the ability to receive event status and acknowledgement of event completion / failure.
D. The MDMS shall have the ability to receive commands (e.g. test, re-program, or other work order / information messages) and set appropriate flags or trigger alternate processing.

7.7 Geographical Information System

A. The MDMS shall be able to receive incremental updates for the electric distribution network sent by GIS on daily basis, especially network hierarchy.
B. The MDMS shall allow users the ability to customize routine and ad hoc reports for engineering purposes (e.g. highest demand each month over the last 12 months) to access through GIS.
C. The MDMS shall have the ability to track and automatically send pre-defined reports on a routine basis for quality control to GIS.

7.8 Data Synchronization

A. The MDMS shall be capable of accepting and processing initial load files containing account data from the CIS environment in order to facilitate a transitional system cross-over period.
B. The MDMS shall accommodate an Initial mapping of schemas routings, to be covered by a data synchronization process once system is in steady state (transitional interface).
C. The MDMS Installation Vendor shall be able to provide a comparison of manual and meter communication system reads for system certification purposes (transitional interface).

7.9 API

A. The MDMS will have a robust set of API's available for BRPL to utilize in interfacing with other applications.
B. The MDMS shall not impose interface restrictions for creation of data or updates. Creation or updating shall be possible via 1) bulk/batch interfaces (e.g. file import), 2) real-time/online interfaces (e.g. web services), and 3) through a user interface.

7.10 Outage Management

A. The MDMS should maintain the grid hierarchy structure from OMS / GIS and has data synchronizing facility at-least once in a day.
B. The MDMS shall be able to create, update, complete, and cancel all outage notifications and send them to an Outage Management System with configurable filters.
C. The MDMS shall be able to receive and process (planned and unplanned) outage notifications and real-time circuit switching information sent by OMS and filter the outage notifications from meter data back to the OMS.
D. The MDMS shall have the ability to receive outage status from an OMS.
E. The MDMS shall have the ability to receive commands (e.g. ping) from OMS.
F. Distribution Management System (DMS)
G. The MDMS shall be able to create, update, complete, and cancel all outage or energy quality notifications and send them to DMS.
H. The MDMS shall have the ability to receive commands (e.g. ping) from DMS.

7.11 Distribution Planning

A. The MDMS shall have ability to provide various meter data inputs necessary for distribution planning like- feeder meter loadings, distribution transformer loadings, boundary meter data, customer profile data etc.

7.12 Prepaid Billing

A. Implement SAP Prepaid Metering Solution.
B. The prepayment should support the system that payment and connection parameters are stored centrally and the details are being updated to consumer portal/ app.
C. The system should periodically monitor the energy consumption of prepaid consumer and decrease the available credit based on consumption.
D. The system should send connect/disconnect command on the basis of available credit as per notified rules & regulations.
E. The system should send low-credit notifications to the consumer when their balance approaches a threshold.

7.13 Hand Held Devices

A. The MDMS shall have the ability to interface with existing handheld devices operational in BRPL to capture meter reading, to meet any emergency need. It will be the responsibility of the implementation partner to ensure that the existing Hand Held devices are integrated to the MDMS.

8. Security

8.1 The MDMS shall align to cyber security guidelines from ISGF and CIP.
8.2 The MDMS shall support end-Users and Administrator security, including:

A. Individual, named accounts for each end-user and administrator
B. Role-based security
C. Administration privileges provided only through specific authorization
D. Configurable, fine-grained access by service delivery point
E. LDAP v3 compliant integration
F. SSL secured communications

8.3 The MDMS shall support system integration security, including:

A. Web-services/ SOAP protocol and JMS integration require username/password authentication
B. Keystore used to manage certificates and access credentials
C. Support for Mutual or 2-Way authentication
D. SSL secured communications

8.4 The MDMS's underlying data shall support the following security mechanisms:

A. Role-based security for database and application administration, application operations and execution, ad-hoc read-only privileges
B. AES-256 bit encryption for persisting sensitive data at rest
C. Key store to manage certificates and access credentials
D. SSL secured communications

9 Other Requirements

MDMS should support / compliment initiatives of BRPL like - Demand Response, Revenue Protection, Net Metering, Network Planning, Distribution Transformer Monitoring etc.

9.1 Demand Response

The bidder shall describe how its MDM supports Smart Grid Demand Response programs involving Demand Response (DR) systems as part of PLM. The solution shall support the following analysis:

A. Totaling the actual consumption during the DR event.
B. Totaling the actual consumption of different groups that participated in the DR event.
C. Comparing the actual to baseline consumption for the groups in above.
D. The MDM shall support the tracking, monitoring and managing of Smart Meter and events, and monitors customer response to facilitate payment of customer incentives.

9.2 Revenue Protection

A. Ability to analyze meter tampering flags, power outages, usage trends and usage profiles to identify potential energy diversion situations, and produce daily reports, monthly reports and service order requests for investigation.
B. The business rules for revenue protection alerts shall be configurable via a user-friendly interface.
C. The MDM shall filter out revenue protection alerts that may be caused by field activities if the field activity information is provided to the MDM.
D. The MDM shall support the analytics/investigation (i.e. view current and historical usage patterns) to valid suspected revenue protection issues.

9.3 Net Metering

MDM shall flag, alarm and trigger an estimating process including but not limited to when the following anomalies occur:

A. CUM decrements of forward energy within a billing cycle
B. Register decrements for Time of Use (ToU) of forward energy

C. Power generated(exported) by any net-metering consumer more than the installed capacity of solar PV rooftop system
D. Energy exported(exported) in any given day by any net-metering consumer more than the programmable threshold value

9.4 Network Planning

The MDMS should integrate with Distribution Planning tools with BRPL to provide all time series metering data for planning.

9.5 Distribution Transformer Monitoring

A. The MDMS should provide facility to set thresholds for DT electrical parameters and trigger alerts to the concerned personnel through workflow.
B. The MDMS should also provide graphical reports to compare electrical parameters such as kWh, PF, Volt, Current etc.. of DT with the customers connected on the same DT.
C. Above results should also be available in the format such as Excel, PDF etc.

10 Performance Standards

10.1 MDMS User Interface Level performance

10.1.1 Any real time display and application display on workstation console along with data values to appear on screen - Within 2 Secs

10.1.2 Manual data entries of new values to appear on screen – Within 2 Secs

10.1.3 Display update rate – 2 Sec for 4 displays together

10.1.4 Response time for display of alarms and events after receipt in system – Within 1 sec of receipt

10.1.5 Request for printing of displays (to be acknowledged with an indication of quest being processed)- Within 2 Secs

10.1.6 Request for generation of reports (to be acknowledged with an indication of quest being processed)- Within 2 Secs

10.2 Performance levels for collection of daily meter readings (as per IS 16444/15959 part 2)

The following are the performance levels required for the daily collection of the previous day's interval energy data and total accumulated energy:

10.2.1 All interval data from 95% of meters within 8 hours after midnight; and

10.2.2 All interval data from 99.9% of meters within 24 hours after midnight.

10.3 Performance levels for remote reads of individual meters if data is not received on daily basis

The performance level of an individual read applies to the collection of seven days of interval energy data and the current total accumulated energy from a particular AMI meter whose data is not being received on daily basis. The performance level required shall be:

10.3.1 Action performed at 90% of meters within 1 Hour;

10.3.2 Action performed at 99% of meters within 2 hours; and

10.3.3 Action performed at 99.9% of meters within 6 hours.

10.4 Performance level for remote load control commands for selected consumers,

The performance level required for individual meters shall be:

10.4.1 Action performed at 95% of meters within 5 minutes;

10.4.2 Action performed at 99% of meters within 10 Minutes

10.5 Performance level for remote connect/disconnect for selected consumers,

The performance level required for selected individual meters shall be:

10.5.1 Action performed at 90% of meters within 10 minutes;

10.5.2 Action performed at 99% of meters within 1 hour; and

10.5.3 Action performed 99.9% of meters within 2hours.

10.6 Performance levels for Meter loss of supply and outage detection Alarms to be received within 5 minutes for 90% of meters.

10.7 Performance levels for remotely altering settings in meter/ firmware upgrade

The performance level required for individual meters shall be:

10.7.1 Action performed at 99% of meters within 24 hours; and

10.7.2 Action performed at 99.9% of meters within 36 hours.

10.8 Performance levels to remotely read events logs

Performance level required for reading the full event log that pertains to an individual meter shall be:

10.8.1 Action performed at 90% of meters within 30 minutes;

10.8.2 Action performed at 99% of meters within 1 hour; and

10.8.3 Action performed at 99.9% of meters within 6 hours.

To read the event logs pertaining to all meters:

10.8.4 The data pertaining to 99.5% of meters with in 1 day

10.9 Performance levels for updating of data on consumer portal/ app

The performance level of updating of individual consumer data on portal/ app after receiving the data in MDM shall be:

10.9.1 Action performed for 90% of consumers within 1 hour after receiving the data in MDM

10.9.2 Action performed at 99.5% of meters within 6 hours after receiving the data in MDM

10.10 The performance levels regarding meter discovery time line after installation, on demand reading of meter data for operational purposes, outage restoration enquiry response time etc. would also be declared by the bidder. Table attached for reference

Category	Definition	Time of Resolution
Level 1 (Critical)	Complete system failure, severe system instability, loss or failure of any major subsystem or system component such as to cause a significant adverse impact to system availability, performance, or operational capability	Within 4 hrs.
Level 2 (Major)	Degradation of services or critical functions such as to negatively impact system operation. Failure of any redundant system	Within 12 hrs.

	component such that the normal redundancy is lost.	
Level 3 (Minor)	Any other system defect, failure, or unexpected operation. Request for information, technical configuration assistance, "how to" guidance, and enhancement requests.	Within 24 hrs.

Additionally, the Disaster Management timelines in terms of Recovery Time Objective (RTO) and Recovery Point Objective (RPO) of HES have to be defined by the bidder.

11 Infrastructure Requirements

11.1 System Environments

11.1.1 The proposed solution should be On-premises.

11.1.2 The configuration – including application, database and communication servers – shall support the following environments:

A. Development environment
B. Testing Environment
C. Production environment
D. Disaster Recovery environment (Only for Production system with similar capacity)
E. RPO and RTO of the DR system should not be more than 30 minutes for any system.

11.1.3 Bidder should provide all related IT- Infra requirement (Servers, Database license, Operating system License, Storage, etc.) in the format as defined below. The IT infra requirement should be provided after considering existing IT infrastructure compatibility with BRPL as defined above. Bidder is requested to study existing BRPL infrastructure, with BRPL IT team before submission of the Bid document, if required. If any changes in existing IT infra is required for integration with proposed solution the bidder should separately specify the same to BRPL respectively. The suggested IT-Infra should be able to support the suggested systems for 7 years after the Operational Acceptance Test.

11.1.4 Database proposed should be latest enterprise version of Oracle database. Detailed system architecture to be provided by the bidders for system proposed.

11.1.5 The Proposed hardware infrastructure should be for BRPL's primary and secondary datacenter considering DR replication. Within the completion of project i.e user acceptance, the final bidder will conduct one DR drill in which complete MDMS solution should work from back up datacenter with least impact to users.

11.1.6 IT hardware for DR replication for development and test system is not required, DR server and configuration is required only for production environment.

11.1.7 The proposed Storage and SAN solution should be enterprise class.

11.1.8 The proposed Storage and SAN solution should have redundancy feature.

11.1.9 All relevant accessories required for the storage solution implementation shall be provided by the bidder.

11.1.10 BRPL will have the option to go for the specified equipment on their own and bidder will have to ensure that all the performance parameters are met.

Table for Infrastructure Items

Name of the IT-Infra Component	Make and Model	Detailed Specification	Qty.

11.2 System Sizing and Scalability

11.2.1 System Sizing to be based on considering approx. 3 Million endpoints with a data storage of 3 years for maximum of 16 channels 15/30 Minute of interval data along with all other type of meter data.

11.2.2 Performance criteria to be followed as mentioned in the RFP.

11.2.3 Users accounts should be easily added as system grows. There should be no upgrade involved and no pre-defined limits upto a maximum of 500 users with different roles.

12 Documents to be submitted

Successful Bidder has to provide detailed documents -

A. Proposed Solution Architecture with software versions and hardware specification
B. Standard Product manuals
C. User Manual both for standard and Custom Applications
D. Administrative operations manual for Infra supplied
E. Configuration document after project go live
F. Details Interface technical specification document after go live
G. Training manual for user training before go-live
H. User License Agreement of all software after Purchase Order placement

13 Project timelines

The entire project shall be delivered in 7 months from date of award of contract. The bidder should share total project plan with timelines and resources deployment to complete the project.

Volume – II: Commercial

Section – I: General Terms and Conditions

1. General

1.1. All the Bids shall be prepared and submitted in accordance with these instructions.

1.2. Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Purchaser will in no case shall be responsible or liable for these costs.

1.3. The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred /sold to the other party.

1.4. The Purchaser reserves the right to request for any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Purchaser, the data in support of RFQ requirement is incomplete.

1.5. The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Purchaser's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Purchaser.

2. Definition of Terms

2.1 "Purchaser" shall mean BSES Rajdhani Power Limited, on whose behalf this bid enquiry is issued by its authorized representative / officers.

2.2 "Bidder" shall mean the firm who quotes against this bid enquiry issued by the Purchaser. "Supplier" or "Supplier" shall mean the successful Bidder and/or Bidders whose bid has been accepted by the Purchaser and on whom the "Letter of Acceptance" is placed by the Purchaser and shall include his heirs, legal representatives, successors and permitted assigns wherever the context so admits.

2.3 "Supply" shall mean the Scope of Contract as described.

2.4 "Specification" shall mean collectively all the terms and stipulations contained in those portions of this bid document known as RFQ, Scope of Work, Commercial Terms & Condition, and Instructions to Bidders, Technical Specifications and the Amendments, Revisions, Deletions or Additions, as may be made by the Purchaser from time to time.

2.5 "Letter of Acceptance" shall mean the official notice issued by the Purchaser notifying the Supplier that his proposal has been accepted and it shall include amendments thereto, if any, issued by the Purchaser. The "Letter of Acceptance" issued by the Purchaser shall be binding

on the "Supplier" The date of Letter of Acceptance shall be taken as the effective date of the commencement of contract.

2.6 "Month" shall mean the calendar month and "Day" shall mean the calendar day.

2.7 "Codes and Standards" shall mean all the applicable codes and standards as indicated in the Specification.

2.8 "Offer Sheet" shall mean Bidder's firm offer submitted to BRPL in accordance with the specification.

2.9 "Contract" shall mean the "Letter of Acceptance/Purchase Order" issued by the Purchaser.

2.10 "Contract Price" shall mean the price referred to in the "Letter of Acceptance/Purchase Order".

2.11 "Contract Period" shall mean the period during which the "Contract" shall be executed as agreed between the Supplier and the Purchaser in the Contract inclusive of extended contract period for reason beyond the control of the Supplier and/or Purchaser due to force majeure.

2.12 "Acceptance" shall mean and deemed to include one or more of the following as will be stipulated in the specification:

i. The written acceptance of material by the inspector at suppliers works to ship the materials.
ii. Acceptance of material at Purchaser site stores after its receipt and due inspection/ testing and release of material acceptance voucher.
iii. Where the scope of the contract includes supplying, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.

3. Contract Documents & Priority

3.1 Contract Documents: The terms and conditions of the contract shall consist solely of these RFQ conditions and the offer sheet.

4. Scope of Work

All the activities that are to be undertaken by the bidder to realize the contractual deliverables in completeness form Scope of Work.(Refer Volume – I, Technical for detailed Scope of Work and Specifications)

The bidder shall satisfy himself and undertake fully the technical/commercial requirements of items to be supplied as listed in the Schedule of Quantities/BOM together with the tests to be performed /test reports to be furnished before dispatch, arrangement of stage and final inspections during

manufacturing as per terms and conditions of contract, technical parameters & delivery terms and conditions including transit insurance to be met in order to fully meet BRPL requirements.

Completeness: Any supplies and services which might have not been specifically mentioned in the Contract but are necessary for the scope mentioned or completeness of the works at the highest possible level, including any royalties, license fees & compensation to be paid, whether incurred by the bidders or by a third party for the work covered in the scope, regardless of when incurred, shall be supplied/provided by the bidder without any extra cost and within the time schedule for efficient , smooth and satisfactory operation and maintenance of the works at the highest possible level under Indian conditions (but according to international standards for facility of this type), unless expressly excluded from the scope of supplies and services in this Contract.

BRPL have the right, during the performance of the Contract, to change the scope and/or technical character of the Project and/or of the supplies and services stipulated in the Contract by submitting a request in writing to the Bidder. The Bidder shall, within fifteen days of receipt of such request from the BRPL, provide Purchaser with a reasonably detailed estimate of the cost of the change outlined in the request.

In the event, BRPL requests a change, the Contract price and time shall be adjusted upwards or downwards, as the case may be and shall be mutually agreed to. The Bidder shall not be entitled to any extension of time unless such changes adversely affect the time schedule.

The Bidder shall not proceed with the changes as requested till adjustment of contract price and time schedule where so applicable in terms of or otherwise directed by the BRPL.

5. Quality Assurance and Inspection

5.1 Immediately on award of contract, the bidder shall prepare detailed quality assurance plan/test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc. In case of standard items, BRPL shall forward the standard QAP which is to be followed by vendor during manufacturing.

5.2 Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the

Purchaser. Final inspection is a mandatory hold point. The supplier to proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BRPL.

5.3 The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.

5.4 On completion of manufacturing the items can only be dispatched after receipt of dispatch instructions issued by the Purchaser.

5.5 All in-house testing and inspection shall be done without any extra cost. The in-house inspection shall be carried out in presence of BRPL/BRPL authorized third party inspection agency. Cost of Futile/abortive visit(s) shall be debited from the invoices

5.6 Purchaser reserves the right to send any material being supplied to any recognized laboratory for testing, wherever necessary and the cost of testing shall be borne by the Bidder. In case the material is found not in order with the technical requirement / specification, the charges along with any other penalty which may be levied is to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of bidder's representative.

6. Packing, Packing List & Marking

6.1 **Packing:** Supplier shall pack or shall cause to be packed all Commodities in crates/boxes/drums/containers/cartons and otherwise in such a manner as shall be reasonably suitable for shipment by road or rail to BRPL, Delhi/New Delhi stores/site without undue risk of damage in transit.

6.2 **Packing List:** The contents of each package shall be itemized on a detailed list showing the exact weight, extreme outside dimensions (length, width & weight) of each container/box/drum/carton, Item SAP Code, PO No & date. One copy of the packing list shall be enclosed in each package delivered.

7. Safety Code

7.1 The Contractor shall ensure adequate safety precautions at site as required under the law of the land and shall be entirely responsible for the complete safety of their workman as well as other workers at site and premises. The contractor shall not deploy any worker below the age of 18 years.

7.2 The contractor shall observe the safety requirements as laid down in the contract and in case of sub-contract (only after written approval of company); it shall be the responsibility of

main contractor that all safety requirements are followed by the employees and staff of the sub-contractor.

7.3 The contractor employing two hundred employees or more, including contract workers, shall have a safety coordinator in order to ensure the implementation of safety requirements of the contract and a contractor with lesser number of employees, including contract workers, shall nominate one of his employees to act as safety coordinator who shall liaise with the safety officer on matters relating to safety and his name shall be displayed on the notice board at a prominent place at the work site.

7.4 The contractor shall be responsible for non-compliance of the safety measures, implications, injuries, fatalities and compensation arising out of such situations or incidents.

7.5 In case of any accident, the contractor shall immediately submit a statement of the same to the owner and the safety officer, containing the details of the accident, any injury or causalities, extent of properly damage and remedial action taken to prevent recurrence and in addition, the contractor shall submit a monthly statement of the accidents to the owner at the end of each month.

8. Statutory Obligations

The Contractor shall take all steps as may be necessary to comply with the various applicable laws/rules including the provisions of contract labour (Regulation & Abolition Act) 1970 as amended, minimum wages Act, 1984, Workman Compensation Act, ESI Act, PF Act, Bonus Act and all other applicable laws and rules framed there under including any statutory approval required from the Central/State Govt. Ministry of Labour. Broadly, the compliance shall be as detailed below, but not limited to:

i. Electrical license issued by Govt. of Delhi
ii. PF Code No. and all employees to have PF A/c No. under PF every Act, 1952
iii. All employees to have a temporary or permanent ESI Card as per ESI Act
iv. ESI Registration No.
v. PAN No.
vi. Work Contract Tax Registration Number/ GSTN Registration
vii. Labour License under Contract Labour Act (R & A) Act 1970

Engineer-in-charge responsible for execution of the job should obtain a copy of Labour License before start of the work by the contractor.

The Contractor must follow:

i. Third party Insurance Policy before start of work.
ii. To follow Minimum Wages Act prevailing in the state.
iii. Salary / Wages to be distributed in presence of representative of Company's representative not later than 7th of each month.

iv. To maintain Wage- cum - Attendance Register.

v. To maintain First Aid Box at Site.

vi. Latest P.F. and E.S.I. *challans* pertaining to the period in which work was undertaken along with a certificate mentioning that P.F. and E.S.I. applicable to all the employees has been deducted and deposited with the Authorities within the time limits specified under the respective Acts.

vii. Workman Compensation Policy. {If applicable}

viii. Labour license before start of work. {If applicable}

9. Workman Compensation

9.1 The Contactor shall take insurance policy under the Workman Compensation Act to cover such workers who are not covered under ESI and PF by the Contractor however engaged to undertake the jobs covered under this order and a copy of this insurance policy will be given to Company for reference and records. This insurance policy shall be kept valid at all times. In case there are no worker involve other than those who are covered under ESI and PF by the Contractor, the Contractor shall certify for the same.

9.2 Before commencing the execution of the work the CONTRACTOR shall take accidental insurance policy for the staff engaged by him for this work to insure against any loss of life which may occur during the contract for the work of the COMPANY. The policy shall have coverage of Rs. 10 Lacs (Table C- Death + Permanent Total Disability + Partial permanent Disability due to external accidents). The premium amount for such policy shall be in contractor scope. The policy document shall be submitted before commencement of the work by the contractor.

9.3 The contractor shall keep the company indemnified at all times, against all claims of compensation under the provision of Workmen Compensation Act 1923 and as amended from time to time or any compensation payable under any other law for the time being workman engaged by the contractor/sub-contractor/sub-agent in carrying out the job involved under this work order and against costs and expenses, if any, incurred by the company in connection therewith and without prejudice to make any recovery.

9.4 The company shall be entitled to deduct from any money due to or to become due to the Contractor, moneys paid or payable by way of compensation as aforesaid or cost or expenses in connection with any claims thereto and the Contractor shall abide by the decision of the Company as to the sum payable by the Contractor under the provisions of this clause.

10. Staff and Workman

It shall be responsibility of contractor-

10.1 To obtain Contract Labour License from the concerned authorities and maintain proper liaison with them. Necessary Forms for obtaining Labour License would be issued by the

company. However you will bear all expenses for obtaining Labour license and registration in PF Department for your scope of work. You will deposit PF of your staff/laborer each month and all related documents should be furnished to us.

10.2 To obtain workman insurance cover against deployment of workers etc.

10.3 To maintain, proper records relating to workmen employed, in the form of various Registers, namely,

i. Register of workmen
ii. Register of muster roll
iii. Register of overtime
iv. Register of wages
v. Any other register as per latest amendment Labour Act

10.4 The records shall be in the prescribed formats only.

10.5 To disburse monthly wages to your workers/ supervisors in time and in the presence of Company representatives or as directed by the Labour authorities.

10.6 To maintain proper liaison with the Project authorities, local police and all other government and local bodies.

10.7 To pay your workmen at least not less than the minimum prescribed wages as per state/Central Labour laws as may be, applicable. The contractor shall, be responsible for compliance of all the provisions of minimum Wages Act, PF, ESIC Act workmen Compensation Act and Contract Labour Regulation & Abolition Act the rules made there under. In case of non- compliance of the statutory requirements. The company would take necessary action at the risk and cost of the Contractor.

10.8 To employ required number of skilled/semi-skilled and unskilled workmen as per site requirement to complete the entire project as per schedule. To provide safety shoes, safety helmets, safety belts, gloves etc. to your worker/staff as per requirement during erection work.

10.9 To employ necessary engineering and supervisory staff for completion of the Project in time. While day-to-day management of the site and supervision of the works shall be the responsibility of your Engineer - In charge, he will report to the Engineer in charge to assist him to discharge the overall responsibility of the execution of the project.

11. Third Party Insurance

Before commencing the execution of the work the contractor shall take third party insurance policy to insure against any damage or loss or injury which may occur to any property / public property or to any person or any employee or representative of any outside Agency/ the company engaged or not engaged for the work of the company, by or arising out of the execution of the work or temporary work or in carrying out of this Agreement. For third party insurance policies, the contractor shall be responsible for settlement of claims with the underwriters without any liability on the purchaser / owner and will arrange replacements / rectification expeditiously without a waiting settlement by insurance claim at contractors own cost.

12. Security

Adequate number of trained Security Guards shall be deployed both at the storage yard and stores as well as places of work to prevent theft and pilferage of material and accessories and various other materials. All security rules and safety rules enforced at site by company shall be strictly observed.

13. Environmental, Health & Safety Plan

Contractor will make ensure that the Environment, Health & Safety (EHS) requirements are clearly understood and faithfully implemented at all levels at site as per instruction of Company. Contractors must comply with these requirements:

i. Comply with all of the elements of the EHS Plan and any regulations applicable to the work
ii. Comply with the procedures provided in the interests of Environment, Health and Safety
iii. Ensure that all of their employees designated to work are properly trained and competent
iv. Ensure that all plant and equipment they bring on to site has been inspected and serviced in accordance with legal requirement and manufacturer's or suppliers' instructions
v. Make arrangements to ensure that all employees designated to work on or visit the site present themselves for site induction prior to commencement of work
vi. Provide details of any hazardous substances to be brought onsite
vii. Ensure that a responsible person accompanies any of their visitors to site

All contractors' staff is accountable for the following:

i. Use the correct tools and equipment for the job and use safety equipment and protective clothing supplied, e.g. helmets, goggles, ear protection, etc. as instructed
ii. Keep tools in good condition
iii. Report to the Supervisor any unsafe or unhealthy condition or any defects in plant or equipment
iv. Develop a concern for safety for themselves and for others
v. Prohibit horseplay
vi. Not to operate any item of plant unless they have been specifically trained and are authorized to do so

14. Test Certificate and Quality Assurance

The Contractor shall procure all equipment from genuine sources as approved by the Company and as per Company specifications. The Contractor shall submit all the test certificates and joint

inspection reports related to major equipment wherever applicable. The contractor shall ensure for the strict compliance to the specifications and Field Quality Procedures issued by company / Engineer in-charge.

15. Sub-Contracting / Sub-Letting

15.1 CONTRACTOR shall not assign or transfer the whole or any part of this Work Order or any other benefits accruing there from nor shall it subcontract / sublet the whole or any part of the Works without the prior written consent of COMPANY.

15.2 In the event the contractor assigns this work order, contractor's assignees shall be bound by the terms and conditions of this work order and shall , if deemed necessary by COMPANY at the time of such assignment, undertake in writing to be so bound by this Work Order.

15.3 Notwithstanding the subletting / subcontracting of any portion of the works, contractor shall remain wholly responsible for the carrying out, completion and satisfactory execution of Works in all respects in accordance with this Work Order, specification, approved drawings and data sheets.

16. Indemnity

16.1 Contractor shall indemnify and save harmless COMPANY against and from any and all liabilities, claims, damages, losses or expenses arising due to or resulting from:

i. any breach non-observance or non-performance by contractor or its employees or agents of any of the provisions of this Work Order.
ii. any act or omission of contractor or its employees or agents.
iii. any negligence or breach of duty on the part of contractor, its employees or agents including any wrongful use by it or them of any property or goods belonging to or by COMPANY.

16.2 Contractor shall at all times indemnify COMPANY against all liabilities to other persons, including the employees or agents of COMPANY or contractor for bodily injury, damage to property or other loss which may arise out of or in consequence of the execution or completion of Works and against all costs charges and expenses that may be occasioned to COMPANY by the claims of such person.

17. Events of Default

17.1 COMPANY may, without prejudice to any of its other rights or remedies under the Work Order or in law, terminate the whole or any part of this Work Order by giving written notice to the Contractor, if in the opinion of COMPANY, contractor has neglected to proceed with the works with due diligence or commits a breach of any of the provisions of this work order including but not limited to any of the following cases:

i. Failing to complete execution of work within the terms specified in this work order.
ii. Failing to complete works in accordance with the approved schedule of works.
iii. Failing to meet requirements of specifications, drawings, and designs as approved by COMPANY.
iv. Failing to comply with any reasonable instructions or orders issued by COMPANY in connection with the works.
v. Failing to comply with any of the terms or conditions of this work order.

17.2 In the event COMPANY terminates this work order, in whole or in part, on the occurrence of any event of default, COMPANY reserves the right to engage any other subcontractor or agency to complete the work or any part thereof, and in addition to any other right COMPANY may have under this work order or in law including without limitation the right to penalize for delay under clause 15.0 of this work order, the contractor shall be liable to COMPANY for any additional costs that may be incurred by COMPANY for the execution of the Work.

18. Risk & Cost

18.1 If the Contractor of fails to execute the work as per specification / as per the direction of Engineer's In-change within the scheduled period and even after the extended period, the contract shall got cancel and company reserves the right to get the work executed from any other source at the Risk & Cost of the Contractor. The Extra Expenditure so incurred shall be debited to the Contractor.

19. Price Basis

19.1 Bidder to quote their prices on Landed Cost Basis and separate price for each item.

19.2 FIRM prices for supply to BRPL Delhi/New Delhi stores inclusive of packing, forwarding, loading at manufacturer’s premises, payment of all taxes, GST, Freight, any other local charges etc.

19.3 The above supply prices shall also include unloading at BRPL Delhi/New Delhi stores/site.

19.4 Transit insurance will be arranged by Purchaser; however bidder to furnish required details in advance for arranging the same by Purchaser

20. Terms of Payment and Billing

Milestone Number	Milestone Description
MS-1	10% for part A & B of Pricing schedule shall be released as mobilization advance subject to fulfillment of following pre-requisites: i. Submission of PBG for 10% of contract value ii. Submission of ABG of equivalent amount iii. Acceptance of purchase order iv. Project preparation (Resource mobilization, Project Kick off, core team finalization, and submission of detailed project plan)
MS-2	10% of contact value for part A and Part B of Pricing schedule shall be released subject to fulfillment of following pre-requisites i. Completion of business process study and business blueprinting and respective sign offs (FRS)
MS3	30% of contact value for part A of Pricing schedule and 90% of part C (Hardware)** shall be released subject to fulfillment of following pre-requisites: i. Delivery of required licenses with the OEM proof of licenses delivery as per defined schedule ii. Set-up of Server and Storage infrastructure including OS, Database etc at control centers post completion and acceptance of MS2 IT Hardware & Software delivery based on finalized schedule.
MS-4	30% of contact value for part A &B of Pricing schedule shall be released subject to fulfillment of following pre-requisites: i. Completion of business process configuration, Master data configuration, Implementation of all the mentioned functionalities and Integration to the mentioned systems as per RFP ii. System ready for live transactions, Completion of UAT & sign-off and Integration Test Reports
MS-5	30% of part B &10% of contract value for Part C shall be released subject to fulfillment of following pre-requisites: i. Project Go Live and Performance Test ii. Project Stabilization period of 3 months Operational Acceptance Test

MS-6	5% of contract values for Part A & Part B shall be released on quarterly basis from date of go live.

Note: Milestone payments shall be made in full upon the successful completion of the milestone. In the event that only a minor portion of a milestone is not fully completed, invoicing for partial payment of the milestone will be entirely to BRPL discretion. Payment terms shall be within 45 days from receipt of invoice supported by BRPL certification of completion of milestone. Payments against part-D shall be made on quarterly basis in arrears.

****** BRPL reserves the right to purchase from bidder or directly from OEMs

21. Price Validity

21.1 All bids submitted shall remain valid, firm and subject to unconditional acceptance by BRPL Delhi for 180 days from the due date of submission & subsequent corrigendum/amendment/extension of due date of submission. For awarded suppliers/contractors, the prices shall remain valid and firm till contract completion.

22. Performance Guarantee

22.1 Bank guarantee shall be drawn in favour of "BSES Rajdhani Power Ltd" as applicable. The performance Bank guarantee shall be in the format as specified by BRPL.

22.2 Contract performance bank guarantee of total **10%** of the contract price shall be submitted within 15 days of award of contract with the validity till defect liability period (i.e. 5 Years post 'System Acceptance Testing' / Go Live of MDMS) plus 3 months claim period.

23. Forfeiture

23.1 Each Performance Bond established under Clause 10.0 shall contain a statement that it shall be automatically and unconditionally forfeited without recourse and payable against the presentation by BRPL of this Performance Bond, to the relevant bank referred to above, together with a simple statement that supplier has failed to comply with any term or condition set forth in the Contract.

23.2 Each Performance BG established under will be automatically and unconditionally forfeited without recourse if BRPL in its sole discretion determines that supplier has failed to comply with any term or condition set forth in the contract.

24. Release

24.1 All Performance Bonds will be released without interest within seven (7) days from the last date up to which the Performance Bond has to be kept valid (as defined in Clause 10.0) except for the case set forth in Clause 21.0.

25. Warranty/Defects Liability Period

25.1 Offered solution should be with onsite warranty and support for **5 years.**

25.2 The Bidder warrants that the Work, and all parts thereof, shall be of the kind and quality described in this Agreement, shall perform in the manner specified, and shall be fit for the purpose for which it is supplied.

25.3 The Supplier shall correct, without delay and at its own expense, any portion of the work that does not meet the warranty and that is discovered within the warranty period by correcting the defective portion of the Work, including any required correction in defective design, errors, omissions, or changes in documentation, or by providing a non-defective replacement on BRPL premises within 3 days of notification of the problem.

25.4 The costs of replacement shall be at the Supplier's expense and shall include all shipping costs, duties, fees, and taxes, both to and from the Supplier's facility, and the appropriate technical advice and direction for removal of the defect and installation of the corrected Work including On-Site Services as required.

25.5 In the event the System or any portion thereof, is down, the Supplier will begin the dispatch process of appropriate personnel as specified.

25.6 The Supplier’s liability hereunder shall be limited to adjusting, repairing, or replacing the defective article(s) and providing technical support and direction in the correction of the Work.

25.7 BRPL assistance to the Supplier in installing a correction shall not relieve the Supplier of his responsibilities such as documentation and warranty.

25.8 If the Supplier shall fail to correct any defect within a reasonable time, BRPL shall have the right to employ others to do so. The Supplier shall be liable for all costs and expenses thereby incurred by BRPL.

25.9 The Supplier shall furnish BRPL with a Deficiency incident report upon completion of each visit by such Staff and upon resolution of each inquiry. BRPL will maintain a log at BRPL facility as a place for these reports to reside. The report shall include, as a minimum, the following:

i. Date and time notified
ii. Date and time of arrival or inquiry response
iii. Time spent for resolution of Deficiencies
iv. Description of Deficiency
v. Description of Deficiency resolution

25.10 The Supplier shall provide to BRPL, within 15 Days of the end of each calendar quarter, a list and description of all potential or actual problems, bugs, errors and Deficiencies known

by the Supplier to be in any customer's copy of the Software version used by BRPL, along with a schedule for resolution thereof. Deficiencies, problems, errors and bugs causing crashes or corruption of the data will be reported by Supplier to BRPL within one working-day of their becoming known to Bidder.

25.11 Nothing herein shall be deemed to restrict the obligations of the Supplier under the indemnity provision of the Agreement.

25.12 During the Warranty period, BRPL may make changes to databases, displays, and reports as necessary to meet BRPL operational needs. BRPL shall be under no obligation to inform the Supplier of such changes.

25.13 Any changes required to maintain uptime shall be in scope of vendor

25.14 After completion of warranty, BRPL reserves the right to award AMC contract on yearly basis. The scope of work will remain same as in warranty

25.15 The following Post warranty maintenance services shall be provided for all hardware & software's under this contract for the AMC contract but not limited to:

i. New features available with the upgrade & release or version of the upgraded software
ii. Bidder will be responsible to get Data from Meter to HES whenever not available
iii. Co-ordination with component supplier for Repair/ replacement of defective equipment's/software
iv. Replacement & Configuration of the replaced hardware/software, quarterly periodic routine checking as part of a preventive maintenance program which would include checking of functionality of hardware software and RF coverage without any cost to BRPL.
v. Database sizing & hardware up gradation to meet endpoints growth.
vi. Bidder shall provide on-call services to meet SLA..

25.16 The Bidder shall prepare and maintain, all maintenance records, minutes of meeting, equipment breakdown reports, daily/weekly/monthly fault logs, defects list, Preventive Maintenance reports, tools serviceability status report, monthly maintenance report.

The following warranty maintenance services as a minimum shall be provided for all software's under this contract:

25.17 A subscription to change notification services of the software suppliers. The service shall include transmission of service bulletins and notices of the availability of corrections, modifications, upgrades, revisions, patch and new releases.

25.18 The software up gradation due to new release as applicable

25.19 Problems with the previous releases corrected by the upgrade

25.20 New features available with the upgrade

25.21 Migration to new platform due to end of life of any third-party software, licenses etc.

25.22 As part of this service, the Supplier shall maintain and periodically publish a list of the current release of their standard products and the compatible releases of all software supplied by Subcontractors.

25.23 Subscriptions to the software upgrade services of the software suppliers. The service shall include the change notification service as described above, as well as a copy of the new software, appropriate licenses for the new software, installation instructions, and a reasonable amount of support for the installation of the upgrade.

25.24 A contract for upgrade to be performed by the software supplier. This contract shall include the software upgrade service described above, plus on-site installation service to be provided by the software supplier.

25.25 **Software Minimum Support Period**

25.25.1 The Supplier shall guarantee the availability of upgrades, technical support for all System software, and announcements of software and hardware releases applicable to the system under warranty period.

25.25.2 The minimum support period **Five (5) years** after operational acceptance test.

25.25.3 The Supplier and the System software suppliers shall provide to BRPL a minimum of two year's advance notice of their intent to terminate such support and mitigation plan.

25.25.4 The SLAs, as defined in the document, shall be applicable during entire warranty period and all network elements supplied during warranty and post warranty period should be backward compatible.

26. Return, Replacement or Substitution

BRPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BRPL may in its discretion elect to return defective Commodities to Supplier for replacement, free of charge to BRPL, or may reject such Commodities and purchase the same or similar Commodities from any third party. In the latter case BRPL shall furnish proof to Supplier of the cost of such substitute purchase. In either case, all costs of any replacement, substitution, shipping, labour and other related expenses incurred in connection with the return and replacement or for the substitute purchase of a Commodity hereunder should be for the account of Supplier. BRPL may set off such costs against any amounts payable by BRPL to Supplier. Supplier shall reimburse BRPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid.

27. Effective Date of Commencement of Contract

The date of the issuance of the Letter of Acceptance/Purchase Order shall be treated as the effective date of the commencement of Contract.

28. Time – The Essence of Contract

The time and the date of completion of the work as stipulated in the Letter of Acceptance / Purchase order issued to the Supplier shall be deemed to be the essence of the "Contract". The Supply has to be completed not later than the aforesaid Schedule and date of completion of supply.

29. Contract Commencement date

The date issue /award of contract shall be the effective date of contract or contract commencement date.

30. Contract Completion date

The date of expiry of Guarantee Period shall be deemed as the Contract Completion date.

31. Contract Period /Time

The period from Contract Commencement Date to Contract Completion Date shall be deemed as the Contract Period /Time.

32. Contract Execution Completion Date

The stipulated date for completing the execution of all items in the schedule of quantities (Supply, Service and or both as applicable) shall be deemed as the Contract Execution Completion Date.

33. Contract Execution Period/Time

The Period from Contract Commencement Date to Contract Execution Completion Date shall be the Contract Execution Period/Time. Timely Completion of Works/Timely Delivery of Materials is the essence of the contract. The period from effective date of contract to the date stipulated for completion of delivery of all items/completion of all the works/services, as per schedule of quantities of the contract is defined as contract execution completion time. The Delivery of Materials /The Completion of Works, as applicable, should be achieved in all respects as per schedules of quantities and all the terms and conditions of the contract, in the contract execution time.

Any revision/amendment in the originally stipulated contract execution time has to be approved by authorized representative of BRPL.

34. Laws and Jurisdiction of Contract

34.1 The laws applicable to this Contract shall be the Laws in force in India.

34.2 All disputes arising in connection with the present Contract shall be settled amicably by mutual consultation failing which shall be finally settled as per the rules of Arbitration and

Conciliation Act, 1996 at the discretion of Purchaser. The venue of arbitration shall be at Delhi in India.

35. Events of Default

35.1 Events of Default. Each of the following events or occurrences shall constitute an event of default ("Event of Default") under the Contract:

i. Supplier fails or refuses to pay any amounts due under the Contract;
ii. Supplier fails or refuses to deliver Commodities conforming to this RFQ / specifications, or fails to deliver Commodities within the period specified in P.O. or any extension thereof;
iii. Supplier becomes insolvent or unable to pay its debts when due, or commits any act of bankruptcy, such as filing any petition in any bankruptcy, winding-up or reorganization proceeding, or acknowledges in writing its insolvency or inability to pay its debts; or the Supplier's creditors file any petition relating to bankruptcy of Supplier;
iv. Supplier otherwise fails or refuses to perform or observe any term or condition of the Contract and such failure is not remediable or, if remediable, continues for a period of 30 days after receipt by the Supplier of notice of such failure from BRPL.

36. Consequences of Default

36.1 If an Event of Default shall occur and be continuing, BRPL may forthwith terminate the Contract by written notice.

36.2 In the event of an Event of Default, BRPL may, without prejudice to any other right granted to it by law, or the Contract, take any or all of the following actions;

i. present for ` to the relevant bank the Performance Bond;
ii. Purchase the same or similar Commodities from any third party; and/or
iii. Recover any losses and/or additional expenses BRPL may incur as a result of Supplier's default.

37. Liquidated Damages

37.1 If supply of items / equipment is delayed beyond the supply schedule as stipulated in LOI/PO, then the Supplier shall be liable to pay the Purchaser for delay a sum of 1% (one percent) of the basic (ex-works) price for every week of delay or part thereof for individual mile stone deliveries.

37.2 The total amount for delay under the contract will be subject to a maximum of ten percent (10%) of the total contract value.

37.3 The Purchaser may, without prejudice to any method of recovery, deduct the amount for such damages from any amount due or which may become due to the Supplier or from the Performance Bond or file a claim against the supplier.

38. Statutory Variation in Taxes and Duties

The total order value shall remain **FIRM** within stipulated delivery period and shall not be adjusted on account of any price increase/variations in commodities & raw materials. However Statutory Taxes, duties and Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period shall be borne by BRPL on submission of necessary documents claiming such variation. The variation will be applicable only on such value wherever price breakup of same is submitted by vendor/available in PO/WO

39. Intellectual Property Rights

If, in the course of performance of its functions and duties as envisaged by the scope of the present GCC, the Bidder acquires or develops, any unique knowledge or information which would be covered, or, is likely to be covered within the definition of a trademark, copyright, patent, business secret, geographical indication or any other form of intellectual property right, it shall be obliged, under the terms of this present GCC, to share such knowledge or information with the BRPL. All rights, with respect to, or arising from such intellectual property, as afore mentioned, shall solely vest in BRPL.

Moreover, the Bidder undertakes not to breach any intellectual property right vesting in a third party/parties, whether by breach of statutory provision, passing off, or otherwise. In the event of any such breach, the Bidder shall be wholly liable to compensate, indemnify or make good any loss suffered by such third party/parties, or any compensation/damages arising from any legal proceeding/s, or otherwise. No liability of BRPL shall arise in this respect, and any costs, damages, expenses, compensation payable by BRPL in this regard to a third party/parties, arising from a legal proceeding/s or otherwise, shall be recoverable from the Bidder.

40. Force Majeure

40.1 An “Event of Force Majeure” shall mean any event or circumstance not within the reasonable control directly or indirectly, of the Party affected, but only if and to the extent that:

i. Such event or circumstance materially and adversely affects the ability of the affected Party to perform its obligations under this Contract, and the affected Party has taken all reasonable precautions, due care and reasonable alternative measures in order to prevent or avoid the effect of such event on the affected party's ability to perform its obligations under this Contract and to mitigate the consequences thereof.

ii. For the avoidance of doubt, if such event or circumstance would not have materially and adversely affected the performance of the affected party had such affected party followed good industry practice, such event or circumstance shall not constitute force majeure.

iii. Such event is not the direct or indirect result of the failure of such Party to perform any of its obligations under this Contract.

iv. Such Party has given the other Party prompt notice describing such events, the effect thereof and the actions being taken in order to comply with above clause.

40.2 Specific Events of Force Majeure subject to the provisions of above clause, Events of Force Majeure shall include only the following to the extent that they or their consequences satisfy the above requirements:

i. The following events and circumstances:
   a. Effect of any natural element or other acts of God, including but not limited to storm, flood, earthquake, lightning, cyclone, landslides or other natural disasters.
   b. Explosions or fires

ii. War declared by the Government of India,

iii. Dangers of navigation, perils of the sea.

40.3 Notice of Events of Force Majeure If a force majeure event prevents a party from performing any obligations under the Contract in part or in full that party shall:

i. Immediately notify the other party in writing of the force majeure events within 7(seven) working days of the occurrence of the force majeure event

ii. Be entitled to suspend performance of the obligation under the Contract which is affected by force majeure event for the duration of the force majeure event.

iii. Use all reasonable efforts to resume full performance of the obligation as soon as practicable

iv. Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis.

v. Provide prompt notice of the resumption of full performance or obligation to the other party.

40.4 Mitigation of Events of Force Majeure Each Party shall:

i. Make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any delay occasioned by an Event of Force Majeure including recourse to alternate methods of satisfying its obligations under the Contract;

ii. Use its best efforts to ensure resumption of normal performance after the termination of any Event of Force Majeure and shall perform its obligations to the maximum extent practicable as agreed between the Parties; and

iii. Keep the other Party informed at regular intervals of the circumstances concerning the event of Force Majeure, with best estimates as to its likely continuation and what measures or contingency planning it is taking to mitigate and or terminate the Event of Force Majeure.

40.5 Burden of Proof In the event that the Parties are unable in good faith to agree that a Force Majeure event has occurred to an affected party, the parties shall resolve their dispute in accordance with the provisions of this Agreement. The burden of proof as to whether or not a force Majeure event has occurred shall be upon the party claiming that the force majeure event has occurred and that it is the affected party.

40.6 **Termination for Certain Events of Force Majeure**. If any obligation of any Party under the Contract is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 3 months, the Parties shall promptly discuss in good faith how to proceed with a view to reaching a solution on mutually agreed basis. If a solution on mutually agreed basis cannot be arrived at within a period of 30 days after the expiry of the period of three months, the Contract shall be terminated after the said period of 30 days and neither Party shall be liable to the other for any consequences arising on account of such termination.

40.7 The Purchaser may terminate the contract after giving 7 (seven) days notice if any of following occurs:

i. Contractor fails to complete execution of works within the approved schedule of works, terms and conditions
ii. In case the contractor commits any Act of Insolvency, or adjudged insolvent
iii. Has abandoned the contract
iv. Has failed to commence work or has suspended the progress of works
v. Has failed to proceed the works with due diligence and failed to make such due progress

40.8 Limitation of Force Majeure event. The Supplier shall not be relieved of any obligation under the Contract solely because cost of performance is increased, whether as a consequence of adverse economic consequences or otherwise.

40.9 Extension of Contract Period due to Force Majeure event The Contract period may be extended by mutual agreement of Parties by way of an adjustment on account of any period during which an obligation of either Party is suspended due to a Force Majeure event.

40.10 Effect of Events of Force Majeure. Except as otherwise provided herein or may further be agreed between the Parties, either Party shall be excused from performance and neither Party shall be construed to be in default in respect of any obligations hereunder, for so long as failure to perform such obligations shall be due to and event of Force Majeure."

41. Transfer and Sub-Letting

The Supplier shall not sublet, transfer, assign or otherwise part with the Contract or any part thereof, either directly or indirectly, without prior written permission of the Purchaser.

42. Recoveries

Whenever under this contract any money is recoverable from and payable by the bidder, the purchaser shall be entitled to recover such sum by appropriating in part or in whole by detecting any sum due to which any time thereafter may become due from the supplier in this or any other contract. Should the sum be not sufficient to cover the full amount recoverable the bidder shall pay to the purchaser on demand the remaining balance.

43. Waiver

Failure to enforce any condition herein contained shall not operate as a waiver of the condition itself or any subsequent breach thereof.

44. Indemnification

Notwithstanding contrary to anything contained in this RFQ, Supplier shall at his costs and risks make good any loss or damage to the property of the Purchaser and/or the other Supplier engaged by the Purchaser and/or the employees of the Purchaser and/or employees of the other Supplier engaged by the Purchaser whatsoever arising out of the negligence of the Supplier while performing the obligations under this contract.

45. Documentation

The Bidder's shall procure all equipment from BRPL approved sources as per attached specifications. The Bidder's shall submit 5 copies of Material/Type Test Certificates, O&M Manuals, and Approved & As-built drawings. The Bidder's shall ensure for the strict compliance to the specifications and Field Quality Procedures issued by BRPL Engineer in-charge.

46. Commissioning Spares

Commissioning Spares shall be deemed to be included in the quoted prices.

Section – II: Price Format

1. Price Format

S. No	Line Item	Qty.	UoM	Unit Rate (Rs)	App. Taxes	Total All Inclusive Value (Rs)
A	**Software**					
1	Software Licensing Fees with 5 years warranty post Operational Acceptance Test (Detail the pricing regime which could include initial price and upgrade pricing). All license to be perpetual and on the name of BRPL					
	i) Software License price for 25,00,000 end points (Smart and Conventional meters or Other integrated systems) as mentioned in the RFP	1	Lot			
	ii) Incremental at the rate of 100,000 end points	1	Lot			
2	Third party software pricing (if any including Additional SAP Licenses - AMI Integration, Pre Paid etc.), including warranty for 5 years post Operational Acceptance Test required for successful implementation of AMI and MDMS (Price breakup of each software component shall be shared separately) (BRPL will have the option to for Licenses procurement directly with respective OEM's)	1	Lot			
B	**Implementation/Integration**					
3	Set-up of Server and Storage infrastructure including OS, Database etc at control centers (main & back up control center separately)	1	LOT			

4	Cost of System Implementation and Integration with SAP & Other outbound Systems as mentioned in the RFP and changes at SAP end for modification in the existing as well as new process workflows/ Report/ MIS/ Customer Portal, etc.	1	LOT			
5	MDMS integration with HES, handheld devices from conventional meters, RCM, Pre-paid system, AMR, Grid/Feeder/Transformer metering system and Other inbound systems as mentioned in the RFP	1	LOT			
C	**Hardware**					
6	IT hardware (including server, storage etc.) & software (including OS, Database etc.) at control centers (main & Backup control center) including warranty for 5 years post Operational Acceptance Test.(Price break up and specifications of each hardware & Software component shall be shared separately) (BRPL reserves the right to purchase from bidder or directly from OEMs)					
	i) IT Hardware & Software Price for 25,00,000 Smart end points	1	LOT			
7	Any other product / Licenses including any requirements related to integrated systems, if any (Attach details) for implementation of AMI & MDM at BRPL	As required	Lump sum			
D	**AMC**					
8	AMC charges per year post completion of warranty period	5	Year			

NOTE:

- The quantities as mentioned above are for evaluation purposes only. The quantities during execution of project may vary and Payment shall be made as per actual basis.

- BRPL reserves the right to procure IT hardware/server etc. on its own.
- The bidder shall quote prices strictly in the above format. Failing to do so, bids are liable to be rejected.
- The bidder must fill each and every column of the above format. Mentioning “extra/inclusive” in any of the column may lead for rejection of the price bid.
- No cutting/ overwriting in the prices is permissible.
- The prices shall be FOR BRPL Locations.

Section – III: Vendor Code of Conduct

Purchaser is committed to conducting its business in an ethical, legal and socially responsible manner. To encourage compliance with all legal requirements and ethical business practices, Purchaser has established this Vendor Code of Conduct (the "Code") for Purchaser's Vendors. For the purposes of this document, "Vendor" means any company, corporation or other entity that sells, or seeks to sell goods or services, to Purchaser, including the Vendor's employees, agents and other representatives. Fundamental to adopting the Code is the understanding that a business, in all of its activities, must operate in full compliance with the laws, rules and regulations of the countries in which it operates. This Code encourages Vendors to go beyond legal compliance, drawing upon internationally recognized standards, in order to advance social and environmental responsibility.

1. Labour and Human Rights

Vendors must uphold the human rights of workers, and treat them with dignity and respect as understood by the international community.

i. Fair Treatment - Vendors must be committed to a workplace free of harassment. Vendors shall not threaten workers with or subject them to harsh or inhumane treatment, including sexual harassment, sexual abuse, corporal punishment, mental coercion, physical coercion, verbal abuse or unreasonable restrictions on entering or exiting company provided facilities.

ii. Antidiscrimination - Vendors shall not discriminate against any worker based on race, colour, age, gender, sexual orientation, ethnicity, disability, religion, political affiliation, union membership, national origin, or marital status in hiring and employment practices such as applications for employment, promotions, rewards, access to training, job assignments, wages, benefits, discipline, and termination. Vendors shall not require a pregnancy test or discriminate against pregnant workers except where required by applicable laws or regulations or prudent for workplace safety. In addition, Vendors shall not require workers or potential workers to undergo medical tests that could be used in a discriminatory way except where required by applicable law or regulation or prudent for workplace safety.

iii. Freely Chosen Employment - Forced, bonded or indentured labour or involuntary prison labour is not to be used. All work will be voluntary, and workers should be free to leave upon reasonable notice. Workers shall not be required to hand over government-issued identification, passports or work permits as a condition of employment.

iv. Prevention of Under Age Labour - Child labour is strictly prohibited. Vendors shall not employ children. The minimum age for employment or work shall be 15 years of age, the minimum age for employment in that country, or the age for completing compulsory education in that country, whichever is higher. This Code does not prohibit participation in legitimate workplace apprenticeship programs that are consistent with Article 6 of ILO Minimum Age Convention No. 138 or light work consistent with Article 7 of ILO Minimum Age Convention No. 138.

v. Juvenile Labour - Vendors may employ juveniles who are older than the applicable legal minimum age for employment but are younger than 18 years of age, provided they do not perform work likely to jeopardize their health, safety, or morals, consistent with ILO Minimum Age Convention No. 138.

vi. Minimum Wages - Compensation paid to workers shall comply with all applicable wage laws, including those relating to minimum wages, overtime hours and legally mandated benefits. Any disciplinary wage deductions are to conform to local law. The basis on which workers are being paid is to be clearly conveyed to them in a timely manner.

vii. Working Hours - Studies of good manufacturing practices clearly link worker strain to reduced productivity, increased turnover and increased injury and illness. Work weeks are not to exceed the maximum set by local law. Further, a work week should not be more than 60 hours per week, including overtime, except in emergency or unusual situations. Workers should be allowed at least one day off per seven-day week.

viii. Freedom of Association - Open communication and direct engagement between workers and management are the most effective ways to resolve workplace and compensation issues. Vendors are to respect the rights of workers to associate freely and to communicate openly with management regarding working conditions without fear of reprisal, intimidation or harassment. Workers' rights to join labour unions, seek representation and or join worker's councils in accordance with local laws should be acknowledged.

2. Health and Safety

Vendors must recognize that in addition to minimizing the incidence of work-related injury and illness, a safe and healthy work environment enhances the quality of products and services, consistency of production and worker retention and morale. Vendors must also recognize that ongoing worker input and education is essential to identifying and solving health and safety issues in the workplace.

The health and safety standards are:

i. Occupational Injury and Illness - Procedures and systems are to be in place to prevent, manage, track and report occupational injury and illness, including provisions to: a) encourage worker reporting; b) classify and record injury and illness cases; c) provide

necessary medical treatment; d) investigate cases and implement corrective actions to eliminate their causes; and e) facilitate return of workers to work.

ii. Emergency Preparedness - Emergency situations and events are to be identified and assessed, and their impact minimized by implementing emergency plans and response procedures, including: emergency reporting, employee notification and evacuation procedures, worker training and drills, appropriate fire detection and suppression equipment, adequate exit facilities and recovery plans.

iii. Occupational Safety - Worker exposure to potential safety hazards (e.g., electrical and other energy sources, fire, vehicles, and fall hazards) are to be controlled through proper design, engineering and administrative controls, preventative maintenance and safe work procedures (including lockout / tagout), and ongoing safety training. Where hazards cannot be adequately controlled by these means, workers are to be provided with appropriate, well-maintained, personal protective equipment. Workers shall not be disciplined for raising safety concerns.

iv. Machine Safeguarding - Production and other machinery is to be evaluated for safety hazards. Physical guards, interlocks and barriers are to be provided and properly maintained where machinery presents an injury hazard to workers.

v. Industrial Hygiene - Worker exposure to chemical, biological and physical agents is to be identified, evaluated, and controlled. Engineering or administrative controls must be used to control overexposures. When hazards cannot be adequately controlled by such means, worker health is to be protected by appropriate personal protective equipment programs.

vi. Sanitation, Food, and Housing - Workers are to be provided with ready access to clean toilet facilities, potable water and sanitary food preparation, storage, and eating facilities. Worker dormitories provided by the Participant or a labour agent are to be maintained clean and safe, and provided with appropriate emergency egress, hot water for bathing and showering, and adequate heat and ventilation and reasonable personal space along with reasonable entry and exit privileges.

vii. Physically Demanding Work - Worker exposure to the hazards of physically demanding tasks, including manual material handling and heavy or repetitive lifting, prolonged standing and highly repetitive or forceful assembly tasks is to be identified, evaluated and controlled.

3. Environmental

Vendors should recognize that environmental responsibility is integral to producing world class products. In manufacturing operations, adverse effects on the environment and natural resources are to be minimized while safeguarding the health and safety of the public.

The environmental standards are:

i. Product Content Restrictions - Vendors are to adhere to applicable laws and regulations regarding prohibition or restriction of specific substances including labeling laws and

regulations for recycling and disposal. In addition, Vendors are to adhere to all environmental requirements specified by Purchaser.

ii. Chemical and Hazardous Materials - Chemical and other materials posing a hazard if released to the environment are to be identified and managed to ensure their safe handling, movement, storage, recycling or reuse and disposal.

iii. Air Emissions - Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge.

iv. Pollution Prevention and Resource Reduction -Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials.

v. Wastewater and Solid Waste - Wastewater and solid waste generated from operations, industrial processes and sanitation facilities are to be monitored, controlled and treated as required prior to discharge or disposal.

vi. Environmental Permits and Reporting - All required environmental permits (e.g. discharge monitoring) and registrations are to be obtained, maintained and kept current and their operational and reporting requirements are to be followed.

4. Ethics

Vendors must be committed to the highest standards of ethical conduct when dealing with workers, Vendors, and customers.

i. Corruption, Extortion, or Embezzlement - Corruption, extortion, and embezzlement, in any form, are strictly prohibited. Vendors shall not engage in corruption, extortion or embezzlement in any form and violations of this prohibition may result in immediate termination as an Vendor and in legal action.

ii. Disclosure of Information - Vendors must disclose information regarding its business activities, structure, financial situation, and performance in accordance with applicable laws and regulations and prevailing industry practices.

iii. No Improper Advantage - Vendors shall not offer or accept bribes or other means of obtaining undue or improper advantage.

iv. Fair Business, Advertising, and Competition - Vendors must uphold fair business standards in advertising, sales, and competition.

v. Business Integrity - The highest standards of integrity are to be expected in all business interactions. Participants shall prohibit any and all forms of corruption, extortion and embezzlement. Monitoring and enforcement procedures shall be implemented to ensure conformance.

vi. Community Engagement - Vendors are encouraged to engage the community to help foster social and economic development and to contribute to the sustainability of the communities in which they operate.

vii. Protection of Intellectual Property - Vendors must respect intellectual property rights; safeguard customer information; and transfer of technology and know-how must be done in a manner that protects intellectual property rights.

5. Management System

Vendors shall adopt or establish a management system whose scope is related to the content of this Code. The management system shall be designed to ensure (a) compliance with applicable laws, regulations and customer requirements related to the Vendors' operations and products; (b) conformance with this Code; and (c) identification and mitigation of operational risks related to this Code. It should also facilitate continual improvement.

The management system should contain the following elements:

i. Company Commitment - Corporate social and environmental responsibility statements affirming Vendor's commitment to compliance and continual improvement.

ii. Management Accountability and Responsibility - Clearly identified company representative[s] responsible for ensuring implementation and periodic review of the status of the management systems.

iii. Legal and Customer Requirements - Identification, monitoring and understanding of applicable laws, regulations and customer requirements.

iv. Risk Assessment and Risk Management - Process to identify the environmental, health and safety and labour practice risks associated with Vendor's operations. Determination of the relative significance for each risk and implementation of appropriate procedural and physical controls to ensure regulatory compliance to control the identified risks.

v. Performance Objectives with Implementation Plan and Measures - Areas to be included in a risk assessment for health and safety are warehouse and storage facilities, plant/facilities support equipment, laboratories and test areas, sanitation facilities (bathrooms), kitchen/cafeteria and worker housing /dormitories. Written standards, performance objectives, targets and implementation plans including a periodic assessment of Vendor's performance against those objectives.

vi. Training - Programs for training managers and workers to implement Vendor's policies, procedures and improvement objectives.

vii. Communication - Process for communicating clear and accurate information about Vendor's performance, practices and expectations to workers, Vendors and customers.

viii. Worker Feedback and Participation - Ongoing processes to assess employees' understanding of and obtain feedback on practices and conditions covered by this Code and to foster continuous improvement.

ix. Audits and Assessments - Periodic self-evaluations to ensure conformity to legal and regulatory requirements, the content of the Code and customer contractual requirements related to social and environmental responsibility.

x. Corrective Action Process - Process for timely correction of deficiencies identified by internal or external assessments, inspections, investigations and reviews.

xi. Documentation and Records - Creation of documents and records to ensure regulatory compliance and conformity to company requirements along with appropriate confidentiality to protect privacy.

The Code is modeled on and contains language from the Recognized standards such as International Labour Organization Standards (ILO), Universal Declaration of Human Rights (UDHR), United Nations Convention against Corruption, and the Ethical Trading Initiative (ETI) were used as references in preparing this Code and may be useful sources of additional information.

Appendix- I

COMMERCIAL TERMS AND CONDITIONS

SN	Item Description	AS PER BRPL	BIDDER'S CONFIRMATION
1	Validity	180 days from the due date of submission or amended due date of submission	
2	Price basis	a) **Firm**, FOR Delhi store basis. Prices shall be inclusive of all taxes & duties, freight up to Delhi stores. b) Unloading at stores - in vendor's scope c) Transit insurance in BRPL scope	
3	Payment terms	As per Section –I (Volume –II General Terms and Conditions) Clause – 20	
4	Completion time	Within 12 Months from the date of LOI / Award of Contract	
5	Defect Liability period	5 Years after final acceptance of work	
6	Liquidated damages	1% of basic price for every week delay subject to maximum of 10% of total PO value of undelivered units.	
7	Performance Bank Guarantee	10% (Ten percent) of the Contract Price valid up to Defect Liability Period plus 3 months towards claim period.	

Appendix - II

BID FORM

To

Head of Department
Contracts & Material Deptt.
BSES Rajdhani Power Ltd
New Delhi 110019

Sir,

1. We understand that BRPL is desirous of execution of ……(Name of work)

2. Having examined the Bidding Documents for the above named works, we the undersigned, offer to deliver the goods in full conformity with the Terms and Conditions and technical specifications for the sum indicated in Price Bid or such other sums as may be determined in accordance with the terms and conditions of the contract. The above amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.

3. If our Bid is accepted, we undertake to deliver the entire goods as) as per delivery schedule mentioned in Section IV from the date of award of purchase order/letter of intent.

4. If our Bid is accepted, we will furnish a performance bank guarantee for an amount of 10% (Ten)percent of the total contract value for due performance of the Contract in accordance with the Terms and Conditions.

5. We agree to abide by this Bid for a period of 180 days from the due date of bid submission & subsequent corrigendum/amendment/extension of due date of submission. It shall remain binding upon us and may be accepted at any time before the expiration of that period.

6. We declare that we have studied the provision of Indian Laws for supply of equipments/materials and the prices have been quoted accordingly.

7. Unless and until Letter of Intent is issued, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

8. We understand that you are not bound to accept the lowest, or any bid you may receive.

9. There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract.

Dated this..... day of..... 20…..

Signature..... In the capacity of

…….....duly authorized to sign for and on behalf of

(IN BLOCK CAPITALS).....

Appendix - III

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed & stamped by the bidder along-with bid)

BSES Rajdhani Power Ltd (BRPL) intends to use reverse auction through SAP-SRM tool as an integral part of entire tendering process. All techno-commercially qualified bidders shall participate in the reverse auction.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid:-

1. In case of bidding through Internet medium, bidders are advised to ensure availability of all associated infrastructure as required to participate in the reverse auction event. Inability to bid due to telephone glitch, internet response issues, software & hardware hangs/failures, power failures or any other reason shall not be the responsibility of BRPL.
2. In case bidder fails to participate in the reverse auction event due to any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid submitted by them as a part of tender shall be considered as bidder's Final No Regret offer. Any off-line price bids received from a bidder in lieu of non-participation in the reverse auction event shall be rejected by BRPL.
3. The bidder is advised to understand the auto bid process t safeguard themselves against any possibility of non-participation in the reverse auction event.
4. The bidder shall be prepared with competitive price quotes during the day of reverse auction event.
5. The prices quoted by bidder in reverse auction event shall be on FOR Landed cost BRPL Store/site basis inclusive of all relevant taxes, duties, levies, transportation charges etc.
6. The prices submitted by the bidder during reverse auction event shall be binding on the Bidder.
7. The bidder agrees to non-disclosure of trade information regarding bid details e.g. purchase, Identity, bid process/technology, bid documentation etc.
8. BRPL will make every effort to make the bid process transparent. However award decision of BRPL will be final and binding on the bidder.
9. The prices submitted during reverse auction event shall be binding on the bidder.
10. No request for Time extension of the reverse auction event shall be considered by BRPL.
11. BRPL shall provide the user id and password to the authorized representative of the bidder. Authorization letter in lieu of the same shall be submitted along with the signed and stamped acceptance form.

12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all inclusive prices offered during conclusion of the reverse auction event for arriving at contract amount.

Appendix - IV

FORMAT FOR EMD BANK GUARANTEE

(To be issued in a Non Judicial Stamp Paper of Rs.50/-purchased in the name of the bank)

Whereas [*name of the Bidder*] (herein after called the "Bidder") has submitted its bid dated [*date of submission of bid*] for the supply of [*name and/or description of the goods*] (here after called the "Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] at [*Branch Name and address*],having our registered office at[*address of the registered office of the bank*](herein after called the "Bank"),are bound unto BSES Rajdhani Power Ltd., with it's Corporate Office at BSES Bhawan Nehru Place, New Delhi -110019 ,(herein after called —the "Purchaser")in the sum of Rs. ……/- (Rupees …….. only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this_____ day of_____ 20____.

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form ; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:

    (a) Fails or refuses to execute the Contract Form, if required; or

    (b) Fails or refuses to furnish the performance security, In accordance with the Instructions to Bidders/ Terms and Conditions;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that is its demand the purchaser will note that amount claimed by it is due to it, owing to the occurrence of one or both of the two condition(s), specifying the occurred condition or condition(s).

This guarantee will remain in force up to and including One Hundred Eighty (180) days after the due date of submission bid, and any demand in respect thereof should reach the Bank not later than the above date.

(Stamp & signature of the bank)

Signature of the witness

BSES Rajdhani Power Limited

Appendix - V

LITIGATION HISTORY

Year	Name of client	Details of contract & date	Cause of Litigation/ arbitration and dispute	Disputed amount

Appendix - VI

CURRENT CONTRACT COMMITMENTS/ WORK IN PROGRESS

Year	Name of client	Details of contract & date	Value of outstanding work	Estimated completion date

BSES Rajdhani Power Limited

Appendix - VII

FINANCIAL DATA

(Duly Certified by Chartered Accountant)

Parameter	Actual in previous 3 financial years				
	FY 17-18	FY 16-17	FY 15-16		
Total assets					
Current assets					
Total Liability					
Current Liability					
Profit before taxes					
Profit after taxes					
Sales Turnover					

BSES Rajdhani Power Limited

Appendix - VIII

CHECK LIST/DOCUMENT TO BE SUBMITTED

Sl No	Description	Compliance
1	INDEX	YES/NO
2	COVERING LETTER	YES/NO
3	BID FORM (UNPRICED) DULY SIGNED	YES/NO
4	BILL OF QUANTITY (UNPRICED)	YES/NO
5	DOCUMENTS IN SUPPORT OF QUALIFICATION CRITERIA	YES/NO
6	TECHNICAL BID	YES/NO
7	ACCEPTANCE TO COMMERCIAL TERMS AND CONDITIONS	YES/NO
8	FINANCIAL BID (IN SEALED ENVELOPE)	YES/NO
9	EMD IN PRESCRIBED FORMAT	YES/NO
10	DEMAND DRAFT OF RS 1180/- DRAWN IN FAVOUR OF BSES RAJDHANI POWER LTD	YES/NO
11	POWER OF ATTORNEY/AUTHORISATION LETTER FOR SIGNING THE BID	YES/NO
12	FINANCIAL DATA IN TABULAR FORMAT	YES/NO
13	LIST OF CURRENT COMMITMENTS/ WORK IN PROGRESS	YES/NO
14	BANK SOLVENCY CERTIFICATE	YES/NO
15	NO LITIGATION CERTIFICATE	YES/NO
16	COMMENTS AS PER ANNEXURE	YES/NO

Appendix - IX

The Contractor must submit the following to Engineer-In-Charge before commencement of work:

a) An Electrical license. (If applicable)

b) PF Code No. and all employees to have PF A/c No. under PF every Act, 1952.

c) All employees to have a temporary or permanent ESI Card as per ESI Act.

d) ESI Registration No.

e) PAN No.

f) Work Contract Tax/GSTN Registration Number.

g) Labor License under Contract Labor Act (R & A) Act 1970 (All Engineer-in-charge responsible for execution of the job should obtain a copy of Labor License as per guidelines of HR department before start of the work by the contractor.)

The Contractor must follow:

a) Third party Insurance Policy before start of work.

b) To follow Minimum Wages Act prevailing in the state.

c) Salary/ Wages to be distributed in presence of Company's representative not later than 7th of each month.

d) To maintain Wage- cum - Attendance Register.

e) To maintain First Aid Box at Site.

f) Latest P.F. and E.S.I. *challans* pertaining to the period in which work was undertaken along with a certificate mentioning that P.F. and E.S.I. applicable to all the employees has been deducted and deposited with the Authorities within the time limits specified under the respective Acts.

g) Workman Compensation Policy. (If applicable)

h) Labor license before start of work. (If applicable)