
Model Standard Bidding Document

Meghalaya Power Distribution Corporation Limited

Request for Proposal

For

**Appointment of System Integrator (SI) for
implementation of Utility Billing system in
Meghalaya under SaaS model**

Guidance Note

1. This Model Standard Bidding Document (SBD) has been prepared as a guidance for the selection and appointment of System Integrator (“SI”) for implementation of Utility Billing System in India on Software-as-a-Service (SaaS) model by the Utilities.
2. The provisions in angle brackets (< >) are for guidance and should be omitted from the RFP before it is issued to prospective Bidders
3. All Project-specific provisions in the model RFP have been enclosed in square parenthesis ([]) and may be modified, as necessary, before issuing the RFP to prospective Bidders. The square parenthesis should be removed after carrying out the required modification. DISCOM is advised to carefully read the SBD and insert DISCOM specific and RFP specific details in the blank and/or highlighted portions

Tender Disclaimer

To be provided by Utility

- The MePDCL or any of its employees, consultants or associates make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this BID DOCUMENT or otherwise including the accuracy, adequacy, correctness, completeness or reliability of the BID DOCUMENT and any assessment, assumption, statement or information contained therein or deemed to form part of this BID DOCUMENT or arising in any way in this Bid stage.
- The issue of this BID DOCUMENT does not imply that MePDCL is bound to select a Bidder for the Project and MePDCL reserves the right to reject all or any of the Bidders or Bids or discontinue or cancel the bidding process without assigning any reason whatsoever.
- Employer/ Utility Name means Meghalaya Power Distribution Corporation Limited (MePDCL)

SUMMARY

PART I – BIDDING PROCEDURES AND REQUIREMENTS

Section 1: Request for Proposals (RFP) Notice

This Section includes Request for Proposals.

Section 2: Eligibility and Qualification Requirements

This Section contains information regarding specific eligibility and qualification requirements applicable for prospective bidders to be considered for further evaluation of their proposal.

Section 3: Instructions to Bidders and Bid Data Sheet

This Section consists of two parts: “Instructions to Bidders” and “Bid Data Sheet”. “Bid Data Sheet” contains information specific to selection and corresponds to the clauses in “Instructions to Bidders” that call for selection-specific information. This Section provides information to help prospective bidders prepare their proposals. Information is also provided on submission, opening and evaluation of proposals, selection of successful bidder and award of contract.

Section 4: Bidding Forms – Technical Proposal

This Section includes the forms for Technical Proposal that are to be completed by the prospective bidders and submitted in accordance with the requirements of Section 3.

Section 5: Bidding Forms - Financial Proposal

This Section includes the financial forms that are to be completed by the prospective bidders, including the bidders’ costing and pricing, which are to be submitted in accordance with the requirements of Section 3.

Section 6: Project Requirements

This Section describes the background information of the Project, Scope, of Work, System Requirement, Specifications, Quality Requirements, Service Level Agreement (SLA), Standards, Activities and Tasks, Plans, Deliverables, Documentation, and other requirements/ details related to and/or connected with the Project.

PART II – CONTRACT FORM AND CONDITIONS OF CONTRACT

Section 7: Contract Form and Conditions of Contract

This Section includes standard contract form. It includes General Conditions of Contract (“GCC”) and Special Conditions of Contract (“SCC”). The SCC include clauses specific to this contract to supplement the General Conditions.

PART III – Contract Related Forms

Section 8: Contract Related Forms

This Section includes the form used to notify Award of the Contract to the successful bidder and the form for Performance Security to be furnished by the bidder.

ABBREVIATIONS

1.	AMI	Advanced Metering Infrastructure
2.	ACL	Access Control Lists
3.	ACR	Annual Confidential Report
4.	AI	Artificial Intelligence
5.	API	Application Programming Interface
6.	APT	Advanced Persistent Threat
7.	ATS	Annual Technical Support
8.	BCP	Business Continuity Plan
9.	BG	Bank Guarantee
10.	BGP	Border Gateway Protocol
11.	BI	Business Intelligence
12.	BIS	Bureau of Indian Standards
13.	BoQ	Bill of Quantities
14.	BPML	Business Process Master List
15.	CCN	Change Control Notice
16.	Cert-In	Indian Computer Emergency response team
17.	CCB	Control Change Board
18.	CIS	Consumer Information System
19.	CMMI	Capability Maturity Model Integration
20.	COTS	Commercial Off-the-Shelf
21.	CPU	Central Processing Unit
22.	CRM	Consumer Relationship Management
23.	CRP	Conference Room Pilot
24.	CSP	Cloud Service Provider
25.	CV	Curriculum Vitae
26.	DC	Data Center
27.	DBMS	Database Management System
28.	DCU	Data Concentrator Unit

29.	DMZ	Demilitarized Zone
30.	DT	Distribution Transformer
31.	ESB	Enterprise Service Bus
32.	FAT	Factory Acceptance Test
33.	FOR	Freight on Road
34.	GIS	Geographic Information System
35.	GPRS	General Packet Radio Service
36.	GPS	Global Positioning System
37.	GST	Goods and Services Tax
38.	GUI	Graphical User Interface
39.	HES	Head-End System
40.	HHU	Handheld Unit
41.	IBMS	Integrated Building Management Systems
42.	IDS	Intrusion Detection Systems
43.	IEC	International Electrotechnical Commission
44.	IP	Internet Protocol
45.	IPR	Intellectual Property Rights
46.	IS	Indian Standard
47.	ISO	International Organization for Standardization
48.	ISP	Internet Service Provider
49.	IT	Information Technology
50.	IVRS	Interactive Voice Response System
51.	kVA	kilo Volt-Ampere
52.	kW	kilo Watt
53.	LAN	Local Area Network
54.	LCD	Liquid Crystal Display
55.	LED	Light Emitting Diode
56.	LT	Low Tension
57.	M&V	Monitoring and Verification

58.	MCB	Miniature Circuit Breaker
59.	MD	Maximum Demand
60.	MDAS	Meter Data Acquisition System
61.	MDM	Meter Data Management
62.	MICC	Mineral-Insulated Copper-Clad Cable
63.	NAN	Neighborhood Area Network
64.	NIC	Network Interface Card
65.	NMS	Network Management System
66.	NOMC	Network Operation cum Monitoring Center
67.	NTP	Network Time Protocol
68.	OEM	Original Equipment Manufacturer
69.	OS	Operating System
70.	OSF	Open Software Foundation
71.	P&L	Profit & Loss
72.	PCI	Payment Card Industry
73.	PO	Purchase Order
74.	PON	Power Outage Notification
75.	PRN	Power Restoration Notification
76.	PT	Potential Transformer
77.	QA	Quality Assurance
78.	QC	Quality Control
79.	QR	Qualification Requirement
80.	RAM	Random Access Memory
81.	RDBMS	Relational Database Management System
82.	RF	Radio Frequency
83.	RFP	Request for Proposal
84.	RPO	Recovery Point Objective
85.	RTC	Real Time Clock
86.	RTO	Recovery Time Objective

87.	SAN	Storage Area Network
88.	SAT	Site Acceptance Test
89.	SCADA	Supervisory Control and Data Acquisition
90.	SEBI	Securities and Exchange Board of India
91.	SI	System Integrator OR System Integration
92.	SLA	Service Level Agreement
93.	SNMP	Simple Network Management Protocol
94.	SOA	Service Oriented Architecture
95.	SQL	Structured Queried Language
96.	TCP	Transmission Control Protocol
97.	TIFF	Tag Image File Format
98.	TOD	Time of Day
99.	TOU	Time of Use
100.	TPAA	Third Party Audit Agency
101.	TRS	Technical Requirement Specifications
102.	TSI	Turnkey System Integration
103.	UAT	User Acceptance Test
104.	UDP	User Datagram Protocol
105.	UPS	Uninterrupted Power Supply
106.	UT	Unit Testing
107.	VEE	Validation Estimation and Editing
108.	VM	Virtual Machine
109.	VoIP	Voice over Internet Protocol
110.	WAF	Web Application Firewall
111.	WAN	Wide Area Network
112.	WO	Work Order
113.	WPC	Wireless Planning & Coordination Wing
114.	XML	Extensible Mark-up Language

PART I

BIDDING PROCEDURES AND REQUIREMENTS

Section – 1: Request for Proposal Notice

“Appointment of System Integrator (SI) for implementation of Utility Billing system in India under SaaS model”

PROCUREMENT NOTICE

(Single Stage Two-Envelope Bidding Process with e-Procurement)

GLOBAL OPEN COMPETITIVE PROCUREMENT

Contract Title: “Appointment of System Integrator (SI) for implementation of Utility Billing system in India under SaaS model”

**Request for Proposal (RFP)/ Tender Number: MePDCL/CE(P)/T-226(RDSS-IT/OT/22-23/01
Issued on: 13th January 2023.**

1. **Meghalaya Power Distribution Corporation Limited** (hereinafter also referred to as ‘Utility’) invites online Proposals for “**Appointment of System Integrator (SI) for implementation of Utility Billing system in India under SaaS model**”. Bidders are advised to note the clauses on Eligibility and Qualification Requirements in Section-2 and Evaluation Criteria in Section-3 of the RFP Document for evaluation of Proposals.
2. Bidding for selection of System Integrator (SI) will be conducted through global open competitive procurement.
3. The RFP Document is available online on www.meghalayatenders.gov.in from 17/01/2023 on payment of cost of document (Tender Fee) as indicated in the TABLE below. The prospective Bidders would be responsible for downloading the RFP Document and ensuring that any addenda/ corrigendum/ amendment/ clarification thereto available on the website is also downloaded and incorporated.
4. The bidding shall be conducted **under Single Stage Two-Envelope Bidding process with e-Procurement** as specified in Section 3.
5. Under the Single Stage Two-Envelope Bidding process, the Bidder shall not quote, disclose, or submit its price in the Technical Proposal (First Envelope) or in any other manner, whatsoever, except as part of the Financial Proposal (Second Envelope). In case of any non-compliance in this regard, the Proposal shall be out-rightly / summarily rejected.

6. An incomplete and/or ambiguous and/or conditional Proposal and/or Proposal submitted late is liable to be ignored/ summarily rejected.
7. Proposal must be submitted online through the e-Procurement/ e-Tendering process specified in Section 3. Any Proposal or modifications to Proposal received outside the e-Procurement system will not be considered, unless otherwise specified in Section 3. Utility shall not be held liable for any delays due to e-Procurement/ e-Tendering system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, Utility shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this RFP.
8. Important dates, amounts and other details pertaining to this RFP Notice including submission and opening of proposal, cost of documents/ Tender Fee, address for communication, etc., are given in the TABLE below.
9. If Utility office happens to be closed on the specified date of opening of the Proposals, the Proposals/ bids will be opened on the next working day at the same time and venue or as may be notified by Utility.
10. Other details can be seen in the RFP document.

TABLE

Important Dates, Amounts and Other Details

<Please Note: This needs to be filled out by the Utility>

Dates

		Date	Time
a)	Commencement of downloading of this RFP and e-bidding	17/01/2023	15:00 Hrs(IST)
b)	Pre-bid meeting	13/04/2023	12:00 Hrs(IST)
c)	Last date for e-bidding	25/04/2023	13:00 Hrs(IST)
d)	Last date for receipt of RFP	25/04/2023	13:00 Hrs(IST)
e)	Date of Opening of Technical Bid (if possible)	25/04/2023	16:00 Hrs(IST)
f)	Evaluation of Technical Bid and Opening of Financial Bid	<i>Details will be intimated in later stage.</i>	
g)	Issue of Letter of Award (LOA)		
h)	Execution of SI Contract		

Amounts for Bidding

A.	Tender Fee to be submitted with the RFP (Non-Refundable)	INR 40000/-+ GST
B.	Bid Security (Refundable)	INR 0.3492 Cr
C.	Bank Details & Details (for Tender Fee & Bid Security)	Payable to: MeECL Principal Account Payable at: Shillong Bank Name: State Bank of India A/C No : 10881228111 IFSC Code: SBIN0000181
D.	GSTIN Details	17AAICM1935F1ZJ

Other Details

A.	Address for Communication including Contact details: Name: M .Swer Designation: Additional Chief Engineer (Projects), MePDCL Address: Lumjingshai, Short Round Road, Shillong-793001 E-Mail: ceproject.mepdcl@gmail.com M. No. +919436312127
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B.	<p>Payment of cost of document/ Tender Fee:</p> <ol style="list-style-type: none"> 1. Tender Fee shall be made in the form of A/C payee demand draft in favour of Utility or RTGS payable to MeECL Principal Account at Shillong drawn on any Scheduled Commercial Bank. 2. Tender Fee (or its receipt in case of RTGS payment) and Bid Security must be submitted in physical form in a sealed envelope at address given above, before the Bid Submission Deadline. The sealed envelope shall be clearly marked on the top as “Tender Fee for No.MePDCL/CE(P)/T-226(RDSS-IT/OT)/2022-23/01 ” The sealed envelope shall also clearly mention the name of the Bidder submitting the Bid, as further detailed in Section 3. 3. Any Bid not accompanied by a Tender Fee as above shall be rejected by Utility as non-responsive. 4. Tender Fee is non-refundable
C.	<p>Other Payments or Bank Guarantees for the RFP/ Contract shall be as per the terms and conditions defined in this RFP Document</p>

Section – 2: Eligibility and Qualification Requirements

1. Eligibility Requirements

- 1.1 The Bid can be submitted by a Sole Bidder as an individual entity or a Consortium of firms/companies (specific requirements for Consortium are given under Clause 1.4 below) who are eligible to participate in tenders for public procurement in India in accordance with Applicable Laws including the guidelines issued in Order No. F/No.6/18/2019-PPD by Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23 July 2020, Order No. No.9/16/2016-Trans-Part (2) dated 18 November 2020, latest Government of India Guidelines for Make in India, Domestically manufactured products, Atmanirbhar Bharat and circulars DIPP Office Memorandum No. P-45021/2/2017-PP (BE-II) date: 16th Sept. 2020, MeitY Circular No.1(10)/2017-CLES dated 06.12.2019 and Order No. 11/05/2018-Coord. by the Ministry of Power dated 17 September 2020, FDI Policy including any amendments or modifications to the same from time to time.
- 1.2 If at any stage of the bidding, any order/ ruling is found to have been passed in the last 1 (one) year preceding the Bid submission deadline by a competent Court of Law or any appropriate Commission or any Arbitral Tribunal against the Bidder or its Affiliates for breach of any Contract awarded by any Government agency/department, then Bids from such Bidders shall be liable to be rejected. All Bidders shall confirm in accordance to Form 7 given in Section 4 that no such order(s)/ ruling(s) have been passed by a competent Court of Law or an appropriate Commission against it or its Affiliates. In case of any such order/ ruling, it is the duty of the Bidder to inform Utility for the same during the Bid submission.
- 1.3 Technically qualified Bidders shall continue to maintain compliance with the Eligibility and Qualification Requirements specified herein. Failure to comply with the aforesaid requirements shall make the Bid from such Bidders liable for rejection at any stage of the bidding process.

1.4 Eligibility requirements for Consortium

- 1.4.1 Members of the Consortium shall enter into a binding Consortium Agreement, in the form specified at Form 8 (the “Consortium Agreement”) given in Section 4 of RFP Document, for the purpose of submitting Bid. The Consortium Agreement, to be submitted along with the Bid, shall, inter alia:
- a) convey the intent to comply with the terms and conditions of the SI Contract in the event selected to undertake the Project; and
 - b) clearly outline the proposed roles and responsibilities, if any, of each member.
- 1.4.2 Every Consortium Member shall provide consent to the Lead Consortium member and make itself aware of all the proceedings of the bidding process and Project implementation through legally enforceable Consortium Agreement, power of attorneys, legal undertakings, etc. (if applicable) entered amongst all members of that Bidding Consortium including but not limited to those as prescribed in Form 8 and Form 9 given in Section 4. In the absence of duly executed formats, the Bid shall not be considered for evaluation and shall be rejected.
- 1.4.3 The Lead Consortium member shall be liable for the execution of the entire obligation in the SI Contract in accordance with the terms and conditions thereof. Only the Lead Consortium Member shall have the authority to conduct all businesses for and on behalf of the Consortium during the bidding process.
- 1.5 The Lead Bidder/ Sole Bidder and its Sub-Contractor(s) shall have a registered office (under the Companies Act 1956/ 2013 with Registrar of Companies or under Partnership Act 1932 with

Registrar of firms) in India at the time of submission of the Bid. Certificate of incorporation/ Partnership deed, GST registration etc. shall be submitted as proof by the Bidder. In case of Award of Contract, other Consortium Members shall be required to have a registered office (under the Companies Act 1956/ 2013 with Registrar of Companies or under Partnership Act 1932 with Registrar of firms) in India.

- 1.6 The Bidder, participating in the bid as a Sole Bidder, or as a Consortium Member or as Lead Consortium Member of a Bidding Consortium and its Sub-Contractor(s) should not be blacklisted by any Govt. Organization or regulatory agencies or Govt. Undertaking as on the date of submission of the Bid. Bidder should submit a self-undertaking signed by its authorized signatories for the same as per the format prescribed in Form 7 given in Section 4
- 1.7 The Bidder, participating in the bid as a Sole Bidder, or as a Consortium Member or as Lead Consortium Member of a Bidding Consortium and its Sub-Contractor(s) shall not be banned/debarred by the **Meghalaya Power Distribution Corporation Limited or any of its subsidiaries/ holding company and any other utilities**, as on the date of submission of the Bid. Bidder should submit a self-undertaking signed by its authorized signatories for the same as per the format prescribed in Form 7 given in Section 4
- 1.8 The Lead Consortium member/ Sole Bidder shall submit the Bid after submitting the Tender Fees and Bid Security as per the various terms, schedules and formats prescribed in this RFP. Further The Lead Consortium Member shall be the point of contact for the Consortium during the Bid process before award of the Project to the SI, and Utility shall communicate directly to the contact person appointed through the Power of Attorney as per Form 10 given in Section 4.
- 1.9 The Bidder may seek qualification on the basis of technical and financial capability of its Parent(s) and/ or its Affiliate(s), for the purpose of meeting the qualification requirements. Authorization for use of such technical or financial capability shall have to be provided from its Parent(s) and/or Affiliate(s). A Bidder shall submit only one Bid in the same bidding process.
- The determination of the relationship of Parent(s) and/or Affiliate(s) with the Bidder shall be on the date 7 (seven) Days prior to the Bid Submission Deadline. Documentary evidence to establish such relationship shall be furnished by the Bidder along with the Technical Bid.
- The Technically Evaluated Entity may be the Bidder or an Affiliate or Parent of such Bidder, as the case may be.
- 1.10 The Qualified Bidder(s) will be required to continue to maintain compliance with the Qualification Requirements throughout the bidding process and till execution of the Contract. Failure to comply with the aforesaid provisions shall make the Bid liable for rejection at any stage.
- 1.11 In case of a COTS Based Billing system, the Bidder should be an authorized implementation partner of the proposed COTS Based Billing system as on date of bid submission, or the OEM itself of the proposed product. Letter from OEM of the proposed COTS Billing system shall be submitted as proof, in case the Bidder is not the OEM of the proposed product.
- 1.12 The Bid can be submitted by a Sole Bidder as an individual entity or a Consortium of firms/ companies limited to maximum of two (2) entities, including the Lead bidder.
- 1.13 No further sub-contracting other than as mentioned in Eligibility and Qualification criteria will be allowed during any stage of the project implementation without prior consent of Utility.

2. Qualification Requirements

2.1 The technical and financial requirements of qualification of the Bidder are as follows:

S. No.	Requirements	Supporting Documents
Technical Requirements		
1.	<p>Sole/ Lead Bidder should have successfully implemented Eligible Projects in any Indian/Global Utility (power/ water/ natural gas/ telecom/ banking) during the last 10 (ten) financial years:</p> <p>(i) With an aggregate project value not less than [70% of the Estimated Project Cost]</p> <p>(ii) With project value of one such Eligible Project not less than [40% of the Estimated Project Cost]</p> <p>(OR)</p> <p>Two such Eligible Projects with each having a project value not less than [25% of the Estimated Project Cost]</p> <p><i>Note: For calculation of project value of eligible projects, only project value of the portion of the project executed by the Sole/ Lead Bidder shall be considered.</i></p>	<p>a) References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in Form 13 given in Section 4);</p> <p><i>In case a Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i></p> <p>b) Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and client certificate for supply of material or similar proofs) along with contact details of the client;</p>
2.	<p>Sole/ Lead Bidder must have successfully implemented billing systems¹ in any Indian/ Global Utility (power/ water/ natural gas/ telecom) during the last 10 (ten) financial years for an aggregate consumer base of at least [50% of the estimated consumer base].</p> <p>Also, one of the projects out of the above, must be implemented in India and shall have a minimum consumer base of [20% of the estimated consumer base].</p> <p>Each of the projects shall be in operation for at least 1 (one) year as on date of bid submission OR Each of the projects should have completed at least 3 (three) years of operational period.</p>	

¹ In case the Bidder proposes a COTS based Billing system, only prior experience associated with implementation of any COTS based Billing solutions shall be considered for assessing the qualification requirements

Similarly, in case the Bidder proposes a Bespoke based Billing system, only prior experience associated with implementation of any Bespoke based Billing solutions shall be considered for assessing the qualification requirements

S. No.	Requirements	Supporting Documents
	<p>The implementation should have covered at least 5 (five) modules (<i>Modules i to iv are mandatory</i>) out of the below mentioned list:</p> <ol style="list-style-type: none"> i. Metering, Billing & Collection (MBC) ii. Disconnection & Reconnection iii. Management Information System & Dashboarding iv. Customer Relationship Management (CRM) or Customer Care Centre (CC) (New connection, Grievance handling, Updation etc.) v. Energy Accounting & Audit vi. Web Portal and Mobile Applications vii. Workforce Management viii. Prepaid Module ix. Identity Access Management x. Document Management System xi. Accounting, Ledger, & Banking Reconciliation Statement (BRS) Process 	c) Any other documentation for implementation performance/ operation
3.	<p>Sole/ Lead Bidder should have experience of integrating a Billing system² with at least 3 (three) of the following applications in a single project, in any Indian/ Global Utility (power/ water/ natural gas/ telecom) in the last 10 (ten) financial years.</p> <p>Each of the projects shall be in operation for at least 1 (one) year as on date of bid submission (OR) Each of the projects should have completed at least 3 (three) years of operational period.</p> <ol style="list-style-type: none"> i. ERP ii. MDAS/ MDMS iii. Spot Billing/ Prepaid Engine iv. Consumer Portal/ App v. GIS vi. Workforce management vii. Outage management system viii. Load forecasting system 	

² In case the Bidder proposes a COTS based Billing system, only prior experience associated with integration of any COTS based Billing solutions shall be considered for assessing the qualification requirements

Similarly, in case the Bidder proposes a Bespoke based Billing system, only prior experience associated with integration of any Bespoke based Billing solutions shall be considered for assessing the qualification requirements

S. No.	Requirements	Supporting Documents
	ix. Demand Response x. SCADA xi. DMS/ ADMS xii. Energy Accounting/ Energy Audit	
4.	Sole/ Lead Bidder should have experience of provisioning/ managing Cloud based IaaS/PaaS/SaaS services or Cloud based Business solution hosting projects in in atleast 1 (one) project in any Indian/Global Utility (power/ water/ natural gas/ telecom/ banking) for an aggregate consumer base of at least [20% of the estimated consumer base] during the last 10 (ten) financial years which have completed at least 1 (one) year of operational period.	
5.	Sole/ Lead Bidder should have the following certificates which should be valid as on the date of bid submission: (a) ISO 9001:2015, and, (b) ISO/IEC 27001:2017 or latest. (c) CMMi Level 5	Copy of Valid Certificate attested by the authorized signatory
Financial Requirements		
6.	Sole/ Lead Bidder and the consortium partner (if any) shall have positive net worth for each of the last three financial years. Net worth of the Bidder should be at least [10 % of the estimated Project cost] in any of the last three Financial Years. <i>[Net Worth means sum total of the paid up capital and free reserves (excluding reserves created out of revaluation) reduced by aggregate value of accumulated losses (including debit balance in profit and loss account for current year) and intangible assets.].</i>	Audited Annual financial statements, Balance Sheet and P&L Account for the respective Financial Years as per the format prescribed in Form 12 given in Section 4
7.	Bidder shall have a Minimum Average Annual Turnover (MAAT) of [70% of the Estimated Project cost] from IT/ Software business in India for the last 3 (three) audited financial years.	Copy of CA certificate clearly capturing the MAAT from IT/ Software Business in India for the respective financial years

2.2 The Bidder would have to clearly include and mention the details of the product OEMs/ vendors given below:

- a) Billing System provider³
- b) Cloud service provider (CSP)

Accordingly, in addition to the requirements provided in 2.1, the product OEMs/ vendors should also separately meet the following requirements as on date of bid submission. Each of the product OEMs/ vendors shall sign an agreement with the bidder, provided the product OEM/ vendor is not the bidder, in the format as specified in Form 19 given in Section 4, clearly mentioning:

- a) their intent to comply with the terms and conditions of the Contract in the event the product OEM/ vendor is selected to undertake the Project
- b) their willingness to work with the said bidder; and
- c) their proposed roles and responsibilities.

S. No.	Requirements	Supporting Documents
A. Billing System provider⁴ – Technical Requirements		
A1.	<p>Proposed COTS* Based Billing system must have been implemented in any 3 (three) Indian/ Global Utility (power/ water/ natural gas/ telecom) during the last 10 (ten) financial years and should have handled an aggregate consumer base of at least [50% of the estimated consume base]</p> <p>Each of the projects shall be in operation for at least 1 (one) year as on date of bid submission (OR) Each of the projects should have completed at least 3 (three) years of operational period.</p> <p>Also, one of the projects must be implemented in India and shall have a minimum consumer base of [20% of the estimated consumer base]</p> <p>The implementation should have covered at least 5 (five) modules (<i>Modules i to iv are mandatory</i>) out of the below mentioned list:</p> <ul style="list-style-type: none"> i. Metering, Billing & Collection (MBC) ii. Disconnection & Reconnection iii. Management Information System & Dashboarding iv. Customer Relationship Management (CRM) or Customer Care Centre (CC) 	<ul style="list-style-type: none"> a) References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in 13 given in Section 4); <i>In case a Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i> b) Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and client certificate for supply of

³ <In case Bidder is proposing a COTS Product>

⁴ <In case Bidder is proposing a COTS Product>

S. No.	Requirements	Supporting Documents
	<p>(New connection, Grievance handling, Updation etc.)</p> <ul style="list-style-type: none"> v. Energy Accounting & Audit vi. Web Portal and Mobile Applications vii. Workforce Management viii. Prepaid Module ix. Document Management System x. Accounting, Ledger, & Banking Reconciliation Statement (BRS) Process <p><i>*Note: Commercial Off-the-Shelf (COTS) product is a packaged, ready-made software solution, available for sale, lease or licensing to companies, by the OEM directly or through authorized implementation partners, which can be implemented by making certain customizations for meeting needs of the purchasing organization.</i></p>	<p>material or similar proofs) along with contact details of the client;</p> <p>c) Any other documentation for implementation performance/operation</p>
A2.	<p>Proposed COTS based Billing solution should have been successfully implemented by at least 2 (two) authorized implementation partners, excluding the OEM in any Indian/ Global Utilities (power/ water/ natural gas/ telecom) during the last 10 (ten) financial years and must be in operation for at least 1 year as on date of bid submission.</p>	<p>a) OEM shall provide the relevant supporting document mentioning details of authorized implementation partner and the implementation experience, as applicable, on its letter head duly signed and stamp by authorized signatory of OEM</p>
B. Cloud Service Provider (CSP)		
B1.	<p>Certification:</p> <p>The proposed CSP should possess all the below certifications which are valid as on bid submission date –</p> <ul style="list-style-type: none"> a) ISO 27001:2013 certification b) ISO/IEC 27017:2015 c) ISO 27018 d) ISO 20000 - 1:2011 e) Undertaking/ certificate for maintaining conformance to MEITY (Ministry of Electronics & IT), GOI India guidelines for Cloud Services in Govt. Organizations. f) PCI DSS g) SOC 1 and SOC 2 compliant 	<p>Copies of valid certificates as on bid submission date from the OEM/ OEM Service partner.</p> <p><i>In case of NDA or Security restrictions in sharing relevant security certifications, the OEM shall submit self-certification and will be liable for authenticity of the same.</i></p>
B2.	<p>CSP must have at least one (1) operational Data Centre and at least one (1) Disaster</p>	<p>Self-certificate from the CSP mentioning the location details</p>

S. No.	Requirements	Supporting Documents
	Recovery Centre Facilities in India having DR located at different availability zone from the DC, at time of submission of the bid.	signed by authorized signatory of the CSP for this bid.

2.3 For the purposes of satisfaction of Technical Requirement, the following shall apply:

- a) Eligible Projects, as referred in Technical Requirement, shall mean any Turnkey IT System Integration (TSI) project including supply of Hardware/cloud services, Software/ licenses along with installation, configuration, customization, implementation/ Go-Live along with providing FMS / AMC services / System Operation services
- b) For the purpose of clause 2.1(1) above, the Eligible Project(s) in the:
 - i. Power sector shall mean projects relating to generation or transmission or distribution of electricity;
 - ii. Water sector shall mean projects relating to water treatment including desalination or water supply (rural or urban) or wastewater / sewerage or drainage or water pipelines;
 - iii. Natural gas sector shall mean projects relating to natural gas transmission or distribution; and
 - iv. Telecom sector shall mean projects relating to infrastructure cabling or communication systems for setting up Wide Area Network (WAN) or Local Area Network (LAN) or Internet Services or VOIP solutions, etc.
 - v. Banking sector shall mean projects relating to financial services in licensed commercial and non-commercial banks

2.4 For the purposes of satisfaction of Financial Requirement, the following shall apply:

- a) In the event the Bidder is a Consortium:
 - i. The financial requirement as given at Clause 2.1 (6) & 2.1 (7) shall be met cumulatively by the members of the Bidding Consortium
 - ii. The Lead Consortium Member shall not meet less than 51% of the minimum financial requirement criteria as given at Clause 2.1 (6) & 2.1 (7) above.

Section – 3: Instructions to Bidders and Bid Data Sheet

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Instructions to Bidder

A. General Provisions

<p>1. Definitions</p>	<p>1.1 Definitions</p> <p>(a) “Affiliate” shall mean a company that either directly or indirectly: controls or is controlled by or is under common control with a Bidder and “control” mean either ownership by one company of 26% of the voting rights of the other company, as the case may be</p> <p>(b) “Billing System SI Contract” or “Contract” shall mean the Contract to be entered into between the Selected Bidder and the Utility, for undertaking the Project;</p> <p>(c) “Bid” shall mean the bid submitted by a Bidder(s) in response to this RFP and shall include the Technical Bid and the Financial Bid;</p> <p>(d) “Bidder(s)” shall mean individual entity or Consortium of entities bidding in response to this RFP. The Bidder shall be a company incorporated under the applicable laws of their relevant jurisdiction;</p> <p>(e) “Bidding Consortium” shall mean the Consortium of entities bidding for Project after executing Consortium Agreement as per the terms and conditions of this RFP;</p> <p>(f) “Bid Data Sheet (BDS)” means an integral part of the Instructions to Bidders (ITB) Section 3, that is used to reflect issues, details and conditions specific to the procurement, to supplement and/or modify the provisions of ITB.</p> <p>(g) “Bid Submission Deadline” shall have the meaning as ascribed thereto in ITB 17.5;</p> <p>(h) “Conflict of Interest” shall have the meaning as ascribed thereto in ITB 3;</p> <p>(i) “Contractor” shall mean the same as “SI”;</p> <p>(j) “Contract Price” shall have the meaning as ascribed thereto in Section 7;</p> <p>(k) “Day” means a calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of Utility. It excludes Utility’s official public holidays.</p>
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	<p>(l) “Consortium Member” shall mean any Member of the Bidding Consortium other than the Lead Consortium Member;</p> <p>(m) “Financial Bid” shall have the meaning as ascribed thereto in ITB 16;</p> <p>(n) “Financially Evaluated Entity” shall mean the company which has been evaluated for the satisfaction of the financial requirement set forth in Clause 2 of Section 2;</p> <p>(o) “Financial Proposal” shall mean the same as Financial Bid;</p> <p>(p) “Financial Year” or “FY” shall mean the period starting from 1st April of a calendar year to 31st March of the consecutive calendar year;</p> <p>(q) “Foreign Jurisdiction” means a country, other than India, whose securities market regulator is a signatory to International Organization of Securities Commission’s Multilateral Memorandum of Understanding (IOSCO’s MMOU) or a signatory to bilateral Memorandum of Understanding with the Securities and Exchange Board of India, and which is not identified in the public statement of Financial Action Task Force as a jurisdiction having a strategic Anti-Money Laundering or Combating the Financing of Terrorism deficiencies to which counter measures apply or a jurisdiction that has not made sufficient progress in addressing the deficiencies or has not committed to an action plan developed with the Financial Action Task Force to address the deficiencies and are allowed to make investment India in terms of applicable law;</p> <p>(r) “ITB” (this Section 3 of the RFP) means the Instructions to Bidders that, along with other Sections, provides the Bidders with all information needed to prepare their Proposals.</p> <p>(s) “Lead Consortium Member” or “Lead Bidder” shall mean the Member of the Bidding Consortium, designated as such by the other members of the Consortium, having authority to represent all the members before the Utility;</p> <p>(t) “Month” shall mean calendar months unless otherwise specified.</p> <p>(u) “Parent(s)” shall mean an entity that is a Company that holds at least twenty six percent (26%) of the paid - up equity capital directly or indirectly in the Bidder, as the case may be;</p> <p>(v) “Project” shall mean the Utility’s SI Project defined in Clause 1 of Section 6 of the RFP Document;</p> <p>(w) “Proposal” shall mean the same as Bid and shall include the Technical Proposal and the Financial Proposal;</p>
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	<p>(x) “Request for Proposal” or “RFP” means this Tender of which the number, name and details have been mentioned in Bid Data Sheet, including all its Volumes/ Sections/ Forms/ Annexures/ Appendices etc., for Appointment of SI (including all clarification/ addendum/ amendment/ corrigendum/ etc. issued from time to time);</p> <p>(y) “RFP Document” shall have the same meaning as ascribed thereto in ITB 2.1 and ITB 2.1.1</p> <p>(z) “Service(s)” or “Related Service(s)” shall mean any Service(s) performed or to be performed as a part of the Project by the SI;</p> <p>(aa) “Sub-Contractor” shall mean any person, natural or legal, including manufacturers, to whom execution of any part of the SI Contract, including preparation of any design or supply of the SI Project, is sub-contracted directly or indirectly by the Contractor, and includes its legal successors or permitted assigns;</p> <p>(bb) “Technical Bid” shall have the meaning as ascribed thereto in ITB 15;</p> <p>(cc) “Technical Proposal” shall mean the same as Technical Bid;</p> <p>(dd) “Technically Evaluated Entity” shall mean the company which has been evaluated for the satisfaction of the technical requirement set forth in Clause 8 of Section 2;</p> <p>(ee) “Tender” shall mean the same as “RFP”;</p> <p>(ff) “Tender Fee” shall mean the fees submitted with the RFP;</p> <p>(gg) “Utility” means the entity, named, and as briefly described in Bid Data Sheet, that has issued the Request for Bids for Appointment of System Integrator (SI) for implementation of Utility Billing System under SaaS model as per the RFP Document.</p> <p>(hh) “Ultimate Parent Company” shall mean an entity which owns at least twenty six percent (26%) equity in the Bidder or Member of a Consortium (as the case may be) and in the Technically Evaluated Entity and/or Financially Evaluated Entity (as the case may be) and such Sole Bidder or member of a Consortium (as the case may be) and the Technically Evaluated Entity and/or Financially Evaluated Entity (as the case may be) shall be under the direct control or indirectly under the common control of such entity.</p> <p>(ii) “Commercial Off-the-Shelf (COTS)” product is a packaged, ready-made software solution, available for sale, lease or licensing to companies, by the OEM directly or through authorized implementation partners, which can be implemented</p>
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<p>3. Conflict of Interest</p>	<p>3.1 A Bidder shall not have a conflict of interest that affects the Bidding process (the “Conflict of Interest”). In the event a Bidder is found to have a Conflict of Interest, the Utility may choose to reject the Bid, terminate the SI Contract (in the event it has been awarded) as per termination clause in the SI Contract. Any Bidder found to have a Conflict of Interest shall be disqualified.</p> <p>3.2 A Bidder shall be deemed to have a Conflict of Interest affecting the bidding process, if:</p> <p>(a) the Bidder or its Member (or any constituent thereof) and any other Bidder or its Member (or any constituent thereof) have common controlling shareholders or other ownership interest;</p> <p>Provided that this disqualification shall not apply in cases where the direct or indirect shareholding of a Bidder or its Member (or any shareholder thereof having a shareholding of more than 15% (fifteen per cent) of the paid up and subscribed share capital of such Bidder or its Member, as the case may be) in the other Bidder or its Member, is less than 15% (fifteen per cent) of the subscribed and paid-up equity share capital thereof;</p> <p>Provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in sub-section (72) of section 2 of the Companies Act, 2013.</p> <p>For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows: (i) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the “Subject Person”) shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and (ii) subject always to sub-clause (a) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under sub-clause (ii) if the shareholding of such person in the intermediary is less than 26% of the subscribed and paid up equity shareholding of such intermediary; or</p> <p>(b) a constituent of such Bidder is also a constituent of another Bidder; or</p>
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	<p>(c) such Bidder or its Member thereof receives or has received any direct or indirect subsidy, grant, concessional loan or subordinated debt from any other Bidder or its Member, has provided any such subsidy, grant, concessional loan or subordinated debt to any other Bidder or its Member; or</p> <p>(d) such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or</p> <p>(e) such Bidder, has a relationship with another Bidder, directly or through common third party/ parties, that puts either or both of them in a position to have access to each other's information about, or to influence the Bid of either or each other; or</p> <p>(f) such Bidder has participated as a consultant to the Authority in the preparation of any documents, design, or technical specifications of the Project.</p> <p><i>Explanation: In case a Bidder is a Consortium, then the term Bidder as used in this Clause shall include each Member of such Consortium.</i></p>
<p>4. Bidders to Inform Itself Fully</p>	<p>4.1 The Bidder shall make independent enquiry and satisfy itself with respect to all the required information, inputs, conditions (including site conditions) and circumstances and factors that may have any effect on its Bid. Once the Bidder has submitted the Bid, the Bidder shall be deemed to have examined the laws and regulations in force and fixed its price taking into account all such relevant conditions and also the risks, contingencies and other circumstances which may influence or affect the Services performed within the scope of work, as provided in this RFP. Accordingly, the Bidder acknowledges that, on being selected, it shall not be relieved from any of its obligations under the RFP Documents nor shall be entitled to any extension of time for commencement of Services or financial compensation for any reasons whatsoever attributable to SI.</p> <p>4.2 The Bidders should particularly acquaint themselves with the technical requirements of Utility's systems, operations, assets, equipment, statutory codes, and standards.</p> <p>4.3 The Bidder shall familiarize itself with the procedures and time frames required to obtain all consents, clearances and permits required for implementation of the Project</p>
<p>5. Fraud and Corruption</p>	<p>5.1 Utility requires compliance with the Anti-Corruption Guidelines/ Laws in force of the relevant Government/ its instrumentalities/ Utility.</p>

<p>6. Eligibility and Qualification Requirements</p>	<p>6.1 The eligibility and qualification requirements for submission of Proposals against the RFP are given in Section 2. Proposals, if any, from Bidders not complying with the same shall be outrightly rejected and shall not be considered for evaluation.</p>
<p>B. Preparation of Proposals</p>	
<p>7. General Considerations and Instructions</p>	<p>7.1 In preparing the Proposal, the Bidder is expected to examine the RFP Document in detail. Material deficiencies in providing the information or documentation requested in the RFP Document may result in rejection of the Proposal.</p> <p>7.2 All Bidders shall comply with the dates and amounts indicated in Section 1 of this RFP.</p> <p>7.3 The Bidders shall comply with and agree to all the provisions of this RFP for various bidding considerations including but not limited to eligibility, costs, payments, information regarding Utility’s systems, bid formats, Bid submission and other considerations.</p> <p>7.4 The Bidders shall be evaluated based on the requirements, criteria, norms, and procedures laid out or included by reference, in this Section 3 of the RFP Document.</p> <p>7.5 The Bidders shall be required to undertake the scope of work for the Project indicated in Section 6 of the RFP Document.</p> <p>7.6 The Bidders must conform to the requirements and provide a list of equipment (including any special equipment) necessary to meet the technical specifications, functional & performance requirements as specified in the Section 6 of RFP Document as per the format provided in Form 14 in Section 4. The equipment supplied shall conform to all the requirements under all applicable laws including any order issued by the central government including Order No No.9/16/2016-Trans-Part (2) dated 18 November 2020, Order No. F/No.6/18/2019-PPD by Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23 July 2020, latest Government of India Guidelines for Make in India, Domestically manufactured products, Atmanirbhar Bharat and circulars DIPP Office Memorandum No. P-45021/2/2017-PP (BE-II) date:16th Sept. 2020, MeitY Circular No.1(10)/2017-CLES dated 06.12.2019 and Order No. 11/05/2018-Coord. by the Ministry of Power dated 17 September 2020, FDI Policy including any amendments or modifications to the same from time to time.</p> <p>7.7 Bidder shall submit ‘Clause by Clause’ compliance to the RFP document including the SI Contract and the technical specifications and functional requirements (with amendments, if any) as per the format prescribed in Form 15 given in Section 4.</p>

	<p>7.8 Bidder’s Proposal shall include sufficient information and supporting documentation in order to determine compliance without further necessity for inquiries.</p> <p>7.9 The Bidder’s Proposal shall clearly identify all features described in the specifications along with any supporting reference material in accordance with ITB 15.13 as per the format prescribed in Form 3 given in Section 4.</p> <p>7.10 An analysis of the technical specifications, functional and performance requirements of the Billing system as provided in Section 6 may lead the Bidders to conclude that additional items are required that are not specifically mentioned in this specification. The Bidders shall be responsible for installing such items (at no additional cost to the Utility) such that a reliable and fully functional Billing system is implemented that meets or exceed the capacity and performance requirements. Such materials shall be deemed to be within the scope of the SI Contract. To the extent possible, the Bidder shall identify and include all such additional items in their proposal.</p> <p>7.11 The Bidders are advised to visit sites (at their own expense), prior to the submission of the proposal, and make surveys and assessments as deemed necessary for proposal submission.</p> <p>7.12 Failure by Utility to require information from a Bidder that has not been properly provided shall not be construed as waiver on the part of Utility of the obligation of the Bidder to furnish the said data / information unless the waiver is in writing.</p> <p>7.13 Bid submitted by the Bidders before the Bid Submission Deadline, shall become the property of the Utility and shall not be returned to the Bidders.</p> <p>7.14 The cost of all stamp duties payable for executing the RFP, Bid Documents or Project shall be borne by the Bidders.</p> <p>7.15 No interest shall be paid to the Bidder on any amount submitted to Utility, whether to be returned or not.</p>
<p>8. Cost of Bidding / Preparation of Proposal</p>	<p>8.1 The Bidder shall bear all costs associated with the preparation and submission of its Proposal, including post-bid discussions, technical and other presentations etc., and Utility shall not be responsible or liable for those costs, regardless of the conduct or outcome of the selection process. Utility is not bound to accept any proposal and reserves the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability to the Bidder.</p>
<p>9. Language</p>	<p>9.1 Bid/Proposal prepared by the Bidders and all correspondence and documents relating to the Bid exchanged by the Bidder and Utility and its associates shall be written in the English language.</p>

<p>10. Documents Comprising the Proposal and List of Forms</p>	<p>10.1 The Proposal shall comprise the documents and forms mentioned in this Section in general and listed in Section 4 and Section 5 in particular. A Document Checklist for the same as well as the list of forms referred to in this RFP Document is provided in BDS.</p>
<p>11. Only One Proposal</p>	<p>11.1 A Bidder shall submit only one Bid in the same bidding process, either individually as a Sole Bidder or as a Lead Member of a Bidding Consortium. Any member of the bidding consortium, including its Parent(s) and/or Affiliate(s), whose technical and financial capabilities are showcased for meeting the criteria as mentioned in Clause 2.1 of Section 2, shall not separately participate directly or indirectly in another bid in the same bidding process for meeting the criteria as mentioned in Clause 2.1 of section 2.</p>
<p>12. Proposal / Bid Validity & Bid Security</p>	<p>12.1 The Bid/ Proposal submitted by the Bidder(s) shall be valid for a period of specified in BDS reckoned from the Bid Submission Deadline specified in ITB 17 as may be extended from time to time.</p> <p>12.1.1 All such offers, and terms and conditions set forth in this RFP shall be valid for the SI till the successful completion of the Project.</p> <p>12.1.2 In exceptional circumstance, Utility may solicit the Bidder's consent to an extension of the Bid validity period. The request and responses thereto shall be made in writing or by email. If a Bidder accepts to extend the validity, the Bid Security shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request will not be required or permitted to modify its Bid.</p> <p>12.2 The Bidder shall furnish as part of its Technical Bid, a Bid security in original form, and in the amount specified in the BDS.</p> <p>12.3 Pursuant to ITB 12.2, the Bid Security shall be a demand guarantee, and in any of the following forms, at the Bidder's option:</p> <p>(a) an unconditional bank guarantee issued by any of the banks mentioned in BDS;</p> <p>(b) Bid Security in other forms, if specified in the BDS.</p> <p>In the case of a bank guarantee, the Bank Guarantee for Bid Security shall be provided by the Lead Consortium Member/ Sole Bidder in the format prescribed in Form 6 included in Section 4, Bidding Forms - Technical Proposal. The bid security shall be valid for 90 (ninety) Days beyond the end of validity period of the Bid specified in ITB 12.1. This shall also apply if the period of the Bid validity is extended.</p>

	<p>12.4 Any Bid not accompanied by a substantially responsive Bid Security a specified, shall be rejected by the Utility as non-responsive.</p> <p>12.5 If the Bid Security from any Bidder is forfeited or lapsed either partly or wholly during the Bid process, then such Bidders and Consortium are liable for rejection.</p> <p>12.6 Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful bidder's signing the contract and furnishing the Performance Security pursuant to ITB 29.</p> <p>12.7 The Bid Security of the Selected Bidder shall be returned as promptly as possible once the SI has signed the Contract with the Utility and furnished the required Performance Security.</p> <p>12.8 The Bid Security may be forfeited if</p> <p>12.8.1 The Bidder withdraws/ modifies/ substitutes its Bid during the period of Bid validity as specified in ITB 12.1 or any extension thereto provided by the Bidder;</p> <p>12.8.2 Bid is rejected for existence of conflict of interest, or more than one bid being submitted by a Bidder</p> <p>12.8.3 Bid submitted by a Consortium is not accompanied by Consortium Agreement in the form provided in this RFP.</p> <p>12.8.4 The Selected Bidder:</p> <p>12.8.4.1 Fails to sign the SI Contract; or</p> <p>12.8.4.2 Fails to furnish a Performance Security in accordance with ITB 29; or is found to have submitted false particulars/ fake documents; or</p> <p>12.8.4.3 refuses to execute the work at its agreed scope/quoted rates, after Utility issues the Letter of Award</p> <p>12.8.4.4 is involved in incidents of manipulation of rates either by cartelization or otherwise.</p>
<p>a. Extension of Proposal Validity</p>	<p>12.9 Utility will make its best effort to complete the bidding process and award the contract prior to the date of expiry of the Bid/ Proposal validity. However, should the need arise, Utility may request, in writing, all Bidders who submitted Bids/Proposals prior to the Bid Submission Deadline to extend the Proposals' validity.</p> <p>12.10 If the Bidder agrees to extend the validity of its Proposal, it shall be done without any change in the original Proposal.</p> <p>12.11 The Bidder has the right to refuse to extend the validity of its Proposal in which case such Proposal will not be further evaluated.</p>

<p>13 Clarification and Amendment of RFP</p>	<p>13.1 Bidders may seek clarifications on this RFP in writing, through a letter, fax or email to reach Utility no later than the period specified in BDS.</p> <p>13.2 Utility may issue clarification only, at its sole discretion, which is considered reasonable by it.</p> <p>13.3 Any such clarifications issued shall be sent to all the Bidders to whom the RFP has been issued. Any such clarification shall also be hosted on the website of the Utility and transmitted through the e-Procurement System mentioned in ITB 2.1.</p> <p>13.4 Utility is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.</p> <p>13.5 For the avoidance of any doubt, it is hereby clarified that the Utility is not obliged to extend the Bid Submission Deadline on account of clarifications sought in accordance to ITB 13.4.</p> <p>13.6 During the bidding process, Utility, for any reason may modify the RFP, including the timelines, by issuance of addendum / modification / errata and / or a revised document.</p> <p>13.7 Revisions or amendments in the bidding guidelines may cause Utility to modify amend or supplement the RFP to be in conformance with any applicable Law. Such document shall be notified in writing through the e-Procurement System mentioned in ITB 2.1, or letter or fax or e-mail to all the entities who have downloaded the RFP, and the same shall be binding on them.</p> <p>13.8 Utility shall not be responsible for any delay in receipt of the addendum/ modification/ errata and/ or revised document and receipt of the same by the Bidders shall be presumed by Utility upon taking all reasonable steps to notify the Bidders. Late receipt of any addendum/ modification/ errata and/ or revised document will not relieve the Bidder from being bound by that modification or the Bid Submission Deadline. All such amendments/modifications shall be issued at least 7(seven) working days prior to the Bid Submission Deadline.</p> <p>13.9 In order to provide reasonable time to the Bidders to take the modification into account in preparing their Bid, or for any other reasons, Utility may, at its discretion, extend the deadline/ timeline for Bid submission.</p>
<p>14 Preparation of Bid/ Proposal and Bid Formats</p>	<p>14.1 The Bidder shall prepare its Bid and furnish required information and documents as per the guidelines, formats, forms, schedules, fees, and other specification in this Section, as well as the RFP Document in general.</p> <p>14.2 Strict adherence to the formats/ forms, wherever specified, is required. Wherever information has been sought in specified formats, the Bidder shall refrain from referring to brochures or pamphlets. Non-adherence to formats and/ or submission of incomplete</p>

	information may be a ground for declaring the Bid as non-responsive. Each format must be duly signed and stamped by the authorized signatory of the Bidder.
15 Technical Bid/ Proposal Format and Content	<p>15.1 The Technical Bid/Proposal shall be prepared using the Forms provided in Section 4 of the RFP and shall comprise the information, details and documents listed in subsequent clauses herein The Technical Bid/ Proposal shall not include any financial information. A Technical Proposal containing material financial information shall be declared non-responsive.</p> <p>15.2 The Technical Bid shall contain the list of all Consortium Members and Sub-contractor(s) (if applicable) participating in the Bid as per the format prescribed in Form 1 given in Section 4. Furthermore, the Technical Bid shall contain a covering letter by the Lead Consortium Member/ Sole Bidder duly designated and signed by all Members of that Bidding Consortium as per the format prescribed in Form 7 given in Section 4.</p> <p>15.3 The Technical Bid shall contain a legally enforceable Consortium Agreement (in the case Bidder is a Consortium) entered amongst all Members of that Bidding Consortium, designating one of the Members to be the Lead Consortium as per the format prescribed in Form 8 given in Section 4. In the absence of a duly executed Consortium Agreement, the Bid shall not be considered for evaluation and will be rejected.</p> <p>15.4 The Technical Bid shall contain Power of Attorney from each Consortium member in favour of the lead consortium member of the Bidder as per the format prescribed in Form 9 given in Section. All submissions and representations by the Lead Member shall be deemed to be on-behalf of the entire consortium and shall be binding all the members of the Consortium.</p> <p>15.5 In case the Sole Bidder or any Consortium Member is a foreign entity, then it may submit a Board resolution/ Power of Attorney/ authorization, which should satisfactorily and unambiguously encompass all the terms and conditions of the Power of Attorney prescribed in Form 9 given in Section 4. In the event of Award of Contract, such foreign entity(ies) shall be required to have a registered office (under the Companies Act 1956/ 2013 with Registrar of Companies) in India.</p> <p>15.5.1 Provided further that such Board resolutions/Power of Attorney/authorization, as specified above, in case of a foreign entity, shall be supported by an unqualified opinion issued by the legal counsel of such foreign entity, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid. In the case of a foreign entity, in the event, any and/or all of the documents/resolutions are in any other language other than</p>

	<p>English, then a duly notarized copy of such translation shall also be required to be submitted.</p>
15.6	<p>The Lead Consortium Member/ Sole Bidder shall designate one person to represent the Bidding Consortium/ Bidder in its dealings with Utility. The person designated by the Bidder (registered Company) shall be authorized through a Power of Attorney as per Form 10 given in Section 4 to perform all tasks including, but not limited to, providing information, responding to inquiries, etc. and attach the same in the Technical Bid.</p>
15.7	<p>The Technical Bid shall contain signed Letter of Consent as per Form 11 given in Section 4 from each Consortium Member that the Bid has been reviewed and each element of the Bid is agreed to by them including but not limited to any commitment in the Project.</p>
15.8	<p>The Technical Bid shall contain the Tender Fees and the Bid Security as per the format prescribed in Form 6 given in Section 4.</p>
15.9	<p>The Technical Bid shall contain all documents required to prove/substantiate the Eligibility and Qualification Requirements of the Bidders or the Bidding Consortium specified in ITB 6.1 and Section 2 (as per the format prescribed in Form 2 given in Section 4):</p> <ol style="list-style-type: none"> a) Company profile document with evidence of fields of competence for each Consortium Member b) Attested copy of Certificate of Registration/ Incorporation issued by the Registrar of Companies for each Consortium Member c) Certificate of Commencement of Business issued by the Registrar of Companies for the Lead Consortium Member/ Sole Bidder clearly indicating the number of years of operation.
15.9	<p>The Bidder shall submit a preliminary Project implementation plan along with the Bid which shall include at least the following activities (as per the format prescribed in Form 3 given in Section 4).</p>
15.10	<p>In case of Award of the SI Contract, the detailed Project implementation plan, submitted as part of the Technical Bid, shall be revised and submitted by the SI, in consultation with the Utility, to ensure smooth takeover of existing Utility systems and any ongoing Services under the scope of the SI Project.</p>
15.11	<p>The Technical Bid of the Bidder shall contain the indicative List of Material and Services in the format prescribed in Form 14 as given in Section 4 without any mention of costs/ prices.</p>

	<p>15.12 The List of Material and Services shall be accompanied by the detailed specifications of the supply in the Technical Bid demonstrating responsiveness of the quoted Solution. The Bidder shall also indicate the country of origin of each equipment in Form 14 as given in Section 4. For supply of equipment / material from the country of origin other than India, the bidder shall submit performance certificate in support of satisfactory operation in India or a country other than the country of origin having climatic and operational conditions including ambient temperature similar to that of India for more than number of years, indicated in BDS in accordance with Order No. 11/05/2018-Coord. dated 17 September 2020 issued by the Ministry of Power including any amendments or modifications to the same from time to time.</p> <p>15.13 The Technical Bid of the Bidder shall contain the names and details of the suitably qualified Bidder's representative and Key Personnel to perform the SI Contract as per the format provided in Form 4 given in Section 4. The data on their experience should be supplied using the Form 5 given in Section 4 for each candidate proposed.</p> <p>15.14 Any removal/ change/ replacement of Key Personnel (as provided in Form 4 and 5 given in Section 4) shall be notified to Utility within 7 (seven) working days along with the Curriculum Vitae (CV) of the personnel replacing the previous personnel. The personnel replacing the previous key personnel shall have equivalent or better educational qualification and relevant professional experience</p> <p>Note: Submission of the Technical Proposal in a materially wrong format may lead to the Proposal being deemed non-responsive to the RFP requirements.</p>
<p>16 Financial Bid/ Proposal Format and Content</p>	<p>16.1 The Financial Proposal shall be prepared using the Forms provided in Section 5 of the RFP and shall comprise the information, details and documents listed in subsequent clauses herein.</p> <p>16.2 The Financial Bid shall only be submitted electronically as per the format prescribed in Form 1 given in Section 5. No hard copy of the Financial Bid shall be submitted.</p> <p>16.3 The Financial Bid shall be quoted on a per consumer basis, which is inclusive of cost of providing all the services as defined in the RFP, including but not limited to provisioning the cloud infrastructure (DC-DR), Billing system modules, and all related software, middleware, database, tools, network bandwidth, and</p>

	<p>cost of design, development, testing, commissioning, migration, integration, operations & maintenance (FMS), scheduled upgrades and manpower. Price quoted should clearly mention the basic cost/ unit price including any other taxes/ duties/ levies and any other taxes/ duties/ levies, Goods and Service Tax (GST). The Financial Bid will be evaluated basis the total cost of the Project as quoted by the Bidder(s) for the Contract Period in Form 1 given in Section 5.</p>
16.4	<p>The Bidder shall quote the Rate per use of Billing system for each consumer for the Contract Period on INR per consumer per month basis in line with the payment schedule as provided in the SI Contract. The Financial Bid shall be quoted in both ‘numbers’ and ‘words’. In case of any discrepancy between the quoted Financial Bid in ‘numbers’ and ‘words’, the quoted Financial Bid in ‘words’ will prevail over the quoted Financial Bid in ‘numbers’.</p>
16.5	<p>Unit prices (exclusive of all taxes/ duties/ levies/ cess etc.) (as provided in Form 1 given in Section 5) quoted by the Bidder shall be firm and final and shall remain constant throughout the Contract Period and shall not be subject to any modifications.</p>
16.6	<p>Any items or prices omitted by the Bidder, if incurred at a later stage by the Bidder, within the scope of work as provided in the SI Contract, shall be borne by the Bidder with no financial liability on Utility.</p>
16.7	<p>Any scope of work required for expansions during the Contract Period shall be supplied by the SI keeping the specifications and unit price same as per the List of Material and Services (as provided in Form 14 given in Section 4) and Financial Bid (as provided in Form 1 given in Section 5), respectively.</p>
16.8	<p>All prices in the Financial Bid shall be quoted in Indian Rupees. The Bidder shall bear the risk related to foreign exchange variations during the Contract Period. The variation in the statutory taxes will be in accordance with the SI Contract.</p>
16.9	<p>Alternative Bids with any financial implications shall be rejected.</p>

C. Submission, Opening and Evaluation

<p>17 Submission of Bids/ Proposals and Bid Submission Deadline</p>	<p>17.1 Both Technical Bid and Financial Bid shall be digitally signed and submitted electronically using the e-Procurement system indicated in ITB 2.2 on or before the Bid Submission Deadline following the instructions therein. All the documents shall be scanned and uploaded however, where the data is required to be entered manually, the same shall be entered accordingly by the Bidder.</p>
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<p>(a) Submission of Bids/ Proposals</p>	<p>17.2 Requisite Tender Fee and Bid Security in the specified form/ instrument shall be submitted in original so as reach before the Bid Submission Deadline, failing which the Bid shall be deemed non-responsive.</p> <p>17.3 In addition to the electronic submission and submission of Tender Fee and Bid Security in the specified form/ instrument in original as per ITB 17.2, if so specified in BDS, the Bidder shall also provide certain document in original/ hard copy/(ies) of the original/ revised (if any) in a sealed envelope before the Bid Submission Deadline.</p> <p>17.4 The hard copies to be submitted as per ITB 17.3 shall be in original and/ or attested as may be specified in BDS.</p> <p>17.5 The hard copy of the document as per ITB 17.3 and ITB 17.4 above shall be sent in a sealed envelope to Utility via Registered Post with Acknowledgement Due (RPAD), speed post or courier in the manner specified in ITB, which should reach Utility before the Bid Submission Deadline.</p> <p>17.6 The sealed envelope shall be clearly marked on the top with details mentioned in BDS. The sealed envelope shall be addressed to the Utility as specified in BDS. The sealed envelope shall also clearly mention the name of the Lead Consortium Member/ Sole Bidder submitting the Bid.</p> <p>17.7 The sealed envelope shall not contain the Financial Bid. The Financial Bid shall only be submitted electronically.</p> <p>17.8 In case of discrepancy between the electronically submitted documents and the physically submitted documents in the sealed envelope, the electronically submitted documents and the information contained therein shall prevail and be treated as the final submission.</p> <p>17.9 Insufficiency of the electronically submitted Bid shall not be compensated by any information, documentation or material provided additionally in the physically submitted documents in the sealed envelope.</p>
<p>(b) Bid Submission Deadline</p>	<p>17.10 All Bids shall be electronically submitted and physically received, as may be specified in this Section, by Utility no later than the Bid Submission Deadline indicated in BDS as may be extended from time to time by the Utility.</p> <p>17.11 Bidders may prepare, edit, substitute or withdraw their offers any number of times online before the Bid Submission Deadline as may be permitted by the e-Procurement system. After the Bid Submission Deadline, the Bidder shall not, or attempt to, change or withdraw the Bid under any circumstances. No written or online request in this regard shall be entertained.</p>

	<p>17.12 Any Bid received by Utility, either electronically or physically, after the Bid Submission Deadline prescribed by Utility will not be uploaded and accordingly be rejected. In case of hard copy submissions, late Bids shall be returned unopened to the Bidder.</p> <p>17.13 Utility may, at its discretion, extend this Bid Submission Deadline by amending the RFP at any time prior to opening of the Bids, in which case all rights and obligations of Utility and the Bidders shall thereafter be subject to the deadline as extended.</p> <p>17.14 Any Proposal or its modification received by Utility after the deadline through any means or medium, whatsoever, shall be declared late and rejected, and promptly returned unopened.</p>
<p>18 Confidentiality</p>	<p>18.1 Information relating to the examination, evaluation, comparison, and recommendation of SI Contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process.</p> <p>18.2 Any attempt by a Bidder to influence Utility in the examination, evaluation, comparison, and post qualification of the Bids or SI Contract award decisions may result in the rejection of its Bid.</p> <p>18.3 If any Bidder, from the time of opening the Technical Bids to the time of SI Contract award, wishes to contact Utility on any matter related to the bidding process, it should do so in writing.</p>
<p>19 Opening of Technical Bids/ Proposals</p>	<p>19.1 The Technical Bids shall be opened at the date and time, and the address indicated BDS. In case hard copy submission of Technical Bid or certain document is requested by the Utility as per ITB 17 the physically submitted Technical Bids/ documents in the sealed envelope shall be opened simultaneously to check inter alia requisite submissions and for the Tender Fees and the Bid Security.</p> <p>19.2 The Bids shall be deemed to be under consideration immediately after they are opened and confirmation or receipt of the Tender Fee and Bid Security, and until an official intimation of award or rejection is made by Utility to the Bidders.</p> <p>19.3 Utility shall then separately evaluate the Bids with respect to the Eligibility and Qualification Requirements, sufficiency of the submission, conformation/ compliance/ responsiveness to all the mandatory requirements, terms, conditions, and specifications of the RFP Document without any deviation, reservation, or omission, and other parameters outlined in this RFP.</p> <p>19.4 The Financial Proposal shall remain unopened in the e-Procurement/ e-Tendering system securely, until they are opened in accordance with ITB 22.</p> <p>19.5 At the opening of the Technical Proposals the following shall be read out: (i) the name of the Bidder; (ii) any modifications to the Proposal submitted through the e-Procurement/ e-Tendering system prior to proposal submission deadline; and (iii) any other information deemed appropriate.</p>

<p>20 Bid/ Proposals Evaluation Overview and Verification/ Clarifications</p>	<p>20.1 The bidding process is designed to select the SI through a series of assessment of: (i) conformation/ compliance to all the mandatory requirements under applicable laws and this tender, terms, conditions, and specifications of the RFP Document without any material deviation, reservation, or omission; (ii) meeting the minimum technical score in Technical Bid evaluation and (iii) the financial amounts quoted by the Bidder. The Bid submitted by the Bidder shall consist of a Technical Bid and a Financial Bid.</p> <p>First Stage-Fulfillment of Eligibility and Qualification requirements, determination of substantial responsiveness to the RFP Documents: The Technical Bids shall be opened by Utility and be checked to determine:</p> <ul style="list-style-type: none"> (i) whether the Bidders comply with the Eligibility Requirements, have offered eligible SI Services in their Bids, as specified in ITB 6.1 and Section 2 (ii) whether the Bidders meet the Qualification Requirement specified in ITB 6.2 and Section 2 (iii) whether the Bids are substantially responsive to the RFP document including the requirements specified in Section 6 basis ‘Clause by Clause’ compliance to the RFP Document including the technical specifications and functional requirements (with amendments, if any) as per the format prescribed in Form 15 given in Section 4 <p>Second Stage – Technical Evaluation of the Bid: The Bids which are found to be responsive shall be evaluated as per criteria specified in Bid Data Sheet</p> <p>Third Stage-Opening of Financial Bid: Financial Bids of all technically qualified Bidders would be opened, basis which the award of SI Contract shall be determined.</p> <p>Fourth Stage-Award of Project: The “Successful Bidder” as defined in ITB 25 shall be awarded the SI Contract.</p> <p>20.2 The Bidder is not permitted to alter or modify its Bid/ Proposal in any way after the Bid Submission Deadline.</p> <p>20.3 Utility’s determination of the responsiveness of a Bid/ Proposal is to be based on the contents of the Proposal itself including any response to clarifications sought by Utility which does not alter the substance of the Proposal or the price.</p> <p>20.4 A substantially responsive Bid/ Proposal is one that conforms to all the mandatory requirements, terms, conditions, and specifications of the RFP Document without any material deviation, reservation, or omission, as defined in ITB 24.</p>
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	<p>20.5 The Contract, if awarded, shall be executed in accordance with RFP document and any other conditions.</p> <p>20.6 Notwithstanding anything stated in the RFP Document, Utility reserves the right to verify the authenticity of the documents submitted for meeting the eligibility, qualification and/or other specified requirements and may request for clarifications any additional information/ documents from the Bidder. However, the Bidder shall not be permitted to alter the substance of the Proposal or the price under any circumstances whatsoever</p> <p>20.7 Utility reserves the right at its sole discretion to contact the Bidder's bank, lenders, financing institutions and any other persons as necessary to verify the Bidder's information/documents for the purpose of eligibility, qualification and/ or other specified requirements.</p> <p>20.8 Utility may verify the Bidder's technical and financial data by checking with the Bidder's clients/ lenders/ bankers/ financing institutions/ any other person as necessary.</p> <p>20.9 To assist in the examination, evaluation, comparison and post-qualification of the Bids, Utility may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by Utility shall not be considered. Utility's request for clarification and the response shall be in writing. No change in the prices shall be sought, offered, or permitted by Utility in the evaluation of the Financial Bids.</p>
<p>21 Evaluation of Technical Bids/ Proposals</p>	<p>21.1 All Bids will first be evaluated for 'Clause by Clause' compliance to the RFP document and the SI Contract including the technical specifications and functional requirements (with amendments, if any) as per the format prescribed in Form 15 given in Section 4. The Bidders fulfilling the Eligibility and Qualification Requirement and having submitted substantially responsive Bids conforming to and meeting all the mandatory requirements, terms, conditions, and specifications of the RFP Document without any material deviation, reservation, or omission, as defined in ITB 24, shall qualify for technical evaluation of the bid and Bids that meet the minimum technical score as mentioned in SCC shall qualify for opening of Financial Bid.</p> <p>21.2 In the event the Technical Bid is substantially responsive, Utility may waive any deviation, reservation, or omission in the Bid as defined in ITB 24.1</p> <p>21.3 Provided that a Technical Bid is substantially responsive, Utility may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial, nonconformities or omissions in the Technical Bid related to documentation requirements. Such omission shall not be related to any aspect of the price Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.</p>

<p>22 Opening of Financial Proposals</p>	<p>22.1 At the completion of the technical evaluation, Utility shall intimate the technically qualified Bidders for opening of Financial Bids, along with the date, time and venue of opening of Financial Bids.</p> <p>22.2 The Financial Bids shall be opened through the e-Procurement system referred to in ITB 2.2, in the presence of authorized representatives of all technically qualified Bidders who chose to be present at the specified venue on the specified date and time.</p>
<p>23 Evaluation of Financial Bids/ Proposals</p>	<p>23.1 Provided that the Technical Bid is substantially responsive, Utility will correct arithmetical errors during evaluation of Financial Proposals on the following basis:</p> <ul style="list-style-type: none"> i. if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of Utility there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected; ii. if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail, and the total shall be corrected; iii. if there is a discrepancy between words and figures, the amount in words shall prevail. However, where the amount expressed in words is related to an arithmetic error, the amount in figures shall prevail subject to (i) and (ii) above. <p>Except as provided in (i) to (iii) herein above, Utility shall reject the Financial Bid if the same contains any other computational or arithmetic discrepancy or error.</p>
<p>24 Deviations, Reservations and Omissions</p>	<p>24.1 During the evaluation of Bids/ Proposals, the following definitions apply:</p> <ul style="list-style-type: none"> (a) “Deviation” is a departure from the requirements specified in the RFP document; (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the RFP document; and (c) “Omission” is the failure to submit part or all of the information or documentation required in the RFP document. <p>24.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:</p> <ul style="list-style-type: none"> (a) if accepted, would: (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or

	<p>(ii) limit in any substantial way, inconsistent with the bidding document, the Utility’s rights or the Bidder’s obligations under the Contract; or</p> <p>(b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.</p>
25 Successful / Selected Bidder	<p>25.1 The price as per the Financial Proposal/ Bid of all technically qualified Bidders, determined upon evaluation of Financial Proposals/ Bids, shall be the basis for determination of the Successful Bidder/ Selected Bidder.</p> <p>25.2 The technically qualified Bidder with the lowest Financial Bid shall be considered as the Successful Bidder/ Selected Bidder and shall be considered for award of the SI Contract.</p> <p>25.3 If the Successful Bidder/ Selected Bidder does not accept the correction of errors as per ITB 23.1, its Bid shall be disqualified, and its Bid Security shall be forfeited.</p>
D. Award of Contract	
26 Award Criteria	<p>26.1 Subject to ITB 25.3, the Utility shall award the Contract to the Successful Bidder/ Selected Bidder.</p> <p>26.2 Utility shall present the Letter of Award (as per the format prescribed in Form 2 given in Section 8) to the Successful Bidder and invite the Performance Security in order to sign the SI Contract to implement the Project.</p> <p>26.3 The Successful Bidder shall provide an undertaking that the key staff identified for the Project (as submitted in its Technical Bid) shall be available for the respective proposed work requirement, anytime during the duration of the Project, till its successful completion</p> <p>26.4 If for any reason the Bid of the Successful Bidder is rejected or Letter of Award issued to the Successful Bidder is cancelled, Utility is empowered to take decisions for any of the following:</p> <p>a) Consider the next lowest evaluated Bid from eligible and qualified Bidder whose bid is determined substantially responsive; or</p> <p>b) Annul the Bid process; or</p> <p>c) Take any such measure as may be deemed fit in the sole discretion of Utility, as applicable.</p>
27 Utility’s Right to Vary Quantities at the time of Award	<p>27.1 Utility reserves the right to increase or decrease the number of consumers under the SI Contract subject to the limit of - 20% (twenty percent) up to +30% (thirty percent) of the existing number of consumer (as provided in Form 1 given in Section 5), covered under the SI Contract, without any change in the unit prices or other terms and conditions of the SI Contract and the Bid.</p>

28 Letter of Award	<p>28.1 Prior to the expiry of the period of Bid validity, Utility shall notify the successful Bidder, in writing, by issuing the Letter of Award, that its Bid has been accepted.</p> <p>28.2 Until the SI Contract is prepared and executed, the notification of award and its subsequent acceptance by the successful bidder shall constitute a binding contract.</p>
29 Signing of Contract and Contract Performance Security	<p>29.1 Within 21 (twenty-one) Days of receipt of the Letter of Award, the successful Bidder shall sign the SI Contract.</p> <p>29.2 Within 14 (fourteen) Days of the receipt of Letter of Award from Utility, the Successful Bidder shall furnish the Performance Security, using for that purpose the format of Performance Security given in Form 1 in Section 8. Immediately upon furnishing of Performance Security, SI may request the Utility to execute the SI Contract.</p> <p>29.2.1 Within 14 (fourteen) Days of the receipt of Letter of Award from Utility, the Successful Bidder shall submit a copy of the agreement between each of the Sub-contractor(s) and the Bidder, in case the Sub-contractor(s) is not the Sole Bidder/ a member of the Consortium, guaranteeing back-to-back service and support for the total duration of the project.</p> <p>29.3 Failure of the Successful Bidder to submit the above-mentioned Performance Security or submit the above-mentioned agreement or sign the SI Contract or if the successful bidder withdraws, shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event, Utility shall re-tender the case.</p>
30 [Advance Payment security (Optional)]	<p>30.2 <i>[Utility, at its discretion, may provide to the successful bidder an interest-bearing advance payment against an advance payment security furnished by the successful bidder in the form of a bank guarantee for [15] % of the Contract Price.</i></p> <p>30.3 <i>Within 14 (fourteen) Days of the receipt of Letter of Award from the Utility, the Successful Bidder shall furnish the Advance Payment Security, using for that purpose the format of Advance payment Security given in Form 3 in Section 8.</i></p> <p>30.4 <i>The utility shall provide an advance payment for [70] % of the advance payment security furnished by the successful bidder, at the time of contract signing.</i></p> <p>30.5 <i>The amount of the security shall be reduced in proportion to the value of the services executed by and paid to the successful bidder from time to time and shall automatically become null and void when the full amount of the advance payment has been recovered by the Utility. The security shall be returned to the successful bidder immediately after its expiration</i></p> <p>30.6 <i>The interest rate on advance payment shall be Marginal Cost of Funds Based Lending Rate (MCLR) for one year of the State Bank of India, prevailing on the date of advance payment to the Successful Bidder. The interest accrued on interest bearing advance shall be adjusted first before releasing any payment. The interest rate shall</i></p>

	<i>be calculated on the daily progressive balances outstanding as on the date of recovery/adjustment i.e., on daily rest basis.]</i>
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E. Bid Data Sheet

ITB Reference	A. General Provisions
1.1 (u)	<The Utility to indicate here the number, name and salient details of the RFP>
1.1 (dd)	<The Utility to indicate here its name, other particulars and a brief description about it >
2.2	<p>Bidding against RFP shall be conducted through/ with Electronic –Procurement (e-Procurement/ e- Tendering) System.</p> <p>Utility shall use the following Electronic-Procurement system to manage this Request for Proposal (RFP) process: https:// meghalayatenders.gov.in</p> <p>The electronic-procurement system shall be used to manage the following part of the RFP process: <i>[e.g., issuing RFP, corrigendum/ addendums, submissions of Proposals, opening of Proposals etc.]</i></p> <p>To aid and facilitate the Bidders on e-Procurement/ e-Tendering process a detailed manual on the same titled Bidder Help Manual for e-Bidding has been provided annexed to the Bid Data Sheet as Annexure I (BDS). The same may be utilized by the Bidders.</p>
2.2.2	<p>Name: M .Swer Designation: Additional Chief Engineer (Projects), MePDCL Address: Lumjingshai, Short Round Road, Shillong-793001 E-Mail: ceproject.mepdcl@gmail.com M. No. +919436312127</p>
2.3	The name of the Contract is: Appointment of System Integrator (SI) for Implementation of Utility Billing System under SaaS Model.
2.4	Standard brief regarding detail of existing systems relevant to the SI Project: <Utility to provide here the brief >
2.6	<p>A Pre-Bid Meeting will be held as per the details below. [Date of Pre-Bid Meeting: 13/04/2023 Time: 12:00 Hours (IST) Address: MePDCL Lumjingshai, Short Round Road, Shillong-793001 Telephone/ M. No. +919436312127 E-mail: ceproject.mepdcl@gmail.com Contact person/Meeting coordinator: M.Swer <i>Due to prevailing COVID-19 conditions and as per the applicable directives and SoP, if so necessitated the pre-bid meeting may be held over a Video Conferencing, Link for which will be made available seven days prior to holding this meeting at Utility website. <insert If required></i></p>

2.8

Format for Sending Query to Utility

[Query may be sent in hard copy to the Nodal Officer of Utility, at the below-mentioned address AND/ OR via email to E-mail ID]

[Reference No.]

From:

[Address of the Bidder]

[Telephone No., Fax No., Email]

[Date]

To:

[Utility to insert details of Nodal Officer of Utility],

[Utility to insert Address of Nodal Officer]

Sub: Query.

Ref: [Utility to insert Tender Details].

Dear Sir/ Madam,

Please find below our query with respect to the RFP subject to the terms and conditions therein:

S. No.	Reference Clause No.	Page No.	Query
1.			
2.			
3.			

Thanking you,

Yours Sincerely,

[Insert Signature here]

[Insert Name here]

[Insert Designation here]

B. Preparation of Proposals

10.1	Document Checklist and List of Forms		
	S. No.	Document	RFP Section Reference
	1.	Tender Fee	1,3
	2.	List of Consortium Members and Subcontractor(s) (as applicable) as per the format prescribed in Form 1 given in Section 4	4
	3.	Bidder Information as per the format prescribed in Form 2 given in Section 4	4
	4.	Project Implementation Plan as per format provided in Form 3 given in Section 4	4
	5.	Curriculum Vitae of key personnel as per format provided in Form 4 and Form 5 given in Section 4	4
	6.	Bid Security in the form of Demand Draft or Bank Guarantee as per format prescribed in Form 6 given in Section 4	4
	7.	Covering Letter for Submission of Bid by Sole Bidder/ Lead Consortium Member as per format prescribed in Form 7 given in Section 4	4
	8.	Consortium Agreement Format entered amongst all Members of the Bidding Consortium as per format prescribed in Form 8 given in Section 4	4
	9.	Power of Attorney by each Consortium Member in favour of Lead Consortium Member as per format prescribed in Form 9 given in Section 4	4
	10.	Power of Attorney by Lead Consortium Member/ Sole Bidder authorizing an Individual Designated Representative for the Bidder as per the format prescribed in Form 10 given in Section 4	4
	11.	Letter of Consent by each Consortium Member reviewing each element of the Bid as per format prescribed in Form 11 given in Section 4	4

	<p>12. For Bidder Experience [Refer Clause 2.1 in Section 2]:</p> <ul style="list-style-type: none"> i. References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in Form 13); <i>In case a Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i> ii. Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and client certificate for supply of material or similar proofs) along with contact details of the client; iii. Any other documentation for implementation performance/ operation iv. Copy of Valid Certifications attested by the authorized signatory 	4
	<p>13.1 For Billing System provider⁵ Eligibility [Refer Clause 2.2 A1 in Section 2]:</p> <ul style="list-style-type: none"> a) References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in Form 13 given in Section 4); <i>In case Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i> b) Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and 	

⁵ In case of a COTS based Billing system

		<p>client certificate for supply of material or similar proofs) along with contact details of the client</p> <p>c) Any other documentation for implementation performance/ operation.</p> <p>d) A MAF signed on the letterhead of the Billing System provider, addressed to the Bidder (as per the format prescribed in Form 22).</p> <p>e) Agreement entered with the bidder (as per format prescribed in Form 23 of section 4)</p> <p>f) Relevant supporting document mentioning details of authorized implementation partner and the implementation experience, as applicable, on the OEM's letter head duly signed and stamp by authorized signatory of OEM</p>		
13.2	<p>For Cloud Service Provider (CSP) Provider Eligibility [Refer Clause 2.2 B1-B2 in Section 2]:</p> <p>a. Copies of valid certificates as on bid submission date from the OEM/ OEM Service partner. <i>In case of NDA or Security restrictions in sharing relevant security certifications, the OEM shall submit self-certification and will be liable for authenticity of the same.</i></p> <p>b. Self-certificate from the CSP mentioning the location details signed by authorized signatory of the CSP for this bid.</p> <p>c. A MAF signed on the letterhead of the Cloud Service provider, addressed to the Bidder (as per the format prescribed in Form 20).</p> <p>d. Agreement entered with the bidder (as per format prescribed in Form 23 of section 4)</p>			
14.	<p>For Financial Strength [Refer Clause 2.1 in Section 2]: 4</p> <p>Audited Annual financial statements, Balance Sheet and P&L Account of all Consortium Members/ Sole Bidder for the respective Financial Years as per the format prescribed in Form 12</p> <p>Copy of CA certificate clearly capturing the MAAT from IT/ Software Business in India for the respective financial years</p>			
15.	List of Material and Services as per format provided in Form 14 given in Section 4	4		
16.	Table of Compliance as per format provided in Form 15 given in Section 4	4		
17.	Financial Bid as per format provided in Form 1 given in Section 5	5		

	18.	Performance Security as per the format prescribed in Form 1 given in Section 8	8		
	19.	Letter of Award as per the format prescribed in Form 2 given in Section 8	8		
	20.	Copy of this RFP with sign and official seal on every page	1 to 8		
	21.	Format for Sending Query to Utility for clarification	3		
12.1	The Bid shall remain valid until i.e. up to and including 180 days reckoned from the Bid Submission Deadline specified in ITB 17, as may be extended by the Utility.				
12.2	Currency and the amount of Bid Security to be furnished by the Bidder is : Currency: INR Amount: INR 0.3492 Cr				
12.3(a)	Banks by whom Bank Guarantee is required to be issued: Nationalized & Schedule Commercial Bank.				
12.3(a)	Bid Security may be furnished in other forms mentioned below: “Not Applicable”				
13.1	Clarifications may be requested on or before the pre-bid meeting. Request to be sent at: Designation: The Chief Engineer (Projects) Address: MePDCL, Lumjingshai, Short Round Road, Shillong-793001 E-Mail: ceproject.mepdcl@gmail.com				
15.13	Number of years: 5 (Five) Years.				
C. Submission, Opening and Evaluation					
17.3	Bidder shall provide the following document in original/ hard copy: i. Tender Fee ii. Bid Security iii. Pre- Contract Integrity Pact.				
17.4	The following documents shall be submitted in original: i. Tender Fee ii. Bid Security iii. Pre- Contract Integrity Pact				

17.6	<p>Details to be marked on the sealed envelope:</p> <p>Designation: The Chief Engineer (Projects) Meghalaya Power Distribution Corporation Limited Lumjingshai, Short Round Road, Shillong-793001 Meghalaya (India) E-Mail: ceproject.mepdcl@gmail.com</p>
17.10	<p>The Bid Submission Deadline is: Date: 25/04/2023 Time: 01:00 P.m</p>
19.1	<p>The Technical Bids/ Proposals shall be opened as indicated below: The opening shall take place at: Name of Utility: Meghalaya Energy Corporation Limited, Conference Room, Address Lumjingshai, Short Round Road, Shillong-793001 Meghalaya (India) Date :25/0/2023 Time: 4:00 PM. Due to prevailing COVID-19 conditions if necessitated and, the bid opening meeting may be held over a Video Conferencing, Link for which will be made available at least 7 Days prior to the Bid Opening event, at Utility website [... Indicate the website]</p>
20.1	<p>Technical evaluation criteria of the Technical Proposals, along with the qualifying Technical Score, are annexed to the Data Sheet as Annexure II (Data Sheet).</p>

Annexure (BDS)

Annexure-I:

Bidder Help Manual for E-Bidding

HELP LINE TO VENDORS

For any technical related queries please call at 24 x 7 Help Desk Number

0120-4001 002

0120-4001 005

0120-6277 787

Technical -support-eproc(at)nic(dot)in

Special Instructions to the Contractors/Bidders for the e-submission of the bids online through this eProcurement Portal

<https://meghalayatenders.gov.in/nicgep/app?page=HelpForContractors&service=page>

Annexure-II**Technical Evaluation Criteria:**

The Bidder shall have to enclose all documentary evidence in support of technical evaluation criteria:

S. No.	Requirements	Max. Marks	Supporting Documents
1.	<p>Sole/ Lead Bidder should have successfully implemented Eligible Projects in any Indian/Global Utility (power/ water/ natural gas/ telecom/ banking) during the last 10 (ten) financial years:</p> <p>(i) Any Eligible project with project value not less than [40% of the Estimated Project Cost]</p> <ul style="list-style-type: none"> • 1 project – 6 marks • 2 projects – 10 marks <p>(or)</p> <p>(ii) Any Eligible Project with project value not less than [25% of the Estimated Project Cost]</p> <ul style="list-style-type: none"> • 2 projects – 6 marks • 3 projects – 10 marks <p><i>Note: For calculation of project value of eligible projects, only project value of the portion of the project executed by the Sole/ Lead Bidder shall be considered.</i></p>	10	<p>a) References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in Form 13 given in Section 4);</p> <p><i>In case a Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i></p>
2.	<p>Sole/ Lead Bidder must have successfully implemented billing systems⁶ in any Indian/ Global Utility (power/ water/ natural gas/ telecom) during the last 10 (ten) financial years.</p> <p>Each of the projects shall be in operation for at least 1 (one) year as on date of bid submission OR Each of the projects should have completed at least 3 (three) years of operational period.</p>	20	<p>b) Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary</p>

⁶ In case the Bidder proposes a COTS based Billing system, only prior experience associated with implementation of any COTS based Billing solutions shall be considered for assessing the qualification requirements

Similarly, in case the Bidder proposes a Bespoke based Billing system, only prior experience associated with implementation of any Bespoke based Billing solutions shall be considered for assessing the qualification requirements

S. No.	Requirements	Max. Marks	Supporting Documents
	<p>The implementation should have covered at least 5 (five) modules (<i>Modules i to iv are mandatory</i>) out of the below mentioned list:</p> <ul style="list-style-type: none"> • Metering, Billing & Collection (MBC) • Disconnection & Reconnection • Management Information System & Dashboarding • Customer Relationship Management (CRM) or Customer Care Centre (CC) (New connection, Grievance handling, Updation etc.) • Energy Accounting & Audit • Web Portal and Mobile Applications • Workforce Management • Prepaid Module • Identity Access Management • Document Management System • Accounting, Ledger, & Banking Reconciliation Statement (BRS) Process <p><i>Marks to be allotted for the above projects shall be as below:</i></p> <p>2a) Aggregate consumer base for which the billing systems were implemented: (10 Marks)</p> <ul style="list-style-type: none"> • <i>For an aggregate consumer base of [50% of the estimated consumer base] – 4 marks</i> • <i>For every additional [10% of the estimated consumer base] – 2 marks subject to a maximum of 6 marks</i> <p>2b) Number of projects with Indian/ Global utility: (8 Marks)</p> <ul style="list-style-type: none"> • <i>2 marks for each project subject to a maximum of 8 marks</i> <p>2c) Experience with Indian Power utility: (2 Marks)</p> <ul style="list-style-type: none"> • <i>For any 1 Project: 2 marks</i> 		<p>evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and client certificate for supply of material or similar proofs) along with contact details of the client;</p> <p>c) Any other documentation for implementation performance/ operation</p>

S. No.	Requirements	Max. Marks	Supporting Documents
3.	<p>Sole/ Lead Bidder should have experience of integrating a Billing system⁷ with at least 3 (three) of the following applications in a single project, in any Indian/ Global Utility (power/ water/ natural gas/ telecom) in the last 10 (ten) financial years</p> <p>Each of the projects shall be in operation for at least 1 (one) year as on date of bid submission (OR) Each of the projects should have completed at least 3 (three) years of operational period.</p> <ol style="list-style-type: none"> i. ERP ii. MDAS/ MDMS iii. Spot Billing/ Prepaid Engine iv. Consumer Portal/ App v. GIS vi. Workforce management vii. Outage management system viii. Load forecasting system ix. Demand Response x. SCADA xi. DMS/ ADMS xii. Energy Accounting/ Energy Audit <p>Marks to be allotted for the above projects shall be as below:</p> <p>3a) No. of projects with Indian/ Global Utility (16 marks)</p> <ul style="list-style-type: none"> • 4 marks for each project subject to a maximum of 16 marks <p>3b) Experience with Indian Power Utility (4 marks)</p> <ul style="list-style-type: none"> • For any 1 project – 4 marks 	20	
4.	<p>Sole/ Lead Bidder should have experience of provisioning/ managing Cloud based IaaS/PaaS/SaaS services or Cloud based</p>	15	

⁷ In case the Bidder proposes a COTS based Billing system, only prior experience associated with implementation of any COTS based Billing solutions shall be considered for assessing the qualification requirements

Similarly, in case the Bidder proposes a Bespoke based Billing system, only prior experience associated with implementation of any Bespoke based Billing solutions shall be considered for assessing the qualification requirements

S. No.	Requirements	Max. Marks	Supporting Documents
	<p>Business solution hosting projects in in atleast 1 (one) project in any Indian/Global Utility (power/ water/ natural gas/ telecom/ banking) during the last 10 (ten) financial years which have completed at least 1 (one) year of operational period.</p> <p>Marks to be allotted for the above projects shall be as below:</p> <p>Consumers Handled (15 Marks)</p> <ul style="list-style-type: none"> For an aggregate consumer base of [20% of the estimated consumer base] – 7 marks For every additional [10% of the estimated consumer base] – 2 mark each subject to a maximum of 8 marks 		
5.	<p>Sole/ Lead Bidder should have professionals on regular payroll of the company in IT/ Software business as on last date of bid submission</p> <ul style="list-style-type: none"> 250 full-time resources – 5 marks For every additional 50 full-time resources – 2.5 mark each subject to a maximum of 5 marks 	10	Documents declaring manpower details to be submitted as proof. (Self-Certificate by HR head/ authorized signatory of Bidder)
6.	<p>Proposed Billing Solution Demonstration (25 Marks):</p> <ul style="list-style-type: none"> Understanding of the scope of work and Utility's requirements – 3 Marks Approach & Methodology – 4 Marks Work Plan – 3 Marks Solution / Concept demonstration through a POC using dummy data – 15 Marks <p>[The Bidder has to score minimum [13] marks in this criterion. In case the Bidder is scoring less than [13] marks, the Bidder is liable for rejection and may be considered technically disqualified.]</p>	25	Presentation and Billing Solution demonstration by Bidders (Approx. Time – 60 mins) - Shall be notified by the Utility
Maximum Marks		100	

a) Maximum 100 marks shall be awarded under Technical Evaluation and marking for the same is defined in the Technical Evaluation Criteria above.

b) Those Bids which obtain:

- minimum seventy (70) marks out of 100 in Technical Evaluation and
- [minimum of [thirteen (13) marks] in clause (7) in the table above]

will be considered further for financial evaluation process.

- c) The bidder is supposed to give a Technical Presentation and demonstration after the opening of the Technical Proposal of their bid, which shall be carried out only for the bidders who fulfil the Eligibility Criteria.
- d) The marks scored by the bidder in the presentation/ demonstration shall become a part of the technical evaluation criteria of total 100 marks

Section 4. Bidding Forms- Technical Proposal

Checklist of Required Forms

This Checklist shall be filled in and submitted by the bidder along with the Technical Bid. Except Form 1 given in Section 5 (to be completed and submitted by the Bidder in the Financial Bid) all other documents/ forms duly filled and complete in all respect are to be submitted by the Bidder in the Technical Bid.

S. No.	Document	Attached? (Yes/ No)	For Official Use
1.	Tender Fee		
2.	List of Consortium members and Subcontractor(s) (as applicable) as per the format prescribed in Form 1 given in Section 4		
3.	Bidder Information as per the format prescribed in Form 2 given in Section 4		
4.	Project Implementation Plan as per format provided in Form 3 given in Section 4		
5.	Curriculum Vitae of key personnel as per format provided in Form 4 and Form 5 given in Section 4		
6.	Bid Security in the form of Demand Draft or Bank Guarantee as per format prescribed in Form 6 given in Section 4		
7.	Covering Letter for Submission of Bid by Sole/ lead Consortium Bidder as per format prescribed in Form 7 given in Section 4		
8.	Consortium Agreement Format entered amongst all Members of the Bidding Consortium as per format prescribed in Form 8 given in Section 4		
9.	Power of Attorney by each Consortium Member in favour of lead Consortium Member as per format prescribed in Form 9 given in Section 4		
10.	Power of Attorney by Lead Consortium Member/ Sole Bidder authorizing an Individual Designated Representative for the Bidder as per the format prescribed in Form 10 given in Section 4		
11.	Letter of Consent by each Consortium Member reviewing each element of the Bid as per format prescribed in Form 11 given in Section 4		

Section 4. Bidding Forms – Technical Proposal

S. No.	Document	Attached? (Yes/ No)	For Official Use
12.	<p>For Bidder Experience [Refer Clause 2.1 in Section 2]:</p> <ul style="list-style-type: none"> i. References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in Form 13); <i>In case a Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i> ii. Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and client certificate for supply of material or similar proofs) along with contact details of the client; iii. Any other documentation for implementation performance/ operation iv. Copy of Valid Certifications attested by the authorized signatory 		
13.1	<p>For Billing System provider⁸ Eligibility [Refer Clause 2.2 A1 in Section 2]:</p> <ul style="list-style-type: none"> g) References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in Form 13 given in Section 4); <i>In case Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i> h) Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and client certificate for supply of material or similar proofs) along with contact details of the client 		

⁸ In case of a COTS based Billing system

Section 4. Bidding Forms – Technical Proposal

S. No.	Document	Attached? (Yes/ No)	For Official Use
	<ul style="list-style-type: none"> i) Any other documentation for implementation performance/ operation. j) Agreement entered with the bidder (as per format prescribed in Form 19 of section 4) 		
13.2	<p>For Cloud Service Provider (CSP) Provider Eligibility [Refer Clause 2.2 B1-B2 in Section 2]:</p> <ul style="list-style-type: none"> a. References along with requisite contract/ Purchase Order (PO)/ Work Order (WO). The references should indicate client name, scope of work, Project start date (as per the format prescribed in Form 13 given in Section 4); <i>In case Non-Disclosure agreement (NDA) is signed with the client, Bidder shall provide an undertaking for the NDA and shall also provide a client certification as proof of experience along with Client Name/ Email Address/ Contact no./ designation etc.</i> b. Documentary evidence of completion of the Project or completion of Go-live status (i.e., Go-live certificate, UAT testing certificate etc.) of the respective project as per the definition of Go-Live/ UAT specified therein or other documentary evidence indicating completion (e.g., proof of payment received/ proof of asset capitalized in books of accounts (as applicable) and client certificate for supply of material or similar proofs) along with contact details of the client c. Any other documentation for implementation performance/ operation. d. Agreement entered with the bidder (as per format prescribed in Form 19 of section 4) 		
14.	<p>For Financial Strength [Refer Clause 2.1 in Section 2]: Audited Annual financial statements, Balance Sheet and P&L Account of all Consortium Members/ Sole Bidder for the respective Financial Years as per the format prescribed in Form 12 given in Section 4</p>		
15.	List of Material and Services as per format provided in Form 14 given in Section 4		
16.	Table of Compliance as per format provided in Form 15 given in Section 4		
17.	Format for Technical & Financial Requirement- Relationship & Details of Equity Shareholding (Form 16)		
18.	Authorization from Parent / Affiliate of Sole Bidder/ Member of Bidding Consortium whose technical / financial capability has been used by the Sole Bidder/ Member of Bidding Consortium (Form 17).		

Section 4. Bidding Forms – Technical Proposal

S. No.	Document	Attached? (Yes/ No)	For Official Use
21.	Copy of this RFP with sign and official seal on every page		
22.	Pre-Contract Integrity Pact as per Form 18 given in Section 4		

Form 1: List of Consortium Members/ Sub-Contractor(s)

- [The Bidder shall identify below the Consortium Members/ Sub-contractor(s) for major Project items. For sub-contractor a Letter of Intent must be provided.]

Major Project Item	Proposed Consortium Member/ Sub-Contractor(s)	Nationality
Billing System Provider ⁹		
Cloud Service Provider		

⁹ <In case Bidder is proposing a COTS Product>

Form 2: Bidder Information

[Sole Bidder/ all Consortium Members must provide all documents required to prove/ substantiate its Eligibility as required in Eligibility Criteria Clause 4 in section 2 for each Consortium Member]

S. No.	Information Requirement	Details
1	Company Name and Details	
2	Address of its place of business in India	
3	List of board of directors or regulating/controlling body	
4	Attested copy of Certificate of Registration/ Incorporation issued by the Registrar of Companies	
5	Memorandum and Articles of Association or document constituting the company and regulating its affairs	
6	Certificate of Commencement of Business issued by the Registrar of Companies	
7	Copy of the Goods and Services Tax (GST) Registration Certificate	
8	Provident Fund (PF) Certificate indicating PF Code	
9	Copy of Permanent Account Number (PAN) Card	
10	Copy of the Goods and Services Tax (GST) Registration Certificate	
11	Audited annual financial statements and financial Net worth for the last three years	
12	Any other papers or documents required by Utility at a later stage or in future	

Form 3: Project Implementation Plan

The Bidder shall submit a preliminary Project implementation plan along with the Bid which shall include at least the following activities:

- a) Understanding of Utility and its requirement with respect to Project implementation;*
- b) Overall system architecture and system philosophy capable of scale-up;*
- c) Details of proposed methodology;*
- d) Schematic Diagram of Proposed System Configuration*
- e) An approach paper documenting the interfaces for integration with existing and future applications based on the information provided by utility*
- f) Project team structure;*
- g) Line of Credit / Source of funding and supporting documents;*
- h) Governance Framework;*
- i) Resource planning and estimation;*
- j) Risk planning;*
- k) Quality Assurance Program;*
- l) Data Privacy Approach;*
- m) Cyber Security Approach;*
- n) Site Survey;*
- o) Installation & Field update schedule;*
- p) Repair and Maintenance Schedule including details on Spares Management;*
- q) Training schedule;*

Form 4: Bidder's Representative and Key Personnel

[Bidders should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the SI Contract. The data on their experience should be supplied using the Form 5 given in Section 4 below for each candidate.]

1.	Title of position: Project Manager	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
2.	Title of position: <i>[Specify]</i>	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
3.	Title of position: <i>[Specify]</i>	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
4.	Title of position: <i>[Specify]</i>	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>

Form 5: Resume and Declaration

Name of Bidder:

Position [#1]: [title of position]		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: [language and levels of speaking, reading and writing skills]	
Details		
	Address of employer:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present employer:

Summarize professional experience in reverse chronological order. Indicate technical and managerial experience relevant to the Project.

Project	Role	Duration of involvement	Relevant experience
[main project details]	[role and responsibilities on the project]	[time in role]	[describe the experience relevant to this position]

Declaration

I, the undersigned [insert either “Contractor’s Representative” or “Key Personnel” as applicable], certify that to the best of my knowledge and belief, the information contained in this Form 5 correctly describes myself, my qualifications, and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	Details
-------------------	----------------

Section 4. Bidding Forms – Technical Proposal

Commitment to duration of contract:	<i>[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]</i>
Time commitment:	<i>[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]</i>

I understand that any misrepresentation or omission in this Form may:

- (a) be taken into consideration during Bid evaluation;
- (b) result in my disqualification from participating in the Bid;
- (c) result in my dismissal from the contract.

Name of Contractor's Representative or Key Personnel: *[insert name]*

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day month year): _____

Form 6: Format of Bank Guarantee for Bid Security

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country]

Reference No. Bank Guarantee No. Dated:
.....

To:
[Utility]
[Address]

Dear Sir/ Madam,

WHEREAS..... [Insert name of the S o l e Bidder/ Lead Consortium Member] with address [Insert address of S o l e Bidder/ Lead Consortium Member] having its registered office at [Insert address of the S o l e Bidder/ Lead Consortium Member] (Hereinafter, the “Bidder”) wishes to participate in Tender No. [Tender Details] (the “RFP”) issued by [Utility] (hereinafter, the “Utility”) for Appointment of SI for Implementation of Utility Billing System under SaaS model.

And WHEREAS a Bank Guarantee for [Amount] valid [Date] is required to be submitted by the Bidder along with the RFP.

We,[Insert name of the Bank and address of the Branch giving the Bank Guarantee] having our registered office at..... [Insert address of the registered office of the Bank] hereby give this Bank Guarantee No.[Insert Bank Guarantee number] dated[Insert the date of the Bank Guarantee], and hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the Utility any officer authorized by it in this behalf any amount not exceeding [Amount] to the said Utility on behalf of the Bidder.

We.....[Insert name of the Bank] also agree that withdrawal of the Bid or part thereof by the Bidder within its validity or non-submission of Performance Security by the Bidder within the stipulated time of the Letter of Award to the Bidder or any violation to the relevant terms stipulated in the RFP would constitute a default on the part of the Bidder and that this Bank Guarantee is liable to be invoked and encashed within its validity by the Utility in case of any occurrence of a default on the part of the Bidder and that the amount is liable to be forfeited by the Utility.

This Guarantee shall be valid and binding on this Bank up to and inclusive of.....[Insert the date of validity of the Bank] and shall not be terminable by notice or by Guarantor change in the constitution of the Bank or the firm of the Bidder Or by any reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, conceded with or without our knowledge or consent by or between the Bidder and the Utility.

NOTWITHSTANDING anything contained hereinbefore, our liability under this guarantee is restricted to [Amount]. Our Guarantee shall remain in force till [Date]. Unless demands or claims under this Bank Guarantee are made to us in writing on or before [Date], all rights of the Beneficiary under this Bank Guarantee shall be forfeited, and we shall be released and discharged from all liabilities there under.

Section 4. Bidding Forms – Technical Proposal

<i>[Insert the address of the Bank with complete postal branch code, telephone and fax numbers, and official round seal of the Bank]</i>	<i>[Insert signature of the Bank's Authorized Signatory]</i>
<i>Attested</i>	
..... [Signature] (Notary Public)	
Place:	Date:

INSTRUCTIONS FOR SUBMITTING BANK GUARANTEE

1. Bank Guarantee to be executed on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign entities submitting Bids are required to follow the applicable law in their country.
2. The Bank Guarantee by Bidder shall be given from any Scheduled Commercial Bank.
3. The full address along with the Telex/Fax No. and e-mail address of the issuing bank to be mentioned.

Form 7: Format of Covering Letter by Sole bidder/ Lead Consortium Member

[Covering Letter shall be on the official letterhead of the Sole bidder/ Lead Consortium Member of the Bidding Consortium]

[Reference No.]

From:

[Address of the Lead Consortium Member/ Sole Bidder]

[Telephone No., Fax No., Email]

[Date]

To:

[Utility]

[Address]

Sub: Bid for Appointment of SI for implementation of Utility Billing System on SaaS basis

Ref: [Tender Details]

Dear Sir/ Madam,

We, the undersigned.....*[Insert name of the Sole Bidder/ Lead Consortium Member]* having read, examined and understood in detail the RFP for Appointment of SI for implementation of Utility Billing System on SaaS basis hereby submit our Bid comprising of Technical and Financial Bids.

1. We give our unconditional acceptance to the RFP including but not limited to all its instructions, terms and conditions, and formats attached thereto, issued by Utility, as amended. In token of our acceptance to the RFP, the same have been initialed by us and enclosed to the Bid. We shall ensure that our Consortium we execute such requirements as per the provisions of the RFP and provisions of such RFP shall be binding on us.

2. Fulfilment of Eligibility

We undertake that we fulfil the Eligibility Criteria stipulated in the RFP and fulfil all the eligibility requirements as the Lead Consortium Member/ Sole Bidder as outlined in the RFP.

We hereby confirm that in accordance with Clause 1.8 of this RFP, we are herewith submitting legally binding undertaking supported by a board resolution from the.....*[insert name of Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be]* that all the equity investment obligations of*[insert name of the Sole Bidder/ Lead Consortium Member]* shall be deemed to be equity investment obligations of the*[insert name of Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be]* and in the event of any default by*[insert name of the Sole Bidder/ Lead Consortium Member]*, the same shall be met by*[insert name of Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be]*.

Section 4. Bidding Forms – Technical Proposal

[To be inserted only in ease the Bidder has sought qualification on the basis of technical and financial capability of its Affiliate(s) and/or its Parent]

3. Bid Security

We have enclosed a Bid Security of [Amount] in the form of a Bank Guarantee No..... *[Insert Bank Guarantee Number]* (OR Demand Draft) dated..... *[Insert date of the Bank Guarantee]* from..... *[Insert name of Bank providing Bid Bond]* and valid up to [Date].

4. No Deviation

We have submitted our Financial Bid strictly as per terms and formats of the RFP, without any deviations, conditions and without mentioning any assumptions or notes for the Financial Bid in the said format.

5. Acceptance

We hereby unconditionally and irrevocably agree and accept that the decision made by Utility in respect of any matter regarding or arising out of the RFP shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

We confirm that there are no litigations or disputes against us, which materially affect our ability to fulfil our obligations with regard to fulfilling our obligations as per the RFP.

6. Familiarity with Relevant Indian Laws and Regulations

We confirm that we have studied the provisions of the relevant Indian laws and regulations as required to enable us to submit this Bid and execute the RFP Documents, in the event of our selection as Selected Bidder. We further undertake and agree that all such factors as mentioned in the Contract have been fully examined and considered while submitting the Bid.

7. Compliance with applicable laws/ guidelines for public procurement in India

We confirm that we shall adhere to applicable laws for public procurement in India including the guidelines issued in Order No. F/No.6/18/2019-PPD by Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23 July 2020, Order No No.9/16/2016-Trans-Part (2) dated 18 November 2020, latest Government of India Guidelines for Make in India, Domestically manufactured products, Atmanirbhar Bharat and circulars DIPP Office Memorandum No. P-45021/2/2017-PP (BE-II) date:16th Sept. 2020, MeitY Circular No.1(10)/2017-CLES dated 06.12.2019 and Order No. 11/05/2018-Coord. by the Ministry of Power dated 17 September 2020, FDI Policy including any amendments or modifications to the same from time to time.

8. Contact Person

Details of the contact person representing our Bidding Consortium / the Sole Bidder (registered Company) supported by the Power of Attorney are furnished as under:

Name:

Designation:

Company:

Address:

Mobile:

Phone:

Fax:

Email:

Section 4. Bidding Forms – Technical Proposal

1. We are submitting herewith the Technical Bid containing duly signed formats, both in electronic and physical forms, (duly attested) as desired by you in the RFP for your consideration.
2. We are also submitting herewith the Financial Bid in electronic form only, as per the terms and conditions in the RFP.
9. It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFP and subsequent communications from Utility.
10. The information submitted in our Bid is complete, strictly as per the requirements stipulated in the RFP and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid.
11. We confirm that all the terms and conditions of our Bid are valid for acceptance for a period of 1 (one) year from the Bid Submission Deadline.
12. We confirm that we have not taken any material deviation so as to be deemed non-responsive with respect to the provisions stipulated in the RFP.
13. We confirm that no order/ ruling has been passed by any Competent Court or Appropriate Commission against us or any of our Consortium members in the preceding 1 (one) year from the Bid Submission Deadline for breach of any contract and that the Bid Security submitted by us or any of our Consortium Members has not been forfeited, either partly or wholly, in any bid process in the preceding 1 (one) year from the Bid Submission Deadline.
14. We confirm that we are not currently blacklisted by any Govt. Organization or Regulatory Agencies or Govt. undertaking.
15. We confirm that we are not currently banned/ debarred by the [Name of the Utility] or any of its subsidiaries/ holding company.
16. We are registered/ exempt from registering in accordance with applicable laws [Evidence of valid registration by the Competent Authority shall be attached if applicable]

Dated the [Insert date of the month] day of [Insert month, year] at [Insert place].

Thanking you,
 Yours Sincerely,
 [Insert Signature here]
 [Insert Name here]
 [Insert Designation here]

Form 8: Format of Consortium Agreement to be entered amongst all Members of a Bidding Consortium

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country.]

FORM OF CONSORTIUM AGREEMENT BETWEEN

M/s....., M/s., M/s....., AND
M/s.for bidding for Tender No. [Tender Details] (the “RFP”) dated [Date]
as per its Clause 1.4

1. **THIS Consortium Agreement** (hereinafter referred to as “Agreement”) executed on this
[date] day of [month],..... [year] between
2. M/s., a company incorporated under the laws ofand having
its Registered Office at, (hereinafter called "**Party 1,**" or "**Lead
Consortium Member**" which expression shall include its successors, executors and permitted
assigns);
3. M/s., a company incorporated under the laws ofand having
its Registered Office at, (hereinafter called "**Party 2,**" which expression
shall include its successors, executors and permitted assigns);
4. M/s., a company incorporated under the laws ofand having
its Registered Office at, (hereinafter called "**Party 3,**" which expression
shall include its successors, executors and permitted assigns);
5. M/s., a company incorporated under the laws ofand having
its Registered Office at , (hereinafter called "**Party n,**" which expression
shall include its successors, executors and permitted assigns);

[The Bidding Consortium should list the name, address of its registered office and other details of all the Consortium Members above.]

WHEREAS the Parties abovenamed are entering into this Consortium Agreement for the purpose of submitting the Bid in response to the RFP and in the event of selection as Selected Bidder to comply with the requirements as specified in the RFP and ensure execution of the SI Contract as may be required to be entered into with Utility.

Party 1, Party 2, Party 3, and Party n are hereinafter collectively referred to as the “Parties” and individually as a “Party.”

WHEREAS the RFP stipulates that the Bidders applying as a Bidding Consortium shall submit a legally enforceable Consortium Agreement in a format specified in the RFP, whereby each Consortium Member undertakes to be liable for its Roles and Responsibilities, provide necessary guarantees and pay required fees as required as per the provisions of the RFP, as specified herein.

WHEREAS any capitalized term in this Agreement shall have the meaning ascribed to such term in the RFP document.

NOW THEREFORE, THIS AGREEMENT WITNESSTH AS UNDER:

Section 4. Bidding Forms – Technical Proposal

In consideration of the above premises and agreement all the Parties in this Consortium do hereby mutually agree as follows:

1. In consideration of the selection of the Consortium as the Bidding Consortium by Utility, we the Members of the Consortium and Parties to the Consortium Agreement do hereby unequivocally agree that M/s.[*Insert name of the Lead Member*], shall act as the Lead Member as defined in the RFP for self and agent for and on behalf of M/s., M/s., M/s., and M/s..... [*the names of all the other Members of the Consortium to be filled in here*].
2. The Lead Consortium Member is hereby authorized by the Members of Consortium and Parties to the Consortium Agreement to bind the Consortium and receive instructions for and on behalf of all Members. The Roles and Responsibilities of all other members shall be as per the **Annexure** to this Agreement.
3. Each Consortium Member undertakes to be individually liable for the performance of its part of the Roles and Responsibilities without in any way limiting the scope of collective liability envisaged in this Agreement in order to meet the requirements and obligations of the RFP. The Lead Consortium Member shall be liable and responsible for ensuring the individual and collective commitment of each of the Members of the Consortium in discharging all their respective Roles and Responsibilities.
4. In case of any breach of any of the commitment as specified under this Agreement by any of the Consortium Members, the Lead Consortium Member of the Consortium shall be liable to meet the obligations as defined under the RFP.
5. Except as specified in the Agreement, it is agreed that sharing of responsibilities as aforesaid and obligations thereto shall not in any way be a limitation of responsibility of the Lead Member under these presents.
6. The Members expressly agree to adhere to all the terms and conditions of the RFP and confirm that we don't have any Conflict of Interest (as defined in the RFP).
7. This Consortium Agreement shall be construed and interpreted in accordance with the Laws of India and Courts at [Place] shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
8. It is hereby agreed that the Lead Consortium Member shall furnish the Bid Security, as stipulated in the RFP, on behalf of the Bidding Consortium.
9. It is hereby agreed that in case of selection of Bidding Consortium as the SI, the Parties to this Consortium Agreement do hereby agree that they shall furnish the Performance Security and other commitments to Utility as stipulated in the RFP and SI Contract. The Lead Member shall be responsible for ensuring the submission of the Performance Security and other commitments on behalf of all the Consortium Members.
10. It is further expressly agreed that the Consortium Agreement shall be irrevocable and, for the SI, shall remain valid over the term of the Project, unless expressly agreed to the contrary by Utility.

11. The Lead Consortium Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Consortium Members respectively from time to time in response to the RFP for the purposes of the Bid. The representation by the Lead Member shall be deemed to be on behalf of and binding on all members of the Consortium.
12. It is expressly understood and agreed between the Members of the Consortium and Parties that the responsibilities and obligations of each of the Members shall be as delineated as annexed hereto as Annexure-A forming integral part of this Agreement. It is further agreed by the Members that the above sharing of responsibilities and obligations shall not in any way be a limitation of responsibilities and liabilities of the Members, with regards to all matters relating to the execution of the Bid and implementation of the Project envisaged in the RFP Documents.
13. It is clearly agreed that the Lead Consortium Member shall ensure performance indicated in the RFP. In the event one or more Consortium Members fail to perform its/ their respective obligations, the same shall be deemed to be a default by all the Consortium Members.
14. It is hereby expressly agreed between the Parties to this Consortium Agreement that neither Party shall assign or delegate or subcontract its rights, duties or obligations under this Agreement to any person or entity except with prior written consent of Utility.
15. This Consortium Agreement:
- a) has been duly executed and delivered on behalf of each Party hereto and constitutes the legal, valid, binding and enforceable obligation of each such Party;
 - b) sets forth the entire understanding of the Parties hereto with respect to the subject matter hereof; and
 - c) may not be amended or modified except in writing signed by each of the Parties and with prior written consent of Utility.

Common Seal of..... has been affixed in my/ our presence pursuant to Board Resolution dated	For M/s..... (Party 1) [Signature of Authorized Representative] [Name of the Authorized Representative] [Designation of the Authorized Representative]
---	--

Witness 1

[Signature of Witness 1]

.....

Name:

Designation

Witness 2

[Signature of Witness 2]

.....

Name:

Designation:

Section 4. Bidding Forms – Technical Proposal

..	
<p>N. Common Seal of..... has been affixed in my/ our presence pursuant to Board Resolution dated</p>	<p>For M/s..... (Party N) <i>[Signature of Authorized Representative]</i> <i>[Name of the Authorized Representative]</i> <i>[Designation of the Authorized Representative]</i></p>
<p>N.1. Witness 1</p> <p>[Signature of Witness 1] </p> <p>Name: Designation:</p>	<p>N.2. Witness 2</p> <p>[Signature of Witness 1] </p> <p>Name: Designation:</p>

Annexure-A

Role and Responsibility of each Member of the Consortium:

1. Roles and Responsibilities of the Party 1 (Lead Consortium Member):
2. Roles and Responsibilities of the Party 2
3. Roles and Responsibilities of the Party 3
- .
- .
- N. Roles and Responsibilities of the Party N

Form 9: Format of Power of Attorney by Consortium Member in favour of Lead Consortium Member

[To be provided by each Consortium Member (other than the Lead Consortium Member) in favor of the Lead Consortium Member]

WHEREAS [Utility] has issued for Tender No. [Tender Details] (the “RFP”) dated [Date] for inviting Bids in respect of Appointment of AMISP for Smart Prepaid Metering on DBFOOT basis (the “Project”) on the terms contained in the RFP;

WHEREAS M/s....., M/s., M/s. and M/s.....[Insert names of all Members of Consortium] the Members of the Consortium are desirous of submitting a Bid in response to the RFP, and if selected, undertaking the responsibility of implementing the Project as per the terms of the RFP;

WHEREAS all the Members of the Consortium have agreed under the Consortium Agreement dated (the “Consortium Agreement”), entered into between all the Members and submitted along with the Bid to appoint [Insert the name and address of the Lead Consortium Member] as Lead Consortium Member to represent all the Members of the Consortium for all matters regarding the RFP and the Bid;

AND WHEREAS pursuant to the terms of the RFP and the Consortium Agreement, we, the Members of the Consortium hereby designate M/s..... [Insert name of the Lead Member] as the Lead Consortium Member to represent us in all matters regarding the Bid and the RFP, in the manner stated below:-

Know all men by these presents, we [Insert name and address of the registered office of the Member 1], [Insert name and address of the registered office of the Member 2],.....,[Insert name and address of the registered office of the Member n] do hereby constitute, appoint, nominate and authorize [Insert name and registered office address of the Lead Consortium Member], which is one of the Members of the Consortium, to act as the Lead Member and our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of Consortium’s Bid in response to the RFP issued by Utility including signing and submission of the Bid and all documents related to the Bid as specified in the RFP, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document, which Utility may require us to submit. The aforesaid attorney is further authorized for making representations to Utility named in the RFP, and providing information / responses to Utility, representing us and the Consortium in all matters before Utility named in the RFP, and generally dealing with Utility named in the RFP in all matters in connection with our Bid, till completion of the bidding process as well as implementation of the Project, if applicable, in accordance with the RFP.

We, as Members of the Consortium, hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP. We, as Members of the Consortium, hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

Signed by the within named *[Insert the name of the executant Consortium Member]* **through the hand of Mr./ Ms./ Dr.**.....**duly authorized by the Board to issue such Power of Attorney dated this** **day of**

Accepted

.....
 (Signature of Attorney)
 [Insert Name, designation and address of the Attorney]

Attested

.....
 (Signature of the executant)
 (Name, designation and address of the executant)

 Signature and stamp of Notary of the place of execution

Common seal of **has been affixed in my/our presence pursuant to Board of Director’s Resolution dated**.....

- 1. **WITNESS1** **(Signature)**
 Name
 Designation.....
- 2. **WITNESS2** **(Signature)**
 Name
 Designation.

Notes

- a. *The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).*
- b. *In the event, power of attorney has been executed outside India, the same needs to be duly notarized by a notary public of the jurisdiction where it is executed.*
- c. *Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favor of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).*

Form 10: Format of Power of Attorney by Sole Bidder / Lead Consortium member authorizing an Individual Designated Representative for the consortium

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting Bids are required to follow the applicable law in their country.]

Know all men by these presents, we*[Insert name and address of the registered office of the Bidder]* do hereby constitute, appoint, nominate and authorize Mr./Ms. *[Insert name and residential address]*, who is presently employed with us and holding the position of as our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid in response to Tender No. [Tender Details] for Appointment of SI for implementation of Utility Billing System under SaaS model (the “Project”) issued by [Utility], including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which Utility may require us to submit. The aforesaid attorney is further authorized for making representations to Utility, and providing information / responses to Utility, representing us in all matters before Utility, and generally dealing with Utility in all matters in connection with our Bid till the completion of the bidding process as per the terms of the RFP.

We hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

Signed by the within named*[Insert the name of the executant company]* through the hand of Mr./ Mrs.duly authorized by the Board to issue such Power of Attorney dated this day of

Accepted

..... (Signature of Attorney)
[Insert Name, designation and address of the Attorney]

Attested

.....
(Signature of the executant)
(Name, designation and address of the executant)

.....
Signature and stamp of Notary of the place of execution

Common seal of has been affixed in my/our presence pursuant to Board of Director’s Resolution dated.....

Section 4. Bidding Forms – Technical Proposal

1. WITNESS 1..... (Signature)

Name

Designation.....

2. WITNESS 2..... (Signature)

Name

Designation.

Notes:

- a. *The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).*
 - b. *In the event, power of attorney has been executed outside India, the same needs to be duly notarized by a notary public of the jurisdiction where it is executed.*
 - c. *Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).*
-

Form 11: Format of Letter of Consent by Sole Bidder/ Lead Consortium Member reviewing each element of the Bid

[On the letter head of Bidder]

[Reference No.]

From:

[Address of the Bidder]

[Telephone No., Fax No., Email]

[Date]

To:

[Utility]

[Address]

Sub: Bid for Appointment of SI for implementation of Billing system under SaaS model.

Ref: [Tender Details]

Dear Sir/ Madam,

We,..... [Insert name of the undersigned Bidder] being the Bidder, have read, examined and understood the RFP and RFP Documents for Appointment of SI doe implementation of Billing System under SaaS model.

We hereby confirm our concurrence with the RFP including in particular the Bid submitted by [Insert name of the Bidder], in response to the RFP. We confirm that the Bid has been reviewed and each element of the Bid is agreed to including but not limited to the commitment and obligations of our Company.

We hereby confirm that in accordance with Clause 1.9 of Section 2 of the RFP, we are enclosing legally binding undertaking supported by a board resolution from the [insert name of Technically Evaluated Entity and / or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be] that all the equity investment obligations of.....[insert name of the Member] shall be deemed to be equity investment obligations of the[insert name of Technically Evaluated Entity and / or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be] and in the event of any default..... [insert name of the Member], the same shall be met by[insert name of Technically Evaluated Entity and / or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be]. *[Insert if applicable]*

The details of contact person are furnished as under:

Name :
 Designation :
 Name of the Company :
 Address :
 Phone Nos. :

Section 4. Bidding Forms – Technical Proposal

Fax Nos. :

E-mail address :

Dated the day of of 20.....

Thanking you,
Yours faithfully,

.....
[Signature, Name, Designation of Authorized Signatory of the Bidder and Company's Seal]

Business Address:
[Name and address of principal officer]

Form 12: Format of Summary of Audited Financial Statements

< This form needs to be submitted by Bidder >

[Reference No.]

From:

[Address of the Bidder]

[Telephone No., Fax No., Email]

[Date]

To:

[Utility]

[Address]

Sub: Audited Financial Statement for[Insert name of Bidder].

Ref: [Tender Details]

Dear Sir/Madam,

This is to certify that [Insert name of Bidder] having its Registered Office at [Insert Registered Address] are in the business of [Insert briefly the nature of the business], have recorded the following:

NETWORTH FOR LAST 3 FINANCIAL YEARS				
S. No.	Name of Financially Evaluated Entity(ies)	Relationship with Bidder	Financial Year (FY)	Net worth Amount (In Indian Rupees)
1.				
2.				
3.				

TURNOVER FROM IT/SOFTWARE BUSINESS IN LAST 3 FINANCIAL YEARS				
S. No.	Name of Financially Evaluated Entity(ies)	Relationship with Bidder	Financial Year (FY)	Turnover Amount (In Indian Rupees)
1.				
2.				
3.				

The above Net worth/ Turnover are arrived from our Audit Reports for the last three/ preceding financial years duly submitted to the Income Tax Department along with our Audit Reports.

Section 4. Bidding Forms – Technical Proposal

Hence, we certify from the records submitted to us. Thanking you,

Sincerely yours,

Yours Sincerely,

[Insert Signature here]

[Insert Name here]

[Insert Designation here]

Date: [Date]

Place: [Place]

Form 13: Record of Similar Work Done

S. No.	Name of Technically Evaluated Entity (ies)	Relationship with the Bidder	Date of PO/ WO	Contract Period	No. of Consumer, Nodes, etc.	Description of Work	PO/ WO Value (In INR)	Confirm attachment of PO/ WO	Confirm attachment of Installation Milestone/ execution certificate
1.									
2.									
3.									
4.									
5.									

Form 14: List of Material and Services

Please Note: This needs to be detailed out and customized by [SI] basis Project requirement

Form 15: Table of Compliance

The Bidder shall submit ‘Clause by Clause’ compliance to the RFP document including the technical specifications and functional requirements (with amendments, if any) as per the format prescribed in Form 15

. The Bidder shall annotate the Table of Contents of each section to provide a high-level summary of compliance status. In all cases, the following symbols, and no others shall be used:

- **C - Bid complies with all requirements in the adjacent paragraph.**
- **A - Bid is not compliant with the requirements in the adjacent paragraph, but a functional alternative is proposed.**
- **X - Bid takes exception to the requirements of the adjacent paragraph and no functional alternative is proposed.**

Only one symbol shall be assigned to paragraph and shall indicate the worst-case level of compliance for that paragraph. This annotation may be handwritten.

The Bidder shall also underline, on the compliance copy, all requirements to which exceptions have been taken (X) or to which alternatives have been proposed (A).

Each alternative shall be clearly and explicitly described. Such descriptions shall use the same paragraph numbering as the bid document sections addressed by the alternatives. All alternative descriptions shall be in one contiguous section of the bidder’s proposal, preferably in the same volume, and titled "Alternatives." A separate section titled "Exceptions" shall also be provided containing any discussion or explanation chooses to provide concerning exceptions taken. Alternatives which do not substantially comply with the intent of the Bid documents will be considered exceptions.

Any clause which is not included in this compliance table shall be treated as “fully complied” or C.

The Utility will assess the merits of each alternative and exception and will be the sole judge as to their acceptance.

Form 16: Format for Technical & Financial Requirement- Relationship & Details of Equity Shareholding

[Reference No.]

From:

[Address of the Bidder]

[Telephone No., Fax No., Email]

[Date]

To:

[Utility]

[Address]

Sub: Bid for Appointment of SI for implementation of Utility Billing System on SaaS basis

Ref: [Tender Details]

Dear Sir/ Madam,

We certify that M/s..... [insert name of the Bidder] have considered the technical and financial capability of its Parent and / or Affiliates, for the purpose of meeting Qualification Requirements as per the instructions provided in the RFP. The name of Parent and / or Affiliate, nature of relationship(s) with such Parent and / or Affiliate and details of equity holding are as follows:

Name of Company whose credentials considered	Type of credentials considered (technical and / or financial)	Relationship with Bidder (Parent / Affiliate)	Details of equity shareholding (refer notes below)
Company 1			
.....			
.....			
.....			
.....			

NOTES:

- i) In case of Parent, the equity holding of the Parent in the Bidder, need to be specified,
- ii) In case of Affiliate under direct control of Bidder, the equity holding of the Bidder, needs to be specified.
- iii) In case of Affiliate under common control of Parent, the equity holding of the Parent in the Affiliate of the Bidder, needs to be specified.
- iv) Relationship Of Parent / Affiliate with Bidder to be at the most seven (7) days prior to the Bid Deadline

Yours faithfully

Section 4. Bidding Forms – Technical Proposal

.....
(Signature and name of the authorized signatory of the Company and stamp)

Name:

Date:

Place:

.....
(Signature and Stamp of statutory Auditors of Bidder)

Name:

Date:

Place:

Date:

Form 17: Authorization from Parent / Affiliate of Sole Bidder/ Consortium Member Whose Technical / Financial Capabilities has been used by the Sole Bidder / Consortium Member

[On the Letter Head of the Parent /Affiliate]

[Reference No.]

From:

[Address of the Parent / Affiliate of Bidder]

[Telephone No., Fax No., Email]

[Date]

To:

[Utility]

[Address]

Dear Sir,

Sub: Bid for Appointment of SI for Implementation of Utility Billing System under SaaS model

We refer to the RFP dated('RFP') issued by you for selection of Bidder as System Integrator for establishing the Utility Billing System for ".....[Name of Project]".

We confirm that M/s. [Insert name of Bidder] has been authorized by us to use our technical and/or financial capability [strikeout whichever is not applicable] for meeting the Qualification Requirements for ".....[Name of Project]".

For and on behalf of [insert Name of Parent / Affiliated]

.....

[Signature and Name of the authorized signatory of the Company and stamp]

Name:

Date:

Place:

Notes:

1. The above undertaking can be furnished by Ultimate Parent of Technically Evaluated Entity or Financially Evaluated Entity, as the case maybe, if legally binding undertaking is also furnished by the Ultimate Parent on behalf of such Financially Evaluated Entity/Technically Evaluated Entity.

Form 18: Pre-Contract Integrity Pact

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting Bids are required to follow the applicable law in their country.]

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on day of the month of 2021, between, on one hand, the (Name of Owner) acting through Shri..... (Name and designation of Project Manager) (hereinafter called the "BUYER", which expression shall mean and include, unless *the* context otherwise requires, his successors in office and assigns) of the First Part and M/s..... (Name of Bidder) represented by Shri , Chief Executive Officer (hereinafter called the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to procure (Name of the Stores/Equipment/Item) and the BIDDER/Seller is willing to offer/has offered the stores and

WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a PSU/Utility/Department of State Govt. performing its functions on behalf of the..... (Name of owner).

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Commitments of the BUYER

- 1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organisation or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

- 1.2 The BUYER will, during the pre-contract stage, treat all BIDDERS alike and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach
- 2.0 In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

Commitments of BIDDERS

- 3.0 The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-
- 3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or for bearing to show favour or disfavour to any person in relation to the contract or any other contract with Government.
- 3.3 BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
- 3.4 BIDDERS shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
- 3.5 The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacturer/integrator/authorized government sponsored export entity of the defense stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether

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officially 'or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

- 3.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 3.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender.

The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

- 3.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

4. Previous Transgression

- 4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

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4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. Earnest Money (Security Deposit)

5.1 While submitting commercial bid, the BIDDER shall deposit an amount..... (to be specified in RFP) as Earnest Money/Security Deposit, with the BUYER through any of the following instruments:

(i) Bank Draft or a Pay Order in favour of

(ii) A confirmed guarantee by an Indian Nationalised Bank, promising payment of the guaranteed sum to the BUYER on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the BUYER shall be treated as conclusive proof of payment.

(iii) Any other mode or through any other instrument (to be specified in the RFP).

5.2 The Earnest Money/Security Deposit shall be valid upto a period of years or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the BUYER, including warranty period, whichever is later.

5.3 In case of the successful BIDDER a clause would also be incorporated in the Article pertaining to Performance Bond in the 'Purchase Contract that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.4 No interest shall be payable by the BUYER to the BIDDER on Earnest Money/Security Deposit for the period of its currency.

6. Sanctions for Violations

6.1 Any breach of the aforesaid provisions by the BIDDER or anyone employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions wherever required:

(i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.

(ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason, therefore.

(iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.

(iv) To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with

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interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the UBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.

- (v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- (vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss 'or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER
- (vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the BUYER.
- (viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
- (ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 The BUYER will be entitled to take all or any of the actions mentioned at para 6.1(i) to (x) of this Pact also on the Commission by the BIDDER or anyone employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Deleted

8. Independent Monitors

8.1 The BUYER has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance to as Monitors) for this Pact in consultation with the Central Vigilance Commission (Names and Addresses of the Monitors to be given).

8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

- 8.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 8.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- 8.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.
- 8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.
- 8.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 8.8 The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/ within 8 to 10 weeks from the date of reference or intimation to him by the BUYER / BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

9. Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

10. Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

11. Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings

12. Validity

- 12.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

13. The parties hereby sign this Integrity Pact aton.....

BUYER

BIDDER

Name of the Officer

XXXX

Designation

Witness

Witness

1.....

2.....

2.....

3.....

* Provisions of these clauses would need to be amended/ deleted in line with the policy of the BUYER in regard to involvement of Indian agents of foreign suppliers

Form 19: Format of Agreement to be entered by sub-contractors with the Sole Bidder/ Lead Member of a Bidding consortium

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country.]

FORM OF AGREEMENT BETWEEN

M/s....., AND M/s. for bidding for Tender No. [Tender Details] (the “RFP”) dated [Date] as per its Clause 1.4

1. **THIS Agreement** (hereinafter referred to as “Agreement”) executed on this[*date*] day of [*month*],..... [*year*] between
2. M/s., a company incorporated under the laws ofand having its Registered Office at, (hereinafter called "**Party 1**," or "**Lead Consortium Member**" which expression shall include its successors, executors and permitted assigns);
3. M/s., a company incorporated under the laws ofand having its Registered Office at, (hereinafter called "**Party 2**," or "**Sub-contractor**" which expression shall include its successors, executors and permitted assigns);

[The Sub-contractor should list the name, address of its registered office and other details above.]

WHEREAS the Parties abovenamed are entering into this Agreement for the purpose of submitting the Bid in response to the RFP and in the event of selection as Selected Bidder to comply with the requirements as specified in the RFP and ensure execution of the Contract as may be required to be entered into with Utility.

Party 1, and Party 2, are hereinafter collectively referred to as the “Parties” and individually as a “Party.

WHEREAS the RFP stipulates that the sub-contractors shall submit a legally enforceable Agreement in a format specified in the RFP, whereby each sub-contractor undertakes to be liable for its Roles and Responsibilities, provide necessary guarantees and pay required fees as required as per the provisions of the RFP, as specified herein.

WHEREAS any capitalized term in this Agreement shall have the meaning ascribed to such term in the RFP document.

NOW THEREFORE, THIS AGREEMENT WITNESSTH AS UNDER:

In consideration of the above premises and agreement all the Parties in this Consortium do hereby mutually agree as follows:

1. In consideration of the selection of the bidder by the Utility, we as the sub-contractor to the sole bidder/ lead member of the bidding consortium and Party to this Agreement do hereby unequivocally agree that M/s..... [*Insert name of the Sole bidder/ Lead member of the Bidding consortium*], shall act as Lead Member as defined in the RFP for self and agent for and on behalf of M/s., [*the name of the sub-contractor to be filled in here*].

Section 4. Bidding Forms – Technical Proposal

2. The Roles and Responsibilities of the sub-contractor shall be as per the **Annexure** to this Agreement.
3. The sub-contractor undertakes to be individually liable for the performance of its part of the Roles and Responsibilities without in any way limiting the scope of collective liability envisaged in this Agreement in order to meet the requirements and obligations of the RFP. The Bidder shall be liable and responsible for ensuring the individual and collective commitment of the sub-contractor in discharging their respective Roles and Responsibilities.
4. In case of any breach of any of the commitment as specified under this Agreement by the sub-contractor, the Bidder shall be liable to meet the obligations as defined under the RFP.
5. Except as specified in the Agreement, it is agreed that sharing of responsibilities as aforesaid and obligations thereto shall not in any way be a limitation of responsibility of the Bidder under these presents.
6. The Members expressly agree to adhere to all the terms and conditions of the RFP and confirm that we don't have any Conflict of Interest (as defined in the RFP).
7. This Agreement shall be construed and interpreted in accordance with the Laws of India and Courts at [Place] shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
8. It is further expressly agreed that the Agreement shall be irrevocable and, for the SI, shall remain valid over the term of the Project, unless expressly agreed to the contrary by Utility.
9. The Bidder is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Sub-contractor respectively from time to time in response to the RFP for the purposes of the Bid. The representation by the Bidder shall be deemed to be on behalf of and binding on the sub-contractor.
10. It is expressly understood and agreed between the Bidder and the sub-contractor that the responsibilities and obligations of each of the Members shall be as delineated as annexed hereto as Annexure-A forming integral part of this Agreement. It is further agreed by the Members that the above sharing of responsibilities and obligations shall not in any way be a limitation of responsibilities and liabilities of the Members, with regards to all matters relating to the execution of the Bid and implementation of the Project envisaged in the RFP Documents.
11. It is clearly agreed that the Bidder shall ensure performance indicated in the RFP. In the event the sub-contractor fails to perform its/ their respective obligations, the same shall be deemed to be a default by the Bidder Member.
12. It is hereby expressly agreed between the Parties to this Agreement that neither Party shall assign or delegate or subcontract its rights, duties or obligations under this Agreement to any person or entity except with prior written consent of Utility.
13. This Agreement:
 - a) has been duly executed and delivered on behalf of each Party hereto and constitutes the legal, valid, binding and enforceable obligation of each such Party;

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- b) sets forth the entire understanding of the Parties hereto with respect to the subject matter hereof; and
- c) may not be amended or modified except in writing signed by each of the Parties and with prior written consent of Utility.

Common Seal of..... has been affixed in my/ our presence pursuant to Board Resolution dated	For M/s..... (Party 1) <i>[Signature of Authorized Representative]</i> <i>[Name of the Authorized Representative]</i> <i>[Designation of the Authorized Representative]</i>
---	---

Witness 1

[Signature of Witness 1]

.....

Name:

Designation Witness 2 [Signature of Witness 2] Name: Designation:	
..	
N. Common Seal of..... has been affixed in my/ our presence pursuant to Board Resolution dated	For M/s..... (Party 2) <i>[Signature of Authorized Representative]</i> <i>[Name of the Authorized Representative]</i> <i>[Designation of the Authorized Representative]</i>
N.1. Witness 1 [Signature of Witness 1] Name: Designation:	N.2. Witness 2 [Signature of Witness 1] Name: Designation:

Annexure-A

Role and Responsibility of each Member:

1. Roles and Responsibilities of the Party 1 (Bidder):
2. Roles and Responsibilities of the Party 2 (Sub-contractor)

Form 20: Manufacturer Authorisation Form (MAF)

(On Letterhead of each OEM)

To: [Insert: Name of Utility]

Dear Sir/Ma'am,

We [insert: name of Manufacturer] who are established and reputable manufacturers of [insert: name and/or description of the plant & equipment] having production facilities at [insert: address of factory] do hereby authorize [insert: name & address of Bidder] (hereinafter, the "Bidder") to submit a bid, and subsequently negotiate and sign the Contract with you against [insert: title and reference number of Invitation for Bids] including the above goods and services.

We hereby extend our full guarantee and warranty for the above specified plant & equipment materials or other goods offered supporting the supply, installation, commissioning and achieving of Operational Go-live of the plant by the Bidder against these Bidding Documents, and duly authorize said Bidder to act on our behalf in fulfilling these guarantee and warranty obligations. We also hereby declare that we and, [insert: name of the Bidder] have entered into a formal relationship in which, during the duration of the Contract (including warranty / defects liability) we, the Manufacturer or Producer, will make our technical and engineering staff fully available to the technical and engineering staff of the successful Bidder to assist that Bidder, on a reasonable and best effort basis, in the performance of all its obligations to the Purchaser under the Contract.

For and on behalf of [insert: name of Manufacturer]

Signed: _____

Date: _____

In the capacity of [insert: title of position or other appropriate designation] and this should be signed by a person having the power of attorney to legal bind the manufacturer.

Date:.....

Place:..... (Signature).....

(Printed Name).....

(Designation).....

(Common Seal).....

Note:

1. The letter of Undertaking should be on the letterhead of the Manufacturer and should be signed by a person competent and having Power of Attorney to legally bind the Manufacturer. It shall be included by the Bidder in its bid.

2. Above undertaking shall be registered or notarized so as to be legally enforceable.

Section 5. Financial Proposal - Forms

Sr.	Document	Attached? (Yes/ No)	For Official Use
1	Financial Bid as per format provided in Form 1		

Form 1: Format of Submission of Financial Bid (For Reference Only)

[IMPORTANT NOTE: THE FINANCIAL BID SHALL ONLY BE SUBMITTED IN THE ELECTRONIC FORMAT. IT SHALL NOT BE SUBMITTED IN HARD COPY OR AS A PART OF THE TECHNICAL BID.]

[On the letter head of the Sole Bidder / Lead Consortium Member]

[Reference No.]

From:

[Address of the Bidder]

[Telephone No., Fax No., Email]

[Date]

To:

[Utility]

[Address]

Sub: Financial Bid for Appointment of SI for implementation of Utility Billing System under SaaS model.

Ref: [Tender Details]

Dear Sir/ Madam,

We, the undersigned [Insert name of the Sole Bidder/ Lead Consortium Member 'Party 1'], representing [Insert name of the Consortium Member (if any) 'Party 2'], having read, examined and understood in detail the RFP for Implementation of [Utility]'s Billing System hereby submit our Financial Bid. We hereby undertake and confirm that:

- A. We have submitted our Financial Bid strictly in accordance with the RFP without any deviations or condition.
- B. Our Financial Bid is consistent with all the requirements of submission as stated in the RFP and subsequent communications.
- C. Price quoted clearly mentions the total cost (basic cost, Goods and Services Tax, or any other taxes/duties/levies).
- D. Under no circumstances shall escalation in prices of this Financial Bid be entertained by Utility except due to factors mentioned in Clause 4.3 3. of Section 7.
- E. The details quoted herein shall stand valid at least for 6 months from the date of submission of this Financial Bid and for implementation of Project, if awarded, as per the timeframe indicated in the RFP.

Section 5. Financial Proposal – Forms

F. Our Total Cost of the Project for the contract period is INR.....; and the quoted price will be a fixed for the entire contract duration

G. Our quoted prices are as per the Annexure attached herein.

Dated the [Insert date of the month] day of [Insert month, year] at [Insert place].

Thanking you,

Sincerely yours,

[Insert Signature here]

[Insert Name here]

[Insert Designation here]

Annexure: Quoted prices for the Financial Bid.

<Please Note: The items are indicative only. This needs to be detailed out and customized by Utility basis project requirement. Any variation in GST and or cess on the Items specifically mentioned above shall be on account of the Utility and no other items including hardware and software that may be necessary for putting the Billing system in place>

Table-1: Financial Bid (For the purpose of tender evaluation and contract award)

S. No.	Item Description (A)	Quantity in Nos. (B) (Billable consumers)	Rate per billable consumer including all taxes and duties other than GST (in INR/ month/ billable consumer) (C)	GST applicable in % (D)	Total cost (E = B x (C x (1+D%)) x 60 months)
1.1	“Rate of use of Billing system per billable consumer per month” inclusive of cost of providing all the services as defined in the RFP, including but not limited to provisioning the cloud infrastructure (DC-DR), Billing system modules, and all related software, middleware, database, tools, network bandwidth, and cost of design, development, testing, commissioning, migration, integration, operations & maintenance (FMS), scheduled upgrades and manpower.	6,70,000			
	Total				

Total Cost of the Project (E) = INR [X] (in words)*Necessary Considerations*

1. Rates will be quoted in INR up to two decimal places only.
2. Total Bid Value (total quoted project cost) will be assessed on the basis of quoted rates for the given respective normative quantities and the number of months of billing (60 months).
4. The bidder with the Lowest Total Bid Value will be declared as the successful L1 bidder.
5. It may be noted that the normative quantities given are only the indicative estimated quantities for the purpose of bidding and evaluation. The actual quantities for Billing system services may vary to the extent as specified in the RfP.

Table-2: Financial Bid Break up (Break-up of the total financial bid price given in Table-1 to be provided in the following table. In case of any discrepancies, figures in Table-1 would be considered.)

Sl. No.	Components	Cost including all taxes and duties other than GST (In INR)	Cost including all taxes and duties including GST (In INR)
1	Billing System Implementation Phase Cost		
2	Part H – Billing System - ATS Cost (For 5 Years)		
3	Part I - Cloud Service Provider (CSP) Cost (For 5 Years)		
4	Part J – Facility Management Services Cost (For 5 Years)		
Total Cost (In INR) (1 + 2 + 3 + 4)			

Note:

Any item/ material either hardware or software required to meet the functionality specified in the tender document whose related component is missing in the above table has to be accounted by the Bidder and the price of the same is assumed to be reflected and taken care in the price specified to the Utility by the Bidder in this commercial bid. Utility is liable only to pay the Contract price as per the payment terms mentioned in the RFP to meet all the requirements as specified in the RFP

Table-2(a): Billing System Implementation Cost Break-up

Sl. No.	Components	Price (In INR) (excluding GST)	GST applicable in %	Total Price (Inclusive of GST) (In INR)
1	Part A - Billing System Software Cost (License component)			
2	Part B - Billing System Hardware Cost			
3	Part C - Billing System Implementation services			
4	Part D – Cloud DC and DR Centre			
5	Part E – Billing System Audit			
6	Part F – Training Cost			
7	Part G – Manpower Cost			
Total Cost (In INR) (1 + 2 + 3 + 4 + 5 + 6 + 7)				

Table 2(c): Part D - Cloud DC and DR center

Sl. No.	Component	Unit of measurement	Config of each VM	Total quantity – VM on cloud	Unit rate (In INR) (excl. GST)	GST applicable in %	Total Price (Inclusive of GST) (In INR)
Total Cost (In INR)							

Table 2(d): Part G – Manpower Cost

Sl. No.	Components	Total estimated person days required (I)	Person day rate (II)	Total Cost (III = I * II) (in INR)
1	Project Manager	1440		
2	Billing system Module – Functional Leads (Total XX - Resources one for each Module)	2160		
3	Distribution Sector Specialist	360		
4	Change Management Expert	360		
5	ICT Infrastructure Lead	360		
6	Cloud services expert	360		
7	Lead Programmer	360		
8	System/Database Administrator	1440		
9	Enterprise Architect/ Integration Expert	1440		
10	Solution Tester	360		
11	Network Expert	360		
12	Security Expert	360		
13	Mobile Application Expert	360		
14	Data Migration Lead	360		
15	Bid Management Expert	360		
16	Facilities Management and Help Desk Coordinator	1440		
17	IT Support Staff	1440		
Total Cost (In INR)				

Table 2(e): Part H – Billing System - ATS Cost (For 5 Years)

Sl. No.	Description	Year	Price/ year (In INR) (Excl. GST)	GST applicable in %	Price/ year (In INR) (Including GST)
1	Billing System - ATS	Year 1			
2	Billing System - ATS	Year 2			
3	Billing System - ATS	Year 3			
4	Billing System - ATS	Year 4			
5	Billing System - ATS	Year 5			
Total Cost (In INR)					

Table 2(f): Part I – Cloud Service Provider (CSP) Cost (For 5 Years)

Sl. No.	Description	Year	Price/ year (In INR) (Excl. GST)	GST applicable in %	Price/ year (In INR) (Including GST)
1	Cloud Service Provider (CSP) Services	Year 1			
2	Cloud Service Provider (CSP) Services	Year 2			
3	Cloud Service Provider (CSP) Services	Year 3			
4	Cloud Service Provider (CSP) Services	Year 4			
5	Cloud Service Provider (CSP) Services	Year 5			
Total Cost (In INR)					

Table 2(g): Part J – Facility Management Services (FMS) Cost (For 5 Years)

Sl. No.	Description	Year	Price/ year (In INR) (Excl. GST)	GST applicable in %	Price/ year (In INR) (Including GST)
1	Facility Management Services (FMS)	Year 1			
2	Facility Management Services (FMS)	Year 2			
3	Facility Management Services (FMS)	Year 3			
4	Facility Management Services (FMS)	Year 4			
5	Facility Management Services (FMS)	Year 5			
Total Cost (In INR)					

Section 6. Project Requirements

Billing System Requirements and Service Level Agreement

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Billing System Requirements & Service Level Agreements

1. Overview of various Modules under Billing system:

The objective of this RFP is to select a System Integrator (SI) who can provide a COTS/ Bespoke Based Billing System on Cloud Infrastructure on “Pay-Per-Billable Consumer” SaaS model, having the following modules.

S. No.	Software Modules
1.1	Revenue Management System including MBC with New Connection & DC-RC
1.2	Customer Relation Management
1.3	Web/ Mobile-based portal and apps
1.4	Energy Audit
1.5	Management Information System Dashboards and Reports
1.6	Prepaid Engine
1.7	Centralized Customer Care System including Helpdesk Module
1.8	Feeder Information System
1.9	Document Management System (DMS)
1.10	Reconciliation
1.11	System Support with Ticketing
1.12	Identity and Access Management

SI shall implement a comprehensive one stop Billing solution is required which is to be a COTS / Bespoke product, which shall be configured and customized as per business requirements of the Utility.

The Billing System shall support current billing methodologies prevalent in the Utility (e.g., spot billing, standalone Prepaid Meters, Smart (Post-paid + Prepaid) Meters, MDAS, CMRI Manual/Estimated reading etc.).

This web-based application shall have the most robust, flexible and configurable billing engine for generation of bills on various modes and technologies that are adopted currently by the utility thus providing the required flexibility to the Utility in adopting to the latest technology advancements for effective, transparent and timely billing.

The Billing System shall comply with the existing electricity tariff structure of the Utility and will have no impact on the billing, subsidy scheme and regulatory requirements as and when issued by state Electricity Regulatory Commission (ERCs)

The System shall be integrated with communication channels like SMS Gateways, Payment Gateway though it's in-built capability. Provision of Log monitoring, Resource monitoring, Cyber Security System Monitoring as per CERT-In/NCIIPC/Min of Power or any other competent authority shall be followed.

The system should be able to efficiently integrate with the existing applications and various future applications as and when available by utility like MDM, MDAS, GIS, etc. to extend the business flow across different applications as a generic capability.

The proposed solution will offer the personalized MIS and Management dashboards for each state based on state-specific requirement. The proposed solution will offer advance analytics to enhance the revenue realization of DISCOMs through real-time monitoring and event analysis.

The Billing system should support Interoperability & based on Open Standards, it should be able to inter-operate with other heterogeneous platforms.

All tools required for Testing should be as per industry standards and the testing scopes to be included should consist of unit, system, regression, load, performance etc. In case any third-Party tools are required, the same is to be arranged by the SI for this project on its own cost.

The system shall have provision to identify the consumers liable for disconnection and shall have provision to generate notices, lists, send email and SMS alerts.

The system shall have provision for accounting consumers with special meters like prepaid meters and shall support the entire meter-to-cash cycle or integrate with the third-party systems for enabling the same.

Agile standard development methodology should be adopted for Software Development, covering the entire SDLC (Software Development Life Cycle)

The bidder should 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 OEM product and other integrated systems. The technical solution should include –

- Technical architecture including OEM solution internal architecture and existing systems required to be integrated
- Approach on DC and DR replication details
- Proposed approach on cyber/ data security
- Complete details of each software and cloud resource including license, processor, SAN storage etc.

Deployment of Separate Security Zones for Production, Development & Web services.

The SI will ensure the migration of all the consumer business and technical master data, geo data and transaction data pertaining to consumer meter reading, billing, collection, complaints and any other items which may be critical and necessary for being available to run all the proposed applications, efficiently and effectively along with historical data of minimum 5 years or based on availability from DISCOM end.

1.1 Revenue Management System including MBC with New Connection & DC-RC

1.1.1 Metering and Billing

The meter reading and billing function covers the processes of planning, execution and monitoring of reading and billing cycles. System implementation must cater to following business processes requirements.

- a. Creation and Management of consumers group, reading and billing cycles as per geographical area, consumer segment and regulatory guidelines of the Utility

- b. Processing of meter readings through different modes like handheld devices, manual entry, automated meter reading, mobile devices, standalone prepaid meters, smart meters etc.
- c. Scenario based meter reading estimation as per regulatory guidelines and current practices of Utility.
- d. Reading and billing credibility, quality check and control at various levels with different specified criteria and thresholds as per consumer categories and segmentations of various Utility.
- e. Option of out sorting check control and instant report at user level prior invoicing of bills with different specified criteria and thresholds.
- f. System should support data validation with features such as it should be designed to minimize data error, incorporate the logics supplied by the Utility to check validation in meter reading data and generate exceptions reports based on that (for any non-reading or erroneous reading of meters), update the changes as per exception report
- g. System should be able to initiate a work queue for meter read validation & subsequent actions
- h. System should support validations for the spot metering and billing data updated in the following ways:
 - i. Validation of the uploaded data from the meter reading instruments/mobiles/SBM etc
 - ii. The system should be able to accept other data like coordinates, photograph of meter in case of future deployment
 - iii. System should prompt the meter reader from entering wrong readings
- i. The software shall have provisions for retrospective and prospective billing.
- j. The software shall have a flexible, user configurable tariff/ TCOS and business rule management interface and almost all the changes can be configured without changing at the code level.
- k. Provisions for monitoring of meter reading and billing cycles for past and present data at different levels as defined by utility.
- l. Accounting of Installments, part payments, advance payments, Govt. subsidies, write/waive offs etc. as per prevailing practices of the utility.
- m. Provisions for auto and manual bulk update/replacement of meters.
- n. Integrations with email and SMS systems for low credit, disconnection alerts, reading dates alert, bill intimation, bill due dates reminders etc
- o. Processing of bills in all billing scenarios like prepaid, solar, net metering and billing, multiple meter installations etc
- p. System driven calculations for bill revision amount for assessments as per regulatory guidelines and current practices including retrospective revisions
- q. Processes and provisions for billing for cases related to theft/unauthorized billing, load assessment bills, final billing, supply not in use, temporary disconnections
- r. Provision for multiple methods of delayed/late payment surcharges such as per day interest, fixed percentage charge for period between two bills etc. as per regulatory guidelines of the Utility.
- s. Spot billing through devices connected both online/offline through central system ensuring billing and invoicing as per central billing system rules and data updated.

- t. System will support data downloading to and uploading from handheld devices used for spot metering & billing and MRI and should also be able to interact with android based mobile devices for accepting meter reading
- u. System should support meter reading for temporary connections. This would mean capability of the system for accepting opening, closing and intermediate meter readings for bill generation and renewal of connection
- v. System should support following functionalities for final meter reading for connection closure:
 - (i) For all kinds of disconnections (whether a customer requests for termination of connection or utility disconnects due to non-payment), the system should accept the terminating meter reading (which will be out of cycle in most cases) for generating the last bill.
 - (ii) In case of meter replacement, the system should be able to accept the final read. This shall be applicable for mass replacement of meters as well.
 - (iii) There should be support billing and support for updating of ratings results and meter change details.
- w. Descriptive bill form covering regulatory requirements and utility defined fields along with consumer information sheet for any adjustments made and security deposit details.
- x. Configuration of Billing Master data in accordance with regulatory guidelines as per prevailing practices of the utility
- y. Provision to change, modify and add new logics centrally in user friendly manner through a flexible and user configurable system. The new changes shall reflect on bills generated for period in accordance with validity period applied.
- z. Provision of Bill correction and payments reversals/reset as per prevailing practices of the utility with proper access rights and audit trail
- aa. Auto and manual process for updating various key parameters as per Business rules of Utilities.
- bb. Provision of Generation of Dunning and Disconnection notice for non-payment (Except Stay from the Court/Settlement committee/VCR monitoring committee, Competent authority etc.
- cc. Provision for Updating and maintenance of security deposit and interest for LT & HT consumers along with TDS etc.
- dd. Provision for metering summation for consumers where there is requirement of billing for multiple meters installed at their premise
- ee. Provision to maintain and edit consumer walking sequence in bulk for efficient reading and bill distribution
- ff. Printing single bill or in mass including re-print and creation of file with all bill printing parameters for printing through external agency, download of bill through website
- gg. Manual bill process for corrections confirming to approvals
- hh. Posting of Non-Energy charges through bills
- ii. Generation of Provisional bills on the basis of estimation rules defined by utility for not read cases. Such provisional bills will be automatically adjusted on subsequent actual reading-based bill generation without any bill's reversal.

- jj. Bill correction with two stages of processing – with a maker checker concept as per the requirements of utility.
- kk. Shall support interfacing with multiple AMI/AMR systems (upcoming and ongoing, both projects)
- ll. In case a meter reading becomes overdue (Discom specified criteria), the system should generate the necessary exceptions and alerts

1.1.2 Payment Collection

- a. Seamless integrations with different external channels of payments like online debit / credit cards, E Wallets, UPI, Net banking, NEFT, ECS etc. with tracking and reconciliations
- b. Process for holding recovery proceedings based on cheque submission, but recognition of payment on cheque clearance only.
- c. Immediate acknowledgement of payments by the system for further proceeding like new connection, reconnection etc.
- d. Processes for cheque dishonor cases with provisions of reversal of any payment recognized by the system, levy of handling charges, generation of notice under Negotiable Instruments Act, blocking of further payment by cheque till a defined timeframe/logic with appropriate message on bill for same and validations with other business processes
- e. Daily reconciliation of cash and bank collections with generation of daily total for the receipts issued for the day, daily reconciliation of the cash collected with the amount entered in the system as payment received, capturing of all bank remittance details. At the end of a period, the system should reconcile them with the bank statements.
- f. Interfacing with special drives in certain cases (e.g. during special collection drives, collection by spot billing agent etc.) where collections are made taken at site with necessary provisions of receipt generations, reconciliations etc.
- g. Capability to cancel receipts at cash counters due to wrong entries or some other reasons with logic and tracking of such transactions, reversal/corrections of the payment applied to a particular account in case errors are detected at a later stage
- h. Provisions for automatic creation of books of accounts based on the transaction for collections, varying and flexible settlement logics for various components of payments received
- i. Management of security deposits with periodic calculations, revisions and posting in consumer accounts
- j. Flexible and varying settlement mechanisms based on consumer accounts including part payments, late payments etc.
- k. Handles the entire payment collection of the utility including all types of revenue and non-revenue payments
- l. Multi-tiered approach to handle operations at all levels
 - a. Cashiers & Supervisors at the Cash Offices
 - b. Controlling Officers at Treasury Department
 - c. Senior Management
- m. Automatic generation of Cash Book

- n. Automatic generation of Lodgment Report
- o. Data integration with billing for final accounting
- p. Integrates with other downstream ITESs of the company
- q. Role based security
- r. Extensive MIS to facilitate monitoring and Control
- s. Rigorous Data Validation Process to ensure data integrity
- t. Deployed Over a High Available Architecture
- u. The system should generate a receipt with a unique transaction id/ number whenever money is collected. The system will allow payments to be collected under the payment categories indicated by Discom
- v. The system should generate a daily total for the receipts issued for the day. This would enable the daily reconciliation of the payment collected with the amount entered in the system as 'payment received'. The system should also capture all bank remittance details. At the end of a period, the system should reconcile them with the bank statements
- w. Acceptance of part/advance payment - The system should have the flexibility to accept full, partial or advance payments. The system should also have the facility to centrally change these settings from time to time
- x. The system should allow generation of reminders by SMS/ letters/emails at specified dates – before the payment due date, and notices for disconnection, dismantlement
- y. System shall be capable to cancel receipt at cash counters due to wrong punching etc. The details of cancelled receipt to be kept in the system and the same may be printed on the new receipt also. System should also provide to adjust the payment applied to a particular account in case errors are detected at a later stage, e.g. payment getting applied to a wrong customer
- z. System should support group payment facility for acceptance of one single payment for set of consumer accounts. System should generate reconciliation reports for the same. System must be capable of handling centralized or decentralized payment processing. System must be able to generate & send SMS/Email automatically to customer for every payment received as per the requirement and directions of utility.
- aa. All payments should be associated with the login-id of the cashier or person who operates the cash counter. Each payment should include machine ID, Payment centre codes at which they were received, unique receipt number. System should have the flexibility of reversal of payments in case of cheque dishonour. Blocking of further payment by cheque till a defined timeframe.
- bb. System should have the logic of defining the distribution of the payments against the bills based on the specific order or as defined by utility like Tax, Interest, Revenue etc. System should generate centralized collection report and closing of collection process (cash book) on daily basis with relevant approval. System should support monthly payment.

1.1.3 Disconnection and Reconnection

The module must cater to the following business processes requirements:

- System should be capable to manage, monitor and execute the dunning and disconnection related activities.
- The proposed solution shall have the provision to identify the consumers liable for disconnection and shall have provision to generate notice and send to consumers by post, email, SMS wherever applicable or any other information channel and direct disconnection order.
- It will send system-based email and SMS alerts to consumer regarding low credit limit, Zero credit balance, dunning and disconnection order.
- System shall support Voluntary Disconnection activities.
- The system shall have work flow-based rules for temporary disconnected, deemed disconnected and permanent disconnected consumers as per the practices of utilities for adjustment of deposit, preparation of final bill and write-offs.
- The system shall have facility to push the disconnection list and reconnection list to the system/portal/mobile apps for implementing disconnection and reconnection as per the practices of utilities.
- The system should be able to track reasons for failure of disconnection/dismantlement and escalate the case to a user-defined higher authority.
- The system shall generate a report if the disconnected consumers are not paying the dues after disconnection within a period specified by utility.
- The system shall have provisions to transfer dues/security deposit from one connection to another connection(s) including transfer of dues/security deposit of disconnected connections to other live connections of the same owner.
- System should be capable of generating the list of bill payment defaulter consumers as per various criteria on need basis.
- System should be capable to accept report of action taken on defaulted consumers and remind further action required to be taken during specified period – to be discussed
- The system should recognize payment received on real time basis and shall be able to raise exceptions for disconnected customers accordingly, so that the field staff can be informed on payments made after the disconnection list has been generated, to avoid unnecessary trips to the customer premises.
- Auto generation of reconnection list, and facility to bulk updation on a single screen as per the requirement of the company
- Support Automatic Recovery process viz, Final bill with adjustment of deposits or arrears once the installation is disconnected for payment default and cancellation of recovery/disconnection process on receipt of payment before the expiry of termination notice

1.2 Customer Relation Management Module

This module must cater to the following business processes requirements:

1. New connection process includes different types of connections e.g., permanent connection, temporary connection, special cases like instant connections, camp connections, puja connections, government quarter connections etc. as per the requirements of utility
2. Change processes including change of name, load, ownership, government quarter occupancy changes etc
3. Other conditions include change of category, nature of connection, tariff etc. and/or its combinations
4. Different processes like meter burnt, meter stolen, meter shifting or other deposit works etc. as per practices of utility
5. Master data creation and updates for consumers, meters etc. must seamlessly integrate with MDM system without any need for intervention by the user
6. Verification process shall have a procedure of uploading scanned documents for further processing of new connection application and will be managed accordingly by the DMS module
7. All applications, quotations, site inspection, payments etc activities related to the above-mentioned procedures is to be managed under the module and should be viable through web portal/app/govt linked sites/site offices
8. Consumer can track the status of the applications and also receive email, SMS alerts on each application stage and status of application
9. There should be an option of online Grievance handling mechanism where the consumer can docket the complaints (such as power outage complaint, high bill complaint, request to change the information etc) online through docketing, app, web portals etc and the docket is forwarded to the concerned official for proper redressal and the update regarding the same should be available in the system. There should be tracking mechanism to check the status of complaint
10. Should have automated workflows for contact management, case management, Activity Management, shared contacts, appointment management, document and file management etc.
11. Should have client interaction tracking features like customer segmentation, customer profiling, interaction management, payment management etc
12. Notifications to reference the electronic transactions that exchange with third parties when:
 - i) They need information about a customer
 - ii) They need to change something about a customer
13. When a notification is received by the Utility, the system responds by creating a workflow process. The workflow process contains workflow events. These events perform the processing necessary to execute the notification.
14. The system periodically monitors how much your customers owe to ensure they haven't violated overdue rules. When a violation is detected, the system creates an overdue process. The overdue process contains the events meant to prod the customer to pay (e.g., letters, disconnect field activities, To Do entries, write-off outstanding debt, etc.).
15. Should have comprehensive marketing and campaign management including but not limited to; campaign design, batch email marketing, auto responder, email tracking, triggered email, customer targeting, campaign analysis, campaign delivery etc.

16. Should have workflow automation and employee management capabilities including but not limited to; group calendar, task scheduling and tracking, performance tracking, employee records, organizational hierarchy, workflow management, social CRM etc.
17. Should have strong analytical capabilities including but not limited to; sales intelligence, sales reporting, sales forecasting, activity dashboard, revenue cycle modeling, business intelligence etc
18. Should have knowledge management capabilities such as document creation, knowledge creation workflows, advanced search capabilities etc.
19. System should be able to integrate business processes involving customer touch points from various systems such as ERP, OMS, RMS, GIS, Web, Mobile, Field workforce management etc. act as central repository for customer information, analyze the data using data mining and other technologies to feed actionable insights to operations and business teams
20. System should be able to predict call center volume from 1 day to 14 days in advance to inform scheduling.
21. Should be able to predict times and conditions of customer complaints down to the individual customer and address them proactively with automated notifications.
22. Should have an inbuilt web-based bot tool which uses Artificial intelligence to answer customer questions as they type.
23. The system should be linked through mobile SMS in a “closed user group” to breakdown / mobile maintenance staff. Immediately upon receipt of a no-supply complaint, an SMS will be sent by CC centre to the breakdown/ mobile maintenance staff for fault restoration. After restoration of the fault, the breakdown staff will close the complaint at the CC centre.
24. System should be able to maintain various complaint types along with the escalation matrix. The system should allow configuration of SLAs.

1.3 Web/ Mobile-based portal and apps

The System integrator shall provide a website portal and a mobile application (for smart phone and tablet devices using latest and commonly available browsers and operating systems and platforms) using which customer/utility users can readily access to the relevant services provided by the utility to their consumers. The mobile applications should have backward compatibility up to last 4 major versions. Also, when a new Android/iOS version is released during project duration, the application should be made compatible with that version without any extra cost.

The Apps/ Portal developed should have the following basic characteristics and features:

- a) The platforms used for development of mobile apps should support development of Hybrid Applications/Native Apps.
- b) User Interface and User Experience of portal/ mobile App is to be designed to ensure that the service is user friendly.
- c) Design of consistent visual elements and Web Portal & Mobile Apps architecture that is scalable and expandable.
- d) Resolution independent portal/ Mobile Apps that will automatically expand/compress itself as per the device screen resolution and should be as per standards of W3C.

- e) Delivery of mobile applications should be in the form of a published mobile application on Android mobile phone
- f) Integration with any existing applications through SOA (service oriented architecture) - Web services/API/ JSON, Social Media platform, etc.
- g) The solution Framework, tools, technology of portal/ mobile App Development platform should be submitted along with technical proposal and should be able to address the future scalability requirements, in terms of both application (to add new services) and infrastructure and backend.
- h) The mobile Apps should provide an update feature in case of newly published version.
- i) The mobile applications will be hosted on mobile applications platforms (App store, Play store, Microsoft etc.) whereas the web portal/application and services and related APIs will be hosted on servers/ cloud environment.
- j) Provide technical documentation, design, architecture, technology, tools etc. which will be used to develop Mobile Apps / Portal
- k) Integrate with the backend systems (user profile and registration, authentication, application processing, push notifications, etc.).
- l) The data must be fetched from predefined data in central database and all the data should be directly updated to the central database
- m) The complete solution proposed must be SOA compliant and preferably based on secured open standards.
- n) Vendor should have experience in hosting the mobile Apps and updating new versions as and when required. Vendor should provide all the details and should be part of technical proposal.
- o) Mobile applications developed on development platform provided by the bidder should run on all types of handsets/TAB/Smart phone existing as well as new handsets coming in the market. The bidder shall provide upgrades/patches etc.
- p) The platform should provide the means to manage subscriptions of push notification services, etc.
- q) Mobile applications to be implemented in pursuance to the International & industry standard implementation standards and procedure for successful implementation of the project.

A. Utility User Interface

User interface for utility shall have ability for at least the following functionality:

- a) Enable the user to see how different options within a rate affect costs.
- b) Enable the user to see how adjusting load or consumption levels or shifting them to different time periods influences costs.
- c) Display meter data at a user defined configurable cycle that allows authorized users to view energy usage patterns and the data behind them for selected consumers.
- d) Allow authorized users to view metered data, initiate and view reports, modify configurations, and initiate and update service requests.

- e) Display the energy usage profile for a single meter or group of meters. The load profile shall illustrate energy consumption and peak demand in user defined intervals for a user-specified time period.
- f) The UI shall support a configurable utility dashboard for Operations and Utility Management
- g) User management with roles and access rights
- h) GUI to provide role-based access based on user identity and user role. Shall have following types of users:
 - Administrator
 - Operator
 - Field staff
 - Viewer/Guest
- i) Option to send marketing messages and notification to select consumers or selected category of consumers
- j) Facility to enable or disable existing functionalities/sections of App/Portal for consumers use.
- k) Authorized representative to be enabled for consumer engagement analytics. The analytics to be configurable/ generated with minimal database skill and nil programming requirements.
- l) Representative to be able to generate various reports at different intervals the various report. It shall be also possible to export the report data in multiple formats such as XLS, CSV format, etc.
- m) Provide consumer interactions history to enable efficient consumer complaints and queries resolution with consumer information in single screen.
- n) Information access through a single screen required for Consumer, Meter, billing and Payment history. Details like consumer name, address, consumption history, payment history, billing history, load survey data, interaction history, complaints status, area details, indexing with Network details etc. should be readily and easily visible
- o) Integration with heterogeneous systems and MDMS to provide the consumer profile like Energy consumption, billing status, payment status, Prepaid Smart Meter recharge and other requisite inputs
- p) Integration with heterogeneous systems and MDMS to provide specific reports as per the requirement of Utility
- q) Dynamic dashboard with notification to Users based on role assigned on Revenue related cases-
 - Pending New Connections
 - Defective Meter Replacement
 - Pending Disconnections
 - Unbilled
 - Provisioning of System for monitoring
 - Misuse of Tariff,
 - Theft Consumer Analysis,
 - Power Interruptions,
 - Load violation
- r) Provision of the details of consumer through different inputs like Consumer Account No, Meter No, Consumer Name, Email-ID, Mobile No etc.
- s) Shall run in integration with GIS, outage management, billing, mobile application, Web Service, and other systems required by utility
- t) Integration between CRM for complaints reference and resolution status
- u) The SI shall provide minimum 3 types of Dynamic Reporting
 - Operational
 - MIS
 - Random Ad-hoc Query based with selection of criteria

- v) Compare total energy costs on one rate schedule vs. one or many alternative rates.
- w) Enable the user to see how different options within a rate affect costs.
- x) Enable the user to see how adjusting load or consumption levels or shifting them to different time periods influences costs.
- y) Configure the look, feel, and functionality of the MDM in accordance with business needs, business processes, and business conventions. (E.g., GUI, content, look and feel of screens, validation rules, exception handling, etc.).
- z) Ability to set up alarm and event notifications that can be directed to a combination of configurable email addresses, cellular text messages.
- aa) UI shall enable viewing of the credit amount updated in MDM for prepaid consumers.

B. Field Activity and Workforce Management Mobile solutions

- a) The SI should provide an admin portal and a mobile application (for smart phone and tablet devices using latest and commonly available browsers and operating systems and platforms) using which field workers can execute work orders, asset management and service orders
- b) Provision of completing field activities and updation through processes like Meter feeding, Disconnection, Reconnection, New Connection, and other attribute change through access to system processes from field sites using mobility solutions for Field Activity and Work Force Management Apps.
- c) Ability to electronically initiate, assign, and track both pre-defined and user-defined work requests against an asset and track from inception through completion with a flexible, easily managed workflow process
- d) User has ability to create work orders directly from service requests or otherwise. Attach multiple electronic documents and photographs to a work request for accessing necessary information as related to the asset
- e) User should be able to highlight, bookmark digital documents for future use and leverage in day-to-day work.
- f) Recurring preventive maintenance (PM) activities can be scheduled on specified dates, days of the week, days of the month, and may be created based on rules for events, time, etc.
- g) Functionality includes access to GIS generated maps, completing work requests, entering resources, creation of assets, editing of assets including location and attributes, and creation of a work request
- h) Automation of email notifications and/or alerts as: reminders for tracking expiring agreements, warranties, and maintenance renewals; when a task/work request is assigned to an employee; at material reorder points
- i) Field ability to remotely pull up the complete history of an asset. Field ability to update or add asset management data.
- j) System has asset hierarchy that can include locations, sub locations, parent assets and child assets.
- k) Produce, track and maintain warranty information, maintenance renewals, and generate inspections on all assets, along with the ability to issue preventive maintenance work requests
- l) Maintenance triggers and schedule based on customer defined parameters such as warranty expiration, usage hours, asset age, etc.

- m) Ability to easily view the history of work performed on an asset, the resources used and the cost as well as a summary of the total cost of maintaining an asset
- n) Ability to connect with barcode readers, RFID tags and QR codes to update the asset audit information.
- o) Vendor will provide list of compatible RFIDs, QR code or Bar Code systems
- p) Ability to Keep track of all inventory across multiple locations.
- q) System has integrated warehouse inventory management with the work order system, so that materials checked out of a warehouse are associated with a work order.
- r) Capture time entry direct from field staff with direct integration with timekeeping system.
- s) Provides an interface to access various guides and documents for completing the work in the field
- t) Ability to create custom reports.
- u) Ability to export data to MS Excel, as a CSV (comma separated value) file and in other common formats
- v) Map viewer should provide tools to users for performing basic geographic and EAM related tasks: for example, calculating measurements, determining relationships between assets, work orders and service requests
- w) Provide a web-based portal for city employees (internal customers) to create and submit requests for service.
- x) Integrated with Customer/Citizen portal (external portal) creating service requests that would be visible to the admin to assign / change to a work order.

C. Consumer Portal/ App

Utility intends to provide value added services using the deployment of proposed system and data analytics to the extent possible to enhance customer experience and customer engagement. Consumer portal and mobile application shall cover all consumer categories and category specific features as applicable prior to operational Go-Live. These apps shall have provision to enable features required to facilitate consumer participation in Demand Response programs which the utility may choose to roll out in future. The consumer web portal and the mobile application (for smartphone and tablet devices using latest and commonly available browsers and operating systems and platforms) shall provide consumers, ready access to features extended by MDM. The Solution shall integrate via a user-friendly graphical interface. It shall facilitate self service capabilities such as usage management, billing, service requests, participation in energy efficiency programs etc. It shall be noted that the Consumer Portal / App acts as the bridge between the consumers touch point and the existing utility Customer Care and Billing Systems. It does not replace these legacy systems in place.

Following features shall be supported by Portal / Mobile app:

1. The mobile app and web portal shall support all device form factors such as mobile, tablet, desktop etc. by recognising the device details automatically.
2. It shall be OS agnostic to operating system and devices (iOS, Android, etc.)
3. It shall work on all standard browsers such as Internet Explorer (IE), Chrome, Safari, Firefox etc.
4. The application should be modular and scalable COTS/ Bespoke product.
5. The application should be for better user experience.

6. It shall support multiple languages viz Hindi, English and local language(s). Also, notifications should be sent to consumers in local languages.
7. The user experience of the citizen on the Portal and App shall be similar in terms of look and feel, navigation, menu and access to preferences and other data.
8. Menu should have navigation options, not limited to, Home, Settings, Recharge, notification preferences, usage rates, change password, terms and conditions, privacy policy, sign out.
9. It shall have search functionality across all the pages.
10. Software patches, updates, and version upgrades, when they become available for general release, should be part of ongoing support and maintenance services.

Functional Requirements of Consumer Portal/ App

Web portal and Mobile app for consumers should have minimum following functionalities:

- i. The consumer portal/app shall have a landing Home page. This page shall provide a brief description about the Utility, any promotional features or advertisement for special programs can be placed in this page. Login Component is provided, and registered users may login using their username and password. New Users can also register by clicking on the First Time Users Register link. The Forgot Password link helps the user to retrieve their password. New users can register by providing their personal information and setting up of security answers. Forgot passwords can be retrieved or reset using OTP through registered mobile number or through email address. The registered users can change their password and account information as well as registered mobile number through OTP feature.
- ii. The consumer portal/app shall provide consumers with access to consumer ID, meter ID, meter type and name plate details, besides other account information such as account name, address, balance, due, status etc. Any status message pertaining to the account/s viz. alerts/actions shall be displayed here. It shall also provide current and historical consumption in graphical formats for at least 12 months. A more detailed analysis can be provided in a tabular format listing meter reading date, reading, consumption, charges, selected period etc. Consumers shall be able to view interval data, outage flags, voltage, power quality
- iii. Indications, existing tariffs and incentives for selected period. Information about different consumer engagement programs shall also be displayed here.
- iv. The portal/app shall have the ability to provide option for registering in online/paper billing to the consumer. There shall be a bill summary page that shall display bill information in summary and also option for detailed view and download in pdf format if required by consumer. The user shall be able to pay bill for single and multiple accounts.
- v. The application should support integration with multiple Payment Gateway Aggregators for different payment modes like online banking, Credit Card, Debit Card, Wallet, BBPS, UPI etc. to allow consumer payments through digital mode.
- vi. The portal/app shall be integrated with existing helpdesk of the utility and can provide option for recording service requests/complaints lodged by the consumer as new connection, disconnection, load change, category change, meter shifting etc. The user can

- view the service request status. The user can register complaints viz. power failure, faulty meter, streetlight outage etc. There shall be option to track status of service requests.
- vii. Mobile App and Web Portal shall facilitate Chat-bot functionality of the utility's Help Desk. The portal/ App shall support configuration of notification types via email/ SMS/ message/automated call (through utility IVRS), of configured alarms & events.
 - viii. Integration with billing software and other applications to be ensured for requisite data authenticity
 - ix. The consumer Portal/ App shall have the ability to provide the consumer near real time online views of both usage and cost differentiating high energy usage periods, helping consumers to understand electricity usage and cost information, alerts and notifications and energy savings tips with different levels of detail. The Portal/ App shall support the view for past electricity usage, last week's, yesterday's, current days or other period etc. as per selection as well as voltage and power quality indications. The portal/ app shall provide user friendly access to consumer for their data via graphs and charts and can download the data into a spreadsheet.
 - x. The portal/app shall provide option to the consumer to view/download online bill. There shall be a bill summary page that shall display bill information in summary and option for detailed view and download in pdf format. The user shall be able to pay bill for single and multiple accounts.
 - xi. The portal/app shall also provide platform for implementation of peak load management functionality by providing existing tariff & incentives rates, participation options etc. The portal/app shall also provide consumers with interval data, flags, voltage, power quality indications etc. Show outage information in map view.
 - xii. There should be different UI and landing pages for different type of consumers as per the need of utility.
 - xiii. User interface to access & update consumer's data for all authorized consumers shall have ability for at least the following functionality:
 - a) View metered data, monthly average usage, current monthly consumption, maximum demand and other reports
 - a. View data according to Time of Use (ToU), day, week, month, year and season etc.
 - b. Update profile information such as mobile number/email etc.
 - c. Guest user account/multi-user account access facility for consumer convenience
 - d. Initiate request for connection/disconnection
 - e. Initiate request to switch between pre-paid and post-paid mode
 - f. Initiate service requests for maximum demand updating meter checking etc.
 - g. Initiate complaints such as Meter not working, supply off etc.
 - b) In case on net-metering consumers, user can view data for both import & export data
 - c) Can view recharge history, present balance, next possible recharge date and amount etc.
 - d) Historical energy consumption and energy charges during the desired period
 - e) Facility to recharge their account through the payment gateway facilitated by the utility.
 - f) Master data information of consumer - identification no., meter ID, name plate details, make, type i.e., 1 Phase or 3 Phase, etc. (as per requirement of Utility) shall be available

D. Web Based Information / Monitoring Systems with Mobile App for Officers

- a) SI shall develop an application which include feature of both Web-App and Native Mobile App for Discom Officials.
- b) The Application shall be based on the four pillars:
 - i. Information provided by the Field Level Officers through this Application
 - ii. Information extracted from the existing database servers of Discom
 - iii. Information which is provided as targets by the Corporate Office through this Application
 - iv. Information which is computed through information provided in (i), (ii) & (iii) i.e. analytics through What-If (Scenario Analysis)
- c) The Agency shall develop a feature in Application which will enable filling of information in set time periods for field level officers and target to be filled by Corporate Office.
- d) The agency shall develop a feature in application which will enable Fault Rectification Team (FRT) to provide an input on the complaints received for the resolution. FRT shall receive the complaints assigned for the rectification. Each complaint shall have Turn Around Time (TAT) response.
- e) Level of approval shall be added for the information from the field before being integrated to the total system.
- f) Agency shall have to design the proper analytic computations for various other fields.
- g) The Information shall be compiled at various levels and adequate dashboard for various levels shall be created.
- h) The information shall be collated in the intermediate database server which shall be taken up by Agency

E. Other application required to be loaded on ANDROID Based Mobile Devices

- a) Capturing details of asset replacement like Meter, Transformer, CT/PT etc.
- b) Estimation of bill of material during new connection process.
- c) Consumer complaint and theft / un-authorized use, recording/photography d) Communication module to exchange real-time messages between the subdivision and device.
- d) Mobile app for MIS Information
- e) Mobile App's for displaying the information with required functionalities obtained by integrating with existing systems
- f) Mobile apps for vigilance, MRT & Audit Teams.
- g) Any other apps as desired from time to time by Discom shall be developed by the bidder without any extra cost.

1.4 Energy Audit Module

Energy Audit is a technique to establish the pattern of energy use and identify how and where the losses are occurring.

The energy audit module should support all below mentioned tasks but not limited to:

- Energy input to the system
- Energy utilized / sold (Energy sales).
- Energy losses in the system.
- To assess the efficiency of the system.
- To identify the area of high T&D losses
- To assess the extent of theft & pilferage
- To take appropriate steps for making the system technically more efficient and financially sustainable.

The Energy Audit Module must support following functionalities:

- Capture and maintain hierarchical view of energy accounting.
- The system must collect energy flow data from the metering module. The manual entry of data should not be allowed except in the exceptional circumstances.
- The system should be able to check energy balance between HV side and LV side of any Substation to ensure all the meters are working properly and can calculate bus bar losses and transformation losses in the substation along with the help of Integration with System Meter data acquisition module.
- To identify HT losses and DT losses, the system should be able to make balance 11 KV feeder flow against consumption of HT consumers and DTs in the feeder through integration. For faulty or no metering connections system shall able to generate HT and DT losses as per by the practice of utility.
- The system should be able to regroup the DTs / 11KV Feeders based on changed network configuration by changing in power flow logic due to network reconfiguration with time stamping. The energy consumption data at the time of network reconfiguration should be recorded by system for energy accounting. If the consumption data on meter should not recording on line data, then the closest to the reconfiguration time should be taken for consideration.
- The system must give energy audit reports for all the levels of distribution system for individual month and on rolling basis for one year or as per the practice of utility.
- These energy audit reports shall clearly bring out the technical losses at Feeder level and DT level through detailed analysis of supply side energy data and corresponding aggregated consumption data of connected consumers to perform dt/feeder wise energy audit for configurable period. in this analysis it must factor in data of energy export from net-metered consumers
- Each consumer under a Utility is to be uniquely identified and coded with a convention in consultation with the concerned utility. The solution should link the consumer to DTC, DTC to Feeder and Feeder to Sub Station. Proper consumer indexing is to be ensured.
- The system shall enable capturing of consumption recorded at DT, Feeder, Sub Station, Boundary meters for arriving at the Total Energy Input at various hierarchies for calculation of energy losses.
- The Energy audit reports as per the formulas provided shall have facility to arrive at the assessed energy if any as specified by Utility. The Drill Down Energy Dashboard shall facilitate drill down up to the lowest Level as per the requirements of Utility.

- The module shall have various standard and adhoc reports for displaying the energy losses at various levels.
- Energy audit must include all the data obtained from all the monitoring points and the abstract energy report along with all audit details shall be made available for display of the same in dashboards, pre-defined reports, graphs, pushed to mobile apps, published on portals, exchanged with central and other state agencies as and when authorized and intimated by Utility.
- The Software shall facilitate integration with existing feeder monitoring system of Utility and future systems that shall be deployed for AMR/AMI/SCADA systems.
- The energy audit parameters and details shall also be displaced on google maps/GIS maps with various options and filters for display. The system should be able to calculate the estimated technical and commercial losses in every part of the network via integration with GIS, AMI, AMR, DMS, OMS and other modules of the proposed solution stack.

Energy Audit Reporting:

Perform DT/Feeder/ Sub-Division/ Division/ Circle wise energy audit for configurable period. These energy audit reports shall clearly bring out the technical and commercial losses through detailed analysis of supply side energy data and corresponding aggregated consumption data of connected consumers. In this analysis it must factor in data of energy export from net-metered consumers. The automated audit should include but not limited to:

- i. A daily automatic feeder loss (Feeder Head reading minus summation of all DT meters readings)
- ii. Automatic LT Energy loss (DT meter reading minus summation of readings of all those consumer meters served by the selected DT) would be reported
- iii. Billing and collection efficiency
- iv. Identify the top [X] best as well as worst performing feeders and DTs
 - a) Display consumption/load profiles by configurable period (15/30 min, hour, day, month, year etc.) day type (weekday, weekend, holiday, festival wise etc.) and by tariff, consumer type (hospitals, schools, govt. offices, multiplexes, commercial, residential, industrial etc.), or any user specified collection of meters.
 - b) Generate peak & off-peak load patterns by aggregating all loads of consumer group/consumer type/DT/Feeder over configurable period/day type.
 - c) Perform load analysis for different groups and categories of consumers in different weather conditions.
 - d) Ability to provide the data to load forecasting, load research or demand response applications (based on use cases provided in Annexure H) and perform error management such as missed reads and intermittent meter reads before sharing data with load forecasting, load research or demand response
 - e) Ability to configure the system to effectively visualize consumption trends, identify unusual patterns, and visualize load analysis to understand which assets are being over utilized.

- f) Analyzing data to identify new patterns of usage, Setting fraud alert / transformer overload alerts / demand – supply gap alert etc.
- g) Ability to receive and store outage and restoration event data from Smart Meters and outage systems and to log all such events for analysis and also support calculation of compensation payments for sustained outages. Five reliability indices shall be calculated,
 - i. System Average Interruption Duration Index (SAIDI), which is sum of all consumer interruption durations in a given period over total number of consumers served.
 - ii. System Average Interruption Frequency Index (SAIFI), which is the total number of sustained interruptions in a given period over total number of consumers served.
 - iii. Consumer Average Interruption Duration Index (CAIDI), which is sum of all consumer interruption durations in a given period over the total number of sustained interruptions in that given period
 - iv. Consumer Average Interruption Frequency Index (CAIFI), which is the total number of sustained interruptions in a given period over the total number of distinct consumers interrupted in that given period
 - v. Momentary Average Interruption Frequency Index (MAIFI), which is the total number of consumer interruptions less than the defined time (1 or 5 minutes) over the total number of consumers served

These reliability indices shall be calculated for each month, for individual feeders and aggregated annually for the whole utility. The source data for outage shall be last gasp / first breath messages from DT/Feeder level meters or the power outage/restoration events logged by these meters. These computations shall be independent of similar computations made by any OMS application.

- h) Ability to alerts on DT/ Feeder level overvoltage & back-to normal event and under-voltage and back-to-normal events. Based on these alerts the system should calculate the duration in which the DT/Feeder remained outside the nominal zone of defined voltage. Similar calculations should be allowed for power factor and current unbalance.
- i) Identify & visualize poor performing assets such as feeder/DT on multiple criteria such as energy losses, outage duration etc. through appropriate colour coding depending on severity thresholds.
- j) Analyse data of net-metering consumers to identify patterns of energy export to grid on hourly/weekly/monthly/yearly basis.
- k) Reporting Function:

The Report function shall enable the Utility to deliver reports in standard digital format such as PDF, Excel, etc. All queries for report generation shall be made through user driven drop down menu through GUI of Utility user interface. The Utility shall provide example queries to support internal report generation needs. The GUI shall have provisions

to set up or change report delivery to configurable email addresses, network file directories, ftp sites or printer systems without modifying source program code and without any proprietary language skills.

The SI shall generate following reports (an indicative list only). Utility may request for additional reports as well during the contract period.

- (i) Daily data collection report
- (ii) Usage exceptions
- (iii) Missing interval Read date and times (on hourly, daily, weekly & monthly basis) and their trends
- (iv) Physical meter events (install, remove, connect, disconnect) & meter reset report
- (v) Meter flags
- (vi) Meter inventory
- (vii) Defective meters
- (viii) AMI performance measurements
- (ix) Threshold exception
- (x) DT condition monitoring
- (xi) MIS reports and analytical reports including but not limited to following:
 - Payment collection summary and details in a day/week/month/year or as per user selectable period and trends
 - Number / list of disconnected consumers due to inadequate prepaid account balance
 - Prepaid consumers running low on account balance
 - Connected consumers
 - Critical notifications sent to consumers
 - Revenue analytics as per consumption pattern of consumers (in terms of money and energy units). This shall also include automatic compensation payments by Utility to consumers for sustained outages, if implemented
 - Data-driven Analytics reports by leveraging AI/ML based technologies

Following high level reports for Utility Management shall be generated automatically at specified frequencies to help management with business decisions. <Below is an example of reports that may be generated. These reports should be defined and agreed by the utility>

Category	Report	Frequency
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Energy Audit	<p>Energy Audit Report (DT/ Feeder / Sub-Division/ Division/ Circle wise) in contiguous electrical locations:</p> <ul style="list-style-type: none"> • A daily automatic feeder loss report (Feeder Head reading minus summation of all DT meters readings) • Automatic LT Energy loss report (DT meterreading minus summation of readings of all those consumer meters served by the selected DT) would be reported • Billing and collection efficiency • Identify the top [X] best as well as worst performing feeders and DTs 	Daily, Monthly and User Selectable Time Period with configurable near real time alerts for exceeding defined loss threshold
Reliability Indices	SAIFI and SAIDI; CAIFI and CAIDI; MAIFI of the feeder(s) and connected consumers would be tracked to measure the improvement in the same overtime and establishing reference levels	Daily, Monthly and User Selectable Time Period
Load Management	DT Loading (Categorize DT as overloaded, optimally loaded, near optimal, under loaded)	Daily, Monthly and User Selectable Time Period with configurable near real time alerts
	Load recording (Consumers): Actual consumption recorded higher than the sanctioned load identifying the top [X] consumers	Daily, Monthly and User Selectable Time Period with configurable near real time alerts
	Load Management Report (Identify top overloaded DTs) and load rise trend	Monthly and User Selectable Time Period
Category	Report	Frequency
POWER QUALITY	Voltage Deviation Index and Frequency Deviation Index (DT/ Feeder)	Daily, Monthly and User Selectable Time Period with configurable near real time alerts
	Low Power Factor (DT/ Feeder)	Daily, Monthly and User Selectable Time Period with configurable near real time alerts
	Meter Current Unbalance (DT/ Feeder)	Daily, Monthly and User Selectable Time Period with configurable near real time alerts

Loss Analytics	Tamper Alert: as per IS 15959 Part 2	Daily, Monthly and User Selectable Time Period with configurable near real time alerts
	Comparison Consumption (system used to detect& track theft suspects)	
	Consumption lower than the expected pattern (pattern of previous year applied to the monthlyaverage) or monthly average	
Management Summary Report (Dashboards)	Summary report on top [X] high loss DTs/ Feeders, top overloaded DTs/ Feeders, Top feeders/ DTs with most outages (number and duration), Top feeders with most power quality issues (over voltage, under voltage, current unbalance, out of band frequency), DTs with high failure rate	Monthly/ As and when required.

1.5 **Management Information System Dashboards and Reports**

The system must deliver reports and dashboard is required at different levels of organization i.e. top management, middle management and sub-division levels. Reports must fulfil the requirements of decision makers, auditors and executive staff running daily operations.

I. Audit Utility Billing and Collections:

- A. Assess whether utility customers are being properly billed for utility services.
 1. Verify that usage and billing calculations are accurate.
 2. Determine whether utility bills are processed accurately and timely.
 3. Review adequacy and accuracy of meter reading process.
 4. Assess the utility's ability to recover amounts owed.
- B. Assess whether customers are responded to within reasonable timeframes.
 1. Review potential causes of customer complaints.
 2. Assess consistent and equitable treatment of customers.
 3. Review adequacy of complaint investigations and those dispositions achieved were supported and reasonable.
 4. Provide recommendations to improve customer services levels.

II. Review processes, procedures, controls, and performance measures for the top management level's utility accounts and related customer services.

- a. Assess the meter reading, leak detection services, billing, collections, and customer service functions.
- b. Review and evaluate the meter reading, billing and collection processes for efficiency and effectiveness.
- c. Make recommendations on improving operations to provide for better utility operations.
- d. Review and evaluate the processes for identifying and resolving exceptions
- e. Assess frequency of meter readings and associated processes
- f. Evaluate assignment of meter readers to routes (periodic rotation of meter readers on routes)

- g. Determine if proper internal controls are in place to comply with city policies and procedures
- h. Review customer payment plan policies and procedures

III. An indicative list of reports to be provided is as under:

1. Reports in specific formats to be submitted to Utility and other similar agencies
2. Energy Audit Reports
3. Daily/weekly and monthly dash boards for top management displaying vital parameters of the utility
4. Detailed billing data report matching with financial books of accounts showing amount charged under different components and consumption slabs
5. Billing data report for submission to regulator for aggregate revenue requirement on sub-division/Division level
6. Report on exception cases like connections unbilled for long duration, abnormal Power Factor, repetitive provisional bills, frequent load violation cases etc on sub-division/Division level
7. Report showing opening balance, demand raised during the report period, amount collected and closing balance for all consumers on sub-division/Division level.
8. Extrapolation report to provide estimated amount of un-billed units consumed on monthly/quarterly basis
9. Report of walking sequence maintained for consumers
10. Report on Low consumption cases, repetitive unread cases, connections having wide fluctuations in consumptions etc.
11. Report on faulty meters replaced and balance pending for replacement
12. Report on various categories of meters installed and balance remaining for replacement.
13. Report classified on department owned and consumer owned meters/transformers
14. List of defaulters based on amount range, age of dues at summarized level and at individual connection level along with supply status
15. Report on disconnection notices and orders issued and executed
16. Report on reconciliation between sub-ledgers and GL account, Bank reconciliation etc.
17. Collections reports classified under different components and collection like energy, non-energy, theft etc.
18. Sales reports, Interest Income Report. Report on Security Deposit and Interest on Security Deposit
19. Report on TDS, instalments granted, paid, outstanding and defaulted instalments
20. Consumer ledger individually and in mass. Component-wise posting and clearing report
21. Report for statutory dues on clearing basis such as electricity tax. Report on cheques returned
22. Collections pending for accounting and under clarification
23. Reports to facilitate reconciliation of collections at payment counters and amount actually banked separately for Cash and Cheques
24. Report on consumer master data showing important components of master data such as Name, address, sub-division, division, connection status, tariff category, sanctioned load, MRU, Portion etc.

25. Report on new connections added and terminated during report period at summarized level and at individual connection level.
26. Report on various types of consumer complaints/service requests received, resolved and pending.
27. Should support real time reporting and monitoring of the system as per the need of the utility
28. Reports should be downloadable in PDF, Excel Files and scheduled with periodic distribution on emails automatically by the system. Before finalization of MIS requirement and formats, a thorough study of the existing business process shall be carried out along with the utility. Based on the organization structure and requirement of decision support system at organization level, a comprehensive MIS requirement document shall be prepared. The actual MIS requirement shall be finalized at implementation Stage

1.6 Prepaid Engine

1.6.1 Prepaid Module

1. Prepaid Meter functionality shall include storage of customer information such as prepayment card information, starting service for a (prepaid) customer, installing/exchanging meters with debit (prepayment) to credit usage, and storage of meter reads.
2. The functionality shall support the prepaid metering example where a prepaid customer goes to a vendor and purchases credits for their specific-prepaid enabled meter. The vendor issues the credits in any of the following forms: a prepaid card, a token (to be inserted into the meter) or a series of numbers (to be keyed into the meter). The meter will allow energy to flow until their prepayment amount has been exhausted.
3. The system should send low-credit notifications to the consumer when their balance approaches a pre-configured threshold. Alerts shall initiate on every recharge, low credit and load connection/disconnection. The alerts shall be posted on the consumer web Portal/ App in real time and sent through email. Consumer should also be alerted through other mechanisms such as onetime alarm / beep from the meter, LED blinking, message, etc.
4. In addition, a prepaid mobile application functionality shall be provided as a recharge option for android OS and iOS. The consumer portal/ app, shall enable consumers to recharge as well as view recharge history, existing balance, daily usage etc.

Any re-conciliation shall be carried out in the Billing System and the same shall be shared with the MDM for use by the prepayment application.

1.6.2 Prepaid Service Using Advanced Metering Infrastructure (AMI) Meters

1. The Prepaid Service Using AMI Meters shall support the ability for Utility to offer prepayment options to customers that have a smart or AMI meter installed (i.e. no specific-prepaid enabled meter is required). The functionality supports the management

of daily charge calculations, communicating with the end customer (e.g. for low balance alerts), and disconnection when the prepayment balance has been exhausted.

2. The prepayment application shall use determinants such as minimum fixed charges, TOU tariffs, slab rates, duties & surcharge while calculating consumer credit/balance. Fixed charge shall be deducted on daily basis irrespective of the consumption, even after disconnection of supply and adjusted in the next transaction
3. The prepayment application should be able to automatically apply different TOU tariffs for future date lines, while calculating consumer credits.

1.7 Centralized Customer Care System Including Helpdesk Module

A centralized helpdesk shall act as a single-point-of-contact for all service problems pertaining to hardware, software & network. The successful bidder shall create and maintain a dedicated centralized online Help Desk with a telephone number, E-mail and call tracking mechanism that will resolve problems and answer questions that arise from the use of the offered solution as it is implemented at utility. Users can log the queries / complaints, which should be resolved as per the Service Level requirements. The helpdesk queries / complaints can be related to connectivity, messaging, security, Hardware, Software, configuration and any other issues.

Help Desk software shall take care of classification, automatic escalation, management, and status tracking and reporting of incidents as expected by the service level requirements. Status tracking should be available to users through telephone number as well as online through software.

- a. The Help Desk will respond to and resolve the problems as per the SLA.
- b. Problems shall be classified into various levels of priority mentioned in the SLA. The assigned priority for each problem shall depend upon:
 - a. The extent of the problem's impact on the usability of the system
 - b. The percentage of users affected by the problem.
- c. The initial assignment of priorities is the responsibility of the Help Desk's Problem Manager on basis of SLA. However, utility can change the priority assigned to a particular problem and the procedures that exist for escalating a problem to progressively higher management levels, until agreement is secured.
- d. The precise definition of problem priorities should be documented in the Successful bidder's SLA.
- e. Helpdesk shall troubleshoot on systems (hardware), applications (software), mail related issues, network related issues, multimedia related issues, server administration, security policies, 3rd party coordination.
- f. After problem resolution, the logged problem in help desk will be closed and notification will be sent to user for confirmation and rate the customer service on defined parameter in helpdesk.
- g. Help Desk shall be responsible for change management like schedule up gradation of hardware and software components etc. Help Desk will co-ordinate and take approval from utility for the same and will inform all users for such event in advance.
- h. Help Desk shall also be responsible for managing problems/incidents related to LAN at each node. Help Desk shall ensure timely response and assigning the problem/incident on priority basis.

Help Desk shall be ITIL compliant & shall implement ITIL compliant help desk processes like Change Control Procedure, Call Flow Process, Incident & Problem management approach etc. SI shall utilize help desk tools, which are ITIL complaint and are open for integration with other enterprise management tools like EMS/NMS system & messaging system.

SI's Responsibilities regarding Help Desk

1.7.1 Providing Help desk solutions application

The Service desk / help desk module shall include the Solutions application. A solution record is a predefined response to a problem or commonly asked question. A solution record consists of a symptom, a cause and a resolution. Solutions can be associated with incident and problem records.

Solutions application is used to create, approve, and manage solution records. A separate application, Search Solutions, can be used to search for and view solution records.

The Solutions application includes the following features:

- i) Ability to specify which solution records should be available to self-service users in the Search Solutions application.
- ii) Ability to specify a Classification for the solution. Ability to indicate a Status for a solution. A solution record can have one of the following statuses: DRAFT, ACTIVE, or INACTIVE.
- iii) Ability to attach documents or Web sites to a solution record.
- iv) Ability to use the Solutions application to change the status of a solution record

Ability to create, update and delete a solution in Solutions Application. FMS Vendor shall integrate the help desk system with messaging system & EMS/NMS system of utility.

Flow Of Events shall be as follows: Any event triggered should be forwarded to service desk that submits & updates trouble ticket & also updates status of ticket back to EMS/NMS. EMS/NMS should automatically forward events to service desk. EMS/NMS operator should also be able to generate tickets & forward it to helpdesk. Helpdesk personnel must also be able to update ticket to EMS/NMS.

1.7.2 Hardware and Software Services

- i. Provide Level One Support for hardware and software, including incident logging, assigning incident numbers and dispatching the appropriate support personnel or AMC vendor to remedy a problem;
- ii. Prioritize problem resolution in accordance with the severity codes and Service Levels specified;
- iii. Provide system status messages, as requested;
- iv. Maintain the defined help desk operational procedures;
- v. Notify designated personnel of systems or equipment failures, or of an emergency;
- vi. Initiate a problem management record ("PMR") to document a service outage to include (for example) date and time opened, description of symptoms, and problem assignment (Level Two/Level Three), and track and report on problem status, as required;
- vii. Monitor problem status to facilitate problem closure within defined Service Level criteria or escalate, as appropriate;
- viii. Monitor PMR closure, including documented problem resolution;
- ix. Provide Utility with complete and timely problem status through the problem tracking system, as requested;

- x. Maintain an updated help desk personnel contact listing.

1.7.3 Management Services

- i. Provide “ownership-to-resolution” of all help desk calls, monitor and report on the progress of problem resolution, confirm resolution of the problem with the End User, and log the final resolution via the problem management system;
- ii. Record, analyze and report on calls received by the help desk, including:
 - a. Call volumes and duration,
 - b. Incident & Problem trends,
 - c. Call resolution time.
- iii. Assign priorities to problems, queries, and requests based on the guidelines/SLA provided by Utility;
- iv. Monitor and report to Utility on maintenance vendor performance;
- v. Provide input to Utility on End User training requirements based on help desk call tracking and analysis;
- vi. Update contact list of users initially provided by Utility

1.7.4 Install/MAC Services (Install Move Add Change)

- i. Act as the point-of-contact for install and MAC requests and status; and
- ii. Act as the interface for coordinating and scheduling all installations and MACs.

1.7.5 User oriented Services

- i. Provide an interface for user requests, such as new user IDs, address changes, routing requests, and password changes.
- ii. Advise the End User to take reasonable steps to backup information, if possible, prior to attempting to effect a resolution either by phone or hands-on during Desk Side Support Service; and
- iii. Assist End Users with Office automation and E-mail “how to” and usage questions.

1.7.6 Utility’s Responsibilities regarding Help Desk

- i. Help SI define help desk call prioritization guidelines
- ii. Provide updated contact listing (as a one-time activity) for use by help desk personnel in contacting appropriate personnel of utility for assistance/notification,
- iii. Assist SI, as requested, in the resolution of problems outside the scope of SI responsibilities or recurring problems, which are the result of End User error
- iv. Provide an adequate level of system authority for all Hardware, Software and resources for which SI has problem resolution responsibility and communications access
- v. Assist SI in the development of help desk operational procedures by providing input to, and review and approval of, such procedures (this shall be a one-time activity).

1.8 Document Management System

This system would integrate with other modules for overall management of the documents, including upload, edit, distribution, archival, meta data capturing, search etc.

System implementation must support following functionalities:

- a. Adding a new document should be easy and trouble free so that user can upload the document file at ease
- b. User should be able to search for any document that has been uploaded, modified by name, meta data and parameters and owners etc of linkage with different modules
- c. All documents must be protected against theft, loss and tampering

- d. The documents must be available in utility's internal and external portal depending upon utility's policy to any user who has access right to it. The system should support defining of users, groups and roles with access permissions on folders and documents. It should also be possible easily click-to-distribute documents to select users, user group or even the whole Web Space
- e. Automatic revision control system must be in place that maintains versions automatically, every time a document is updated. All prior revisions should also be always available such that the user with appropriate access can view the changes done by the user with username, date and time
- f. The facility of purging prior revisions and permanently deleting stored documents should also be available to user to protect security of sensitive documents
- g. System should support document scanning features such as application based on mobile to capture documents and scan solution (should be provided by the same OEM), feature to save different formats, document processing, validation, index building, and image enhancements
- h. The system should support to check for quality for the scanned documents so that no unclear documents are uploaded with a notification to upload it again
- i. Solution shall support bulk import of images and documents
- j. Solution shall support comprehensive annotation features like highlighting, underlining, using sticky notes etc.
- k. The system shall allow user to modify, view, print, download the required documents based on their access rights
- l. The system shall have a facility to define password for user login with extensive password validations like passwords must be of minimum 8 characters, shall be alphanumeric, password expiry etc.

1.9 Feeder Information System

- a) It is intended that certain parameters pertaining to 11 KV Feeders would be captured by the Feeder In charge / Discom Officers for energy audit, performance monitoring, operation and management. Agency has to provide both mobile app and web interface for entering the required data, capturing the inputs, etc. The utility will facilitate historical data to the successful bidder.
- b) As Android Smart Phone with GPS capturing capabilities are going to be used, the software solution should have a GIS module wherein the consumer information, network asset information, any other information that is captured by the field personnel can be displayed on a GIS map with provision to edit, update etc. The various elements shall be distinctly depicted with different icons/colour etc. The main objective shall be to extensively use this module for depicting the consumer information, assets and for enabling and planning different day to day operation and maintenance activities of the DISCOM. The cost of the acquiring the necessary licences if required shall be factored into the bid and the same shall be valid during the tenure of the contract.
- c) A mobile app having functionalities to facilitate the field personnel in recording the various network elements for creating the single line diagram shall be provided. The back-end software shall have provisions for depicting the Single Line Diagram with options of expansions of LT network up to consumer level.

- d) For capturing the various HT & LT components of the distribution network Feeder wise for creation and depiction in the form of a Single Line Diagram. The module shall facilitate the authorized officers in accurately mapping the various branches, sub branches and multiple branches as per the actual site data. Provision shall be provided to update, edit/relocate or modify any asset captured.
- e) Agency has to develop comprehensive MIS reports and Dashboards depicting the various parameters captured. The Drill down dash boards/MIS Reports shall have data grouping and data agitations at various levels i.e. DTC, Feeder, Sub Station, Sub Division, Division, Circle, Zone and Discom level.
- f) The bidder shall provide both the mobile app and web module in the software to facilitate the various functionalities of the feeder In-charge. A brief of functionalities but not limited as under:
- 1.1 Provision to assign, reassign, delete feeder to authorize officer.
 - 1.2 List the consumers, DTC connected to the feeder
 - 1.3 Provision to enter the feeder reading/consumption at varying intervals for assessing the energy availability, consumption, losses etc. Provision should also be available for fetching reading through DCU/Modem etc.
 - 1.4 Provision to enter the DTC reading/consumption manually. Provision should also be available for fetching reading through DCU/Modem etc.
 - 1.5 Provision to Add/Modify/Delete the Feeder information like the meter make, CTPT, initial reading, status of meters, supply information etc.
 - 1.6 The software shall facilitate the authorized officers in arriving at the energy audit at desired intervals.
 - 1.7 The Data in the mobile app shall reside local and shall assist the authorized officers in monitoring the critical parameters without the necessity of actually accessing the central server.
 - 1.8 The software shall have alerts, dashboards, reminders to give 360 degree view of the energy consumption and related parameters for energy audit and monitoring purpose. Any other input and reporting formats that are required shall be finalized during the execution stage with the selected bidder.

1.10 Reconciliation process

Sl no	Requirement
1	Decentralized payments & centralized reconciliation
	· System to handle centralized payments
	· System to handle decentralized payments
	· Capable of centralized reconciliation of collection
2	Linking payment to logging id
	· System to capture payment details
	· Association of logging ids of persons receiving payments
	· Association of logging ids of collection centers receiving payments
	· Collection should be against specific bills/forms
3	Mandatory reason codes
	· Pre-defined reason code embedded for the user for having collected the payments without bill/form of all instances
4	Code based collection
	· Classify collection against standard accounting codes (purpose) and link it with their respective GL codes

Sl no	Requirement
	· Output shall be in multiple language Hindi/English
5	Adaptability to different mode of collection
	· Capable to receive/Support:
	Ø Cash
	Ø Cheque
	Ø Demand draft
	Ø Credit card
	Ø Debit card
	Ø NEFT/RTGS
	Ø Wallets
	Ø E-payments
	Ø Online transfers/ Net banking
	Ø ECS
	Ø Advance payments without bill
	Ø Third Party Payment Agencies
	Ø Single cheque against multiple payment & its track
	Ø Automatic information (SMS) on receipt of payment
	Ø Mass updating of Hand Receipts(HRT)
	Ø Group Billing and Group Payment
	Ø Any Where payment (AWP)
6	Daily reconciliation of cash and bank
	· Handle daily reconciliation
	· Bank remittance
	· Reconciliation with bank statement
	· Cash Balance Report/Bank Reconciliation Report
8	Interfacing with special drives
10	System ability to keep track of cancelled receipt
	· Capable to cancel receipt before cash close, should not allow to cancel after the cash collection once the counter is closed.
	· Keep details in the system
	· Print the same on the new receipt
	· Transfer from one account to another account

1.11 System Support with Ticketing

- a. The Web based system should have online context sensitive help, user manuals and centralized ticketing system for Support.
- b. The application users shall have provision to raise tickets; a unique ticket number shall be assigned.
- c. The web based application shall have tools to track the ticket number for status update and resolution.
- d. The web based application shall have configurable escalation matrix inbuilt for escalation of support issues.

- e. The web based application shall have dashboards and MIS on the ticket status and resolution

1.12 Identity Access Management

Identity and access management, or IAM, is the security discipline that makes it possible for the right entities (people or things) to use the right resources (applications or data) when they need to, without interference, using the devices they want to use. IAM is comprised of the systems and processes that allow IT administrators to assign a single digital identity to each entity, authenticate them when they log in, authorize them to access specified resources, and monitor and manage those identities throughout their lifecycle.

- A. SI shall be responsible for implementation of IAM in case the existing system doesn't include IAM and the following requirements shall be met**

S.No	IDAM Specifications	Description
A.	User ID Management	
1.	User ID Creation/ Modification/ Deletion	Creation and modification of Users data manually or automatically based on event and / or workflow or script
2.	User ID Lock/Unlock	Locking and Unlocking of Users manually or automatically based on event or workflow and mass lock & unlock
3.	Functional/ Support ID	Should be created automatically or manually based on event or workflow
4.	De-Duplication of user ids	Duplicate user-ids should not be allowed
5.	User ID merging	Ability to merge identities in cases where multiple identities are created for a single person
6.	Delegated User Administration	Allows user management to be distributed to users other than administrators, including providing multiple granular levels of identity administration permissions
7.	Delegation of authority	Allows users to assign a delegate while away from the office for example, while on vacation
8.	Single User ID repository	Identity repository for users to know all type of access user having and eliminate the application-level user ID management
9.	User ID provisioning and de-provisioning based on event	Provisioning and de- provisioning of users based on events such as approval and updation of all dependent target stores
10.	Group Management	Allows creation/deletion of groups and addition/deletion of group members
11.	Delegated Group Management	Allows group creation, deletion and management to be performed by identified users based on authority delegation by administrators
12.	Dynamic Groups	Supports addition/deletion of users to group dynamically based on rules or set of rules
B.	Password Management	
13.	Password policy and account lockout	Uses policies to enforce rules related to password complexity, expiry, length, password aging, password composition, password history enforcement etc.

14.	Self-service password resets	Allows users to manage their passwords and to reset a forgotten password without the help of an administrator
15.	Password synchronization	Synchronization of passwords across managed systems
16.	Administrative password resets	Allows a delegated administrator or helpdesk staff member to reset a password for an end-user
C.	Authentication	
17.	Password authentication	
18.	Risk Based Authentication	Risk-based authentication uses real-time intelligence to gain a holistic view of the context behind each login. When a user attempts to sign in, a risk-based authentication solution analyzes factors such as: Device, Network, Sensitivity
19.	Token/ biometric/ OTP based Authentication	OTP (Application, SMS, Hardware and Email)
20.	Role lifecycle management based on Approval	Supports creation/ updation/ deletion/ assignment/ de-assignment of roles based on requests and / or workflow
	Integration	
21.	Integration with other legacy systems	
	Audit & Compliance	
22.	Sign-on, Sign-off	
23.	User: create, update, delete or disable accounts	
24.	Role: create, update, delete or disable roles	
25.	Password changes, resets, challenge response questions changes	
26.	Synchronization events	
27.	User log activity including successful and failure attempts	
D.	Other features	
28.	Reporting	
29.	High Availability	No single point failure 99.9 % uptime
30.	Backup and restore	Support for online backup and restore
31.	Encryption	Supports different encryption methods of selected attributes

B. In case the existing system has its own IAM, it shall be integrated with proposed BILLING solution with the following integrations and compatibility shall be ensured:

1. Proposed billing application should be integrated with IDAM current version of the Discom
2. Proposed billing application should be compatible for integration with future upgrades of Identity and Access Management
3. The available IDAM product has functionality of Federation which allows different applications across Clouds to be integrated and access controlled through a single login pane using single credentials.
4. The IDAM system will protect the BILLING application URL, provide login access and maintain login session. The bidder will keep arrangement of required dedicated network bandwidth requirement for access and data flow between Discom DC and BILLING Cloud facility
5. Proposed BILLING application should support integration using rest & soap base APIs or directly interface table on some interface database.
6. Proposed BILLING application should support for Single Sign ON.
7. Proposed BILLING application should be able to allocate and assign multiple roles and multiple offices to a single unique user ID in it's internal RBAC (Role Based Access System) and must facilitate role switching within the application based on ID, Designation, Role and Office parameters passed by IDAM application.
8. User Creation & User Lifecycle management will be handled by IDAM. BILLING application will consume and maintain a replica of user repository to remain in sync with IDAM.
9. All the roles & access privileges will be managed through existing Unified Identity & Access Management, as per RBAC decided by Discom for the BILLING application.

2. Detailed As-is study and Designing Billing system:

- a. SI shall carry out As-Is Study for existing Enterprise Architecture, IT Applications & Solutions, Utility Business process, Cloud Infrastructure Solutions, End user's competency etc. along with requirement gathering workshops to identify the Gaps and areas of improvements in current state of the Utility. The SI will take the necessary inputs and approval on the formulated As-Is Status report from Stakeholders/Nodal Officers of Utility.
- b. SI will identify and make suggestions on existing IT Applications & Solutions which needs to be phased out post implementation of the Billing System.
- c. SI shall formulate the To-Be Document, Business & Process Design Documents, Technical Design Documents – HLD & LLD including Data Conversion and Migration Strategy based on the requirement gathering workshops in line with the Scope of project.
- d. SI shall carry out detailed Functional Requirement study, System Requirements Study and Finalize Business Blueprint Design for Billing System

3. Brief Scope of work

The Scope of Work broadly covers providing a Web Based online Billing system hosted on Cloud for Metering, Billing, Collection, New Connection & Disconnection, Web Self and Customer Service, MIS and Energy Accounting for all electricity consumers, including but not limited to migrating the existing consumers into the proposed new solution along with migration of existing internal and external integrations and interfaces to the proposed new billing system.

Bidder will comply with all the terms and conditions of this tender, including but not limited to the broad scope of work of the project as detailed below:

1. The system shall be a scalable COTS/Bespoke product with a published roadmap for maintenance and support for the specific product and prepaid smart metering, Net-metering, Energy Auditing etc. modules.
2. To provide the virtual private Cloud based Infrastructure which comprise of the Servers, Storage and Networking Devices including connectivity for DC and DR in HA mode.
3. The offered cloud should provide inherent capability to scale up on demand to withstand the peaks without any disturbance in Utility's business operations.
4. DC and DR will be created on 1:1 basis, DR being exact replica in all senses.
5. To prepare AS IS, TO BE and design documents and get approval from Utility on the same. The SI is expected to also size the solution properly, gather all requisite requirements from Utility and ensure that SI is ready in all aspects for Implementation.
6. Provide a system that is secured, scalable and meets the desired high-performance requirement of an enterprise business system.
7. To provide a System that at the least meets or exceeds the functional requirements and performance benchmarks as specified in this tender.
8. To ensure that all the required hardware, software and licenses, if any, satisfy the requirements of this specification and are suitable for future infrastructure scaling as per business need and software upgrades as recommended by OEM.
9. To provision the required skilled manpower along with requisite tools and infrastructure for safe, reliable, proper and correct installation of the required system
10. The entire System/Solution shall be deployed on Cloud. The sizing, installing, deployment, maintenance, security, up keeping shall be under the scope of the Bidder. The Cloud service provider shall be Meity empaneled and made available with the empaneled / registered service providers of Government of India for cloud base services. Latest Cyber Security Guidelines of CERT-In specified at <http://www.cert-in.org.in> / NCIIPC/ Ministry of Power or any other competent authority shall be followed. The copy of agreement shall be made available before the commencement of work. The generic and specific guidelines issued by the Central Government IT departments with respect to Hosting, Security, Vulnerability etc., have to be adopted and implemented during the tenure of the project. Utility shall be intimated of the cloud hosting and all related agreements and certificates. Bidder should choose a CSP complying the technical specifications and performance parameters, so that they can continue with the same CSP throughout the contract period. In case, any performance degradation or compulsion that leads to change of CSP, the whole migration cost should be borne by the bidder. Also, the said migration should be completed by the time frame allowed by Utility. Provisioning of Internet, Minimum 8 MBPS (but bandwidth allocation should be sufficient to meet the performance parameters) MPLS/VPN links between existing data center at Utility's and CSP and the cost shall be borne by the bidder. Link should be considered for both DC and DR of cloud.
11. The SI will ensure the migration of all the consumer business and technical master data, geo data and transaction data pertaining to consumer meter reading, billing, collection, complaints and any other items which may be critical and necessary for being available to run all the proposed applications, efficiently and effectively. Data migration from the existing systems through a sustainable system is included in the RFP scope and no payment shall be made for the same. The bidder has to ensure that no data is lost in the process.
12. The bidder should 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 the solution and other integrated systems. The technical solution should include –
- a. Technical architecture including proposed internal architecture and existing systems required to be integrated
 - b. Approach on DC and DR replication details
 - c. Proposed approach on cyber/ data security
 - d. Complete details of each software and cloud resource including license, processor, SAN storage etc.
13. To integrate with the existing IT systems of the Utility and keep provisions to undertake future integrations (using API/SFTP, etc) as per business requirement specified from time to time.
 14. The bidder will have to provide online MIS and Management Monitoring dashboard as per the KPI sets given by Utility (and as modified from time to time). This dashboard should preferably be based on real-time data, but in any case, the data to be displayed should not be more than one-day old.
 15. The successful bidder will also provide the System Dashboard which shall have two parts, Part-1 consisting of standard operational parameters, and Part-2 must display system health parameters including usage of bandwidth, utilization of storage, memory and other parameters for application and DB servers, along with Security reports in real time environment for servers and network.
 16. To carry out seamless migration of Consumer Database into the new Billing system along with all its existing attributes, linkages, codes and full financial and transactional history.
 17. To design and develop the logic to consume the meter reads data from the legacy MDAS Systems and MRIs. This is applicable for the HT and LT High Value Consumers and DT and Feeder meter modems, for the purpose of facilitating Feeder and DT level Energy Auditing.
 18. Ensuring all product and solution deployed are in a secured environment and comply with the existing secured environment setup (Firewall, Anti-virus etc.) and as per the best practices
 19. Audit trail, system activity logs, capturing of IP addresses, Domain Control and Policy imposition should be provisioned and maintained in the system. Bidder shall develop a system to flag risks as observed from Audit Trail.
 20. Upgrading the software from time to time as per recommended latest versions from the OEM and as per requirement of Utility, with due intimation of completion of timely upgrade.
 21. Maintain Project management, project scheduling, including periodic project reports (weekly/monthly basis) documenting progress during the contract period.
 22. To design the system after thoroughly understanding the As-is business processes and To-Be business requirements.
 23. To prepare and submit all documentation and design, architecture during the various phases of the Project in hard copy as well as soft copy.
 24. Following the standard testing procedures, the bidder must perform various Tests including but not limited to Simulated Load testing, Performance test, response time test etc. on the System as part of the user acceptance procedure.
 25. To provide the environment and tools for conducting the User Acceptance Testing (UAT) and sign-off at every stage of project.

26. Provide access to Dev. Ops environment for training and development of Utility officers.
27. To provide engineering and technical assistance during the contract warranty and maintenance period as stated in the tender.
28. To conduct a detailed Training of Utility's personnel and provide the Training Material and User Manuals.
29. Maintain and store data backups as per Utility Backup policy during the period of the contract and will provide full backup of all installed software applications and consumer database to Utility on periodic basis.
30. To test and satisfactorily demonstrate restoration of the system from the latest available backup as directed/required.
31. To do the complete migration from the existing Application to the new System and provide all necessary support for business activity during this process.
32. To rectify any reported bug during warranty in reasonable time as per SLA.
33. To maintain the health of the System and manage the SLAs during the Implementation and Support period.
34. The Bidder will provide 24X7 technical support for the Cloud based services and 12X7 for business related critical services.
35. To provide the System Performance reports periodically or as and when required by the Utility
36. To extend support to Utility or any Auditor appointed by Utility for conducting Audits with respect to Software compliance, design and implementation, System architecture and Performance, Security and Cyber Security and Network design and security.
37. Integration/interface of the Billing system with UTILITY's other business application systems like AMI, Spot billing application etc.
38. Bidder will be responsible to provision requisite Network Bandwidth for interconnectivity and application access to and from cloud. Network bandwidth sizing and capacity to be provisioned will be decided by the bidder and reviewed by them from time to time on basis of their solution requirement, user concurrency, and data volume/traffic.
39. The bidders are advised to review the given hardware, check specifications with OEMs, work out and design feasibility of connecting Utility DC with the bidder's proposed cloud over dedicated point to point link for data replication, and share their feasibility and design study as a part of bid submission. If the bidder wishes to bring in and install some additional/replacement hardware/software that they may find necessary to install as per their design, they shall be free to propose the same at their own cost, however this shall be subject to availability of physical space at DC.
40. Various Reports, Predictive analysis using AI/ML, Business Intelligence Tool for Analytics and customized MIS dashboard to aid in decision making at various levels of utility.
41. The bidder will propose an appropriate solution for above with following minimum considerations –
 - a) The solution shall provide simplified operations, consistent policy management and visibility that automates the creation of network & security interconnects between data centres.

- b) The solution shall automate and secure cloud connectivity through unified Single pane of glass for management, visibility, monitoring, and troubleshooting across environments (cloud & on-premise)
 - c) The solution shall provide networking, visibility, and policy-translation functionalities for workloads deployed across multiple clouds
 - d) The solution shall provide cloud networking functionalities like user accounts, resource groups, virtual networks etc.
 - e) The solution shall provide a comprehensive approach to preventing, detecting, and rapidly recover from a cyber and ransomware attack.
42. To establish a dedicated Billing System Quality Check Cell, to monitor the quality of the overall system during the maintenance phase. The main work of this team shall be as follows:
- a. Monthly Quality Check of all bills generated through the system and generate exceptions for necessary actions by UTILITY officials
 - b. Develop and fine tune business logics in the system as per the business need of the Utility's w.r.t. tariff, metering, billing, collection etc.
43. Bidder will maintain the confidentiality of information and data during and after the completion of the engagement.
44. Major process flows to be considered for deployment of a solution:
- Agile Software Development Life Cycle (SDLC): To opt for an agile software development life cycle
 - Designing of the system: To support System environments, designing of Security Zones along with Backup & Recovery, SOAs etc.
 - Monitoring: Log, Resource, Cyber Security Monitoring for a robust system.
 - Solution Integration
 - System Performance measures and Parameters
 - Project Management
 - Key Resource Planning
 - Documentation: Procurement, Implementation & Post Implementation phases
 - Software Documentation Standards: consisting of Database, User, System Admin, Testing and Training documentations etc.
 - Testing Scope
 - Implementation
 - Training & Hand holding
 - Post Implementation Support
45. The SI shall comply with all the terms and conditions of this RFP.
46. Bidder will be the single point of contact for implementation, maintenance of application, software, cloud and Link.
47. To maintain and store data backups and ensure automatic archiving and retention of data as per Utility's policy during the period of the contract and provide Utility a copy of same at regular intervals free of cost.
48. The implementation period shall be for 12 months and the comprehensive O&M period shall be of 5 years which may be extendable up to (2) two more years (1+1) on the same Terms and Conditions. Beyond this it can be further extended based on a mutual discussion.

49. The SI has to hand over all the necessary information including the source code and documents to the Utility after successful completion of the solution

The payment to the SI by the Utility shall be on Per Meter Per Month (PMPM) basis after Go-Live of the system.

4. Supply, installation, integration, testing and commissioning of:

Billing system together with relevant database, licenses, and other software in conformance to Industry standards

4.1 General Requirements

- a. SI shall prepare and submit a detailed project plan for the software development /customization.
- b. The SI shall deploy a dedicated team experienced in installation, configuration, customization, integration and testing, implementation, deployment of the proposed Billing system.
- c. For customizations which are not part of the functionality of the offered product, SI must keep level of customization to a bare minimum depending upon offered functionalities and best practices. This is important to ensure that future upgrades, enhancements, and bug fixes are not impacted. Every custom development must be documented in detail and the code / script should be properly annotated with comments.
- d. Configuring the specific Billing system modules, third party bolt-on applications, development of interfaces wherever and whenever necessary.
- e. The SI shall ensure that the proposed Billing system provides adequate interfacing mechanisms (both at the application and data level) with a view to integrate future applications of Utility. Such interfaces shall follow industry standards such as Application Programming Interface (API's) and web services, etc.
- f. The SI shall supply and install the application, database and related software, integration tools, along with the customized source code and requisite licenses. The SI shall also describe and document the process to be followed for installing and operating the same.
- g. The SI shall consider stakeholder inputs when they are finalizing all processes including user interfaces, mode of data entry, storage and retrieval, output reports, queries, and the application design as a whole. Essentially it is expected that the SI shall follow a SDLC Agile framework in implementing the project establishing regular Conference Room Pilots.
- h. SI to suggest industry standard best practices for backing up (archiving), purging and restoring current / future data.
- i. The UAT shall be carried out in the Testing environment created. Bidder shall be responsible for setting up the Testing environment and also for creating / populating the necessary configuration data as well as master data as would be required for the purpose of UAT.

- j. The patches/fixes shall be tested by the support team of SI in Development environment and subsequently UAT will be done in the Testing environment before they are implemented in production.
- k. SI shall seek OEM's advice in using high-availability and other database features like partitioning, performance tuning etc. Database best practices like indexes, custom Partitioning (using relative merits of range, list, hash, composite partitioning etc.) should be utilized to get additional performance.
- l. SI shall develop purging policy in coordination with Utility to get optimum performance of the new system.
- m. In the new system, as per industry standard practice, for any scanned documents created by user, images shall be stored outside the Billing system database in a different storage/system as a part of document management system and only the document link shall be available in the Billing system database.

4.2 Cloud Solution, IT Infrastructure & Network Solution

The SI should carefully analyze the project requirements related to Cloud based Infrastructure to be delivered, IT Infrastructure required at various Utility offices, and the SLA criteria while deriving the right cloud resources. The SI will provide the design document along with details of solution, equipment's, software, throughput, and other services offered with supporting documents. Overall, the following shall be adhered to.

- a) Provide the required compute, memory, and storage required, building the redundancy into the architecture (including storage) and load balancing to meet the service levels.
- b) The initial sizing and provisioning of the Cloud based IT-Infrastructure may be carried out based on the information provided in RFP document. A detailed assessment / study shall be carried out by the SI for optimal sizing and provisioning.
- c) Based on the growth in user load and transactions in the billing system (peak and non-peak periods; year-on-year increase), the SI will ensure providing desired availability to scale up or scale down the compute, memory, and storage as per the performance requirements of the solution and meet the SLAs using the auto-scaling features provided by CSP.
- d) DR shall be 100% mirror image of the primary site during the DR Drill or Disaster.
- e) SI to provision DR drill for a minimum of once in a year. The Cloud based Disaster Recovery Centre (DRC) shall be made available for a minimum of 15 days on switch over mode at 1:1 redundancy.
- f) In the event of a Primary site failover or switchover, DR site will take over the active role, and all requests will be routed to that site.
- g) The Cloud shall offer dashboard to provide visibility into cloud service to the Utility. The offered Dashboard should be configurable.
- h) DC and DR shall be provided by the service provider.
- i) SI shall Should specify DC and DR locations in the proposal.

The following sections detail the requirements of the Cloud Service Provider (CSP).

4.2.1. Cloud Service Providers (CSP)

This section mentions key requirements from the Cloud Service Provider (CSP). SI shall be responsible to provide the services of CSP.

4.2.1.1. General Conditions

The cloud data centre shall have to comply with requirements of Tier III category which applies to a concurrently maintainable site infrastructure with redundant capacity components and multiple independent distribution paths serving the critical environment. All IT equipment shall be dual powered. The following general conditions will apply:

- a) Only MeitY empanelled Cloud services should be used.
- b) One of the most critical issues in the Cloud Service implementation is the security of the data. It is the responsibility of the SI to define the security services that need to be implemented for their workloads depending on the nature of the applications / data hosted on the cloud.
- c) SI need to ensure that the CSPs facilities/services are compliant to various security standards and should be verified by third party auditors.
- d) CSP should suitably address all the potential risks and issues in cloud implementation including data security and privacy, increased complexity in integration with existing environments, vendor lock-in, application portability between different platforms, exit management / Transition-Out Services etc.
- e) The SI shall be responsible for providing the cloud data centre services. It shall be up to the SI, to identify the critical service agreements with the concerned cloud data centre provider in order that the SI can meet and sustain the SLA for the project.
- f) All Services including data should be hosted in India
- g) Exit Management / Transition-Out Services -The responsibilities of the CSP during the Exit Management Period need to be agreed upon with the Utility and they should assist the Utility in migrating the data etc.
- h) The responsibilities of CSP/MSP include migration of the data, content, and any other assets to the new environment or on alternate cloud service provider's offerings and ensuring successful deployment and running of the Utility's Solution on the new infrastructure
- i) The SI may also choose to procure the following Managed Services from a Managed Service Provider (MSP) in addition to the cloud services to handhold the department in managing the operations on the cloud. The scope of MSP may include:
 - a. Migration of Existing Applications to Cloud / Deploying of new applications;
 - b. Operations & Maintenance Services on Cloud (e.g., Resource Management, User Administration, Security Administration & Monitoring of Security Incidents, Monitoring Performance & Service Levels, Backup, Usage Reporting and Billing Management)
 - c. Exit Management & Transition-out Services, etc.
- j) This SI shall provide, supply, installation and configuration of all ordered equipment(s) required at specified locations for the whole contract period along with the integration with links provided from Primary and Secondary MPLS service provider & links provided by department on SD WAN system.

- k) SI shall draw out and specify detailed specifications for the SD-WAN Network for that needs to be used for the Billing system for satisfactory operations. SI should prepare the specifications of SD-WAN Network and associated components Services and submit the same to Utility for review. SI shall ensure that the recommended network shall be able to accommodate scaling up requirements in future.
- l) The ownership of the data generated upon usage of the system, at any point of time during the contract or expiry or termination of the contract, shall rest absolutely with the Utility.

4.2.1.2. MeitY's Guidelines

While the security, storage, data, and compliance tools are provided by the CSP, it is the SI's responsibility to ensure that the CSPs facilities/services are certified to be compliant to standards.

In the MeitY's guidelines to Government Departments on Adoption / Procurement of Cloud Services, the following are included as essential certification by CSP. SI also needs to ensure that the CSPs facilities/services are certified to be compliant to the following standards (indicative list provided below):

- a) ISO/IEC 27001 or ISO/IEC 27002:2022 - Data Centre and the cloud services should be certified for the latest version of the standards towards information security management system along with information security, cybersecurity and, privacy protection
- b) ISO/IEC 27017:2015-Code of practice for information security controls based on ISO/IEC 27002 for cloud services and Information technology
- c) ISO 27018 - Code of practice for protection of personally identifiable information (PII) in public clouds.
- d) ISO 20000-1 – Information Technology service management system requirements
- e) TIA 942 A/B &/or Uptime Tier III or higher – Telecommunication infrastructure standard for Data Centre. (Self-certification by the CSP is allowed).
- f) Payment Card Industry (PCI) DSS - compliant technology infrastructure for storing, processing, and transmitting credit card information in the cloud

4.2.2. Implementation of Cloud Based Data Centre and Disaster Recovery Centre

4.2.2.1. Supply of Licenses

- a) The SI will be responsible for supply, installation and maintenance of any additional Licenses pertaining to the cloud-based IT infrastructure and network services for Utility including all software necessary for security of the offered equipment and services.
- b) The SI shall update the licenses and version of Billing System to the latest commercially available version during the course of Contract.

4.2.2.2. Resource Management

- a) SI shall be responsible for adequately sizing of the necessary compute, memory, and storage required, building the redundancy into the architecture (including storage) and load balancing to meet the service levels.
- b) For auto-scaling of any major expected increase in the workloads, the SI shall carry out the capacity planning in advance to identify & provision, where necessary, the additional capacity to meet the user growth and / or the peak load requirements to support the scalability and performance requirements of the solution
- c) The scaling up / scaling down (beyond the auto-scaling limits or whenever the auto-scaling limits must be changed) must be carried out with prior approval by the Utility. The

Service Provider shall provide the necessary details including the sizing calculations, assumptions, current workloads & utilizations, expected growth / demand and any other details justifying the request to scale up or scale down.

4.2.2.3. Database Backup

- a) Backup of operating system, database and application should be performed as per stipulated policies of the Utility at the Cloud based Data Centre. The SI should provide required tools to undertake backup activities.
- b) SI shall formulate Backup & Archival policy and procedure in line to the requirements and necessary approval of the Utility.
- c) The SI shall perform backup as per the requirement of the Utility. This will include managing the regular backup and restore operations and assuring security of the media through appropriate access control. In addition, the SI shall also manage scheduled data replication at DR.
- d) However, as a minimum requirement the SI shall perform weekly backups for the files
- e) For the databases, perform minimum twice daily full database backup, with three times daily backup of database log files. The service provider should have desired technical provisions to restore database within stipulated time frame.
- f) System Integrator shall perform and store data and file backups consisting of an initial full back up with daily incremental backups for files.
- g) Retain the backups for entire project period on system/data storage device
- h) System Integrator shall not delete any data at the end of the agreement without the express approval of Utility
- i) Monitoring and enhancement of the performance of scheduled backups, schedule regular testing of backups and ensure adherence to related retention policies. Retention policies shall be decided after placing formal LOA to the selected SI.
- j) Ensure prompt execution of on-demand backups of volumes, files and database applications whenever required by the Utility or in case of upgrades and configuration changes to the system
- k) Real-time monitoring, log maintenance and reporting of backup status on a regular basis. The SI should ensure prompt problem resolution in case of failures in the backup processes.
- l) The SI should also ensure that a 24 x 7 support for file, database and volume restoration requests is available at the Cloud based Data Centres.
- m) Specific Snapshot – At request of Utility, the SI shall create a full snapshot for the platform, content, and related data, to be retrieved at the request of Utility.

4.2.2.4. Network Management

- a) Cloud Services shall support leased-line connections between Cloud Service provider (CSP) and Utility's HQ / Remote Offices etc.
- b) Cloud services shall be accessible via internet and SDWAN
- c) SI must closely liaison with bandwidth Service Provider(s) for the period of contract. The SI is expected to file the applications in the formats as required by the network service provider for bandwidth procurement. However, the Billing & Commercial Transactions would happen directly between Utility & the Bandwidth Provider.
- d) SI must be expected to liaise with the network service provider to ensure the links are commissioned within the timelines specified and agreed by Utility.
- e) SI must escalate any delays in the link commissioning to Utility on proactive basis.
- f) SI must inform the Utility of the link readiness and commissioning.
- g) SI must manage and maintain the Cloud based network subnet creation, managing network policy, access control list, gateway services and routing etc.
- h) CSP must provide SDWAN connectivity to cloud, also its SI responsibility to integrate existing SDWAN cloud to CSP's cloud network.

- i) Shall manage the cloud base third party IPSEC and SSL VPN solution users in redundancy with two factor authentications.
- j) Should provide and manage the Next Generation firewall which can be utilized for Firewall, IPS/IDS, MPLS, P2P, IPSEC/GRE tunnel, the device shall also support for URL filtering, Anti-malware and link load balancing/Sharing etc.
- k) SI must monitor and manage the SDWAN based PoP links to meet the SLA.
- l) SI must liaise with the network service provider in case of any link / line failure and ensure the same is restored within the agreed timelines.
- m) The SI along with the Utility will have to put in place in mechanisms to capture actual downtime as per the agreed Service Levels between the Utility and the Network Service Provider and compute the delay and penalty thereof.
- n) SI is expected to supply, install, test and commission and maintain all network and security equipment for Utility sites for the contract period. The SI needs to factor and consider that all network equipment's and infrastructure sized, procured, should be useable and scalable for a period of Contract.
- o) Provide services for management of network environment to maintain performance at optimum levels on a 24 x 7 basis.
- p) SI is responsible for monitoring and administering the proposed network equipment's within all the new IPDS locations.
- q) SI must monitor the performance of the network and coordinate with the NBSP for resolution of issues.
- r) The SI is responsible for creating and modifying VLAN, assignment of ports to appropriate applications and segmentation of traffic.

4.2.2.5. Security

- a) The SI in coordination with CSP shall manages the security of Facilities, Physical security of hardware, Network infrastructure and Virtualization infrastructure including the security of the Virtual Machine Images, Operating systems, Applications, Data in transit, Data at rest, Data stores, Credentials and Policies and configuration.
- b) Shall manage the underlying infrastructure and foundation services, the operating system, and the application platform.
- c) Shall provide services for management of security environment to maintain performance at optimum levels on a 24 x 7 basis.
- d) SI must address ongoing needs of security management including, but not limited to, monitoring of firewall, intrusion detection, content filtering and blocking, virus protection, and vulnerability protection through implementation of proper patches and rules.
- e) Maintain an updated knowledge base of all the published security vulnerabilities and virus threats for related software and microcode, including, but not limited to, operating systems, application servers, web servers, databases, security solutions, messaging solutions, etc.
- f) Ensure that patches / workarounds for identified vulnerabilities should be patched / blocked immediately.
- g) Responding to security breaches or other security incidents and coordinate with respective OEM in case of a new threat is observed to ensure that workaround / patch is made available for the same.
- h) Undertake management of security devices, including, but not limited to maintaining firewall services to restrict network protocols and traffic, detecting intrusions or unauthorized access to networks, systems, services, applications, or data, protecting email gateways, firewalls, servers
- i) SI will ensure to incorporate any advisories / recommendations pertaining to cyber security like CEA (Cyber Security in Power Sector) Guidelines 2021 or any amendment from time to time etc.

- j) The SI should ensure that the security policy is maintained on an ongoing maintenance and updates to the same are made regularly. Operating system hardening through appropriate configuration and patch updates should be undertaken on a regular basis.
- k) Monthly Vulnerability assessment: Assess server for vulnerabilities locally using automated scanning and manual assessment.
- l) Half yearly Penetration testing: The SI shall perform penetration testing to ensure the following: Create a hacker's view of the server, in terms of the ways it can be hacked from outside. Identify security vulnerabilities and fix holes discovered. Implement emergency quick fix solutions and long-term solutions against successful exploits.
- m) Firewall management: Initial setup of the firewall, implementation of rule base on the firewall to enable customer specific applications and ports, implementation of security policies based on services (HTTP, FTP, Telnet), source address / name, destination / name, online monitoring of firewall through a central console with 24x7 support, system administration for firewall, including updates & hot fixes that affect its performance, changes in firewall rule base with proper change management and backup of firewall configuration each time there is a configuration change.
- n) Intrusion detection and prevention: Initial installation and setup; applying appropriate levels of risk assessment for specific needs which allows security policies to be an integral part of scanning process; tracking of resource usage for anomalies and logging any suspicious packets from the outside; log maintenance and management; automated network-based security assessment and policy compliance evaluation.
- o) Testing and application of patches: The SI shall carry out testing and application of periodic patches released by software and OS vendors to plug vulnerabilities in the system.
- p) Appropriately configure the security groups in accordance with the Utility networking policies. Regularly review the security group configuration and instance assignment in order to maintain a secure baseline.
- q) Secure and appropriately segregate / isolate data traffic/application by functionality using DMZs, subnets etc. should ensure that the cloud infrastructure and all systems hosted on it, respectively, are properly monitored for unauthorized activity.
- r) Properly implementing anti-malware and host-based intrusion detection systems on their instances, as well as any required network-based intrusion detection systems in accordance with Utility policies.
- s) Conducting regular vulnerability scanning and penetration testing of the systems, as mandated by Utility policies.
- t) Review the audit logs to identify any unauthorized access to Utility systems.
- u) Should Implement and manage the Sandbox, DDOS, DNS Security, IPS/IDS and WAF etc. in such a way that the performance of the applications will not hamper, and single point of failure will not be there.
- v) Should provide the Management console to monitor the security events, real time traffic monitoring, real time troubleshooting.
- w) Should provide facility to store minimum of 6-month security logs and network traffic logs etc.
- x) The CSPs facilities/services are certified to be compliant to the following standards:
 - o ISO 27001 - Data Centre and the cloud services should be certified for the latest version of the standards
 - o ISO/IEC 27017:2015-Code of practice for information security controls based on ISO/IEC 27002 for cloud services and Information technology
 - o ISO 27018 - Code of practice for protection of personally identifiable information (PII) in public clouds.

4.2.2.6. Monitoring Performance and Service Levels

- a) Provide and implement tools and processes for monitoring the availability of assigned applications, measuring the service levels, application/Severs/Storage/Network

performance and utilization responding to system outages with troubleshooting activities designed to identify and mitigate operational issues.

- b) The tool shall provide the exact utilization of servers and shall be able to generate per day, per month and per quarter utilization reports based on which the payments will be made to the SI.
- c) Reviewing the service level reports, monitoring the service levels and identifying any deviations from the agreed service levels.
- d) Monitoring of service level including availability, uptime, performance, application specific parameters for e.g., triggering elasticity, request rates, number of users connected to a service.
- e) Detecting and reporting service level agreement infringements.
- f) Monitoring of performance, resource utilization and other events such as failure of service, degraded service, availability of the network, storage, database systems, operating Systems, applications, including API access within the cloud service provider's boundary.

4.2.2.7. Usage Reporting Management

- a) Track system usage and usage reports.
- b) Monitoring, managing, and administering the monetary terms of SLAs and other billing related aspects
- c) Provide the relevant reports including real time as well as past data/information/reports for Utility to validate the billing and SLA related penalties.
 1. Business Continuity Services (Disaster Recovery)
 - a) Provide business continuity services from secondary site with 100% capacity in case the primary site becomes unavailable. The Secondary site should be in Hot Standby Mode.
 - b) Its SI responsibility, in the event of a disaster at DC (primary) site, activation of services from the DR site (or from different physical locations) with RPO < 15 Minutes and RTO <= 1 Hour. In case of DR Solution having Active-Active arrangement or Multisite site solution then applicable RPO and RTO shall be <= 15 Minutes)
 - c) All servers should be replicated, and automation must be part of the software functionality to failover/failback to the DR-DC adhering to an RPO of 15 minutes and RTO of maximum 1 hour.
 - d) The charges quoted by SI in the price bid for each item must include Cloud DR provisioning (i.e., Provisioning of equivalent resource on DR site of Cloud in Hot Standby mode).
 - e) SI must provide a UAT (User Acceptance Test) for the failover/failback scenarios after the deployment.
 - f) Failover scenario: The proposed solution should allow pre-built of recovery plans for various servers which includes target server configuration, IP configurations, network configuration etc. Test DR failover scenario should not affect the primary server at all.
 - g) Failback Scenario: The proposed solution should ensure failback to original DC and should take care of replication of only delta (changed data after failover) from DR to DC. This need to be confirmed by the SI.

4.2.2.8. Support for Audits and Compliance

- a) The Utility may undertake technical audits on a periodic basis and the same may be conducted by a third-party technical auditor which may be appointed by the Utility. The SI shall be required to provide necessary support for this and adequately address the audit findings in a timely manner. These audits may include:
 - i. Information Security audits
 - ii. SLA compliance audits
 - iii. BCP readiness audit
 - iv. Cloud based IT Infrastructure audit
 - v. Policy compliance audit
 - vi. Cyber security audit etc.

- b) Shall support for the third-party auditor / program management team / internal IT team with respect to third party audits and other requirements such as forensic investigations, SLA validation etc.
- c) The Solution and services offerings shall comply with the audit requirements of STQC /MEITY guidelines as and when published.
- d) Cost of all such audits shall be bear by the System Integrator / CSP/ NBSP.

4.2.2.9. Operation and Maintenance Services

- a) SI shall advise the Utility on optimal operational practices, recommend deployment architectures for cloud infrastructures, design and implement automated scaling processes, day-to-day and emergency procedures, deploy and monitor underlying cloud services, performance reporting and metrics, and ensure the overall reliability and responsive operation of the underlying cloud services through both proactive planning and rapid situational response.
- b) Shall interface with the Cloud Service Provider(s) on behalf of the Utility for all activities including monitoring the reports (e.g., usage, security, SLA,), raising (or escalating) tickets / incidents and tracking the same to resolution.
- c) Shall prepare a comprehensive O&M plan for managing the cloud services and keep it updated with any changes during the project.
- d) Shall create and maintain all the necessary technical documentation, design documents, standard operating procedures, configurations required to continued operations and maintenance of cloud services.

4.2.2.10. Privacy and Security Safeguards.

- a) If the data is classified as very sensitive, the SI to ensure that the data is encrypted as part of a standard security process for highly sensitive content or choose the right cryptographic algorithms evaluating security, performance, and compliance requirements and may choose from multiple key management options.
- b) The SI should notify the Utility promptly in the event of security incidents or intrusions, or requests from foreign government agencies for access to the data, to enable the Utility to manage these events proactively.
- c) The CSP shall not delete any data at the end of the agreement (for minimum of 90 days beyond the expiry of the agreement) without the express approval of Utility.
- d) At the end of the agreement, the SI with prior permission, shall ensure and inform the Utility that all the storage blocks or multiple copies of data if any are unallocated or zeroed out by the SI, cannot be recovered. If due to some regulatory reasons if it is required to securely decommission data, the Utility can implement data encryption at rest using the managed keys, which are not stored in the cloud. Then Utility may delete the key used to protect the decommissioned data, making it irrecoverable.
- e) The SI shall report forthwith in writing of information security breaches to the Utility by unauthorized persons (including unauthorized persons who are employees of any Party) either to gain access to or interfere with the Project's Data, facilities, or Confidential Information.
- f) The SI undertakes to treat information passed on to them under this Agreement as classified. Such Information will not be communicated / published / advertised by the SI to any person/organization without the express permission of the Utility.

4.2.2.11. Confidentiality

- a) The SI shall execute non-disclosure agreements with the Department with respect to this Project. For the avoidance of doubt, it is expressly clarified that the aforesaid provisions shall not apply to the following information:
 - i. Information already available in the public domain
 - ii. Information which has been developed independently by the SI, without using the Utility organization data

- iii. Information which has been received from a third party who had the right to disclose the aforesaid information
- iv. Information which has been disclosed to the public pursuant to a court order.
- b) The SI will be permitted to obtain Utility data only to deliver the services and will be prohibited from using Utility data for any other purpose. The SI remains responsible for its subcontractors' compliance with SI obligations under the Project.
- c) SI shall be responsible for data security, consumer's data privacy, protection, confidentiality, handling, and any kind of misuse of data by its own employees, third party employees and other government and private entities.
- d) The SI shall be permitted to obtain Utility data only to deliver the services and will be prohibited from using Utility data for any other purposes such as legitimate purposes (such as marketing, research etc.) and illegitimate purposes (as when data is sold in bulk to third party)

4.2.2.12. Location of Data

- a) The location of the data (text, audio, video, or image files, and software (including machine images), that are provided to the SI for processing, storage or hosting by the CSP services in connection with the requirement of Utility and any computational results that Utility or any end user derives from the foregoing through their use of the SI services) shall be guaranteed to reside in India.
- b) E-Discovery: Electronic discovery (e-discovery) is the process of locating, preserving, collecting, processing, reviewing, and producing Electronically Stored Information (ESI) in the context of or criminal cases/proceedings or investigation. Utility must be able to access and retrieve such data in a CSP environment in a timely fashion for normal work purposes.
- c) Law Enforcement Request: The Law Enforcement Agency as mandated under any law for the time being in force may seek access to information stored on cloud as provided by the SI. The onus shall be on the SI to perform all due diligence before releasing any such information to any such law enforcement agency.
- d) Data shall not leave the boundaries of the country and data residing within Cloud shall not be accessed by any entity outside the control of Utility or its authorized representative.

4.2.3. Functional Requirements of the CSP

4.2.3.1. Operational Management

- a) CSP shall provide ability to provision virtual machines, and storage dynamically (or on-demand), on a self-service mode or as requested
- b) CSP should provide access of cloud virtual machines either by SSH in case of Linux and RDP in case of Windows servers.
- c) CSP should enable Utility to get console access of cloud virtual machine from portal and perform operations. There should be facility to view resource type-wise (VM, database, storage etc.) quota usage. It should be possible to configure automated alerts when the threshold of estimated quota is reached.
- d) CSP should upgrade its hardware time to time to recent configuration to delivery expected performance for this Project.
- e) Investigate outages, perform appropriate corrective action to restore the hardware, operating system, and related tools.
- f) CSP should manage their cloud infrastructure as per standard ITIL framework in order to delivery right services to Project.
- g) Cloud should allow configuration of automated alerts when the estimated cost is reaching the quota
- h) CSP should provide option to view resource type wise (virtual machines, database services etc.) quota usage
- i) The SI shall implement through the CSP, following User administration,

- i. Identity and Access Management (IDAM) as a service that properly separates users by their identified roles and responsibilities, thereby establishing least privilege and ensuring that users have only the permissions necessary to perform their assigned tasks
- ii. Allow different users with different level of access on CSP portal. For example, billing user should not be able to provision resources or delete any resources.
- iii. Allow quota management for each department/ISV/Group. The resources to specific department/group/ISV should be as per allocated quota only. If there is any request for more than quota request, then it should be sent as request to admin.
- iv. Securely control users' access to Cloud services using a range of security credentials including passwords, key pairs, and X.509 certificates
- v. Offer fine-grained access controls including, conditions like time of the day, originating IP address, use of SSL certificates, or authentication with a multi-factor authentication device.
- vi. Implement multi-factor authentication (MFA) for the root account, as well as any privileged Identity and Access Management accounts associated with it.
- j) The SI, through the CSP, shall be responsible for managing the trouble tickets, diagnosis of the problems, reporting, managing escalation, and ensuring rectification of server problems as prescribed in SLA.

4.2.3.2. Compatibility Requirements

- a) CSP/MSP must ensure that the Virtual Machine (VM) format is compatible with other cloud provider.
- b) CSP should give provision to import cloud VM template from other cloud providers.
- c) CSP should ensure connectivity to and from cloud resources used for this project is allowed to/ from other cloud service providers if required.

4.2.3.3. Cloud Network Requirement

- a) SI, through the CSP shall implement and maintain an adequate SD-WAN and provide configuration and commissioning of the client-side infrastructure, so as to let the various Utility offices gain access to the cloud-based infrastructure as a service. The established network shall be able to accommodate scaling up requirements in future.
- b) CSP must ensure that the non-production and the production environments are in separate VLANs in the cloud so that users of the two environments are separated.
- c) CSP must ensure that cloud VM are having private IP network assigned.
- d) CSP should ensure that cloud VMs are having Internet and Service Network (internal) vNIC cards.
- e) CSP should ensure that Internet vNIC card is having minimum 1 Gbps network connectivity and service NIC card is on 10 Gbps for better internal communication.
- f) In case of scalability like horizontal scalability, the CSP should ensure that additional require network is provisioned automatically of same network segment.
- g) CSP must ensure that the public network provisioned for cloud VMs is redundant at every point.
- h) CSP must ensure that cloud VMs are accessible from Utility private network if private links P2P/MPLS is used by Utility

- i) CSP must ensure that there is access to cloud VMs if Utility requires to access it using IPSEC/SSL or any other type of VPN.
- j) CSP should ensure that cloud VM network is IPV6 compatible.
- k) CSP should ensure use of appropriate load balancers for network request distribution across multiple cloud VMs.

4.2.3.4. Cloud Data Centre Specifications

- a) All the physical servers, storage, and other IT hardware from where cloud resources are provisioned for this project must be within Indian data centres only. CSP should provide DC and DRC locations in the proposal (should be located as per MeitY guidelines).
- b) Selection of DC-DR site architecture shall be in accordance with applicable laws including but not limited to the “Disaster Recovery Best Practices” guidelines issued by the Ministry of Electronics & Information Technology (MeitY) and as amended from time to time”.
- c) The CSP data centres should have adequate physical security in place.
- d) The Data Centre should conform to at least Tier III standard (preferably certified Uptime Institute certifications by a 3rd party) and implement tool-based processes based on ITIL standards.

4.2.3.5. Cloud Storage Service Requirements

- a) CSP should provide scalable, dynamic, and redundant storage.
- b) CSP should offer provision from self-provisioning portal to add more storage as and when require by respective Utilities.
- c) CSP should clearly differentiate its storage offering based on IOPS. There should be standards IOPS offering per GB and high-performance disk offering for OLTP kind of workload. It shall provide ability to provision storage dynamically with on-demand IOPS provisioning.
- d) Provide ability to provision storage dynamically in different options like SSD, provisioned IOPS, Magnetic, File storage, cold storage etc.
- e) Provide ability to provision file storage on self-service mode and automated option to move files from standard storage to infrequent access like cold storage option etc.
- f) CSP should have block disk offering as well as file/object disk offering to address different kind of Project needs.
- g) The CSP should retain Billing data for [x] years *<where x shall be defined based on regulatory provisions>*
- h) CSP cloud platform should also include object storage which allows configuration of object lifecycle management policies

4.2.3.6. Cloud Security Requirements

- a) CSP should ensure there is multi-tenant environment and cloud virtual resources of this project are logically separated from others.
- b) CSP should ensure that any OS provisioned as part of cloud virtual machine should be patched with latest security patch.

- c) In case, the CSP provides some of the System Software as a Service for the project, CSP is responsible for securing, monitoring, and maintaining the System and any supporting software.
- d) CSP should implement industry standard storage strategies and controls for securing data in the Storage Area Network so that clients are restricted to their allocated storage
- e) CSP should deploy public facing services in a zone (DMZ) different from the application services. The Database nodes (RDBMS) should be in a separate zone with higher security layer.
- f) CSP should give ability to create non-production environments and segregate (in a different VLAN) non-production environments from the production environment such that the users of the environments are in separate networks.
- g) CSP should have built-in user-level controls and administrator logs for transparency and audit control.
- h) CSP cloud platform should be protected by fully managed Intrusion detection system using signature, protocol, and anomaly-based inspection thus providing network intrusion detection monitoring.
- i) CSP cloud platform should provide tools to define user-based access control to cloud resources so that select users can access only certain set of resources either through user interface or through APIs.
- j) CSP cloud platform should include automated security assessment service to help improve security and compliance

4.2.3.7. Data Management

- a) CSP should clearly define policies to handle data in transit and at rest.
- b) CSP should not delete any data at the end of agreement without consent from Utility.
- c) In case of scalability like horizontal scalability, the CSP should ensure that additional generated data is modify/deleted with proper consent from Utility.

4.2.3.8. Managed Services

The CSP shall be responsible for identification, diagnosis and resolution of problem areas pertaining to the cloud infrastructure, application and maintaining assured SLA levels

- a) Network and Security Management:
 - i. Monitoring & management of network link proposed as part of this Solution. Bandwidth utilization, latency, packet loss etc.
 - ii. Port monitoring: Monitor HTTP/HTTPS, DNS, SMTP, POP3, FTP, TCP ports, etc. are continuously to ensure network and applications are up and running
 - iii. Call logging and co-ordination with vendors for restoration of links if need arises.
 - iv. Addressing the ongoing needs of security management including, but not limited to, monitoring of various devices / tools such as firewall, intrusion protection, content filtering and blocking, virus protection, and vulnerability protection through implementation of proper patches and rules.

- v. Ensuring that patches / workarounds for identified vulnerabilities are patched / blocked immediately
 - vi. Ensure a well-designed access management process, ensuring security of physical and digital assets, data and network security, backup, and recovery etc.
 - vii. Adding/ Changing network address translation rules of existing security policies on the firewall
 - viii. Diagnosis and resolving problems related to firewall, IDS/IPS.
 - ix. Managing configuration and security of Demilitarized Zone (DMZ) Alert / advise Utility(s) about any possible attack / hacking of services, unauthorized access / attempt by internal or external persons etc.
- b) Server Administration and Management:
- i. Administrative support for user registration, User ID creation, maintaining user profiles, granting user access, authorization, user password support (in accordance with the security policy of the Utility), and administrative support for print, file, and directory services.
 - ii. Installation/ re-installation of the server operating systems and operating system utilities and the application software
 - iii. Killing and restarting server processes, recovery, maintenance of server logs, management of server disk space, addition or removal of Resource or Software
 - iv. OS Administration including troubleshooting, hardening, patch/ upgrades deployment, BIOS & firmware upgrade as and when required/ necessary for Windows, Linux, or any other O.S proposed as part of this solution whether mentioned in the RFP or any new deployment in future.
 - v. Ensure proper configuration of server parameters, operating systems administration, hardening and tuning
 - vi. Regular backup of servers as per the backup & restoration
 - vii. Managing uptime of servers as per SLAs.
 - viii. Preparation/ update of the new and existing Standard Operating Procedure (SOP) documents on servers & applications deployment and hardening.
 - ix. Management of the load balancer hardware devices, regular Health Check of the Servers, limiting the number of connections per server for optimum performance, seamlessly adding servers as and when existing servers are over-utilized without disrupting services
- c) CSP cloud platform should be capable to automatically scale up and scale down based on load or other parameters that can be configured
- d) CSP cloud platform should have managed database services which can manage automatic failover, and automated backups
- e) CSP cloud platform should have database services for SQL and NoSQL databases, and available for setup on demand through web-based console

4.2.3.9. Business Continuity Plan & Backup Services

As part of a business continuity plan, the Utility has made a business impact analysis in the event of loss of Billing system applications running in the cloud and consequent loss of data to come up with a management plan for the associated risk to business operations. Central to this risk management strategy, the Utility has defined the following target objectives:

- a) **Recovery Time Objective (RTO):** Duration of time and a service level within which a business process must be restored after a disruption in order to avoid unacceptable consequences associated with a break in continuity of service. The RTO of [1 hour] shall be met by infrastructure redundancy and failover.
- b) **Recovery Point Objective (RPO):** Interval of time that may pass during a disruption before the quantity of lost data during that period exceeds the business continuity plan's maximum allowable threshold. The RPO of [15 minutes] shall be met by a suitable backup and replication strategy of operational data / application. The RPO shall define how fast the replicated data / application can be made available to the target system after a disruption strikes.

With these two objectives, the CSP shall provide the following:

- a) CSP must provide backup of cloud resources. The backup tool should be accessible
- b) To perform backup and restore management as per policy & procedures for backup and restore, including performance of daily, weekly, monthly, quarterly, and annual backup functions (full volume and incremental) for data and software maintained on the servers and storage systems using Enterprise Backup Solution.
- c) Backup and restoration of Operating System, application, databases, and file system etc. in accordance with defined process / procedure / policy. Monitoring and enhancement of the performance of scheduled backups, schedule regular testing of backups and ensure adherence to related retention policies
- d) Ensuring prompt execution of on-demand backups & restoration of volumes, files and database applications whenever required.
- e) Real-time monitoring, log maintenance and reporting of backup status on a regular basis. Prompt problem resolution in case of failures in the backup processes.
- f) Media management including, but not limited to, tagging, cross-referencing, storing (both on-site and off-site), logging, testing, and vaulting in fireproof cabinets if applicable.
- g) Generating and sharing backup reports periodically
- h) Coordinating to retrieve off-site media in the event of any disaster recovery
- i) Periodic Restoration Testing of the Backup
- j) Maintenance log of backup/ restoration
- k) CSP should provide network information of cloud virtual resources.
- l) CSP must offer provision to monitor network uptime of each cloud VM.

4.2.3.10. Web Application Firewall (WAF) as Service

- a) Cloud platform should provide Web Application Filter for OWASP Top 10 protection
- b) CSP WAF should be able to support multiple website security.

- c) CSP WAF should be able to perform packet inspection on every request covering the 7th layers.
- d) CSP WAF should be able to block invalidated requests.
- e) CSP WAF should be able to block attacks before it is posted to website.
- f) CSP WAF should have manual control over IP/Subnet. i.e., Allow or Deny IP/Subnet from accessing website.
- g) The attackers should receive custom response once they are blocked.
- h) CSP must offer provision to customize response of vulnerable requests.
- i) CSP WAF should be able to monitor attack incidents and simultaneously control the attacker IP.
- j) CSP WAF should be able to Grey list or Backlist IP/Subnet.
- k) CSP WAF should be able to set a limit to maximum number of simultaneous requests to the web server & should drop requests if the number of requests exceed the threshold limit.
- l) The WAF should be able to set a limit to maximum number of simultaneous connections per IP. And should BAN the IP if the threshold is violated.
- m) CSP WAF should be able to set a limit to maximum length of path to URL.
- n) CSP WAF should be able to limit maximum size of request to Kilobytes.
- o) CSP WAF should be able to limit maximum time in seconds for a client to send its HTTP request.
- p) CSP WAF should be able to BAN an IP for a customizable specified amount of time if the HTTP request is too large.
- q) CSP WAF should be able to limit maximum size of PUT request entity in MB
- r) The WAF should be able to close all the sessions of an IP if it is ban.
- s) CSP WAF should be able to ban IP on every sort of attack detected and the time span for ban should be customizable. There should be a custom response for Ban IP.
- t) The Dashboard should show a graphical representation of
 - i. Top 5 Attacked Websites.
 - ii. Top 5 Attacking IP.
 - iii. Top 5 Attack types.
 - iv. Top 5 Attacked URLs.
- u) For analysis purpose the Dashboard should contain following information:
 - i. Number of requests to web server.
 - ii. Number of attacks.
 - iii. Number of Attackers.
 - iv. Types of error messages and on. Of error messages sent to the users.

- v. Total Bytes sent during transaction

4.2.3.11. Database Support Service

- a) Installation, configuration, maintenance of the database (Cluster & Standalone).
- b) Regular health check-up of databases.
- c) Regular monitoring of CPU & Memory utilization of database server, Alert log monitoring & configuration of the alerts for errors.
- d) Space monitoring for database table space, Index fragmentation monitoring and rebuilding.
- e) Performance tuning of Databases.
- f) Partition creation & management of database objects, Archiving of database objects on need basis.
- g) Ongoing support for the application vendors to deploy applications, application patches etc.
- h) Patching, upgrade & backup activity and restoring the database backup as per defined interval.
- i) Schedule/review the various backup and alert jobs.
- j) Configuration, installation, and maintenance of Automatic Storage Management (ASM), capacity planning/sizing estimation of the Database setup have to be provided and taken care by the SI.
- k) Setup, maintain and monitor the 'Database replication' / Physical standby and Assess IT infrastructure up-gradation on need basis pertaining to databases

4.2.3.12. Security

Commercial CSPs offer cloud services to multiple consumers. In such an environment, the security controls and compliance to various standards (Including ISO 27001, ISO 27017, and ISO 27018) should be verified by third party auditors. Third-party certifications and evaluations provide assurance that effective physical and logical security controls are in place.

Although, the Cloud Service Providers (CSPs) offer assurances of effective physical and logical security controls through the third-party certifications such as ISO 27001, ISO 27017, ISO 27018, etc. and also, may provide a host of security services such as encryption, web application firewall, etc., it is the responsibility of the SI to define the security services that need to be implemented for their workloads depending on the nature of the applications / data hosted on the cloud.

Now a days, CSPs offer tools and features to help consumers to meet their security objectives concerning visibility, auditability, controllability, and agility. These tools and features provide basic but important security measures such as Distributed Denial of Service (DDoS) protection and password brute-force detection on CSP's accounts.

However, the following basic security features should be ensured by any CSP-

- a) Strong encryption capabilities for data in transit or at rest
- b) Firewalls – instance and subnet levels
- c) Identity and Access Management (IAM): Control users' access to cloud services. Create and manage users and groups, and grant or deny access

- d) **Managed Threat Detection:** Managed threat detection service that provides you with a more accurate and easy way to continuously monitor and protect your cloud accounts and workloads
- e) **Managed DDoS Protection:** Managed Distributed Denial of Service (DDoS) protection service that safeguards web applications running on cloud.
- f) **Web Application Firewall:** Helps protect your web applications from common web exploits that could affect application availability, compromise security, or consume excessive resources.
- g) **Key Management Service (KMS):** Managed service that makes it easy for you to create and control the encryption keys used to encrypt your data
- h) **Certificate Manager:** Easily provision, manage, and deploy Secure Sockets Layer/Transport Layer Security (SSL/TLS) certificates.
- i) **Cloud HSM:** Meet regulatory compliance requirements for data security by using dedicated Hardware Security Module (HSM) appliances within the Cloud.
- j) **Inspector:** Automated security assessment service that helps improve the security and compliance of applications deployed on cloud
- k) **Organizations:** Policy-based management for multiple consumer accounts. With Organizations, you can create groups of accounts and then apply policies to those groups.

CSPs also offers access to additional third-party security tools (e.g., IDS / IPS, SIEM) to complement and enhance the consumers' operations in the Cloud. The third-party security tools complement existing Cloud services to enable consumers to deploy a comprehensive security architecture. These security tools on cloud are equivalent and identical to the existing controls in an on-premises environment.

The SI needs to review and validate the security configurations, review the notifications and patches released by the CSP and validate that the same is being taken into consideration during operations, confirm that the audit trails (e.g., who is accessing the services, changes to the configurations, etc.) are captured for supporting any downstream audits of the projects by the finance or audit organization such as STQC.

4.2.3.13. Reporting

The CSP shall also provide helpdesk support to the <<Utility>> and send periodic reports on the performance. The SI should insist on the following regular reporting by CSP during the contract:

- a) Availability of the cloud services being used
- b) Summary of alerts that are automatically triggered by changes in the health of those services.
- c) Summary of event-based alerts, providing proactive notifications of scheduled activities, such as any changes to the infrastructure powering the cloud resources
- d) Reports providing system-wide visibility into resource utilization, application performance, and operational health through proactive monitoring (collect and track metrics, collect and monitor log files, and set alarms) of the cloud resources

- e) Auto-scaling rules and limits
- f) In case of any un-authorized access, the Agency should provide logs of all user activity within an account, with details including the identity of the API caller, the time of the API call, the source IP address of the API caller, the request parameters, and the response elements returned by the cloud service. This is required to enable security analysis, resource change tracking, and compliance auditing
- g) Report of all the provisioned resources and view the configuration of each.
- h) Summary of notifications, triggered each time a configuration change
- i) Incident Analysis in case of any un-authorized configuration changes.
- j) Summary of alerts with respect to security configuration gaps such as overly permissive access to certain compute instance ports and storage buckets, minimal use of role segregation using Identity and Access Management (IAM), and weak password policies
- k) Summary of security assessment report that identifies the possible improvements (prioritized by the severity) to the security and compliance of applications deployed on cloud
- l) Report on upcoming planned changes to provisioning, either possible optimizations, if any, indicating how the underutilized services can be reduced to optimize the overall spend, or required enhancements (e.g., upgrade to additional storage) to meet the service levels defined in the RFP.

5. Data Migration

5.1 Data Assessment

The study of the source/legacy systems must provide comprehensive insights into the content, structure, quality, and integrity of the source/legacy systems.

Risk Identification and Mitigation Plan for Data Migration: The SI shall identify all risks associated with the data migration and enumerate mitigation measures and prepare a Risk Identification and Mitigation plan for Data Migration. The plan must address the contingency measures to be adopted during the event of a data migration failure. It must also clearly specify measures to be taken to prevent data loss. It may be preferable to consider migration of data to a backup system at the same time as the new system to address data loss due to system failures.

5.2 Data Mapping and Cleaning

A comprehensive data mapping exercise must be undertaken by the SI before embarking on data migration. A good data map will detail an in-depth cross referencing of all mutual fields across the source system and the target system. It must include the following (but not limited to):

- a) Names of applicable fields -to (destination) and from (source)
- b) Lengths and data types of these fields
- c) Mapping of relationships between entities
- d) Check on the constraints, unique fields, and integrity checks
- e) Any logic involved in mapping such as string truncations or validations against any business rules.

The SI shall be responsible for migration of operational data as required, including financial transaction data such as ongoing contracts, employee transaction data etc.

In the event of any gaps in data migration, the SI shall discuss with Utility, document the findings, and get it approved from Utility.

- a) SI shall run mock data migration tests to validate the conversion programs that have been written.
- b) SI shall validate the data before uploading the same to the production environment.

The PSI shall support in conducting the acceptance testing and verifying the completeness and accuracy of the data migrated from the legacy systems to the proposed solution.

5.3 Data Migration

Data Migration refers to validation and migration of data from the manual/legacy system to the new database schema, linking and Meta tagging the documents to the relevant records in the Document Management System (DMS) and conformance to quality control requirements. The data should be migrated from the current application and media to the Billing System during roll out and prior to 'Go-Live' of the application.

The key data migration requirements include:

- a) Data conversion: Since there would be significant difference between existing legacy database table structures and Billing System database table structures, therefore mapping shall be done between existing tables and proposed tables and data to be made compatible for migration and migrated into new tables.
- b) Perform data cleansing for incorrect/ incomplete data.
- c) Perform validation of digitized/scanned records
- d) Obtain approval from competent authority on migrated data

The tool and solutions required for performing data migration must be designed by SI after adequate study of the data to be migrated.

The SI should submit data migration strategy in their bid, detailing all the activities to be performed during the data migration. Indicative broad activities to be performed by the SI are as follows:

- a) An assessment needs to be done to identify the database requirements for the application envisaged for this project. The data requirements in terms of master data and transaction data need to be identified, which is required for the envisaged solution.
- b) Migration of complete records available in electronic form is required to be performed to acceptable quality and standards as prescribed in this RFP.
- c) Development of merged database structure
- d) Porting of all the data into the database
- e) Final updating of the single database

5.4 Additional Requirements for Data Migration

- a) The SI shall migrate the data at the implementation sites of Utility.
- b) The SI shall formulate the "Data Migration Strategy document" which will also include internal quality assurance mechanism. This will be reviewed and approved by Utility prior to commencement of data migration.
- c) The SI shall incorporate all comments and suggestions of Utility in the Data Migration
- d) The SI shall perform mock data migration tests to validate the conversion programs.
- e) The SI shall ensure complete data cleaning and validation for all data migrated from the legacy systems to the new application.
- f) The SI shall generate appropriate control reports before and after migration to ensure accuracy and completeness of the data.
- g) The SI shall convey to Utility in advance all the mandatory data fields required for functioning of the proposed solution, and which are not available in the legacy systems and are required to be obtained by Utility.
- h) The SI shall develop data entry programs / applications that may be required for data migration in order to capture data available with / obtained by Utility in non – electronic format.

- i) SI shall conduct the acceptance testing and verify the completeness and accuracy of the data migrated from the legacy systems to the proposed solution.
- j) The SI shall give the template for data migration to Utility and Utility shall furnish the required data on the templates provided by the SI. The SI shall furnish adequate guidelines to fill the data templates to Utility.

5.5 Other General Requirements

Data entry will be carried out at Utility HQ and Zonal offices (on indicative basis). Post on-boarding of SI, the SI and Utility will finalize the location for data migration. The soft copy of data migration work completion report shall be shared with Utility, or person authorized by Utility on end of the week. The SI provider should preserve the same report for any future use.

- a) The SI must carry out scanning and data entry on iterative basis as required by Utility till Billing System GO LIVE Phase.
- b) Share Daily Progress Reports/Dashboard and share for tracking and monitoring
- c) The SI provider will ensure data of Utility remain secure and protected. Utility is entitled to cancelling the contract and take necessary actions against SI provider in case of any breach.
- d) Payment shall be made as per the terms and conditions mentioned in RFP.
- e) The SI provider shall be responsible for maintaining the service standards, coverage, quality, and timeliness of Data Entry Services in their respective Utility.
- f) The SI will deploy “supervisors” who shall serve as single point contact for the Utility, for their respective work and monitoring and reporting on the performance of Data Entry Services.
- g) The Supervisors shall be responsible for communication regarding issues related to:
 - Data Collection,
 - Data Quality Audit,
 - Supportive Supervision and reporting,
 - DEO Deployment, etc.
- h) The SI shall facilitate submission of Daily/Weekly/Monthly Reports to Utility, as per the formats finalized for Utility
- i) The SI shall be responsible for their Infrastructure, IT equipment, consumables and supplies required for data entry operations.
- j) The SI provider is free to decide the number of resources to complete in the task at any location.
- k) The data entry service will be provided as per work schedule/shift of Utility.
- l) Utility may grant the SI provider, viewing access rights for an internal system and already digitized the data for Data Entry.
- m) The SI provider shall hand over all the documents/ submissions/ presentations or any other data for information collated/digitized (as per the scope of this project to the Utility) at the termination or end of the contract.
- n) It is the responsibility of SI to take AMC for their computer and laptops with necessary provisioning on the internet.
- o) Utility will not provide any hardware or software support.
- p) Utility will not be responsible for any delay due to breakdown or unavailability of hardware/software and Other General Requirements.
- q) SI shall add/replace poor quality scanned images/documents on its own, for which it shall not be entitled to get any extra payment.
- r) The files / documents will not be allowed to be removed from premises allocated to the SI. Suitable hardware infrastructure/facilities have to be established onsite at the premises that shall be allocated to do the digitization work.
- s) Under no circumstances the documents shall be changed, mutilated, destroyed, or replaced by some other documents.

- t) Utility, or any Utility authorized agency/person can carry out quality checks periodically for data entry services.
- u) Once the project commences, the Utility shall evaluate the vendor's performance based upon the outputs provided and the Utility reserves the right to ask the vendor to replace any equipment with similar equipment in better condition or superior equipment if the output does not meet the requirements of the Utility.
- v) Complete secrecy and confidentiality of physical/Digitized records is required to be maintained by the successful SI.

6. Billing System Integration

SI shall ensure that the Billing system is able to share data in industry acceptable protocols and formats. The proposed solution shall be based on an open architecture and supports various types of interoperability and integration methods including viz. SOA, API, EAI, Messaging Queuing, XML based file transfer, Flat file transfer etc.

Billing System must maintain integration logs that confirm the success or otherwise of the integration interface. All external systems should be integrated with the Billing System based on a consistent, real-time or batch processing data exchange methodology operating in an automatic manner without any manual intervention unless specifically required.

The Bidder are expected to make note of the following application modules which are already implemented at Utility.

[Utility to Insert Table with List of IT Applications and brief description]

SI needs to propose appropriate middleware solution for integration between Billing System and other supporting system including but not limited to the followings:

1. All required data residing in existing legacy applications to be identified and transferred / integrated with Billing System.
2. End to End Integration of supplied Billing system and supporting solution with existing IT /Business Solutions and applications implemented across the value chain of Utility.
3. Integration with any upcoming IT/Business systems at Utility like Payment Gateway, Metering-Billing-Collection (MBC) Solution, Bio-metric system etc.
4. All interfaces should self-checking so that any exceptions or data validation errors are reported by the system.
5. The integration middleware should be based on Service Oriented Architecture (SOA) and other forms of Application Program Interfaces (API) and use publish / subscribe mechanism.
6. The Solution to be proposed as part of the bid will need to be integrated with any or all the above-mentioned application modules
7. To ensure that the integration is seamless with other applications would also be in the scope of Bidder
8. Any adapters, licenses, tools, scripts etc. required for integration with the existing and upcoming IT solutions of Utility will need to be arranged by the Bidder
9. Since all the existing IT Solutions & application modules are already in production and are business critical applications which bring in huge revenue for the Utility, it will be SI's responsibility to ensure minimal downtime for integration and flawless integration which doesn't disrupt any of existing business processes or cause any revenue loss to the Utility.
10. The integration mechanism adopted must have minimal impact on the existing systems
11. The access to data will only be through business rules i.e., the applications will not access data directly without going through APIs managed by business rules/validation/workflow.
12. The integration middleware/interface must validate the Data to be integrated
13. It must maintain integration logs that confirm the success or otherwise of the interface.
14. Utility can arrange for a session with existing the SI in case the SI need to understand any of the existing solutions and clarify their doubts.

7. Audits and IT Security

7.1 Audits & Reporting

The audit and reporting activities will be carried out by any internal authority, Product OEM, or any Third-party agency to ensure the compliance with quality and overall requirements captured in RFP for Billing System to achieve the goals and objectives as envisaged by the Utility.

Billing System being deployed as a part of this project, will require an auditing and validation both initially as well as on an ongoing basis. The audit activities are mandatory and shall be carried out periodically inline to the timelines/frequency captured as per audit requirements of RFP. However, in case of any exception the audit and validation activities can be carried out in an ad-hoc basis, at the discretion of Utility. The SI must undertake to cooperate and support such audit or validation activities conducted by Utility or any of its appointed agency.

SI will be responsible for facilitating and extending full cooperation for audits by any internal authority, Product OEM, or any Third-party agency.

To carry out Billing System audit (OEM Audit), the cost for the iteration shall be borne by the SI including the cost to incorporate any post audit suggestions /recommendations.

However, for any other third-party audit, the cost will be borne by Utility. If in case, due to un-fulfilment of requirement due to SI, multiple iterations (more than 1) are required to be carried out for any third-party audit, then the cost of further audits will be charged to SI for any subsequent iterations or visits of third-party auditors.

The audit and validation activity will be carried out to identify, assess, evaluate, and recommend on but is not limited to, the following:

- a. Performance
- b. Security
- c. Manageability
- d. Customized Source Code
- e. OEM Standard and Compliance
- f. Availability of Services
- g. Functional and Technical Specifications
- h. Policy and Procedure
- i. Service level requirement
- j. Software and supporting system
- k. Hardware and other components
- l. Project Documentation etc.

7.1.1. Auditing

The purpose of audit will be to assess, evaluate and assure to the management of the Utility, that the implemented Billing System, process, policy, and elements of systems are functioning properly and effectively to achieve the planned objectives. In case, any element of the solution is not functioning in line to the specific requirements and standards, then audit shall recommend the required corrections and corrective action.

The audit activity shall include verification, examination, and evaluation of overall solution with objective evidence to assess, that Billing System solution has been designed, developed, implemented, and documented in accordance and in conjunction with specified requirements.

The audit and validation activities under this will include but is not limited to, the following mentioned activities:

7.1.1.1. Service Level Agreement (SLA) Audit:

The quarterly monitoring and performance review of the SI against the monthly formulated reports for SLA.

- a. A designated third party or personal from Utility will review the performance of the SI against the SLA.

- b. The SLA reports shall be formulated based on the automated system generated reports.
- c. The SI shall submit the system generated monthly SLA report to the designated Nodal officer as per agreed frequency and timeline.
- d. For requirement of SLA audit, the Utility may perform a visit either by internal department or by an external contractor at respective Data Center and Disaster Recovery Center locations.
- e. The review / audit report will form a basis of any action relating to imposing penalty on or breach of contract of the SI.

7.1.1.2. Billing System- OEM Audit

This audit activity shall include the validation and assessment of entire Billing System and supporting systems through Original Equipment Manufacturers (OEMs). The required activity shall be performed on the entire implemented solution to certify that all necessary standards, precautions, and guidelines has been adhered to achieve the optimal performance of the solution.

A. First Iteration of Audit – Blue Printing and Designing of Billing System

- a. Review of AS-IS, TO-BE, Gap analysis, Solution mapping document and technical design document along with any other related document
- b. Prepare module wise detailed observations covering & including but not limited to process coverage, usage of Billing System functionalities, risks in customized processes (if any).
- c. Data Migration strategy with the proposed data conversion templated and migration strategy for existing IT Solutions, if required.
- d. Shall include recommendation on industry best practices for Utility as appropriate e.g., organization structure, codification etc.
- e. Audit to ensure installation of proper versions and licenses Billing System including, but not limited to Billing System Software's licensing, integration middleware, supporting systems, any other layer of software etc.
- f. Verification of standard Billing System functionalities including module, sub-module which can be used to meet Utility requirements
- g. Verification and review of the custom development approach and methodology as per standards recommended by Billing System OEM. Further, OEM will also identify risks for Utility in such developments
- h. Review of all custom developed components / objects / process etc. with risk assessment (if any)
- i. If any standard Billing System functionality, module or sub-module is not used by SI same needs to be informed to Utility.
- j. Billing System OEM audit process will include review of solution documents and on-site discussions with SI and Utility.
- k. SI will be required to comply with Billing System OEM observations
- l. After compliance by SI, Billing System OEM will verify and confirm that all relevant observations/recommendations are incorporated by, and the solution provided by SI is acceptable to Billing System OEM considering Utility's requirements.
- m. Billing System OEM will prepare a detailed audit report and submit the same to Utility. If required, Billing System OEM need to present audit findings to management of Utility.

B. Second Iteration of Audit – Posts Development, Configuration and Rollout of Billing System

Billing System OEM will verify the specification and configuration to confirm, but is not limited to, the following mentioned activities:

- a. The OEM will verify and confirm before Go-live, the technical preparedness of the system is appropriate for Go-live
- b. The OEM will review technical & operational procedures, system performance, user support documents & structure is as per scope and OEM standards
- c. Shall verify that the implemented solution is in line with the standard practices

- d. The OEM will conduct audit to confirm that the solution is performing as per Utility SLAs. The audit report will be a pre-requisite to the completion of Billing System stabilization phase.
- e. In case, if there is any variation, OEM will inform that implemented specifications /functionalities etc. will suffice the requirements of Utility
- f. If the specifications are not enough, OEM will inform and provide a detailed report containing risks and impact on the overall solution to Utility.
- g. The SI will have to take corrective actions based on OEM recommendations. Post incorporation of the recommendations the Billing System OEM will verify the compliance of the same.
- h. Billing System OEM will ensure closure of all audit observations to its satisfaction and provide final report to Utility.

The duration of OEM Audit shall be maximum 30 days including all audit activities and post audit compliance checks and validation.

The following will be the deliverables of such OEM engagements and the mechanisms for follow up actions.

- a. The mechanisms.
 - All the review by the Billing system OEM will occur in collaboration with Utility and the SI team.
 - The SI shall be required to participate in the Review program conducted by Utility and the Billing system OEM.
 - The SI shall depute their competent persons to participate in the review programs.
 - The Review program will look for best implementation practices while following a prescribed methodology.
 - The extent and frequency of the review shall be determined by the Billing system OEM in consultation with Utility but shall be frequent enough to validate each of the major project milestones.
 - While some of the review will be required to be done at the project site, some of the reviews of codes or documents can be carried out at the location convenient to the Billing System OEM.
 - The Billing system OEM team will plan the activities in consultation with the SI and Utility and the Billing system OEM will report directly to Utility on all the matters related to their activities.
- b. The deliverables.
 - The deliverables of the activities of the Billing system OEM will, at the minimum include recommendation reports, suggestions on specific action items, minutes of the meetings and approval certificates.
- c. The follow up actions.
 - The SI is required to incorporate the recommendations arising out of the expert services provided by the Billing system OEM.
 - The Billing system OEM also will be responsible for helping Utility to get its suggestions/recommendations implemented.
 - The Billing system OEM should validate the incorporation of the review findings on behalf of Utility.
 - The efforts required for incorporation of the recommendations /suggestions /comments etc. arising out of the activities of the Billing system OEM expert services, will be part of the normal implementation effort for the project and treated as rework for inadequate quality. Utility will not accept any change requests for these efforts.

User and Utility feedback

- a. The SI is expected to build adequate mechanisms to get the feedback from different users of the Billing system during different stages of the project. The users/stake holders for providing their feedback will be identified by Utility.
- b. The SI is expected to deploy in this project the expertise and experience of similar projects carried out by them earlier. Although it is not expected that these experts will be full time on site for the project, it is expected that all the key deliverables will go through a review with these experts. Similarly, the SI is expected to deploy all the quality assurance mechanisms as per international quality standards for this project.
- c. The SI should clearly indicate up front what are the deliverables which will go through internal review, what type of expertise will be deployed for these reviews and what are the deliverables which will follow the quality assurance plans.
- d. If any of the deliverables are not acceptable to Utility or its appointed experts, it will have the right to seek deployment of experts from the SI to review the deliverables.

Mechanism to adopt feedback

There are three types of feedback for the deliverables – from the Billing System OEM, from the users/stakeholders and from the internal experts of the SI. The following is expected from the SI on the feedbacks.

- a. All the feedback will be discussed with Utility and based on guidance from Utility, will be incorporated into the project
- b. Since the feedback for any rework is by nature correcting the inadequacy of quality of the work produced in the first place, Utility will not accept any change notice requests for these modifications
- c. The SI has to build adequate mechanisms to control the risks of time over runs possibly due to effort required to rework bad quality deliverables
- d. The SI has to indicate in the beginning and during the start of each phase how it plans to take feedback and the mechanisms to incorporate the feedback into the project plan and deliverables

SI will report to Utility on how the feedback have been incorporated into the project deliverables and take a sign off from the designated authority of Utility.

7.1.1.3. IT /Cyber Security Audit

A yearly audit of IT security and Cyber security practices by CERT-IN certified Third-party agency to assess and evaluate the implementation of security policy and vulnerability assessment. The report shall include the parameters as per the agreement with Utility and rate the security implementation in three grades i.e., Satisfactory, Requires Improvement and Unsatisfactory.

- a. Security Audit shall include but not limited to vulnerability assessment, penetration testing, application security assessment, application assessment for entire infrastructure.
- b. Third party agency shall be responsible for implementation of information security controls and perform periodic assessment.
- c. It shall propose ways to enhance the protection of Billing System & supporting cloud/ IT Infrastructure.
- d. Secure Configuration Review: Third Party Agency shall review the security configuration of Billing System and provide the detailed report that include the recommendations for remedial actions.

7.1.1.4. Business Continuity Plan (BCP)

A yearly audit of Business Continuity Plan (BCP) to ensure the adequacy, completeness, and appropriateness of plan through various means including availability of technologies, processes, and people to implement the plan that all broadly covered under the umbrella of business continuity and disaster recovery. The audit of business continuity plan shall validate its major components and parameters as per agreement with Utility shall rate the performance of BCP activities in three grades i.e., Satisfactory, Requires Improvement and Unsatisfactory.

The overall audit activities shall be carried out with an intent of "As-Is" assessments to assess the current operational capabilities of Data Center and Disaster Recovery Center Services, NBSP Services, SDWAN, Help Desk Service Centers, Services suppliers etc. This activity shall take support of extensive use of data analytics to enhance the audit coverage and focus on "risks that matter". The auditor shall follow the 360-degree approach to identify and mitigate risks related to both operations and legal compliances. To benchmark against industry peers to implement the most efficient practice and policies.

It should be a rigorous program management and quality monitoring mechanism to ensure seamless delivery of assessments despite large volume of system. The audit program shall be structured to complete the reviews in minimum time with no disruption to daily business activities.

7.1.1.5. Follow-up Audit

Post completion of audit assessments (Internal or external) may have the findings that require corrections and corrective action. Since most of the corrective actions cannot be performed at the time of audit.

Utility may require a further follow-up audit to verify that corrections were made, and corrective actions were taken. The Utility may also conduct the follow-up audits to verify the preventive actions taken because of performance issues that may be reported as opportunities for improvement.

7.1.1.6. Reporting

The SI shall provide the necessary support and co-operation for overall monitoring of the Billing System. For purpose of monitoring the SI shall provide the system generated reports with a provision of further detailed analysis, if required.

The SI shall formulate an exhaustive list of required reports and seek the concurrence of Utility. The SI should submit the reports on a regular basis in a mutually agreed format. Each report shall be circulated and submitted to the designated Nodal Officer of Utility in the format mutually agreed upon. An indicative list and frequency of such reports are as following:

- 1) Weekly reports
 - a. Backup and restoration
 - b. EMS / NMS Report
 - c. New Software Patches
 - d. Resource utilization of critical components
 - e. Data Migration Report
 - f. Changes Made in Database
 - g. Changes Made in Middleware
 - h. DC and DR Replication Report
 - i. DC and DR Access Reports etc.
- 2) Monthly reports
 - a. Summary of resource utilization for all components in DC/DR
 - b. Log of preventive / break-fix maintenance undertaken
 - c. Summary of usage of storage media provisioned
 - d. Summary of major and minor changes undertaken in DC/DR
 - e. DC and DR Availability and Operations Report
 - f. Database Growth Report
 - g. Summary of Incidents reported
 - h. Consolidated SLA / Non-conformance Report
 - i. Integration Services
 - j. Help Desk Services
 - k. Project Management
 - l. IMAC Services
 - m. Resource Attendance

- n. Service Management Controls Report
 - o. Change and Release Management
 - p. System Maintenance Reports etc.
- 3) Quarterly Reports
- a. Asset database report and Asset audit report
 - b. Feedback report from users for services rendered.
 - c. Security Audit Report
- 4) Incident Reporting (as and when it occurs)
- a. Any system/component failure with root cause analysis
 - b. Peaking of resource utilization on any component
 - c. Bottlenecks observed in the system and possible solutions and workarounds.
- 5) Security Incident Reporting (as and when it occurs)
- a. Detection of security vulnerability with available solutions/workarounds for fixing.
 - b. Hacker attacks, Virus attacks, unauthorized access, security threats, etc. — with root cause analysis and plan to fix the problems.
 - c. Any hazards or events like Fire, environmental conditions, physical security, etc. at DC / DR.

7.1.1.7. Indicative Schedule for Audit

Sl. No.	Activity	Frequency	Audit Agency
1	SLA Audit	At discretion of Utility	Internal/Third Party
2	Billing System OEM Audit	Twice: 1. Post Solution Design 2. Before Billing System Go-Live	Billing System OEM
3	IT/ Cyber security Audit	Yearly	Internal/Third Party
4	BCP Audit	Yearly	Internal/Third Party

Table 1: Schedule for Audit

7.1.2. Security Requirements and Features

The SI will have to establish all the necessary procedures / infrastructure/ technology / personnel to ensure that the Billing System Security is not compromised.

Broad Security requirements are:

- a. Security features should be compliant with the e-Governance Security Guidelines (e Gov Security Standards Framework (www.egovstandards.gov.in), [National Cyber Security Policy \(NCSP 2013\)](#) and NCIIPC Guidelines, CEA (Cyber Security in Power Sector) Guidelines 2021 or any amendment from time to time etc. All systems should have integrated security features that are configurable by the system administrator to control access to the application, functional modules, transactions, and data.
- b. Public key verification methods should be followed for verifying that the contents of a document have not been tampered with and allowing the receiver to confirm the identity of the sender.
- c. The applications should require the use of unique user IDs and passwords for authentication purposes and digital signatures, Biometric and other devices as applicable.
- d. The application should allow for the following:
 - a) The enforcement of password standards
 - b) The establishment of a specified period for password expiration, and
 - c) The prohibition of recent password reuse

- e. System administrator should be able to define functional access rights and data access rights by assigned user ID, functional role, and owner organization.
- f. The systems should permit the system administrator to assign multiple levels of approval to a single user.
- g. System administrator should be able to restrict access to sensitive data elements by named user, groups of users, or functional role.
- h. System should be auditable as per requirements from time to time.
- i. System should have audit logging capability to record access activity, including the following:
 - a) All log-in/log-out attempts by user and workstation
 - b) User-submitted transactions
 - c) Initiated processes
 - d) System override events; and direct additions, changes, or deletions to application-maintained data
- j. System should provide the ability to query the audit log by type of access, date and time stamp range, user ID, IP address and terminal ID.
- k. All the information assets (information and information systems) should be classified, and security should be defined according to criticality of the information asset. All the data / information contained within systems or in hard copies related to this project, are owned by Utility. No information should be made public either directly or indirectly nor allowed to be accessed by unauthorized persons.
- l. System audit should be enabled for all the information assets to establish detective controls. System should have evidence, like audit trails, logs, registers, proof of background checks, approvals from Utility or its designated agency, support for various decisions, support for accounts etc. for the purpose of third- party security audit.
- m. System should have security incident management procedures. This incident management procedure has to use Technical Support facilities and should be reported in the incident management System.
- n. Should have system development and change control procedures including effective segregation of duties and environment.
- o. Proper protection against malicious software should be ensured. This would include implementation of an effective anti-virus solution, scanning viruses at regular intervals or on certain triggers and updating the solution as and when new patch is received from the anti-virus solution provider.
- p. Should have proper logical access security for all the information assets. Entire network including servers, communication links, database etc., should be logically segregated from rest of the networks.
- q. Should ensure suitable technical and procedural controls to protect the network. Wherever the Billing system project network comes in contact with an untrusted network, additional security measures should be taken like firewall, IDS, DMZ, proxy server, encryption etc.
- r. Should have a business continuity plan and a disaster recovery plan that should be implemented before commencement of the operations. Robust backup procedures should be established for the same.

7.1.2.1. Cyber Security

The SI shall provide end-to-end cyber security services to meet IT security challenges for Billing System based on the proven frameworks and security best practices. It is vital that the processes and technology supporting the Information Security function for Billing System are proven and compliant to best practices/ standards. It is envisaged that the cyber security operations shall be centralized, structured, coordinated, and responsive resulting in effective cyber threat prevention and detection, thereby securing Billing System from attackers. The Information Security functions shall respond faster, work collaboratively, and share knowledge more effectively. SI shall ensure adherence to latest guidelines/ regulations notified by the Govt. for example, CEA (Cyber Security in Power Sector) Guidelines, 2021.

The SI shall bring advanced data analysis and forensics insight to provide the following services to Utility:

Sl. No.	Cyber Security Requirement for Billing System
1.	Security Services for DC/DR at CSP
2.	Security Services for Billing Platform
3.	Web Application Firewall Services
4.	Firewall Services
5.	IPS Services
6.	HIPS Services
7.	Anti-APT Services
8.	DDoS Services
9.	Anti-Virus Services

Table 2: Cyber Security Requirement

7.1.2.2. Security during Development & Integration Phase:

The SI shall meet the security requirements listed below (including but not limited to) during the development and integration stage:

- a. The SI shall address emerging cybersecurity vulnerabilities in their software coding under System Development Life Cycle (SDLC). This should be done by taking into consideration the SANS Top 25 Most Dangerous Programming Errors and the OWASP Top 10 Projects.
- b. The SI shall propose a legacy data cleansing approach.
- c. The SI shall propose a security mechanism to be used for API and adopt the best practices such as OWAPS guidelines to ensure security.
- d. The SI shall promptly notify Utility when vulnerabilities are found in their code.
- e. The SI shall apply security related patches and updates.
- f. Remote access by the SI will only be performed using technology authorized by Utility.
- g. Any data interfaces implemented or built by the SI will be required to have encryption and authentication (strong authentication when possible.)
- h. Files containing Utility information will be transferred using encrypted file transfer techniques agreed upon by both parties.

7.1.2.3. Security during Operations phase

7.1.2.3.1. Security Policy

SI shall be certified for ISO 27001 (Information Security Management System). It will adopt leading information security framework and business continuity management systems requirements (such as ISO 22301) to define, monitor and update security policies (including network, server, application, and website/mobile app security). Copy of ISO 22301 certification or the business continuity plan adopted to be submitted by the bidder with the technical bid.

7.1.2.3.2. Incident Response

SI shall do the analysis of application and network incidents, do post-incident reporting, and implement practices to ensure rapid response to attacks.

The SI shall do a proactive review of incident response plan to improve incident response time and implement continuous improvement process to strengthen overall effectiveness of security.

7.1.2.3.3. Distributed Denial of Service (DDoS) Protection

SI should secure Billing System against DDoS attacks such as network and application level attacks with minimal business disruption. For DC/DR, it must keep the businesses up and running at high performance levels even under attack, avoiding any monetary losses and serious reputation damage.

7.1.2.3.4. Malware Analysis

SI shall conduct analysis of newly discovered malware to uncover its scope and origin. Perform dynamic real-time analysis of advanced malware identified and prevent true zero-day and target attacks which can aggressively evade signature-based defenses through various channels such as Web, Email & Files.

SI shall perform the threat analysis of unwanted or suspicious malwares by the behavior or signature-based deduction and take input from the logs, detection, vulnerability, or suspicious activities feeds IOC.

7.1.2.4. User Authentication and Control

SI shall define and implement highest level of access governance. The proposed of this solution is to have an enhanced user role security where access should be restricted to only authorized users with multi-factor or two-factor authentication.

The system should have access control features for controlling the access rights over the system and over the various functions/features available for different types of users. Best practices from enterprise security including password strength, password aging, password history, reuse prevention etc. must be followed for access control.

Application user authentication and authorization related transactions should be encrypted and used a wide array of authentication schemes, standards, or token types to ensure that only valid users and applications get access.

- a. The SI must ensure that end user access to DC/DR at server is through SSL, VPN.
- b. The SI must ensure DC/DR at Cloud should have built-in user-level controls and administrator logs for Transparency and audit control.
- c. DC/DR at Cloud shall have access control policy and ensure role level access control employed with ability to manage roles & identity centrally.

7.1.2.5. Hardening

All unnecessary packages must be removed and/or disabled from the system. Additionally, all unused operating system services and unused networking ports must be disabled or blocked. Only secure maintenance access shall be permitted, and all known insecure protocols shall be disabled.

- a. SI shall provide consolidated view of the availability, integrity, and consistency of the Web/App/DB tiers on DC/DR at Cloud.
- b. SI must ensure Database nodes (RDBMS) should be protected with higher security layer at DC/DR at Cloud.

7.1.2.6. Security Audit

The SI shall engage with the Cert-IN empaneled agency appointed by Utility and SI or CSP will cooperate fully with the auditor. The auditors shall be responsible to conduct the following activities:

- a. Security Audit that includes (but not limited to) vulnerability assessment, penetration testing, application security assessment API testing and Mobile application assessment biannually (once in six months) for entire infrastructure.
- b. Implementation of information security controls and perform periodic (once in a year) assessment.
- c. Propose ways to enhance the protection of Billing System & Supporting IT Infrastructure.
- d. Ensure the applications are free from OWASP Top 10/SANS and CERT-IN web/mobile application vulnerabilities as released from time to time.
- e. SI is responsible for mitigating all security risks found and continuous monitoring Activities. All high-risk vulnerabilities must be mitigated within 15 days from the date vulnerabilities are formally identified.

Apart from the SI's tasks, a third party agency shall be appointed to conduct:

- **Source Code Review:** Third party agency shall review the source code of web and mobile applications for hidden vulnerabilities and design flaws. It shall also verify whether security controls are implemented appropriately.
- **Secure Configuration Review:** Third Party Agency shall review the security configuration Billing System and provide the detailed report that include the recommendations for remedial actions and submit the results to Utility

8. Training Requirements

The primary objective of the training is to achieve 100% user adoption through technical and behavioral competencies covering all end users of Utility. Training shall be provided in both Second Language & English Language as required, mostly in Second Language to Field Staffs. The SI shall propose a training plan (including training curriculum and calendar) so that there is a proper transfer of knowledge about the deployed Billing systems to utility staff.

The audience of the trainings shall vary for each type of training. The basic computer & IT Solution training will cover all Class-A, Class-B, Class-C, and Class-D [Technical & Non-Technical] employees of the Utility. The end user training for various Billing System Modules and Other associated systems shall be for the users of the respective modules of the system. The SI shall provide training sessions to all employees from lower level to higher level including officers from Utility on the domains listed in below table.

Training for Employees of Utility in case of Billing System shall be on below areas:

- a. Professional Training (Implementation team)** - This is the training for the core group of implementation team of the Utility. The Implementation/Core team will comprise of members from IT domain. Each member would be trained in the relevant function / module. This Training would be required to be given to approximately 90 to 100 personnel for Billing System. It is the responsibility of the SI to deliver this training. Standard curriculum designed and agreed by the Utility for Cloud Solution, hardware, software, and network preferably from the OEM partner or OEM's certified training partner shall be arranged for each group.
- b. End User Training** - The SI will provide training to all end users of Billing Systems. The End Users/Business Users team will comprise of members carrying out day to day operation and task at Utility for Billing System. Each member of End User/Business user group would be trained in the relevant function / module. This Training would be required to be given to approximately [XXX] personnel for Billing System.

On instruction & approval of Nodal Officer, the train the trainer approach shall be adopted by the SI for training & handholding. The Certified Functional, Technical, System administration and Database management training for core team of Utility should be arranged by the SI directly from OEM/OEM Certified Resources.

The training must be conducted using assistance from official OEM course curriculum mapped with the Cloud Solution and Software Product's to be implemented in the Utility. The Training Curriculum along with Calendar need to be included as a part of technical proposal. The details of minimum training curriculum and important consideration for training is mentioned below:

The training activity for Billing System shall comprise of the followings:

- a. Training material must include documents and videos for usage of Billing System - Modules (Bilingual - Second Language/English). These materials will be uploaded to the Billing System itself and should be available as ready reckoners to the end users. The content should be updated regularly and kept up to date as when changes take place to the Billing System modules.
- b. Training sessions shall cover more hands-on training rather than instructive mode.
- c. The training and delivery options shall be on-line, CBTs (Computer based trainings), instructor led classrooms. Training material will be organized by functional process that will serve as the training documentation for a particular functional area.
- d. Utility plans to adopt training platform as e-classrooms in future. SI should consider the same for compatibility.
- e. Necessary handholding and change management support shall be provided post training.
- f. Feedback exercise shall be conducted for each training and accordingly evaluation will be used for improvement of further trainings.

- g. The SI in consultation and convenience of the Utility shall workout the training program and all the other modalities of the training, which should be delivered by OEM certified consultants and SI.
- h. The participants of Utility will be issued a certificate by OEM/SI for attending these courses.
- i. The SI is required to submit the plan accordingly accommodating training requirements to cover entire user base. If there is increase in end user base during the project SI shall impart training at no extra cost to Utility. The expected increase in end user base is approximately 2% YoY in the next 3 years.
- j. The SI shall provide associated documentation for all deployed systems to ensure a smooth transition from deployment to post-deployment operations and maintenance of the system.
- k. The ideal approach of the training should be formulation and involvement of core implementation group from the very start of the project to ensure maximum retention and adequate technical competency level.
- l. Subsequent trainings and re-trainings should be conducted for identified groups/personnel.
- m. Handholding during pre-implementation, implementation, Go Live and Post Go live should be done by the SI.
- n. Training calendar should be published to stakeholders and training sessions should be organized either on site or over the web as per the requirement of Utility.
- o. Knowledge sharing strategy should be adopted.
- p. Training staff would be deployed at Utility offices during the course of the project as per requirement of Utility.
- q. The SI shall provide the necessary access of OEM training platforms and data repository to Utility.
- r. Training shall be planned in stages as required - before the implementation, during the implementation and post implementation depending on the frequency as finalized by Utility.
- s. Utility will consider competence development and capacity development within Training. Product OEM will facilitate Utility end users for the customized code developed and deployed by the SI.
- t. The SI shall carry out the capacity building of core team including functional and technical employees with an intent to create a team of experts capable to independently handle the application operations & maintenance task and issues, if any.
- u. The SI shall carry out the training of Utility team on reports development, configuration of application setups and other skill sets as required to create a team of experts capable to independently handle the maintenance & support requirement by Utility.
- v. The SI shall carry out the hands-on training of core team members & end users on Billing System and Other associated applications including training on system configuration, database administration, backup & restoration, development, and maintenance task etc.
- w. The SI shall formulate user manuals of Billing System and Other associated applications by considering the specific configuration of implemented solution.

1. Scope of training for Billing System End users

- a. The SI along with OEM should propose comprehensive end user training plan for adoption of the applications developed/proposed to Utility.
- b. The plan should incorporate a consistent, enterprise-wide user adoption strategy focusing on the following five key areas:
 - Business Alignment
 - Communication
 - User Training
 - Performance and Management
 - Reinforcement
- c. As content may vary across key business units, the degree to which the actual process, tools, and rollout strategy are consistent will provide added economies of scale, as well as levels

of skill standardization. In summary, the end goal is striving to achieve 100% user adoption of the Billing System application through behavioral and technical competencies.

2. Training Needs Analysis

Conduct a Training Needs Analysis to determine the training and development needs for all the job roles that will be affected by the Billing System technology initiative at Utility. The OEM and the SI consultants will collect the appropriate data on user groups, functional and process requirements per user group, required skills and knowledge, existing training culture and training resources through workshops and interviews with Utility business owners and key business users. This will result in a Training and Development Plan including:

- a. The training requirements per user group.
- b. Recommendations on the most appropriate training delivery methods and channels.
- c. Identification of the criteria for training success along with any challenges and risks.
- d. Plan and responsibilities for the development of the training materials, such as instructor guides, participant guides, media-based training, and quick-reference guides.
- e. Knowledge sharing strategy to enable to perform future customizations internally.

3. Content Development

Development of customized, modular training materials based upon user roles and business process, and customized application. The OEM consultants along with SI will work together with Utility Core team members and Project team to enable transfer of knowledge. The following materials will be developed:

- a. Paper-based classroom participant guides for each identified user group. These guides include hands-on exercises and are based upon 'Day in the Life' scenarios.
- b. Paper-based classroom instructor guides including instructor notes with additional background information and points to be highlight during the training.
- c. Media-based training simulations for pre-class preparation, in-class practicing and knowledge and skills validation.
- d. The SI can also be required to provide context sensitive on-line help, which includes all materials provided in the hard copy manuals. Where possible, users should be able to add their own on-line help documentation.
- e. Usage of Billing System must be documented in video form and made available/distributed to all users of Billing System. All training manuals will be uploaded to Billing System software, also as FAQs etc. for ready reference.

4. Train-the-Trainer Program

Development and delivery of a Train-the-Trainer program to prepare Organization for the delivery of the training program. This program will include:

- a. Training the Utility Core Team members on the customized version of the Billing System application's as it would be trained to an end-user, allowing the training team to model the approach.
- b. Opportunity for knowledge sharing in the areas of leading practice, concepts, new business processes and knowledge to the Utility Core Team members.
- c. Sharing of leading practices on creating an effective classroom and an appropriate learning environment.
- d. Sharing of leading practices on classroom communication to enable the Utility Core Team members to encourage student involvement and student interaction.
- e. The program includes instruction on non-verbal behavior, listening skills, questioning techniques, how to manage difficult behaviors, interpreting body language, and general presentation tips.

5. End user Training responsibilities to include the following

Task	Deliverables
Role Analysis	Training needs analysis matrix, identifying and defining the end-users of all locations affected by the implementation of new technology and associated processes
Curriculum Design	Finalized-course designs, including: <ul style="list-style-type: none"> List of business processes and system tasks Outline of role-based training courses Plan for incorporating business process and policy information.
Education Project Plan	A project plan detailing: <ul style="list-style-type: none"> Timeline for entire project Ownership and responsibilities for training material development and delivery Work efforts and resource requirements from the Utility

Table 3: End User Training Responsibility

a. Onsite training and support

Task	Deliverables
Content Development Tool training	<ul style="list-style-type: none"> Hands-on training to enable participants to create course outlines, record topics, edit topics and publish & deploy content
Prototype Development	<ul style="list-style-type: none"> Develop standards, design, and develop prototype content deliverables utilizing the customer's application environment. Practice the review and revision lifecycle

Table 4: Onsite Training & Support

b. End user content development

Task	Deliverables
Content Development for the topics identified	<ul style="list-style-type: none"> End User training content in the form of simulations and Paper Based content and video sessions Developing test material for topics identified

Table 5: End User Content Development

c. Train-The-Trainer Program

Task	Deliverables
Content Publishing	<ul style="list-style-type: none"> Role-based training media courseware Role-based instructor and participant guides
Train-the-trainer workshop	<p>Training the Utility's Core Team members on the customized version of the Billing System as it would be trained to end-users, allowing the training team to model the approach to train End Users</p> <ul style="list-style-type: none"> Opportunity for knowledge sharing in the area of leading practice, concepts, new business processes and knowledge to the Utility Each workshop will have at least 30 people. The workshop will be conducted in batches. The SI will award a certificate of completion, after completion of each training workshop. All the training material in soft and hard format will be handed over to the utility and will be treated as utility property.

Task	Deliverables
Technical training	<ul style="list-style-type: none"> • Training the Utility's Core Team members on Cloud Technology, HLD, LLD, Master Data Management etc. • This training will be given to the Utility's Core Team members responsible for carrying out technical activities related to the system like maintenance of database, operating system, backups etc.

Table 6: Train the Trainer Program

6. Training for Higher Management of Utility

- Billing system Sensitization workshop:** Sensitization workshop will be provided to members of higher management of Utility. The training would provide high level understanding of the Billing system and its functionalities. The session will also highlight the unique requirement of the proposed Billing system.
- Billing System Management Dashboard Training:** This entails training provided to Senior Management of Utility to be able to access and extract reports and other relevant analytical data for quick decision making.
- Locations of training:** The training shall be provided at the location(s) at Corporate Office and Site office locations of Utility. The space and furniture at these locations would be provided by the Utility.
- The training center facility with seating capacity shall be provided by the Utility. The SI shall arrange the necessary equipment's and peripherals to carry out the training of end users.

9. Change Management

Utility considers implementation of Billing System will have significant impact on its business processes and people. Effective change management activities will be required to ensure that Utility employees are aware about the Billing system Project and the change in work practices. The SI will be required to carry out activities as part of change management initiatives by focusing on the change management and capacity building approach and plan so as to be able to tackle the issues that might arise due to new processes of the Billing system.

Training for Billing System will allow multiple stakeholders to participate in the day to day management of the solution and ensure sustainable programs to cover specific Billing system programs in order to ensure adoption of the system at each level.

9.1 Change Management

Introducing radical reforms has to be necessarily accompanied by efforts to energize and orient the mindsets of the people – both within and outside the department. For instance, the Utility staff should be skilled to operate and work in a significantly newer and different way. A well-calculated and well-designed strategy has to be followed for the people to be trained to work effectively in the new environment. It is necessary to formulate a change management plan with appropriate interventions for capacity building, training, and stakeholder communications. A successful Change Management Program will ensure:

- A smooth transition to the new way of working
- The organization/people support the changes implemented
- Individuals know how the changes affect them and the role they have to play
- Stakeholders to understand the benefits of the changes and internalize it
- The new system and its underlying concepts are understood
- People are aware of how roles and responsibilities are changing
- Everyone is motivated and committed to the change program
- The success and progress of the program is monitored and measured

9.2 Key Change Management Implications

The implementation of a new Billing system, Utility will have several change implications emanating from the following changes:

- a. Process and procedural (necessary introduction of some new process and systems emanating from the need of changing core functional information flow in a few cases)
- b. Technical and technological (introduction of new technologies for enabling the new /unaddressed business requirements)
- c. Organizational (transformation of existing organizational structure and redefined roles and responsibilities)

9.3 Change Management Plan

SI will formulate a comprehensive Change Management Strategy built on three key components as mentioned below:

9.3.1 HR Plan

The Human resources Plan will focus on the people in the organization. It will have four main components as described below:

- Capacity Building Plan
 - Classify all the stakeholders based on roles, education and current skill set and then provide targeted trainings
 - Conduct orientation workshops to familiarize the staff with the revised processes and new technology
- Appraisal Workshop
 - To be conducted to gauge the current knowledge of the staff and the status of the service delivery system.
 - The senior management should interact with all the stakeholders to understand and address any issues
- Mentoring & Coaching Schemes
 - Provide classroom training to the staff members such that each staff member is assigned a mentor who is approachable for help
 - Also, the shadow reverse shadow method of teaching will be adopted. The staff member will first observe the mentor at work and then the mentor would observe the staff member at work
 - Conduct Interactive quiz at the end of training session
- Feedback and Review
 - Feedback will be obtained through questionnaires prepared in an objective manner from the participants to measure the effectiveness of the change management program.
 - Based on the evaluation, suitable methodology will be designed to achieve the expected levels of awareness.

8.3.2 Operational Plan

The Operational Plan will focus on putting Change Management into action. It starts with a formal appointment of a Change Management Team and defines a phased implementation approach.

- Appoint a Change Management Team
 - Identify a team of best performers during the training and nominate them as Process and System Leaders.
 - Process Leaders shall gain complete understanding of the change implications and strategies relevant to the process of these services and help the staff members with any process related queries.
 - System Leaders shall help the staff members with any technical or system related queries
- Phased Implementation Approach
 - PHASE I

- Development of training & communication materials
- Identification of creation of Change Management team
- PHASE II
 - Release of official Communication
 - Roll out of training and communication plan
 - Organize exposure visits
- PHASE III
 - Monitoring & appraisal of Change Management Strategy
 - Organize Feedback Sessions

8.3.3 Communication Plan

The Project communication plan outlines the communication regarding the project. This includes reporting of status and change control communications. In addition to providing information on the project status and progress – which will increase the sense of involvement for everybody, the Change Management Communication plan will include material on all other aspects of the program implementation, including technology, process, etc. A high-level sample communication plan is indicated below:

Type	Description / Purpose	Frequency
Project Status Meetings	Purpose – This reports the accomplishments and results of the project at selected milestones in the project. It also gives plans for the next week, status of activities and significant issues for the project. This report provides insight into any delays in the schedule.	Weekly
Internal Project Meetings	Purpose – To discuss progress of projects and any issues/concerns Frequency – As required, and at least twice a week	As Required
Change Control Board (CCB) Meeting	Purpose – To review proposed changes to the project scope	As Required

8.3.4 Data collection, feedback analysis and corrective action

Employee Involvement is an integral part of change management. Feedback from employees is very much essential. Analysis and corrective action based on this feedback helps in implementation of change management.

9.4 Responsibilities of Change Management Teams

The key responsibilities of Change Management Teams which include both SI and Utility would be as follows:

- a. Assessing and building staff capability to implement change quickly and effectively
- b. Preparing key officers and their direct reports to meet the challenges and opportunities they will encounter as they implement new processes
- c. Implement and monitor training plans
- d. Helping to increase individual skills, and knowledge
- e. Developing and implementing change communication plans
- f. Facilitation to concerned staff for transition to new roles

9.5 Change Management Phase Wise Deliverables

Project Preparation

- a. Prepare a detailed change management & communication strategy along with plan covering the entire lifecycle of the project
- b. Provide support to Utility in identifying change managers and change agents including preparation of key skill requirements

Business Blueprint

- a. Prepare change management related materials such as newsletters, booklets, etc.
- b. Conduct change management workshops at corporate office and agreed field locations
- c. Identify process level changes and/or role level changes due to Billing system implementation and support Utility in effectively conveying the same
- d. Prepare Key Performance Indicators (KPIs)

Design and Customization

- a. Management awareness workshop
- b. Risk assessment and Business Impact Analysis
- c. Continuous communication & measurement of communication effectiveness.

Pre-Go-Live

- a. Train the Trainer on Change Management Activities
- b. Measurement of training effectiveness
- c. Billing system readiness assessment
- d. Continuous communication

Go-Live

- a. Cut-over Strategy
 - All transitional data from legacy & physical systems
 - Sunsetting of Operations on Legacy System to Billing System
- b. Go-live communications
- c. Help Desk assessment

10. Facility Management Services (FMS)

The SI shall be required to provide the services to manage entire Billing System installed & commissioned for Utility in order that the Billing System have maximum availability to enable Utility to realize their desired business objectives.

- a) System Management Services shall be provided by SI in order that maximum uptime and performance levels of installed Billing System is ensured. As such, SI is expected to provide services as per ITIL (IT Infrastructure Library) standards with performance levels meeting or exceeding those mentioned in Service Level Agreement (SLA) agreed between Utility and the SI.
- b) The SI shall develop Billing system specific automated helpdesk with necessary ticketing tool to be able to log and resolve tickets pertaining to the Billing System. To achieve the desired Service Levels, the SI may need to interact, coordinate, and collaborate with the other vendors of Utility. SI will act as the Single Point of contact for all issues relating to the Service Levels.
- c) The SI will be primary responsibility of providing desired services during the project implementation period. The duration of Facility Management Services (FMS) shall be for 5 years which shall start immediately from the date of Enterprise-wide Go-Live of Billing System at all locations of Utility.
- d) The Facility Management Services (FMS) would, include following major areas of services.
 - i) Ticket logging through Help Desk Services
 - ii) Technical Support Services
 - iii) SLA monitoring etc.
- e) The SI shall provide adequate resources for supporting the above said services at the user locations. The Help Desk agents shall coordinate the assigning of user calls to FMS

resources. An indicative number of resources required for this is mentioned in minimum resource requirement section of this RFP.

- f) SI shall provide the Facility Management Services for agreed duration for each day coinciding with the business hours of that particular location and SI shall also make arrangement for handling of emergency calls. The Utility runs 24*7*365 days but the business hours of the utility may be considered as 08:00 AM to 6:00 PM.
- g) The SI shall submit a comprehensive Facility Management Services process, plan and deliverables for the entire Billing System including the field activities along with the proposal for approval of Utility.
- h) SI shall perform periodic health check-ups and troubleshooting of all the Billing System and implement proactive rectification measures as required.
- i) **FMS Team:** SI shall appoint an FMS Helpdesk Coordinator of project in the Facility Management Services phase. FMS Helpdesk Coordinator will be single-point-of-contact for responding to all the queries or accepting its problem management requests from Utility. The FMS Helpdesk Coordinator would be stationed at Corporate Offices/ Head Quarters of Utility. The helpdesk team shall be stationed at Utility HQ. The space for setting up the helpdesk would be provided by Utility. All requisite infrastructure and resources required for smooth functioning of the FMS helpdesk would be provided by the SI at no extra cost to Utility.
- j) The SI shall deploy enough and qualified, skilled manpower to carry out the FMS services. It is imperative for FMS staff to know the tender including scope of work, solution etc. and be able to deal with all the queries related to the Billing System. The SI shall ensure replacement in not more than 7 days of the FMS staff whose performance is not found satisfactory by the Utility.

1) **Functional Support**

The Functional Support Services for application contemplated herein shall be provided for Billing system implemented by SI. The SI shall render both on-site maintenance and support services to Utility.

The scope of the services is as below: -

a. Enhancements and defect fixes.

- a) SI shall incorporate technological changes and provide enhancements as per the requests made by Utility. SI shall perform minor changes, bug fixes, error resolutions and minor enhancements that are incidental to proper and complete working of the application.

b. Routine functional changes:

- a) The SI shall be responsible for user and access management, creating new report formats, and configuration of reports. SI shall provide user support in case of technical difficulties in use of the software, answering procedural questions, providing recovery and backup information, and any other requirement that may be incidental/ancillary to the complete usage of the application. The SI shall perform user ID and group management services. The SI shall maintain access controls to protect and limit access to the authorized End Users of Utility.

The services shall include administrative support for user registration, creating and maintaining user profiles, granting user access and authorization, and providing ongoing user password support.

c. Tuning of the Billing solution:

- a) The SI shall also undertake tuning of Billing system, databases, any third-party software, and any other components provided as part of the solution to optimize the performance.
- b) Deployment/Re-Deployment of Billing solution: The SI shall be responsible for deployment of the Billing solution and re-deployment in case of any upgrades to the underlying hardware or operating System and carry out any necessary testing.
- c) The key service level requirements need to be ensured by the SI during the operations and maintenance period. These requirements shall be strictly imposed and either Utility or a third-party audit/certification agency shall be deployed for certifying the performance of the SI against the target performance metrics as outlined in the SLA's defined in the RFP.

2) Operations and Maintenance support for Billing System

SI shall provide Billing System application development and maintenance/support services on an ongoing basis, especially in response to support required for integration, data exchange along with requests for changes in the applications through an ATS. Support in software development and maintenance shall include:

- a) Maintaining usage of deployed Billing system applications to ensure its effective day to day operational usage. The job includes support maintenance of all the application modules along with system software.
- b) SI shall debug and fix the operational problems, perform error handling while running the application during the project period.
- c) SI shall generate the additional system report, modify existing reports and queries, as per user's requirement.
- d) SI shall provide hands-on assistance to the users to resolve any operational doubts as and when needed while the application is in operations.
- e) SI shall be responsible for Integration of deployed Billing system applications with other applications/systems during the project period.
- f) SI shall document all the changes incorporated in the application software and improve the documentation of existing user/system reference manuals of different modules wherever it is necessary and required.

3) User Management Services

The user management services shall include Directory Services for Utility which comprises of the following services:

- Domain management
- Group management
- User management
- Implementation of domain policies and standards etc.

The above-mentioned directory services shall be implemented and used within the enterprise environment of Utility including DC and DR

4) Cloud Infrastructure Operations and Maintenance Services

SI shall carry out the below mentioned activities

1. Resource Management

SI shall be responsible for adequate sizing, provision and maintain of the necessary compute, memory, and storage required, building the redundancy into the architecture (including storage) and load balancing to meet the service levels.

While the initial sizing and provisioning of the underlying infrastructure may be carried out based on the information provided in the Billing system tender and upcoming tender for CSP and SD-WAN Service Provider, subsequently, it is expected that the SI, based on the growth in the user load (peak and non-peak periods; year-on-year increase), will scale up or scale down the compute, memory, and storage as per the performance requirements of the solution and meet the SLAs.

- a) In addition to scaling, for any major expected increase in the workloads, carry out the capacity planning in advance to identify and provision, wherever necessary, the additional capacity to meet the user growth and/or the peak load requirements to support the scalability and performance requirements of the solution.
- b) The scaling up/scaling down (beyond the auto-scaling limits or whenever the auto-scaling limits needs to be changed) has to be carried out with prior approval by Utility. SI shall provide the necessary details including the sizing calculations, assumptions, current workloads, and utilizations, expected growth /demand and any other details justifying the request to scale up or scale down.

2. Patch and Configuration Management

SI shall manage the instances of storage, compute instances, and network environments. This includes agency-owned and installed operating system and other system software. SI is also responsible for managing specific controls relating to shared touch points within the security authorization boundary, such as establishing customized security control solution examples include, but are not limited to, configuration and patch management, vulnerability scanning, disaster recovery, and protecting data in transit and at rest, host firewall management, managing credentials, identity, and access management, and managing network configurations.

3. Cloud Security Administration

- a) Appropriately configure the security groups in accordance with the Security policies.
- b) Regularly review the security group configuration and instance assignment to maintain a secure baseline.
- c) Secure and appropriately segregate/isolate data traffic/application by functionality using DMZs, subnets etc.
- d) Ensure that the cloud infrastructure and all systems hosted on it, respectively, are properly monitored for detection of unauthorized activity.
- e) Conducting regular vulnerability scanning and penetration testing of the systems, as mandated by Government Agency's policies.
- f) Review the audit logs to identify any unauthorized access to the government agency's systems.

4. Monitoring Performance and Service Levels

SI shall provide and implement tools and processes for monitoring the availability of assigned applications, responding to system outages with troubleshooting activities designed to identify and mitigate operational issues.

- a) Reviewing the service level reports, monitoring the service levels and identifying any deviations from the agreed service levels.

- b) Monitoring of service levels, including availability, uptime, performance, application specific parameters, e.g., for triggering elasticity, request rates, number of users connected to a service.
- c) Detecting and reporting service level agreement infringements.
- d) Monitoring of performance, resource utilization and other events such as failure of service, degraded service, availability of the network, storage, database systems, operating systems, applications, including API access within the cloud service provider's boundary.

5. Backup

- a) Configure, schedule, monitor and manage backups of all the data including but not limited to files, images, and databases as per the policy finalized by Utility.
- b) Restore from the backup wherever required.

6. Business Continuity Services

- a) Provide business continuity services in case the primary site becomes unavailable.

7. Support for Third Party Audits

- a) Enable the logs and monitoring as required to support for third party audits

8. Miscellaneous

Prepare a comprehensive Facility Management Service plan for managing the cloud services and keep it updated with any changes during the project. Create and maintain all the necessary technical documentation, design documents, standard operating procedures, configurations required to continued operations and maintenance of cloud services.

5) Storage and Backup Management

The SI shall perform backup of data & information for Billing System as per the requirement of Utility. This will include installation of backup software, managing the tape/disk library, regular backup and restore operations and assuring security of the media through appropriate access control. In addition, the SI shall also manage scheduled data replication. The activities shall include:

- Backup of operating system, database and application shall be performed as per stipulated policies of Utility at the data center. The SI shall provide required tools for undertaking these activities.
- Monitor and enhance the performance of scheduled backups, schedule regular testing of backups and ensure adherence to related retention policies.
- Ensure prompt execution of on-demand backups of volumes, files and database applications whenever required by Utility or in case of upgrades and configuration changes to the system.
- Real-time monitoring, log maintenance and reporting of backup status on a regular basis. The administrators shall ensure prompt problem resolution in case of failures in the backup processes.
- The administrators shall undertake media management tasks, including, but not limited to, tagging, cross-referencing, storing, logging, testing, and vaulting in fireproof cabinets (onsite and offsite at CSP data centers).
- The SI shall ensure the physical security of the media stored in cabinets.

- The SI shall also ensure that a 24x7 support for file, database and volume restoration requests is available at the data centers.
- The SI shall also provide enough/adequate media (tape library) for daily, weekly, and additional backups for the duration of the contract.

6) Cloud Data Center and Data Recovery Center Operations

SI's responsibilities shall include but are not limited to the below

- a) Monitor, log & report of entire IT Infrastructure Solution including servers, storage, supporting system, software, equipment & module operation etc. on 24x7x365 basis.
- b) Perform periodic health checkup & troubleshooting of all systems & modules installed & implemented in adherence to the proactive rectification measures

7) Server Administration/ Management

SI's responsibilities shall include but are not limited to the below

- a) Provide the server administration and monitoring service to keep servers stable, operating efficiently and reliably.
- b) Provide administrative support for user registration, creating and maintaining user profiles, granting user access and authorization, providing ongoing user password support, and providing administrative support for print, file, and directory, services.
- c) Setting up and configuring servers.
- d) Installation of the server operating system and operating system utilities.
- e) Re-installation on event of system crash/failures.
- f) Administration of Operating System for IT system.
- g) Manage Operating system, file system and configuration.
- h) Ensure proper configuration of server parameters, operating system administration and tuning.
- i) Regularly monitor and maintain a log of the performance monitoring of servers including but not limited to monitoring of CPU, disk space, memory utilization, I/O utilization, etc.
- j) Regular analysis of events and logs.
- k) Apply OS Patches and updates.
- l) Monitor & verify logs files and periodically clean up log files.
- m) Ensure proper running of all critical services on the servers. Schedule and optimize these services.
- n) Maintain lists of all system files, root directories and volumes.
- o) Resolving all server related problems.
- p) Escalating unresolved problems to ensure resolution as per the agreed SLAs.
- q) Responsible for periodic health check of the systems, troubleshooting problems, analyzing, and implementing rectification measures.
- r) Logical access control of user and groups on system.
- s) Responsible for managing uptime of servers as per SLAs.

8) Database Administration Services

SI's responsibilities shall include the below but are not limited to:

- a) Undertake end-to-end management of database on an ongoing basis to ensure smooth functioning of the same.
- b) Undertake tasks including managing changes to database schemes, disk space, storage, and user roles.
- c) Setting and tuning system parameters.
- d) Building appropriate indexes, specifying large enough buffers and caches, aligning the database implementation with IT infrastructure, monitoring databases and applications, re-organizing databases etc.
- e) Manage database upgrade or patch upgrade as and when required with minimal downtime.

9) Backup/Restore Management

SI shall perform backup and restore management in accordance with mutually agreed to backup and restore policies and procedures, including performance of daily, weekly, monthly quarterly and annual backup functions (full volume and incremental) for data and software maintained on Servers and storage systems including interfacing with Utility's specified backup media storage facilities

SI's responsibilities shall ensure the below but are not limited to

- a) Backup and restore of data in accordance to defined process/procedure.
- b) 24x7 support for file & volume restoration requests.
- c) Maintenance and Upgrade of infrastructure and/or software as and when needed.
- d) Performance analysis of infrastructure and rework of backup schedule for optimum utilization.
- e) Generation and publishing of backup reports periodically.
- f) Maintaining inventory of storage tapes at cloud locations.
- g) Forecasting tape requirements for backup.
- h) Ensuring failed backups are restarted and completed successfully within the backup cycle.
- i) Monitor and enhance the performance of scheduled backups.
- j) Real-time monitoring, log maintenance and reporting of backup status on a regular basis.
- k) Management of storage environment to maintain performance at optimum levels.
- l) Periodic Restoration Testing of the Backup.
- m) Periodic Browsing of the Backup Media.
- n) Management of the storage solution including, but not limited to, management of space, volume, RAID configuration, configuration and management of disk array, SAN fabric/switches, tape library etc.
- o) Interacting with Process Owners in developing/maintaining Backup & Restoration Policies/Procedures.
- p) To provide MIS reports as per agreement.

10) Messaging System management

SI will provide management of messaging systems, including administration of messaging servers and monitoring performance.

11) Service Delivery Management

SI shall provide detailed description for service delivery management for the complete project plan and deliverables and project management methodology.

1. Project Management

- i. SI will assign Project Managers (For Utility) who will provide the management interface facility and has the responsibility for managing the complete service delivery during the contractual arrangement between Utility and the SI.
- ii. Project Manager will be responsible for preparation and delivery of all monthly/weekly reports as well as all invoicing relating to the service being delivered.
- iii. Project Manager's responsibilities shall essentially cover the following:
 - Overall responsibility for delivery of the Statement of Works (SOW) and Service Level Agreement (SLA).
 - Act as a primary interface to Utility for all matters that can affect the baseline, schedule, and cost of the services project.
 - Maintain project communications through Utility's Project Leader.
 - Provide strategic and tactical recommendations in relation to technology related issues.
 - Provide escalation to SI's /Utility's senior management, if required.
 - Resolve deviations from the phased project plan.
 - Conduct regularly scheduled project status meetings.
 - Review and administer the Project Change Management with Utility Project Leaders.
 - Identify and resolve problems and issues together with Utility's Project Leaders.
 - Responsible for preparation and delivery of all weekly/quarterly/monthly reports as well as all invoicing relating to the services being delivered

12) Help Desk

Help Desk shall act as a single-point-of-contact for all service problems pertaining to software & network. The SI shall create and maintain a dedicated centralized online Helpdesk specific to Billing system operations with a telephone number, E-mail and call tracking mechanism that will resolve problems and answer questions that arise from the use of the offered solution as it is implemented at Utility.

Users can log the queries/complaints, which shall be resolved as per the Service Level requirements. The helpdesk queries/complaints can be related to connectivity, messaging, security, software, configuration, and any other issues that arise in the Billing System.

Help Desk software shall take care of classification, automatic escalation, management, and status tracking and reporting of incidents as expected by the service level requirements. Status tracking shall be available to users through telephone number as well as online through software.

- a) The Helpdesk will respond to and resolve the problems as per the SLA.
- b) Problems shall be classified into various levels of priority mentioned in the SLA. The assigned priority for each problem shall depend upon:
 - i. The extent of the problem's impact on the usability of the system
 - ii. The percentage of users affected by the problem

- c) The initial assignment of priorities is the responsibility of the Help Desk's Problem Manager on basis of SLA. However, Utility can change the priority assigned to a particular problem and the procedures that exist for escalating a problem to progressively higher management levels, until agreement is secured.
- d) The precise definition of problem priorities shall be documented in the SI's SLA.
- e) Helpdesk shall troubleshoot on systems, applications (software), network, cloud services related issues, multimedia related issues, server administration, security policies, 3rd party coordination etc.
- f) After problem resolution, the logged problem in help desk will be closed and notification will be sent to user for confirmation and rate the customer service on defined parameter in helpdesk.
- g) Help Desk shall be responsible for change management like schedule up gradation of software components, cloud service components etc. Help Desk will co-ordinate and take approval from Utility for the same and will inform all users for such event in advance.
- h) Help Desk shall also be responsible for managing problems/incidents related to network link at each Field/Substation location, offices, and HQ. Help Desk shall ensure timely response and assigning the problem/incident on priority basis.

Help Desk shall be ITIL compliant & shall implement ITIL compliant help desk processes like Change Control & Management Procedure, Incident & Problem management approach etc. The SI shall utilize help desk tools, which are ITIL complaint and are open for integration with other enterprise management tools like EMS/NMS system etc.

Providing Help desk solutions application

The Service desk/help desk module shall include the automate "Helpdesk Solution Application". A solution record is a predefined response to a problem or commonly asked question. A solution record consists of a symptom, a cause, and a resolution. The solutions can be associated with incident and problem records. The Solution application is used to create, approve, and manage solution records. Search Solution can be used to search for and view solution records. The Helpdesk Solution application shall include the following features:

- a) Ability to specify which solution records shall be available to self-service users in the Search Solutions application
- b) Ability to specify a Classification for the solution
- c) Ability to indicate a Status for a solution. A solution record can have one of the following statuses: DRAFT, ACTIVE, or INACTIVE
- d) Ability to attach documents or Web sites to a solution record
- e) Ability to use the Solutions application to change the status of a solution record
- f) Ability to create, update and delete a solution in Solutions Application.

Any event triggered shall be forwarded to service desk that submits & updates trouble ticket & also updates status of ticket back to EMS/NMS. The EMS/NMS shall automatically forward events to service desk. The EMS/NMS operator shall also be able to generate tickets & forward it to helpdesk. Helpdesk personnel must also be able to update ticket to EMS/NMS.

A. Billing System Services

- a) Provide Level One Support for Billing System, including incident logging, assigning incident numbers, and dispatching the appropriate support personnel to remedy a problem.
- b) Prioritize problem resolution in accordance with the severity codes and Service Levels specified.
- c) Provide system status messages, as requested.
- d) Maintain the defined help desk operational procedures.
- e) Notify designated personnel of failure of any component of Billing System, or of an emergency.
- f) Initiate a problem management record (“PMR”) to document a service outage to include (for example) date and time opened, description of symptoms, and problem assignment (Level Two/Level Three), and track and report on problem status, as required.
- g) Monitor problem status to facilitate problem closure within defined Service Level criteria or escalate, as appropriate.
- h) Monitor PMR closure, including documented problem resolution.
- i) Provide Utility with complete and timely problem status through the problem tracking system, as requested.
- j) Maintain an updated help desk personnel contact listing.

B. Management Services

- a) Provide “ownership-to-resolution” of all help desk calls, monitor and report.
- b) Progress of problem resolution confirm resolution of the problem with the End User and log the final resolution via the problem management system.
- c) Analyze and report on calls received by the help desk, including
 - i. Call volumes and duration,
 - ii. Incident & Problem trends,
 - iii. Call resolution time.
- d) Assign priorities to problems, queries, and requests based on the guidelines/SLA provided by Utility.
- e) Monitor and report to Utility on maintenance performance.
- f) Provide input to Utility on End User training requirements based on help desk call tracking and analysis.
- g) Update contact list of users initially provided by Utility.

C. Install/MAC Services (Install Move Add Change)

- a) Act as the point-of-contact for install and MAC requests and status.
- b) Act as the interface for coordinating and scheduling all installations and MACs.

D. User oriented Services

- a) Provide an interface for user requests, such as new user IDs, address changes, routing requests, and password changes.
- b) Advise the End User to take reasonable steps to backup information, if possible, prior to attempting to affect a resolution either by phone or hands-on during Desk Side Support Service.

The Utility shall help SI to define the help desk call prioritization guidelines

13) Vendor Management Services

As part of this activity the SI's team will:

- a) Manage the vendors for escalations on support.
- b) Logging calls and co-ordination with vendors.
- c) Vendor SLA tracking.
- d) Maintain database of the various vendors with details like contact person, Telephone Nos., response time and resolution time commitments. Log calls with vendors Coordinate and follow up with the vendors and get the necessary updates/supports/spares exchanged.
- e) Analyze the performance of the vendors periodically. (Quarterly basis)
- f) Provide MIS to Utility regarding tenure of completion of ATS with outside vendors for the Billing system in order that Utility may take necessary action for renewal of ATS. SI shall also provide MIS regarding performance of said vendors during existing ATS.
- g) SI shall provide SI with contact details of individual vendors.

14) Anti-Virus Management

This service includes virus detection and eradication, logon administration and synchronization across servers, and support for required security classifications.

15) SD-WAN Network Monitoring & Management

This service provides for the availability monitoring of the network environment. The network management includes proactive monitoring and management.

SI's responsibilities shall include:

- a) Provide a single-point-of-contact for responding to Utility's SD-WAN Network management queries or accepting its problem management requests. SI's SD-WAN Network management specialist will respond to Utility's initial request within agreed service level objectives set forth.
- b) Monitor availability & escalate to SD-WAN service provider and notify Utility for Network Outages.
- c) Review the service levels of the Bandwidth service provider (as per pre-defined schedules on SLA performance) along with Utility.
- d) Provide network availability incident reports severity wise to Utility in a format mutually agreed.
- e) Provide SLA performance management report of the SD-WAN Network.
- f) System performance is to be monitored independently by the SI and a monthly report mentioning Service up time etc. is to be submitted to Utility. The report shall include:
 - i. SD-WAN Network configuration changes
 - ii. SD-WAN Network uptime
 - iii. Latency report (both one way and round trip) times
 - iv. Historical reporting for generation of on-demand and scheduled reports of SD-WAN network metrics with capabilities for customization of the report presentation
 - v. Generate SLA violation alarms to notify whenever an agreement is violated or is in danger of being violated
- g) Any other reports/format other than the above-mentioned reports required by Utility

- h) The SI shall monitor the SD-WAN network on a continuous basis using the appropriate service tools and submit reports on monthly basis for SD-WAN system.

16) Service Management Controls

1. Incident Management

The SI must have:

- a) Ability to create an incident record to document a deviation from an expected standard of operation.
- b) Ability to create other ticket from the incident, if resolving the incident involves creating a service request, problem, or work order.
- c) Incident could be created automatically from sources such as email, system-monitoring tools.
- d) Ability to have ticket template containing data that agent can automatically insert in common, high-volume records. Instead of manually entering standard information each time, SI can apply a template that contains information such as owner, service group, service, classification, internal priority, activities, labor requirements, and activity owners.
- e) The template can add the following information but can be modified to include the following: Priority, Owner or Owner Group, Service Group or Service, Classification; for Activities; Activity, Sequence, Job order, Site, Organization, Description, Owner or Owner Group, Priority, Vendor, and Classification.
- f) Ability to assign ownership of an incident either to a person or a person group who is responsible for managing the work associated with that record.
- g) Ability to assign ownership via workflow or an escalation process.
- h) Ability to associate an asset for an Incident Record if the issue you are reporting or working on involves an asset.
- i) Ability to view a list of related records and view the work and communication logs for all related records on one screen, on the global record.
- j) Ability to create a service request from an incident with a relationship between the two records.
- k) Ability to create a Problem from Incident application to record an unknown, underlying cause of one or more issues.
- l) Ability to create a release in the Incident application when resolving the Incident involves releasing a set of bundled changes to users.
- m) Ability to relationships between Incidents.
- n) Ability to identify a global incident, which is the root cause of many other issues or that is something affecting many users.
- o) Ability to automatically assign one or more SLAs via Workflow or Escalation process based on SLA's criteria.
- p) Ability to apply an incident template which contains activities that can be viewed and edited.
- q) Ability to find and attach Solution record containing information on resolving to an Incident record.
- r) Ability to record Solution containing information on the symptom, cause, and resolution.

- s) Ability to create and submit a draft solution from the Incident application screen which an agent can approve the solution for general use later.
- t) The communication log stores inbound and outbound messages and attachments sent between users and agents.
- u) Ability to view communication entries associated with a record.
- v) Ability to use a communication template to fill in default data.

2. Ticketing Management

- a) Ability to specify an Owner or Owner Group and Service Group or Service for the ticket.
- b) Ability to specify a Classification for the ticket.
- c) Ability to specify both a Reported Priority and an Internal Priority for the ticket.
- d) Ability to list related assets on a ticket.
- e) Ability to track time spent on a ticket
- f) Ability to apply one or more service level agreements (SLAs) to a ticket.
- g) Provide Self-Service Service Requests module to allow users to submit and view service requests.
- h) Ability to create other ticket from the service request, if resolving the service request involves creating an incident, problem, or work order.
- i) Ability to relate existing tickets to the service request.
- j) Service requests could be created automatically from sources such as email, system monitoring tools.
- k) Ability to add a classification to enable workflow processes, escalations, and service level agreements.
- l) Ability to have ticket template containing data that agent can automatically insert in common, high-volume records. Instead of manually entering standard information each time, agent can apply a template that contains information such as owner, service group and service, classification, and internal priority. The template can add the following modifiable information: Priority, Owner or Owner Group, Service Group or Service, Classification, Vendor, and Organization.
- m) Ability to assign ownership via workflow or an escalation process
- n) Ability to select related asset by hierarchical view
- o) Ability to filter the related asset list by value list: All, Public, or User/Custodian. The default User/Custodian is the affected person specified on the record.
- p) Ability to show similar tickets to search for and relate other tickets to the current record. The purpose is for information only.
- q) Ability to automatically assign one or more SLAs via Workflow or Escalation process based on SLA's criteria

3. Problem Management

The SI must develop an effective problem management system to reduce the impact of problem that occur and minimize its reoccurrence. It shall help in identifying the root cause of the problem and proper recording and tracking of the problem till its resolution. To systematically capture, record,

track and resolve the calls, robust application tools with following functionalities/features shall be provided. The tools shall have following features:

- a) Ability to apply a template to a Problem. The template contains common data such Priority, Owner or Owner Group, Service Group or Service, Classification, Vendor, and Organization.
- b) The Problem template also can contain activities, labor requirements, and activity owners.
- c) The Problem template also can contain Problem activity common data such as, Sequence number, Job Plan, Site, Organization, Description, Owner or Owner Group, Priority, Vendor, and Classification.
- d) Ability to associate an asset for a Problem Record if the issue you are reporting or working on involves an asset.
- e) Ability to select related asset by hierarchical view.
- f) Ability to relate other tickets and work orders to a Problem.
- g) Ability to show similar tickets to search for and relate other tickets to the current record.
- h) Ability to show similar tickets, Problems to search for and relate other tickets, Problems to the current record.
- i) The similar ticket search results only list service requests, incidents, and problems having the same Classification. Records are not included in the results if they either are global records or history records.
- j) Ability to identify a Problem as global record. A global record captures information about an issue affecting many people. The record might be a created for a shared asset i.e., the root cause of many other issues, such as a failed network server.
- k) Ability to relate a Problem to a Global record.
- l) Ability to create a service request from a problem, creating a relationship between the two records.
- m) Ability to create a Release in the Problem application when resolving the Problem involves releasing a set of bundled changes to users. The created Release will be related to the originating Problem.
- n) Ability to identify a global Problem, which is the root cause of many other issues or that is something affecting many users. A global record might have many other records related to it.
- o) Ability to automatically assign one or more SLAs via Workflow or Escalation process based on SLA's criteria.
- p) When you apply an SLA that includes a response commitment to a Problem, value in the Target Start date field is set based on that SLA. and when an SLA that includes a resolution commitment to a Problem, value in the Target Finish date field is set based on that SLA.
- q) Ability to relate existing service requests, incidents and problems to a global record and manage them via the global record.
- r) Ability to manage the tickets via the global ticket, when linked with global relationships, so the statuses of related tickets can be changed by changing only the status of the global record.
- s) Ability to change status of each activity individually.

- t) Ability to apply a template, which contains activities that can be viewed and edited
- u) Ability to select labor for activities on a Problem
- v) Ability to report labor time either for a Problem as a whole, for activities on the Problem, or for both types of labor time
- w) Ability to enter start and stop times
- x) Ability to select an owner for each Activity individually
- y) Ability to find and attach Solution record containing information on resolving to a Problem record
- z) Ability to record Solution containing information on the symptom, cause, and resolution.
- aa) Ability to create and submit a draft solution from the Incident application screen which an agent can approve the solution for general use later
- bb) Ability to use the Work Log in the Problem application to document work that needs to be done or that was done to resolve the issue
- cc) Ability to modify or delete Work Log with authorization protected
- dd) Ability to create Communication action in Problem application to send communications about a record to a requestor or other user
- ee) Ability to use a communication template to fill in default data, such as the identifier, subject from the originating record when create a communication

4. Change Management

The primary objective of change management is to:

- a) Manage each change request from initiation through to closure.
- b) Process Change Requests based upon direction from the appropriate authority.
- c) Determine the Roles and Responsibility of the accountable personnel.
- d) Communicate the impact of changes to appropriate personnel.
- e) Allow small changes to be managed with a minimum of overhead.

The change control and management process shall be followed by the stakeholders constituting the 'Change Advisory Committee (CAC)'. This committee shall comprise of the key stakeholders who shall be involved from the stage of identification of a Change Request to its closure. Bidder shall detail its change management methodology and activities for Billing system implementation in its proposal. Bidder shall be evaluated based on its dedication to methodology and ability to stay focused on the business process change and expected outcomes/benefits.

In case, the Utility defines additional requirement or changes in a functionality, the Bidder and the Utility shall mutually decide the price to be paid to the Bidder for the services to be rendered. In addition, a maintenance window shall be provided to the Bidder for incorporating the additional requirement or changes in a functionality.

Change Order describes the labor, materials, tools, services, and tasks that the Bidder needs to complete a Change. The Bidder is expected to be able to carry out the below functionalities under change management

- a) Ability to enter, modify the change order.
- b) Ability to select a predefined change order (job order) and modify it as needed. The job order shall have all details of the change order copied to it.

- c) Ability to create a ticket or work order from an existing ticket or work order (or change order).
- d) Ability to create follow-up work orders. A follow-up work order is for when you complete a job but notice that additional work is needed on the same asset or location.
- e) Ability to create a change from a change. It is needed when, for example, a technician completing a change discovers that additional work not specified on the change, such as a software upgrade, is required to solve a problem.
- f) Ability to create an Incident, problem, release & work order from a change.
- g) Once a change is approved, it cannot be deleted or modified.
- h) Ability to change the status of the Changes to complete which indicates all the physical work is finished.
- i) Ability to execute the move or modification of assets under change order.
- j) Ability to view information about previous status changes.
- k) Ability to change the status of the Change order's task.

5. Release Management

The primary objective of release management procedure is to deliver, distribute and track one or more changes for/during release into the live environment and

- a) O1 – To plan and oversee successful rollout of software releases.
- b) O2 – To communicate and manage expectations of Utility during the planning and rollout of new releases.
- c) O3 – To ensure that software being changed is traceable, secure and that only correct, authorized and tested versions are installed.
- d) The policy or procedural requirements arising out of the agreements signed or agreed between the SI and Utility would supersede the procedural requirements stated in this document. The applicability of the current procedure is for personnel or process deploying releases of software and/or Billing System components into the production or live environment. While the responsibility to provide staffing (roles used as per rate card, effort required by role, effort by months or weeks as applicable) and timeline for a change request rests solely with the SI.
- e) SI to Submit Rate Card for Change Management Duration.

This is broad level of scope of work of SI with respect to the software applications.

- a) Release of new software, hardware, systems, and services into live environment
- b) Release of changes to Billing System and services in the live environment
- c) Quarterly release of functionalities
- d) Publishing calendar for release – to be published by SI in consultation with the Utility
- e) Decision on packaging and distribution of releases
- f) Implementation of changes to software, hardware, systems, and services
- g) Building the change request.
- h) Provide staffing (roles used as per rate card, effort required by role, effort by months or weeks as applicable) and timeline for a change request.

- i) Utility will absorb the added/modified functionality from operational perspective which are implemented as part of Release Management in 15 days from the date of release if there is no major issue reported by Utility.

6. Performance Management

The recording, monitoring, measuring, analyzing, reporting, and forecasting of current levels, potential bottlenecks, and enhancements of performance characteristics for the services, networks, applications, system software, and equipment within the scope shall be required. System tuning, and optimization is an inherent part of this contract.

Where warranted, the SI will utilize capacity management data in combination with performance management data to identify ways to improve performance levels of the resources, extend their useful life, and request Utility to approve revisions/upgrades to the computing and communications hardware, software, and other equipment such that higher levels of performance of the resources are obtained.

7. Capacity Management

The continuous monitoring, periodic analysis, and forecasting of the changes necessary to quantify capacity and configuration of finite resources comprising the computing and hardware/software (cloud) infrastructure supported under this initiative by the SI. The categories of resources to be capacity managed include but are not limited to servers & system software.

8. Security Management

The protection from unauthorized usage, detection of intrusions, reporting as required and proactive prevention actions are to be provided by the SI.

9. Resources for Project and Service Management

As mentioned in Minimum resource requirement section in the Tender.

10. Preventative Maintenance Activity

The preventive maintenance activities shall be performed by the SI to keep the system running at optimum level by diagnosis and rectification of all Billing System failures and would broadly include:

- a) Configuration routine checking as part of a preventive maintenance which would include checking of functionality Billing System software,
- b) Monitoring of the performance of the system and doing necessary tuning for optimum performance to accommodate any changes such as addition of new components.
- c) Providing all necessary assistance to Utility for addition and modification of database and user interface & consumer portal displays and Database sizing activities.
- d) Take Backup of the system at regular interval
- e) Restoration of the systems upon its failure and to restore the functioning of the various systems.

11. Annual Technical Support (ATS)

- a) All software should be supplied with applicable OEM warranties and support (including back-to-back) for the entire duration of the project. During warranty period vendor must provide updates and patches.

- b) Annual Technical Support (ATS) will start from the date of acceptance of the installation. ATS should cover 24 by 7 escalation supports from OEM for all software products to be provided through Phone, Email or Onsite visit depending on the criticality and nature of the problem. The support must be ensured by the SI.
- c) The SI must carry out any requisite adjustments / changes in the configuration for implementing different versions of the application software.
- d) The SI shall provide from time to time the Updates/Upgrades/New releases/New versions of the software and operating systems as required. The SI must provide free upgrades, updates & patches of the software and tools to Utility as and when released by OEM. The SI will implement from time to time the Updates/ Upgrades/ New releases/ New versions of the software and operating systems as required after necessary approvals from Utility about the same at no additional cost without disturbing the implemented Billing system.
- e) The SI shall provide and apply regular patches to the licensed software including software, operating system, databases, and other applications.
- f) The SI shall provide for software license management and control. SI shall maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements, and maintenance. The SI must perform periodic audits to measure license compliance against the number of valid End User software licenses consistent with the terms and conditions of site license agreements, volume purchase agreements and other mutually agreed upon licensed software terms and conditions and report to Utility on any exceptions to SI's terms and conditions, to the extent such exceptions are discovered.
- g) The SI shall manage complete OEM technical support for all the licensed software problems and/or questions, technical guidance, defect, and non-defect related issues. The SI shall provide a single-point-of-contact for software support and provide licensed software support including but not limited to problem tracking, problem source identification, problem impact (severity) determination, bypass and recovery support, problem resolution and management reporting etc.
- h) The SI shall undertake regular preventive maintenance of the licensed software. If the Operating System or additional copies of Operating System are required to be installed / reinstalled / de-installed, the same shall be done as part of ATS.

12. Project Management

12.1 Project Management

The supply, development & customization, implementation, roll out and Go-Live of the Billing system is envisaged to be completed within a period of **12 Months** and the comprehensive O&M period shall be of 5 years which may be extendable up to (2) two more years (1+1) on the same Terms and Conditions. Beyond this it can be further extended based on a mutual discussion.

The implementation of entire Billing system would consist of Billing system Solution, Procurement of Cloud Service Provider (CSP) Services and SD WAN Provider Services and Other Services to meet the requirements of Utility.

12.2 Project Timelines

1. The System Integrator (SI) is expected to follow the schedule as mentioned below. Each of the project activity should be accompanied with a presentation on the deliverables by SI.
2. The submission of deliverable will be considered complete only after the submission of hard/soft copy of the deliverables and presentation by SI.
3. The SI must submit a detailed project implementation schedule including but not limited to the below mentioned project activities and list of deliverables that would be delivered during the project implementation.
4. The table gives a set of high level of activities and corresponding expected timelines, which Utility envisions to be required as a part of this project. The SI should use this list only as an indicative guideline expected in terms of activities. The SI is required to furnish detailed information regarding each step of activities proposed during and after the implementation of the project.
5. System Integrator shall supply the Billing System - Software licenses (On Prorated Basis) as per the schedule suggested by SI and accepted by Utility.

The project activities and timelines (In Months) as mentioned in the table below is the schedule by which the required project activities shall be completed with corresponding and required deliverables. (Where, To – Date of Letter of Award)

S. No.	Project Phase	Project Activity	Time schedule
1	Project Initiation	<ol style="list-style-type: none"> 1. Project Kick Off 2. Onsite Office Setup 3. Team Mobilization 4. Project Charter <ol style="list-style-type: none"> i. Detailed project plan with work breakdown structure along with dependencies ii. Resource schedule & deployment plan iii. List of complete deliverables iv. Project Governance structure & escalation matrix v. Stakeholder communication matrix vi. Project management templates such as Project reports, SLA monitoring, Attendance etc. vii. Detailed survey to Identify End User Base, License Requirement, Network Communication Feasibility study, Change readiness Assessment etc. 5. Training & Organization change management strategy & schedule. 6. SLA and Performance Monitoring Plan. 7. Data Conversion and Migration Strategy 8. Develop Project Risk Assessment and Define Quality Assurance Plan 9. Define Project Methodologies, Tools and Project Governance Standards 	To + [1] Month

		<p>10. As-Is Study report including existing business process, workflows, reporting requirement, process maps etc.</p> <p>11. Gap analysis report with identified gaps & areas of Improvement.</p> <p>12. Initiation of data collection, data preparation, data cleansing etc.</p>	
2	Setup of Infrastructure (DC, DRC)	13. Procurement, installation & commissioning of infrastructure i.e., Data Center & Disaster Recovery Services, Storage	To + [1.5] Months
3	Business Blueprinting	<p>14. Requirement gathering workshops with findings for updated requirement specification.</p> <p>15. Detailed To-Be report including:</p> <ul style="list-style-type: none"> a. Business Blueprint/design documents. (High Level Design & Low-Level Design) b. Updated Bill of Material/Bill of Quantity c. Business Process Master List (BPML) d. Business Process Re-engineering e. Development Scope: Reporting, Interfaces, Conversions, Enhancements f. FRS & BPML mapping document g. Business Solution Design Document h. Updated Functional Requirement Specifications i. Updated Technical Requirement Specifications j. Requirements Traceability Matrix k. Non-functional Requirements Specifications Documentation l. Billing Module based Roles & Responsibilities (Authorization Matrix) etc. m. Mapped Organogram of Utility n. List of role-based End users of Billing system, <p>16. Finalize Development Scope</p> <p>17. Business Continuity /Disaster Recovery Plan</p> <p>18. Cyber Security Policy</p> <p>19. Release Management and Change Management Strategy.</p> <p>20. Initiation of Training & Handholding</p> <p>21. Refined Data Conversion and Migration Strategy.</p> <p>22. Change Management Workshops.</p>	To + [3] months
4	Design & Customization	23. Setup of Test & Development Environment	To + [4] Months

		<p>24. Design and Development of Billing Solution</p> <p>25. Baseline Configuration</p> <p>26. Customization and Configuration of Billing Solution</p> <p>27. Billing System OEM audit (1st Iteration)</p> <p>28. Configured Billing User Profiles and Roles</p> <p>29. Billing Solution Testing</p> <p>30. Develop and execute Integration Test Plan(s)</p> <p>31. Billing System Integration with Existing Solutions (Legacy, Other Systems)</p> <p>32. Setup and Install Quality Assurance (QA) Environment</p> <p>33. Initiation of Training & Handholding</p>	
5	Pilot Rollout Phase	<p>34. Setup of Cloud based Pilot Environment</p> <p>35. Commission of WAN N/w for Pilot Location</p> <p>36. Data Migration for Pilot Location</p> <p>37. Rollout for Pilot Location</p> <p>38. Demonstration & Acceptance</p> <p>39. Pilot Go-Live</p> <p>40. Stabilization of pilot rollout</p> <p>41. Trainings and handholding of documents</p>	To + [6] Months
6	Pilot System Stabilization Phase	<p>42. Stabilization Support</p> <p>43. Billing System Acceptance – Pilot Location</p> <p>44. Billing System Go-Live – Pilot Location</p>	To + [7] Months
7	Training and Go-Live Phase	<p>45. Setup of Cloud based DC & DR Environment</p> <p>46. Commission WAN N/w for all Location</p> <p>47. Data Migration for all Locations</p> <p>48. Billing System Roll out – all Locations</p> <p>49. Go live of all remaining modules and systems with all required integrations</p> <p>50. Training and handholding of system SI to prepare in parallel for this phase, however, prerequisite for Go live of this phase is completion of Phase 5</p>	To + [9] Months
8	Stabilization Support Phase	<p>51. Stabilization Support</p> <p>52. Billing System Acceptance - All Locations</p> <p>53. Billing System Go-Live - All Locations</p>	To + [12] Mon
9	Facility management	<p>54. Billing System O&M Support</p>	5 years (Effective from Go-live)

	services Support		
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Note:

1. *The Project timelines and schedule mentioned above is indicative and will be finalized based on discussion and agreement between Utility and the successful Bidder (SI).*
2. *Initially, the SI will provide draft schedule with respective deliverables to Utility for their review and feedback within stipulated timelines.*
3. *Utility will provide feedback within the agreed timelines to make necessary changes, corrections, if required. The SI will be required to resubmit the revised schedule document.*
4. *Feedback and revision of documents and deliverables will be an iterative process.*

12.3 Project Governance

Putting a governance structure around Utility's future Billing system implementation plan is essential to ensure that project implementation stays on track and achieves its strategies, objectives, and goals. It acts as a mechanism to measure the progress of the implementation. Also, IT systems today are subject to many regulations such as governing data retention, confidential information, financial accountability, and recovery from disasters. An IT governance framework is an efficient system to ensure regulatory compliance.

Overall responsibility for the implementation of all modules will remain with the SI. Project progress review and monitoring will be the responsibility of PMU during project implementation phase. Utility will appoint a Single Point of Contact (SPOC) for IT Administration. Escalation of all issues related to the modules will be through this SPOC, who will also be responsible for reviewing the SLAs being met.

For the project implementation phase, supervision and reporting during implementation will be responsibility of SI.

The Agency has to submit the plan for customization and rollout of the activities defined in the scope of work and as per terms and conditions mentioned in this tender.

Penalty will be levied on delay in execution and rollout as per the Penalties given in this tender document. Scope of work has to be completed within stipulated time period.

The complete solution comprising of all application software modules, hardware and mobile applications envisaged in this tender as per scope of work shall be deployed as per the following implementation schedule:

The commercial and other available data required shall be obtained by the agency from Utility for migration. The payment shall start from the date of declaration of Go-live.

12.4 Minimum Resource Requirement from SI

- SI should ensure deployment of enough specialized and experienced manpower throughout the project to complete the successfully implementation & stabilization of the Billing System in time.
- At no stage, manpower (with requisite qualification and experience) shall be less than that committed in the bid. Such manpower shall be maintained from start of the project up to complete Go-Live stage and further during Facility Management Support phase.
- SI must propose a team consisting of experienced and skilled professionals with relevant experience in the proposed areas. The minimum desired qualification for the key personnel has been indicated below:

S.No.	Position	Desired Qualification
1.	Team Leader/ Project Management Expert	Shall possess an B. Tech/B.E./MCA/MSc or higher qualification and MBA or its equivalent with at least 15

		years of relevant experience in implementation of least 2 end-to-end UBS projects Shall have minimum experience as project manager of 7 years
2.	Functional Domain Expert	Shall possess an B. Tech/B.E./MCA/MSc or higher qualification or its equivalent with at least 10 years of experience. Shall have relevant experience of 7 years in functional domain (New connection, Disconnection, Reconnection and Dismantling; MBC; Web portal and Mobile Application; Management information system; Document Management System; Customer Relationship Management; Energy audit; Data lake & Analytics etc;
3.	Integration Expert	Shall possess an B. Tech/B.E./MCA/MSc or higher qualification or its equivalent with at least 10 years of experience. Shall have relevant experience of 7 years in Integration of UBS Application.
4.	Application/Programmer Domain Expert of the Modules	Shall possess an B. Tech/B.E./MCA/MSc or higher qualification or its equivalent with at least 10 years of experience. He/she shall having experience as a developer with expertise on utilities software solutions. (Quoted OEM Product) Certification on platform / language of quoted OEM product is preferable.
5.	System Administrator	Shall possess an B. Tech/B.E./MCA/MSc or higher qualification or its equivalent with at least 10 years of experience. Shall have relevant experience of 7 years as system administrator Technical certifications on Microsoft / Unix / Other OS/ Products etc. shall be preferred
6.	Database Expert	Shall possess an B. Tech/B.E./MCA/MSc or higher qualification or its equivalent with at least 10 years of experience. Shall have relevant experience of 7 years as database expert Database Administration Certification on provisioned Database Solution shall be preferred
7.	ICT infrastructure Expert	Shall possess an B. Tech/B.E./MCA/MSc or higher qualification or its equivalent with at least 10 years of experience. Shall have relevant experience of 7 years on Android, IOS, and Windows application design, development, customization Relevant certification from recognized institution shall be preferred

8.	Cloud Computing and Storage Expert	Shall possess B.Tech/B.E./ MCA degree or its relevant equivalent with minimum 10 years of relevant work experience as Storage Expert. Industry standard and recognized certification on quoted storage system is preferable.
9.	Cyber Security Expert	Shall possess MCA / M.Tech / B.Tech/ B.E. degree or its relevant equivalent with minimum 8 years of relevant work experience as information security expert. Industry standard and recognized certification like CISSP/CISA certified is preferable.
10.	Change Management Expert	Shall have preferably bachelor's degree in Electrical /IT/ Computer Science/or related field and at least 5 years of proven experience in RMS in similar nature of work
11.	Helpdesk Co-Ordinator	Shall have preferably bachelor's degree in Electrical/Electronics/IT/Computers with Master's in Business Administration and at least 10 years of proven experience in RMS
12.	Helpdesk Staff	Shall have preferably bachelor's degree and at least 3 years of proven experience in similar nature of work
13.	Rollout and Handholding Support staff at sub-divisions	Shall have preferably bachelor's degree and at least 3 years of proven experience in similar nature of work

12.4.1 Initial Composition, Full Time Obligation; Continuity of Personnel

- a) The SI shall ensure that Key resources required for project execution and management devotes substantial working time to perform the services to which that person has been assigned.
- b) The SI shall not make any changes to the composition of the Key Resources or request any member of the Key Resource to cease or reduce his or her involvement in the provision of the Services during the Term (or agree to any request other than from Utility that would have the same effect):
 - unless that person resigns, is terminated for cause, dies, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires; and
 - Without Utility prior written consent. The clauses of non-disclosure agreement shall always operate in any such case.
- c) The SI must provide the minimum number of resources at the locations as specified by the Utility. However, the number of resources and locations provided below are only indicative, the SI shall carry out an assessment and propose actual number of resources requirements with appropriate approval from Utility.
- d) SI will be responsible for deploying the manpower during the Project Implementation phase to meet the project timelines and during the Facility Management Service (FMS) phase to meet the SLA requirements. Therefore, for calculation of actual number of resources, the SI shall factor the project implementation timelines and SLA's requirements after Go-Live of Billing system at Utility.
- e) The Bidder needs to submit detailed CVs of each of the resource and Project Manager of the proposed project team. The Project team provided by the SI must be on their regular roll and SI shall certify the authenticity of their regular employment.
- f) The SI shall deploy the minimum [XX] resources for Facility Management Services and Help Desk support at the centralized help desk of Utility.

12.4.2 Before Billing System Go-Live

SI shall deploy the Project Manager (Project In-charge) including Technical, Functional Experts and Other Support Staff at the identified project locations during the implementation and roll out of Billing System.

The Key project resources including Project Manager and Functional Expert shall be based at Utility headquarters. Also, the SI shall deploy/depute requisite no. of IT/Subject matter resources before and during Go-Live of sites for coordination and user handholding. This is an important ask as the end users may face many problems during Billing System Roll Out and Go-Live declaration of individual sites.

The resources required before Go-Live is mentioned below.

Sl. No.	Position	Min No. of Resources Required (Before Go- Live)
1.	Project Manager	
2.	Billing system Module – Functional Leads (Total XX - Resources one for each Module)	
3.	Distribution Sector Specialist	
4.	Change Management Expert	
5.	ICT Infrastructure Lead	
6.	Cloud services expert	
7.	Lead Programmer	
8.	System/Database Administrator	
9.	Enterprise Architect/ Integration Expert	
10.	Solution Tester	
11.	Network Expert	
12.	Security Expert	
13.	Mobile Application Expert	
14.	Data Migration Lead	
15.	Bid Management Expert	
16.	Facilities Management and Help Desk Coordinator	
17.	IT Support Staff	

Table 7: Manpower Requirement before Go-Live

12.4.3 Post Billing System Go-Live

SI shall deploy the Project Manager (Project In-charge) including Technical, Functional Experts and Other Support Staff at the identified project locations during the post Go-live and Facility Management support Phase.

The Key project resources including Project Manager and Functional Expert shall be based at Utility headquarters. Also, the SI shall deploy adequate no. of IT/Subject matter resources for overall support post Go-Live and FMS phase of project which may be increase/decrease as per requirement. After Billing System Go-live, the SI should provide necessary resources and support staff for Utility.

The minimum resource requirement post Go-Live is mentioned in table below:

Sl. No.	Position	Min No. of Resources Required (After Go- Live)
1.	Project Manager	
2.	Billing system Module – Functional Leads (Total XX - Resources one for each Module)	
3.	Distribution Sector Specialist	

Sl. No.	Position	Min No. of Resources Required (After Go- Live)
4.	Change Management Expert	
5.	ICT Infrastructure Lead	
6.	Cloud services expert	
7.	Lead Programmer	
8.	System/Database Administrator	
9.	Enterprise Architect/ Integration Expert	
10.	Solution Tester	
11.	Network Expert	
12.	Security Expert	
13.	Mobile Application Expert	
14.	Data Migration Lead	
15.	Bid Management Expert	
16.	Facilities Management and Help Desk Coordinator	
17.	IT Support Staff	

Table 8: Manpower Requirement After Go-Live

12.5 Documentation and Deliverables

To ensure that the proposed Billing System & overall solution conforms to the requirements, specifications, and delivery schedule, the SI shall submit the documentation and deliverables for review and approval by Utility.

The SI shall obtain the approval on the relevant deliverable at each stage of project before proceeding for solution purchase, provisioning, deployment, testing, roll out, training etc. at Utility.

As part of Billing system implementation, the SI shall submit all required deliverables as necessary for successful completion of project and required by the purchaser.

12.5.1 Deliverables Acceptance Procedure

The acceptance procedure of deliverables & overall solution for Billing system shall include:

- Initially, SI will provide draft deliverable for Billing system & Overall solution by considering the approved project timelines for review and feedback of Utility within stipulated timeframe.
- Utility will provide feedback within the agreed timeframe to make necessary change corrections (if required).
- SI shall be required to re-submit the revised documents/deliverables.

12.5.2 Key Deliverables

The indicative list of project deliverables which are required to be submitted by the SI shall include, but not limited to the following:

Project Phase	Key Deliverables	Frequency
Project Initiation	1. Project Kick-off with presentation on Billing System overview to Senior Management.	Once
	2. Project Charter. <ol style="list-style-type: none"> Detailed project implementation plan with work breakdown structure along with dependencies Resource schedule & deployment plan List of complete deliverables Project Governance structure & escalation matrix Stakeholder communication matrix 	Once

Project Phase	Key Deliverables	Frequency
	<ul style="list-style-type: none"> f) Project management templates such as Project reports, SLA monitoring, Attendance etc. g) Detailed Survey Report with Identify End User Base, License Requirement, Network Feasibility, Change readiness Assessment etc. h) Roles & responsibilities 	
	3. Detailed training/Organization change management strategy & schedule	Once
	4. SLA and Performance Monitoring Plan	Once
	5. Data Conversion and Migration Strategy	Once
	6. Risk Management & Quality Assurance Planning Reports	Once
	7. As-Is Study report including existing business process, workflows, reporting requirement, process maps etc.	Once
	8. Gap analysis report with identified gaps & areas of Improvement.	Once
	9. Specifications for DC and DRC Infrastructure.	Once
	10. Specifications for SD-WAN Solution.	Once
	11. Exit Management Plan	Once
Business Blueprinting	1. Requirement gathering workshops with Updated requirement specification document	Once
	2. Detailed To-Be report including: <ul style="list-style-type: none"> a) Business Blueprint/design documents. (High Level Design & Low-Level Design) b) Updated Bill of Material/Bill of Quantity c) Business Process Master List (BPML) d) Business Process Re-engineering e) Development Scope: Reporting, Interfaces, Conversions, Enhancements f) FRS & BPML mapping document g) Business Solution Design Document h) Updated Functional Requirement Specifications i) Updated Technical Requirement Specifications j) Requirements Traceability Matrix k) Non-functional Requirements Specifications Documentation l) Billing system Module based Roles & Responsibilities (Authorization Matrix) etc. m) Mapped Organogram of Utility n) List of role-based End users of Billing system, 	Once
	3. Business Continuity/Disaster Recovery Planning Report	Once
	4. Cyber Security Policy	Once
	5. Release Management and Change Management Strategy Document	Once
	6. Training & Handholding Activity	Monthly
	7. Refined Data Conversion and Migration Strategy	Once
	8. Change Management Workshops	Quarterly
	9. Business Blueprint/Elaboration phase closure report	Once
	1. Test & Development Environment	Once

Project Phase	Key Deliverables	Frequency
Design & Customization	2. Billing System – Design, Development & Customization Report	Once
	3. Baseline Configuration and Documentation	Once
	4. Customization and Configuration documentation	Once
	5. Draft Billing System OEM audit report with observations (1 st Iteration)	Once
	6. Final Billing System OEM audit report with compliance (1 st Iteration)	Once
	7. Documentation on Billing system User Profiles and Roles	Once
	8. Billing System – Testing Report (Load, Stress, Integration, Performance Etc.) a) Test Plan, b) Roles & responsibilities, c) Test Scripts, d) Issue log, e) Issue Resolution Report	Once
	9. Billing System Integration with Existing Solutions (Legacy, Other Systems)	Once
	10. Billing System – Integration Test Report	Once
	11. Quality Assurance System	Once
	12. Conference Room Pilot (CRP) Report	Once
	13. Approved End-User Training Strategy (along with End-User Training Curriculum, Manuals, and Schedule)	Once
	14. Trainings to Core Team/Nodal Officers	As per training plan
	15. Billing System implementation & rollout strategy	Once
	16. User Acceptance Testing (UAT) Report	After software and hardware delivery and after implementation
	17. Documentation for Customization of RICEFW (Reports, Interface, Conversion, Enhancements, Forms and Workflow) Development Objects	Once
	18. Data Archiving Plan	Once
	19. Refined End User’s training plan	Once
	20. User Training Manual, FAQ etc.	Once
	Pilot Rollout Phase	1. Cloud based Pilot Environment
2. Network Connectivity for Pilot Locations		Once
3. Roll out & Data Migration for Pilot Locations		Once
4. Pilot Location Go-Live Report		Once
5. Incorporation of changes and observations of Pilot Phase		Once
6. Detailed end user training plan		Once
7. End User training completion certificate		Once
Pilot System Stabilization Phase	1. Pilot Go-live completion report	Once
	2. User manual	Once
	3. Issue log and resolution report	Once
	1. Data migration completion report	Once

Project Phase	Key Deliverables	Frequency
Training and Go-live Phase	2. Final Roles & Responsibilities of Users (Authorization Matrix)	Once
	3. Standard Operation Procedure (SOP) documents	Once
	4. Configuration manual	Once
	5. Help desk structure, process and operational manual	Once
	6. Detailed end user training plan	Once
	7. User training Manual	Once
	8. End User training completion certificate	Once
	9. Change readiness assessment	Once
	10. Pre- Go-live assessment report	Once
	Billing System - Stabilization Support	1. Cut-over Communication Strategy
2. Draft Billing System OEM audit report with observations (2 nd Iteration)		Once
3. Final Billing System OEM audit report with compliance (2 nd Iteration)		Once
4. Pre-Go-Live Assessment Report		Once
5. Enterprise-wide Go-live completion report		Once
Facility Management Services	1. System Performance Report (SLA compliance)	Monthly
	2. Monthly activities report (including Issue tracker, Helpdesk ticket analysis, Change Request status and Status of all service requests logged with Offered OEM Product etc.)	Monthly
	3. Solution usage reports - transactions and users	Monthly
	4. User Manual with necessary revision.	Once
	5. Change Management & Release Management Reports	Quarterly
	6. Issue log and resolution report	Monthly
	7. Revised Exit Management Plan	Once

12.5.3 Documentation Requirements

a) End-User Documents

Documentation will be supplied and maintained by SI during the project. The ownership of all documents, supplied by SI, will rest with Utility. The electronic copies shall be submitted along with all the paper documents and manuals, required for operating and configuring the system. The documents provided must include at least:

- User Manual (both online and paper copies) providing detailed instructions on how to use the Billing system. In addition, it describes how to access, submit inputs to, and interpret outputs from the application
- System installation guide including the configuration of the supplied infrastructure.
- User will have the rights to duplicate the hardcopy and soft copy for the documents created by the SI without any financial and legal implications
- Module wise - Billing Application Training Manuals

b) Technical Documents

SI shall supply operation and maintenance manuals for all deliverables. These shall be in such details as to enable Utility to operate, maintain, adjust, and fix the system etc.

SI must ensure that the Billing system components being developed are thoroughly documented with comprehensive manuals and adhere to standard methodologies in software development as per ISO and/or CMMi models. The documents including but not limited to are:

- Product installation and configuration steps
- Application access procedures
- User screen layout and content
- Transaction entry procedures

- e) Batch job setup, processing, and recovery/restart procedures
- f) Error codes with full descriptions and recovery steps
- g) Standard report layout and content
- h) Internal processing controls
- i) Application security
- j) Operating specifications and system flowcharts
- k) Database entity relationships, table formats, and data element descriptions; and Program module descriptions
- l) Quality Assurance Plan Documenting the planned and systematic pattern of all actions necessary to assure confidence that the software developed will conform to the Utility functional and technical requirements.
- m) Interface Control Document - Documenting the interface characteristics of one or more IT systems and document the Integration & interface agreements between interface owners. It contains information on both physical and data element requirements that are necessary to make the transfer of information between systems feasible.
- n) Test Plan Containing information on the software test environment to be used for independent testing, the test cases to be performed, and the overall testing schedule. This includes methodology, schedule, resources, tools, procedures, environment definition, test cases, and software test results.
- o) Systems Manual Detailing the data structure, table, forms, and report structures.
- p) Installation and maintenance manual for the servers and other hardware
- q) Operations Manual providing instructions for installing the application, troubleshooting, interpreting message logs, and FAQs
- r) Trouble Shooting Guide/ Handbook for Helpdesk which describes the various trouble shooting methods.

12.6 Implementation Approach

The implementation of the Modules would be phased in progressively, covering successively different geographies and user groups. A summary of the Approach for Implementation is provided below for better understanding of the Bidder.

Sl. No.	Project Phase	Timeline (In Months)
1.	Letter of Award	
2.	Project Initiation	
3.	Procurement of Infrastructure (DC, DRC, Storage) implementation	
4.	Business Blueprinting	
5.	Design & Customization	
6.	Billing System - Roll Out at All locations	
7.	Billing System - Stabilization Support	
8.	Facility Management Support	

Table 9: Billing System Implementation Approach

a. Project Management Plan

The SI is expected to follow the schedule as mentioned. Each of the milestones should be accompanied with a presentation on the deliverables by the SI, related to that milestone.

The submission of deliverable will be deemed complete after the submission of the hard / soft copy of the deliverable and the presentation by the SI.

The “Expected Date of Completion” as mentioned in the table above is the date by which the deliverable shall be submitted to Utility. The SI shall ensure that the deliverable is accepted by Utility as per schedule mentioned in the table above post review.

The SI shall follow prudent project management practices commensurate with the best international standards during the course of the project implementation. While the actual process of application customization will remain an internal activity of the SI, it is important that Utility or their nominated agencies shall have adequate visibility into such processes.

The following are some of the major guidelines to be kept in mind for Project Management.

b. Scope Management

The requirements in general and the customization requirement in particular, shall be collected and documented clearly. The scope and requirements shall be controlled against a baseline and any changes shall be communicated to Utility and documented.

c. Time Management

The SI shall prepare a detailed project schedule conforming to the stake-holder expectations and exercise stringent control of the schedule. A periodic report on the progress and deviations should be shared with Utility. Any schedule conflicts with respect to project and/or deliverable timelines will have to be resolved by SI in consultation with Utility and/or its nominated agencies and approved by Utility. Thereafter the approved timelines will have to be adhered to by the SI, unless specified otherwise.

d. Quality Assurance and Quality Control

A detailed Quality Assurance Plan shall be prepared and shared with Utility. The same shall be monitored and SI shall share a periodic report on the quality activities. These shall include:

- i. Architecture and Design Review Reports
- ii. Test Plans Review Reports
- iii. Test Execution Review Reports

e. Project Risk management

The SI shall document the risks during implementation and share the same with Utility. This shall be periodically reviewed and shared with Utility. A report on the periodic risk analysis, risk responses planned, mitigation strategies executed shall be shared with Utility.

The SI shall store all the Project Management and Delivery artifacts into a secure configuration database and give access to Utility for view purposes. During the O&M period, any change requests and enhancements to the software shall be similarly documented so as to create a comprehensive repository of all artifacts relevant to Utility stakeholders. This will serve as a valuable knowledge input during Exit Management and also for any statutory audit.

12.7 Roles and Responsibilities

a) Responsibilities of the Utility

The Chairman/ Managing Director of Utility or any other person designated by the Chairman/ Managing Director of Utility shall act as the nodal point for the implementation of the Contract and for issuing necessary instructions, approvals, commissioning, acceptance certificates, payments etc. to the SI. The Utility shall:

- Whenever implementation of any component of the Solution requires that the SI obtain permits, approvals, and import and other licenses from local public authorities, if so, required by the SI, make its best effort to assist the SI in complying with such requirements in a timely and expeditious manner;
- Approve AS-IS, TO-BE, GAP Analysis and UAT documents required for project progress, in accordance with Clause 11 of this Section, within 15 (fifteen) working days from the date of submission of such documents;

- Provide updated AS-IS business process document and on SI's request, particulars/ information / or documentation that may be required by the SI within 30 (thirty) days from date of execution of the Contract to enable preparation of the Project Implementation plan by the SI;
- Review and approval of SI's Project Implementation Plan;
- Provide necessary approvals for enterprise data archiving, purging and migration as required for implementing the Billing System;
- Provide support and personnel required for testing the system during implementation, acceptance, rollout, and the FMS period;
- Provide A.C. power supply inputs;
- Provide all required documents for delivery of material at site;
- Provide at its expense, the electrical energy required for performance of the Project activities, installation, testing, and operation of the Billing Systems;
- Providing necessary processes and procedures and approval for entry of all operating personnel and for working on 24x7 timeframe in all facilities that would demand such presence;
- Implement major civil works such as expansions or construction of rooms, trenches etc. as required for the Billing equipment and help desk;
- Provide the required integration interface details of the legacy applications and related information required for integration with the Billing system, within 1 (one) month from date of execution of the Contract;
- Review the specifications of the Goods proposed to be used to ensure compliance with the provisions of this Contract.
- Provide reasonable support to the SI for the Operational Go-Live in terms of the provisions of this Contract;
- Provide necessary support to SI in the Project area, in relation to (amongst others) access to Utility's premises, installation of Billing system, repair and maintenance services, etc. Utility shall also:
 - i. Give access to SI supervisor or its operation & maintenance staff to work in the Project area during the Contract Period;
 - ii. Provide an office space for SI personnel as mentioned in Clause 10 of this Section document within the Utility premises;
 - iii. Give access to SI to use existing power and water supply, and other necessary equipment, as mutually agreed with the SI;
 - iv. Not move, remove, modify, alter, or change the Billing system or any part thereof in the boundary of the Billing system installed by the SI without the prior consultation and written agreement of SI. Utility shall take all reasonable steps to protect the Billing system from damage and shall follow procedure for emergency action provided in advance by SI;
- Participate in periodic review meetings as per the project governance structure and shall support with the required interventions requested;
- Be responsible for operation and maintenance of power supply system, and promptly attend to any break down including repair or replacement of any equipment used/needed for maintaining continuity of electricity supply for Billing system operation;
- Permit SI to perform the project activities during working hours, and also after working hours as necessary, to meet the requirements of Project Implementation Plan;
- Attend to any irregularity with respect to Billing system operation, the cause of which has been brought to its attention by the SI;

- Promptly notify the SI of any events or circumstances that could affect the Project outcomes, or the SI's Services and obligations under this Contract;
- Appoint and notify to SI of the names and contact details of the Utility representative and its dedicated staff for the Project, which would include:
 - i. An engineer-in-charge for each business function of the Project who shall render full support to SI for Service delivery during the Term of this Contract;
 - ii. A nodal officer, Utility Project Manager, to co-ordinate with SI in relation to the Project.
- Certify Installation Milestone in accordance with the provisions of this Contract.
- Facilitate SI for the timely implementation of the Billing Project and for its successful operation and maintenance during the Contract Period;
- Release payments to SI as per agreed terms;
- At its own cost, replace or repair existing equipment (other than Billing systems), such as power lines, lighting, air-conditioning and ventilation, etc. where necessary to make the Billing system operational and/ or safe from hazards and maintain in proper working condition all portions of all facilities that are not included in the SI's scope of maintenance;
- Provide all other necessary support as may be required time to time.

b) Responsibilities of the SI

- Preparation of Detailed Project Plan along with the AS-IS, TO-BE and GAP Analysis documents in line with the overall plan provided in the RFP. The same should be prepared in consultation with Utility.
- Procure, install, commission, operate and maintain:
 - i. Requisite hardware & system software at Data Center/Disaster Recovery Center
 - ii. Workstations, printers, UPS, etc. required at various locations as per the requirements mentioned in this RFP
- Meet the defined SLAs for the performance of the system.
- Implementation of Billing System (including 3rd party) as per the requirements mentioned in this RFP document
- Ensure the entire hardware deployed at various locations for the entire duration of the agreement against vandalism, theft, fire and lightning etc.
- Keep all system software i.e., OS, antivirus, office applications etc., for Servers, PCs etc. at Data Centre and DRC, up to date by installing regular upgrades / patches
- On-going maintenance support, upgrades, and enhancements of the solution (including 3rd party components as applicable)
- Setting up and operations of centralized help desk as mentioned in this RFP document and provide necessary support for the resolution of bugs, patches & upgrades of the solution
- Submit documents & deliverables as defined in the RFP
- Ensure training material for trainers to train the other users of Utility as mentioned in this RFP
- Delivering training for Utility employees
- Periodic testing of readiness of DRC
- Recovery in case of failure of DC/DRC
- Data Digitization and Migration as mentioned in this RFP document
- During the maintenance phase the responsibility of overall system and version control will continue to be vested with SI only and should not be outsourced
- Provide onsite handholding as mentioned in this RFP document
- Maintaining the SLA requirements as mentioned in this RFP document
- Analyzing & managing system performance, network performance, call logs, etc., as well as providing the means of monitoring the SLA metrics
- Regular backup of the solution data

- Generation of MIS reports as per the requirements of Utility
- Generation of the report for the monitoring of SLAs
- Providing Help features on the Application Modules that can be used by stakeholders such as Frequently Asked Questions (FAQ), etc. including various tests and audits as mentioned in this RFP
- Any Other as mentioned in this RFP document

13. Project Implementation Methodology

The methodology to be deployed by the SI to implement the Billing system will have different work elements and activities.

All these activities and the work elements should coherently focus on achieving the following key results

- Quality of the solution deployed
- Customer satisfaction while deploying and during usage
- Successful implementation in terms of completeness and timely accomplishment of the outcome

While there are different techniques and tools available as part of the methodology, the following are expected to be part of the implementation methodology to be adopted by the SI

- a. Workshops with different stakeholders for capturing business requirements, creating awareness of best practices, communicating the changes, building consensus on process design, for signing off the deliverables etc. These need to be organized at different intervals and in different places throughout the duration of the project as demanded by the context.
- b. Stakeholder consultation other than workshops, with those stakeholders who will be identified by Utility, for the purpose of critical inputs, review, suggestions, process description etc.
- c. Review sessions with different stakeholders for signing off the deliverables, walking through the deliverables for facilitating quick understanding
- d. Reviews with experts from the Billing system OEM
- e. Internal review mechanisms of SI for ensuring the quality of the solution and the deliverables
- f. Adoption of the review comments - effective mechanisms to adopt the changes suggested
- g. Documentation of proceeding – recording the developments, discussions, deliverables, using standard methodology and native tools available with the Billing system
- h. Work standards/practices for documentation, configuration, testing, data migration etc.
- i. Training different stake holders on a continuous basis

13.1 Implementation and Support Services

Implementation Services till Go-Live

- a. Commissioning of necessary Infrastructure
- b. Realization Configuration
- c. Customization
- d. Unit Testing
- e. System Integration testing
- f. User Acceptance Testing
- g. Data Migration
- h. Training and Change Management
- i. OEM Audit Services
- j. Documentation

k. Cutover and Go-Live

13.2 Commissioning of Necessary Infrastructure

- a. The SI will be responsible for providing a full range of services in implementation of the offered Billing system OEM Product including integration and supporting the operation of the proposed solution during implementation.
- b. The SI will provide required software and system applications for DC & DRC
- c. The SI shall commission the complete landscape of hardware both at DC and DRC for Utility.

13.3 Configuration / Customization

The SI shall be responsible for installation of Billing system software, database, tools, and any other hardware component required for making the Billing system successfully operational as per the requirements of Utility. The system is to be a single instance; centralized installation servicing the entire organization. The Billing system will be installed at the location identified by Utility.

Configuration: Based on the approved Business Design Document, the SI will undertake the system configuration and customization. After completion of configuration to the Billing system, SI shall carry out a trial run. If needed or/and the result is not up to the expectation of Utility, further reconfiguration will be done by the SI in order to close any gap left in meeting the desired objective.

Customization: Utility intends to implement Billing system functionalities and the leading practices available in the offered solution, as far as practically possible. The SI is required to undertake customization that may be needed in line with the changed, improved, or specific business processes requirement prepared during Business Design phase of the Billing system implementation. However, the same must be tested, accepted, and approved by Utility.

All custom development should be carried out in a controlled and planned manner with adherence to Billing system prescribed coding standards and naming conventions. The SI needs to provide configuration, customization, and installation documents to Utility. SI should follow disciplined approach for configuration and customization which should not restrict Utility for any future upgrades to its Billing system to this effect, the SI should provide a certificate from Billing system OEM which certifies that the SI has followed disciplined approach for configuration and customization of Billing system, and it will not stop Utility from future upgrades.

13.3.1 Custom Developments

The SI should explore all options available in Standard Billing system to meet the requirements, demonstrate standard options to Utility. If Utility concludes that no option meets the requirement and the requirement is critical for business, SI shall submit the case for custom development to Utility or the agency appointed by the Utility. The following details should be submitted:

- a. User Requirement Specifications
- b. Functional Specifications Document
- c. Complexity Classification under Simple/ Medium/ High, with justification
- d. Any impact to Standard functionality/ features and future upgrade
- e. Effort and Time-line Estimation
- f. Impact to project timelines/ deliverables

The utility reserves the right to seek customization to meet its unique requirements and validate the design or findings suggested as custom development by the SI. In case it is difficult to arrive at the reasonableness of these requirements on customization during the implementation, the same shall be resolved through discussions. In case the issue is not settled, the same shall be referred in the first

place to the Steering Committee. The committee may at its discretion co-opt any subject expert internal/external of the Utility who in its opinion may help in resolving the dispute. The decision of the Steering Committee and or the subject expert internal/external of the Utility appointed by the Steering Committee is final.

Utility reserves the right to get the functional specifications and effort reviewed by an external consultant.

13.4 Testing

As part of testing, the SI shall cover all activities during the implementation process (configuration of business processes, development such as conversions, interfaces, reports) which prove that system settings are correct as per business requirement of the Utility. In doing so, the SI shall include test plans, tests cases, and testing report.

The SI shall create the test strategy document that defines the requirements and goals of billing system configuration, determines the tools and methods used to check that the system responds correctly, determines how and when the test will be performed and recommends how the approval process should occur.

The test strategy document shall guide the project team through the implementation to ensure that planning and conducting testing activities in the various phases of Billing system implementation as mentioned below.

13.4.1 Base Line Testing

The purpose of Baseline Scope testing activities is to plan and conduct testing to validate the Baseline configuration. Baseline Scope testing shall ensure that Baseline configuration is valid and supports the business processes defined in the Blueprint.

Baseline Scope Testing shall include:

- Unit Testing: Testing of transactions and functions within modules and
- Scenario Testing: Testing of business processes and scenarios

Baseline Scope testing shall be carried out in three steps:

1) Define Baseline test cases:

- a. SI shall develop the baseline test plan with scenarios and test data to be used for testing based on the test templates.
- b. For simple transactions, testing (unit testing) shall be done straightforward during configuration and the results shall be recorded.
- c. For transactions that are very complex involving multiple screens, functions, and variations to run, the transactions shall be documented and tested with a Business Process Procedure, maintaining the test section with test conditions and variations of the standard transaction, or with case procedures, maintaining the test section.
- d. SI shall use the Test Scenario template entering every single step (transaction) with input and output data to document process flows.

2) Create Baseline test plan

- a. SI shall organize and follow up the unit and scenario testing at the Function/Module level during Baseline scope testing.
- b. SI shall assign timeframes and resources for testing.

3) Test Baseline

- a. SI shall use the Baseline test plan and the test cases to test Baseline configuration.
- b. SI shall update the Baseline worksheet with status and completion date information.

13.4.2 Development Testing

The SI shall after development and customization/configuration of the Billing system, conduct tests to demonstrate that the system meets all the requirements (functional and Non-Functional) specifications as brought out in this RFP and would be in accordance with the procedures detailed in the approved process document.

Based on these tests, a report would be submitted by the SI for review and approval by the Utility. The test results and response times should be demonstrated by the SI during the testing phases (System, integration & Stress and Load testing) at each Utility location in an environment/infrastructure as mutually agreed upon by the Utility and the SI.

The development testing shall cover testing of:

- a. Unit testing of customer-specific development
- b. Conversions
- c. Enhancements (User-exits and other code enhancements)
- d. Reports

Development should be tested by the process owner to make sure that the test results (output data) are correct and reflect the business processes defined in the Business Blueprint Design.

After development unit testing is completed, all customer-specific programs and forms shall be included in the Final Integration Test

13.4.3 Integration and System Testing

The purpose of the Integration Test shall be to plan and execute the integrated components, including simulation of live operations, and analyze the results, important for the functional verification of the production system.

Integration testing shall be accomplished through the execution of predefined business flows, or scenarios, that emulate how the system will run the processes of Utility. These business flows, using migrated data from the pre-existing systems, shall be performed in a multifaceted computing environment comprising of Billing system OEM Products, third-party software if any, system interfaces and various hardware and software components. The integration tests shall build the necessary level of confidence that the solution is complete and will perform the processes of Utility. Integration testing shall focus on cross-functional integration points, as well as end-to-end business processes. The Final Integration test plan shall start with the testing of the cross-functional integration points (touch points) and end with the end-to-end testing of critical business processes identified within the Business Blueprint.

Integration testing shall be done in two iterations.

- a. The first iteration (Integration Test) shall concentrate on testing all important business processes inside the Billing system, starting with touch point scenarios, and ending with end-to-end-scenarios. It will be done by SI's functional consultants. Customer specific development like user-exits and transactions and authorizations and user roles would also be tested in the Integration Test.
- b. System Testing, as a second iteration, shall focus on the most important cross-enterprise scenarios with touch points to external components, including testing of conversions, interfaces, reports, and the necessary authorizations. It will be conducted by Utility users with the guidance of project operations committee.

Integration and System tests need to be an evolutionary process that is driven from the previous testing efforts. The test cases and scenarios that were used for Baseline need to be reviewed by Utility and enhanced for the integrated and System test.

These selected cases will be combined to represent a business process flow such as a revenue cycle or a material acquisition cycle. Problems encountered during these efforts also need to be tested under an integrated environment.

13.4.4 Load and Stress Testing

Load, scalability, and stress testing would be conducted prior to commissioning & Go-Live once the System Integration testing of the configured and customized solution has been conducted successfully. The SI should use suitable simulation tools in accordance with the agreed test procedures keeping in view Utility's projected future load of transactional users as proposed by SI and agreed by Utility. After successful testing and its clearance with Utility, the solution would then be considered as ready for commissioning.

13.4.5 System Acceptance Testing

The SI will develop acceptance test procedures and the same will need to be approved by relevant stake holders of Utility. The purpose of this acceptance is to ensure conformance to the required process operations response time, the integrity of the application after installation, and to eliminate any operational bugs.

This will include:

- a. Fine tuning of the application, ensuring all required related component software are installed and any debugging required.
- b. SI shall conduct all tests as a part of Standard Software Testing Life Cycle (STLC)
- c. SI shall facilitate Utility or its nominated agencies to conduct User Acceptance Testing, Application Security testing (vulnerability testing and penetration testing) and Infrastructure Security.
- d. Utility shall nominate a team to carry out acceptance testing of the various Billing solution modules supplied by SI.
- e. SI shall provide training to the Acceptance Testing team prior to the commencement of the acceptance testing of system.
- f. SI shall setup testing environment at the hosting facilities and use virtual test servers for the same.
- g. SI shall provide necessary tools for logging of defects and carrying out testing if required.
- h. SI should provide detailed test scripts for carrying out the acceptance test of various systems supplied.
- i. SI shall resolve all the defects/issues identified by Utility's acceptance testing team during solution acceptance procedure/phase.
- j. The software would be re-tested to ensure closure of identified defects/issues.
- k. The acceptance tests will be carried out before Go-Live at site.

At the satisfactory conclusion of these Acceptance tests to the satisfaction of Utility, the implementation of the Billing system shall be considered to be complete, and a 'System Acceptance Certificate' shall be issued by the Utility within 7 days of completion. However, if any bug/error is reported by Utility, the SI shall be responsible for taking the corrective action immediately.

13.5 Pilot Go-Live

1. After the Billing System is customized and developed in line to the requirements of the Utility and all the system audits and tests are successfully cleared, a Conference Room Pilot is conducted to ensure the proper operation of the implemented Billing system before an organization-wide rollout.
2. Once the Conference Room Pilot is successfully completed, the Billing system is issued the Pilot Go-Live.

13.6 System Rollout

1. After the Billing System is customized and developed in line to the requirements of the Utility, it should be deployed at the Cloud based (if applicable) Data Center and Disaster Recovery Center.
2. The Billing system should be rolled out at all locations with after required customization, development and after the successful completion of and User Acceptance Testing (UAT), which is defined by the SI.

13.7 Cutover and Go-Live

The scope of Cutover would be for each of the core and support processes. The Cutover Strategy needs to detail the sequence of activities required to achieve this and propose drawing up of a schedule for the tasks, dates, data conversion and the upload of the necessary balances and open items into the system before the Final Go-Live.

The key requirements for Cutover are as follows:

- a. The Cutover plan should detail the strategy by which the data will be uploaded for the different sites and the nature and volume of backlog transactions. Specified forms/formats/templates to put the data in.
- b. It should detail the Data elements and open item strategy logic used for planning Cutover before Go-Live.
- c. It should describe the various pre-requisites and assumptions used for each of the data elements before uploading in the live system.
- d. It should detail the various business decisions to be taken collaboratively by Utility and SI for finalizing the Cutover strategy.

Utility will consider Final Go-Live date of the Billing system once the SI has completed three (3) months of Stabilization Period after the successful rollout of the Billing system at all the locations specified by the Utility. Utility shall provide the “Go-Live Acceptance Certificate” on following acceptance criteria:

- a. Error free operation and running of all Billing system modules with real-time data during the Stabilization Period at all the Utility locations.
- b. Resolution of all Billing System related issues (Not limited to software application, Data Center & Disaster Recovery Center)
- c. Documentation of all issues/problems that come up during the stabilization support period and resolution methodology / solutions

The following table will be used to ensure compliance to all the activities prior to the Final Go-Live Stage before issuing the ‘Go-Live Acceptance Certificate’

Sl. No.	Project Activities	Compliance (Yes/No)
1.	Unit Testing	
2.	Completion of Customized Billing system Objects	
3.	Execution of System Integration Testing	
4.	Execution of System Perform Test (Stress, Load, Disaster Recovery, Backup Tests etc.)	
5.	Commission of DC & DR Environment	
6.	Billing Software Provisioning & Installation	
7.	Billing System Installation on Cloud Infrastructure	
8.	User Acceptance Testing (UAT)	
9.	Completion of Data Migration (Rollout locations) a) Master Data (Employee, Material, Vendor etc.)	

Sl. No.	Project Activities	Compliance (Yes/No)
	b) Transactional data (Stock Balances, Opening Balances, Contracts, Projects, Assets, Employee etc.)	
10.	End User Creation with defined roles & authorization	
11.	Billing System Accessibility to all End Users	
12.	Completion of advance Billing System Configuration	
13.	Finalize Cutover (Conversion) Plan	
14.	Successful Completion of End-User Training (Rollout locations)	
15.	Tuning of Billing System	
16.	Successful Completion of Stabilization period after Billing-System Rollout	
17.	Error free operations and running of all Billing system modules with real-time data for a period three (3) months.	
18.	Documentation of all the issues/problems that come up during the stabilization period and resolution methodology / solutions	
19.	Operational Tools Readiness IVR, ITSM & IT Operations	
20.	Helpdesk Set-up	
21.	Establish Service Level Agreements	
22.	Go-Live Approval	

The system is considered 'Operational' for all purposes of Payments and SLA compliance after the Utility has issued the 'Go-Live Acceptance Certificate' and the FMS period is ongoing. The Utility will also be responsible to issue the 'Project Completion Certificate' post the completion of the FMS period as defined in this RFP.

13.8 Post Go-Live Stabilization Support

The SI shall provide post Go-Live support, as part of this scope, by continuing the deployment of the same technical and functional consultants at site for full three months after implementation and Go-Live. During the stabilization period the SI would help Utility users to correct any errors/bugs incurred while executing transactions, generating reports, handholding for one financial quarter closure. The SI will update the user manuals and configuration manuals accordingly.

13.9 Additional requirement for Billing system Implementation

The requirement for Billing system Implementation which the SI will be responsible for are as follows:

1. The solution should support multitier architectures.
2. System architecture should allow infrastructure simplicity and standardization.
3. The solution software including operating system should be certified for different types of hardware.
4. The infrastructure should be capable of supporting disaster recovery.
5. The solution should have capability to present all business process and data via familiar relevant office applications and should offer integration with all relevant Forms.
6. The system should support latest OS versions and provide compatibility to future versions
7. All Utility components must be maintained with an ease, such that corrective and preventive maintenance can be performed on the system without affecting the entire working of the system.
8. The system should be designed to remove all single points of failure. The system should provide the ability to recover from failures and should also provide clustering features, thus protecting against many multiple component failures.

9. The system should have the ability to scale up as and when the new business applications and services are added without compromising the performance of the overall solution. The architecture should be proven to be highly scalable and capable of delivering high performance as and when the transaction volumes increase.
10. The system should provide application architectures that are highly granular and loosely coupled. The solution architecture design should promote flexible business process management for future scalability. The solution should be interoperable in nature and design and development should be based on Service Oriented Architecture (SOA).
11. The system is required to cover critical business function and process modules and provide modularity that should support addition / removal of one or more modules as and when required. However, these modules should be seamlessly integrated in the core application system. The solution architecture should allow minimum modifications to preserve the upgrade path.
 - a. The system should support interfacing with Personal Digital Assistant (PDA), Smart Card readers, RF devices, data acquisition system, webcam, barcode reader, biometric system etc.
 - b. The system should support standard interfaces such as adapters, APIs to interface with standard application and legacy applications.
 - c. The system should support real-time data updates and interfaces with software from other vendors.
 - d. Operating systems should have longer product life cycle (10 years or more) to avoid non-availability of various device driver (current and future) support as well as telephonic and web-based support infrastructure in place directly from OEM. The OS should be the latest version available in the market.
 - e. The application should have automatic way of migrating the data from existing database in case of data structure change and during transfer to new versions.
 - f. The system should support export and import of data possible from different legacy systems/other systems/databases in different file formats and on specified time intervals.
 - g. The Billing system application should support SSL and digital certificates.
 - h. The system should be compatible to remote access integration.
 - i. The system should support the use of fault-tolerant multiprocessor architecture and cluster processing.
 - j. The system should support auto-switching failover to other available server in case of server failure.
 - k. The system should support distributed processing.
 - l. The system should support load balancing.
 - m. The Enterprise grade Server operating system should support the essential network services like Directory Services, DNS, DHCP, Radius, Web Server, Application server, Cluster services (High Availability and Fail over Support), Global File system support and virtualization.
 - n. The infrastructure technology stack (database, application server and other components) used by the application should be commonly used for developing custom applications that are not part of or an extension of the proposed package.

14. Exit Management and Knowledge Transfer

At the end of Contract period, the SI will be required to provide the necessary handholding and transition support including all information as may be necessary and reasonable to effect as a seamless handover as practicable in the circumstances to the Utility or designated staff or any other agency that is selected for maintenance of Billing system post completion of Contract with the SI.

The SI will provide all information, handholding, and support for all the activities and information in its possession or control at any time during the exit management period. Anything in the possession or in the control of SI, associated entity (CSP, SD-WANSP), or sub-OEM is deemed to be in the possession or control of the SI. The transition and handholding process will include but not be limited to, conducting a detailed walkthrough and demonstrations of the Billing System, handing over all relevant documentation, addressing the queries/clarifications with respect to the working/performance levels of the DC/DR at Infrastructure, SD-WAN Service Provider (SD-WANSP), Software Licenses, handover of customized source codes, policies, and procedure document, conducting training sessions etc.

The Knowledge transfer activity is an integral part of the scope of work assigned to SI. This knowledge transfer activity will have to be carried out effectively, even in the case of end of Contract with the SI or is terminated before the planned timelines.

Please note that this is an indicative list, any other activity, over and above these, as may be deemed necessary by the Utility or designated staff or any other agency that is selected for maintenance of Billing System to meet the service levels and requirements specified in the contract are also required to be performed by the SI at no additional cost.

In the case of closure or termination of the project, the Parties shall agree at that time whether, and if so during what period, the provisions of this schedule shall be applied. The Parties shall ensure that their respective associated entities will carry out their respective obligations set out in this Exit Management Schedule.

14.1 Transfer of Billing System

- a) Utility shall be entitled to serve notice in writing on the SI at any time during the Exit Management period requiring the SI and/or its sub-contractors to provide the Utility with a complete and up to date list of the assets and System configurations, License details, Customized Code within 30 days of such notice.
- b) Utility shall also be entitled to serve notice in writing on the SI at any time prior to the end of Exit Management period requiring the SI to transfer the overall control to Utility or its nominated agencies.
- c) In case of contract being terminated prematurely by Utility, the Utility reserves the right to ask SI to continue running the project operations for a period of 3 months after termination orders are issued. In case of contract being terminated by SI, Utility reserves the right to ask selected SI to continue running the project operations for a period of 6 months after termination notice is served by SI.
- d) Upon service of a notice under this Article, the following provisions shall apply:
 - i. All title to the assets shall be transferred to Utility, on or before the last day of the exit management period.
 - ii. Payment to the outgoing SI shall be made to the tune of last set of completed services/deliverables, subjected to the approval and compliance on contractual and SLA terms & conditions.

14.2 Transfer of Agreements

On the request of Utility or its nominated agency the SI shall effect such assignments, transfers, licenses and sub-licenses as Utility may require in favor of the Utility or its replacement implementation agency in relation to any equipment or service, maintenance or service provision agreement between selected SI and third party lessors, service providers, and which are related to

the services and reasonably necessary for the carrying out of replacement services by the Utility or its nominated agency or its replacement SI.

14.3 Exit management plan

The SI shall prepare an Exit Management Plan for transfer of operations to the Utility or its nominated agency or its replacement SI. In the event of termination or expiry of contract with Utility, without affecting services to stakeholders adversely. The SI shall get this process approved by Utility. The Exit Management Plan shall include, but not be limited to, the following:

- a) A detailed program of the transfer process that could be used in conjunction with a replacement SI including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer
- b) Plans for the communication with such of the SI 's sub OEM, Bidder, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on Project's operations as a result of undertaking the transfer
- c) Plans for provision of contingent support to Utility and Replacement SI for a reasonable period after transfer.
- d) The SI shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
- e) Each Exit Management Plan shall be presented by SI to the Competent authority at Utility and approved by Utility or its nominated agencies.
- f) In the event of termination or expiry of Agreement, Project Implementation, or Service Levels, each Party shall comply with the Exit Management Plan.
- g) During the Exit management period, the SI shall use its best efforts to deliver the services.
- h) Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule and Contractual conditions or as mutually agreed between the SI and Utility.
- i) An Exit Management plan shall be furnished by the SI in writing to the Utility or its nominated agencies within 90 days from the date of signing the contract.

14.4 Facilities to be provided by Client

- 1) Providing required details of existing Legacy system and any other Systems which are required for Integration.
- 2) Providing necessary approvals and signoffs on mutually acceptable conditions.
- 3) Arranging any meeting or workshop with the Legacy Application Owners or Vendors.
- 4) Space for implementation of Centralized IT - Help Desk.
- 5) Necessary sitting space with adequate facilities be provided by Utility at Corporate Headquarters.

15. Payment Terms

The payments shall be strictly made based on acceptance and quality of deliverables, performance and timelines of services delivered by the System Integrator.

The System Integrator (SI) should produce a completion/ installation certificate indicating "Ready-for-use" status (i.e., delivery, installation, commissioning, and successful operation of system) for respective deliverable/services for Billing system, duly signed as accepted by the Utility.

1. The Contract Price shall be paid on the final accepted L1 prices quoted by the bidder, or any revised price that may be accepted after negotiation with the L1 bidder.
2. Value of Invoices shall be calculated against actual number of billable consumers (for Billing system services) as existing in the system database up to the last day of the month that is in consideration for payment, the count being verifiable through system generated reports.
3. [For the Billing services, the actual count of consumers for the purpose of monthly Invoicing will include only the Billable or Live consumers. Other non-active connections in database, vis-à-vis permanently dismantled connections, Stop Billed connections, or connections pending service release will not be considered for invoicing.]¹⁰
4. An initial pay-out as lumpsum (*Optional as per Utility's discretion*) shall be paid to the bidder which shall be calculated as the following:
 - a. Lumpsum Pay-out: The lumpsum amount will be [25] % of the total cost as quoted by the SI in Annexure of Form 1 of Section 5.
 - b. Lumpsum amount shall be paid in three milestones after adjusting advance payment with interest, if any:
 - Post Pilot roll-out phase: 40% of Lumpsum Amount
 - Post Project go-live: 40% of Lumpsum Amount
 - After completion of Stabilization support phase: 20% of Lumpsum Amount
5. Monthly payments, *hereinafter* called the FMS payments, which shall be [75] % of the rate per unit (including GST) as per Annexure in Form 1 of Section 5 multiplied by the actual number of billable consumers up to the last day of the month for which invoice has been raised by the SI. This FMS payment shall become eligible from the date of declaration of Go-live by the Utility, i.e., completion of the 'Stabilization support Phase' as defined in Project Timelines.
6. The Contractor shall raise provisional invoice accompanied with verifiable summary and prescribed SLA reports to the designated engineer-of-contract in Discom for verification of work, SLA and verification of payable amounts. The actual payment shall be net of any applicable liquidated damages and/or penalty due to noncompliance of SLAs by the SI.
7. The Contractor's request for payment shall be made to the respective Discoms, in accordance to the verified amounts, in writing, accompanied by invoices describing, as appropriate, the accepted quantities of work performed
8. Payments will be released by the Discoms to the Bidder in monthly arrears, within sixty (60) days from submission of an invoice and after it has been accepted. In case Utility fails to make any payment on its respective due date, the Utility shall pay interest to the SI on such delayed payment amount as from the due date of payment. The applicable interest rate on the delayed payment amount will be equal to the marginal cost of funds-based lending rate (MCLR) for one year of the State Bank of India plus 400 bps (MCLR shall be as applicable on the 1st April of the financial year in which the date of release of delayed payment lies). In case the period of default lies in two or more financial years the interest amount shall be calculated separately for the periods falling in different years.
9. No invoice for extra work/ change order on account of change management will be submitted by the Contractor unless the said extra work/ change order has been authorized/ approved by the Utility in writing.

¹⁰ Utility shall clearly define the same based on their prevailing practices

10. Monthly payments once commenced, may again be suspended if DR is not made functional till prescribed project timeline or six months after that, whichever is later, and release of such suspended payments shall re-commence only after satisfactory delivery, testing and acceptance of DR
11. If any excess payment has been made to contractor due to difference in quoted price in proposal and Contractor's invoice, or due to omission in verification of payable quantities, Utility may without prejudice to its rights recover such amounts by adjustments in subsequent invoices or by other means after notifying the Contractor or deduct such excess payment from any payment subsequently falling due to the Contractor.
12. The currency in which payment shall be made to the Contractor under this contract is Indian Rupees (INR) only.
13. The sum of all payments made to the Bidder shall not exceed the Contract Price.
14. In the event the Bidder fails to meet a particular performance criterion as mentioned under the Service Level Agreement (SLA) for cumulatively 3 (three) months in a year, resulting in the maximum penalty for the particular performance criterion, Utility may issue a SLA Default Notice to the bidder.

16. Service Level Agreement (SLA)

The Service Level Agreement (SLA) is the agreement between DISCOM and SI during the project implementation and further during Facility Management Support phases of the project. The SLA defines the responsibility of SI in ensuring the performance of Project based on agreed performance indicators as detailed in the agreement. It is expected that the Billing system shall meet the minimum threshold of service defined against each lever. Any degradation below this minimum threshold will attract penalties as per bands of service level met. The idea is that it triggers a proper review of any failure / performance that had been agreed upon for the project, and to find resolutions in keeping with the highest standards of service excellence.

SI shall be responsible for 24*7*365 management of all systems during the implementation of overall Billing solution and Facility Management Service (FMS) period. The Utility would monitor the SI performance and compliance to standards with respect to agreed upon SLA. SI shall develop service level monitoring tools.

16.1 Service Level Agreements Monitoring

- a) The Utility will carry out the quarterly monitoring and performance review of System Integrator against the monthly formulated reports for SLA. A designated third party or personal from Utility will review the performance of SI against the SLA.
- b) The SLA reports shall be formulated based on the automated system generated reports.
- c) The System Integrator shall submit the monthly SLA report to designated Nodal officer as per agreed frequency and timeline.
- d) For requirement of SLA audit, the Utility may perform a visit either by internal department or by an external contractor at respective DC/DR locations.
- e) The review / audit report will form a basis of any action relating to imposing penalty on or breach of contract of the SI.

16.2 Service Level Agreements and Targets

The service levels agreements shall be agreed by the SI as a key performance indicator for this engagement. These key indicators shall be used while monitoring and measuring performance of SI. The service level indicators have been categorized under:

1. Billing System - During Implementation SLA Indicators
 - a. Project Implementation – Billing System Go-Live
2. Billing System - Post implementation SLA Indicators
 - a. Availability management
 - b. Problem Resolution and Notification Times
 - c. Performance related SLA
 - d. Services related SLA

All management tools required to monitor the performance of the service should be provided by the SI at no extra cost. The SI would be required to provide access to the management tools to the Utility for monitoring purposes and would also provide the MIS reports for overall project and SLA monitoring as a part of the contract.

System Integrator shall provide all the necessary diagnostic/monitoring tools and technology as requested and required by the Utility to monitor the Billing System. These tools shall monitor the product, process, and elements of the system to generate the reports and logs which can be utilized by the Utility for further improvement and enhancements of overall system.

The description of the indicative Service Level Agreement (SLA) has been presented below. A complete Service Level Agreement will be made with the successful bidder at the time of signing the contract.

16.2.1 Project Implementation Phase SLA (During Implementation)

The Billing system including all the applications/supporting system must be implemented by the System Integrator (SI) as per the timelines mentioned in this RFP.

Any delay in implementation will attract penalty for every week of delay subjected to an overall maximum penalty of **10% of total awarded project cost**. It will be levied for the duration equivalent to number of weeks delayed which shall become due to be deducted from subsequent month's billing.

a) Penalty against Delay in Implementation Phase Completion

T = Date of Signing of Contract between Discoms and Selected Bidder

S. No.	Project Phase	Time schedule	Penalty*
1	Project Initiation	To + [1] Month	0.5% per week of delay or part thereof
2	Setup of Infrastructure (DC, DRC)	To + [1.5] Months	0.5% per week of delay or part thereof
3	Business Blueprinting	To + [3] months	0.5% per week of delay or part thereof
4	Design & Customization	To + [4] Months	0.5% per week of delay or part thereof
5	Pilot Rollout Phase	To + [6] Months	0.5% per week of delay or part thereof
6	Pilot System Stabilization Phase	To + [7] Months	0.5% per week of delay or part thereof

S. No.	Project Phase	Time schedule	Penalty*
7	Training and Go-Live Phase	To + [9] Months	0.5% per week of delay or part thereof
8	Stabilization Support Phase	To + [12] Months	0.5% per week of delay or part thereof
9	Facility Management Support Phase	5 years (Effective from Go-live)	0.5% per week of delay or part thereof

*Penalty shall be imposed on the total awarded project cost

Deliverables in each phase would be as defined in RFP.

16.2.2 Facility Management Phase SLA (Post Implementation)

16.2.2.1 Calculation for Post Implementation SLA

a) Uptime Calculation for the Month

1. { % Monthly Availability = [(Actual Uptime + Scheduled Downtime) / Total No. of Hours in a Month] x 100 }
2. "Actual Uptime" means, of the Total Hours, the aggregate number of hours in any month during which each equipment/cloud component is available for use.
3. "Scheduled Downtime" means the aggregate number of hours in any month during which each equipment, is down during total Hours, due to preventive maintenance, scheduled maintenance, infrastructure problems or any other situation which is not attributable to Bidder's (or Service provider's) failure to exercise due care in performing Bidder's responsibilities.
4. The DISCOM would provide a maximum of 04 hours of planned downtime for the preventive maintenance (as part of scheduled downtime) per month per equipment/service.
5. The downtime for scheduled maintenance (patch application, upgrades – OS, Database, etc.) would need to be mutually agreed between DISCOM and the SI. To reduce this time, various maintenance activities can be clubbed together with proper planning.
6. "Total Hours" means the total hours over the measurement period i.e. one month (24 * number of days in the month).

b) Downtime Calculation:

The recording of downtime shall commence at the time of registering the call and/or notifying or intimating the System Integrator (SI) for any downtime situation for the application/service/equipment.

Downtime shall end when the problem is rectified, and the application/ service is available to the user.

Outage under the following situations shall not be considered in down time calculation:

1. Pre-scheduled and approved preventive maintenance and health checks (Scheduled Downtime).

2. Failover time (30 minutes) in case of cluster environment. Beyond 30 minutes the service would be considered as not available and appropriate penalty shall be imposed on the SI.
3. Bug in any application which causes the non-availability of a specific service and not the system as whole. Complaint redressal SLAs along with defined criticalities shall however apply
4. If DISCOM elects to continue the operation of the machine / equipment, when a part of the machine is giving problem and leading to downtime, the commencement of downtime shall be deferred until the DISCOM releases the machine / equipment to the Bidder for remedial action.

16.2.2.2 Typical Facility Management Services (FMS) availability & duration of their requirement

The criticality of the required services is categorized under the four categories/priorities i.e. Critical, High, Medium and Low Priority. Each of the Support Category is associated with respective response and resolution time. The Criticality definition chart is tabulated below for reference.

Support Category	Criteria	Maximum Response Time	Maximum Resolution time
Critical	The system is unable to be used for normal business activities. There is certainty of financial loss to DISCOM.	15 Minutes	60 Minutes
High	There is a problem with a part of the system, which impacts on DISCOM's decision making. No viable workaround is available. There is a likelihood of financial loss.	1 Hour	6 Hours
Medium	The efficiency of users is being impacted but has a viable workaround.	2 Hours	24 Hours
Low	A fault, which has no particular impact on processing of normal business activities.	8 Hours	48 Hours
Note:	Financial loss means inability to bill or collect revenue from the system		

The final decision for categorization of the services based on respective category shall be taken by the DISCOM, Post on boarding of System Integrator (SI), though for simplicity followings are indicative categorization:

Service	Duration	Criticality
Help Desk (Business Hours)	12x7	High
Application Issues/Change management Handling	12x6	High
Cloud hardware/software support/maintenance	24x7	Medium
Cloud based Data Centre / Disaster Recovery Administration	24 X7	Critical
Server Administrator Services	18 X7	Critical
Database Administration Services	18 X7	Critical
Network Management – WAN Connectivity for Cloud based DC/DR and DISCOM Locations	18 X7	Critical
Antivirus & Security Administration	12x7	High
Storage Management	18 X7	Critical
Backup Management (as per decided schedules)	Scheduled	High

Service	Duration	Criticality
Business Unit (i.e. SDO / Division / Region / Zone)	12x6	High

16.2.2.3 Availability Management

1. Availability of IT system - High Availability is a key requirement of Utility as the application will enable Utility officials to deliver the key activities related to various activities. The expected availability of IT system should be at minimum 99%. The project must also be able to rebound or recover from any planned or unplanned system downtime, ensuring a minimal impact on the operations. The selected System Integrator should provide a single point of contact on a 24*7 basis.
2. Availability will be measured on monthly basis. Planned downtime will not be classified as unavailability. Planned downtime where both main as well redundant systems are not available for providing service will be limited to maximum of 48 hours in a month. The selected bidder should endeavor to take such downtimes only during weekends or holidays preferably after End of Day (EoD). However, duration of the maximum allowable planned downtime time will be reviewed on quarterly basis.
3. The failure of application on account of non-availability of infrastructure provided by Utility shall not be considered while calculating SLA for that quarter.
4. Any breach in SLA will attract penalty on the total Monthly Invoicing Value (FMS Cost) subject to a maximum penalty of 20% of the Monthly Invoicing Value, both as a penalty in single service breach or as an aggregate penalty on multiple service breach, beyond which it will result in no payments for that month of service.
5. In case of penalty due to service level breach is more than 20% of the Monthly Invoicing Value consecutively for 2 (two) calendar months, DISCOM reserves the right to serve the termination notice to the selected bidder.
6. The following table outlines the availability service levels:

S. No	Service	Parameter	Service level	Validation	Penalty	
1	Business Applications Software (Core Billing System, MBC with New Connection & DC-RC, CIS, Energy Audit, MIS, Prepaid Engine)	Availability of Business Application Software as mentioned in the Scope of Work	>=99.5% uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA	>= 0.5% but <1% of SLA	5% of Monthly FMS Cost
					>= 1% but <3% of SLA	10% of the Monthly FMS Cost
					>= 3% but <5% of SLA	15% of the Monthly FMS Cost

Section 6. Project Requirements

S. No	Service	Parameter	Service level	Validation	Penalty	
				Performance Report.	>=5% of SLA	20% of the Monthly FMS cost
2	Business Supporting Applications (Geo-tagging, Mobile Apps, Web-service, Dashboards, IAM, DMS, Ticketing, CC with Helpdesk)	Availability of supporting Applications and System Software Services which are required to support the Business Applications as mentioned in Scope of Work	>= 99.5% uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA Performance Report.	>= 0.5% but <1% of SLA	1% of the Monthly FMS Cost
					>=1% but <3% of SLA	2% of the Monthly FMS Cost
					>=3% but <5% of SLA	3% of the Monthly FMS Cost
					>=5% of SLA	5% of the Monthly FMS Cost
3	Integration Services uptime	Availability of Web Services/ Middleware for Integrating ERP System.	>99.5% uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA Performance Report.	For every 0.5% decrease of SLA	1 % of the Monthly FMS cost will be deducted capped at 5%

S. No	Service	Parameter	Service level	Validation	Penalty	
4	Data Management	Ensure availability of all the transactional and static data	100%	Database audit and reconciliation report	For every established incidence of data loss	1 % of the Monthly FMS cost will be deducted capped at 5%
	i. Partial Loss-recoverable					
	ii. Partial Loss-Non-recoverable					
	iii. Permanent Loss					
5	Anti-Virus Management	Rollout of latest anti-virus definition file on workstations and servers once it is made available on supplier's/OEM website	>=99.95 %	Reports generated from Anti-Virus software console	1% of the Monthly FMS Cost for each default beyond SLA capped at 5%	
6	Network Administration for Cloud Data Centre & Disaster Recovery Centre	Network Availability Minimum of 99.5% uptime for Data Centre and Disaster Recovery Centre	>=99.5% uptime measured on Monthly basis	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis (Measured Monthly) and Validated by Monthly SLA Performance Report	>= 0.5% but <1% of SLA	5% of the Monthly FMS Cost
					>= 1% but <3% of SLA	10% of the Monthly FMS Cost
					>= 3% but <5% of SLA	15% of the Monthly FMS Cost
					>=5% of SLA	20% of the Monthly FMS Cost
7	Server Administration/ Management	Rollout of patches (OS, infra level) on workstations and servers	98%	Patch update report	Less than 98%	1 % of the Monthly FMS Cost

S. No	Service	Parameter	Service level	Validation	Penalty										
		after patch being approved on test environment													
		Uptime of Application Servers	$\geq 99.5\%$	Report	<table border="1"> <tr> <td>Less than 0.5% of SLA</td> <td>1% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 0.5\%$ but $< 1\%$ of SLA</td> <td>2% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 1\%$ but $< 3\%$ of SLA</td> <td>5% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 3\%$ but $< 5\%$ of SLA</td> <td>10% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 5\%$ of SLA</td> <td>15% of the Monthly FMS cost</td> </tr> </table>	Less than 0.5% of SLA	1% of the Monthly FMS cost	$\geq 0.5\%$ but $< 1\%$ of SLA	2% of the Monthly FMS cost	$\geq 1\%$ but $< 3\%$ of SLA	5% of the Monthly FMS cost	$\geq 3\%$ but $< 5\%$ of SLA	10% of the Monthly FMS cost	$\geq 5\%$ of SLA	15% of the Monthly FMS cost
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$\geq 1\%$ but $< 3\%$ of SLA	5% of the Monthly FMS cost														
$\geq 3\%$ but $< 5\%$ of SLA	10% of the Monthly FMS cost														
$\geq 5\%$ of SLA	15% of the Monthly FMS cost														
		Uptime of Supporting System Servers	$\geq 99.5\%$	Report	<table border="1"> <tr> <td>Less than 0.5% of SLA</td> <td>1% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 0.5\%$ but $< 1\%$ of SLA</td> <td>2% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 1\%$ but $< 3\%$ of SLA</td> <td>5% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 3\%$ but $< 5\%$ of SLA</td> <td>10% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 5\%$ of SLA</td> <td>15% of the Monthly FMS cost</td> </tr> </table>	Less than 0.5% of SLA	1% of the Monthly FMS cost	$\geq 0.5\%$ but $< 1\%$ of SLA	2% of the Monthly FMS cost	$\geq 1\%$ but $< 3\%$ of SLA	5% of the Monthly FMS cost	$\geq 3\%$ but $< 5\%$ of SLA	10% of the Monthly FMS cost	$\geq 5\%$ of SLA	15% of the Monthly FMS cost
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$\geq 3\%$ but $< 5\%$ of SLA	10% of the Monthly FMS cost														
$\geq 5\%$ of SLA	15% of the Monthly FMS cost														
8	Data base Administration services	Uptime of Database	$\geq 99.5\%$	Report	<table border="1"> <tr> <td>Less than 0.5% of SLA</td> <td>1% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 0.5\%$ but $< 1\%$ of SLA</td> <td>2% of the Monthly FMS cost</td> </tr> <tr> <td>$\geq 1\%$ but $< 3\%$ of SLA</td> <td>3 % of the Monthly FMS cost</td> </tr> </table>	Less than 0.5% of SLA	1% of the Monthly FMS cost	$\geq 0.5\%$ but $< 1\%$ of SLA	2% of the Monthly FMS cost	$\geq 1\%$ but $< 3\%$ of SLA	3 % of the Monthly FMS cost				
Less than 0.5% of SLA	1% of the Monthly FMS cost														
$\geq 0.5\%$ but $< 1\%$ of SLA	2% of the Monthly FMS cost														
$\geq 1\%$ but $< 3\%$ of SLA	3 % of the Monthly FMS cost														

S. No	Service	Parameter	Service level	Validation	Penalty				
					<table border="1"> <tr> <td>>= 3% but <5% of SLA</td> <td>5 % of the Monthly FMS cost</td> </tr> <tr> <td>>=5% of SLA</td> <td>10% of the Monthly FMS cost</td> </tr> </table>	>= 3% but <5% of SLA	5 % of the Monthly FMS cost	>=5% of SLA	10% of the Monthly FMS cost
>= 3% but <5% of SLA	5 % of the Monthly FMS cost								
>=5% of SLA	10% of the Monthly FMS cost								
		MIS report of database schema, disk space, storage, and user roles	99%	Report	<table border="1"> <tr> <td>Less than 99%</td> <td>1 % of the Monthly FMS Cost</td> </tr> </table>	Less than 99%	1 % of the Monthly FMS Cost		
Less than 99%	1 % of the Monthly FMS Cost								
9	Backup/ restore management	The System Integrator should take backup as per the backup schedule defined by <<DISCOM>>	99%	Report	If the negligence is found in monthly audit, the System Integrator would be penalized 1% of the Monthly FMS Cost for each default capped at 5%				
		<<DISCOM>> would periodically ask (once a month on a random day) SI to restore the backup data	100%	Report	1% of the Monthly FMS Cost for each default capped at 5%				
10	Change Management	Resolution of Change Management ticket	99%	Monthly Reports	2% of the Monthly FMS cost if agreed date for requested change is not adhered				
11	Release Management	Resolution of ticket logged in incident management tools	99%	Reports generated from Ticket logging system	1% of the Monthly FMS Cost for each default capped at 5%				
12	Problem Management	SI shall analyse all the incidents and provide a root cause report every	100% timely submission	Root cause Report. Incident Report	2% penalty of the Monthly FMS cost, if the SI does not submit a				

S. No	Service	Parameter	Service level	Validation	Penalty
		month if there are more than 5 incidents of the same type. SI shall take the needed corrective action to prevent further issues due to the same cause.	n covering all incidents logged in that month	stating problems faced by the users. Report detailing corrective and preventive actions	problem report for that month. 5% penalty of the Monthly FMS Cost if the SI does not perform the corrective action for more than one calendar month.
13	Cyber Security Management	Should be part of monthly status report	98%	Report	1% of the Monthly FMS Cost
14	Implementation of Audit/Regulatory Recommendations	Implementation of audit recommendations given by utility or its auditor/regulator which have been agreed by SI to be implemented.	100%	Completion within agreed timeline and Reports	0.05% of the Monthly FMS Cost for every day's delay on an incremental basis capped at 1%
15	Resource Management	Number of shift days for which resource present at the designated location / Total number of shift days	>=98% averaged over all resources designated for SI services - calculated on a monthly basis	Attendance track Call Log Audit calls/ visits Measured on a monthly basis	If the resource availability is less than 98%, then payment shall be deducted based on the pro-rata basis. (Total FMS cost per day divided by nos. of persons deployed) * (Total non-available Personnel)
		Resource provided is not as per specified certification / experiences	100% compliance	Experience Certificate and CV of FMS personnel	Per day deduction per resource person = 0.5 * (Monthly value for that manpower) / 30

S. No	Service	Parameter	Service level	Validation	Penalty
				submitted by SI to the DISCOM	
16	SLA Monitoring Report	Availability of SLA reports covering all parameters required for SLA monitoring within the defined time	7 working days from the end of the month	Monthly Report	5% of Monthly FMS Cost

Remarks: Although SLA penalties shall be calculated as per above table, however total penalty to be deducted is to be capped at 20% of the Monthly Invoicing Value (FMS Cost).

Service Levels for Cloud Service Provider

S. No	Service	Parameter	Service level	Validation	Penalty						
1	Requirement of Virtual Machines / Compute	Provision and Deprovision of Virtual Machines	Within 15 minutes	Report	<table border="1"> <tr> <td>Within 15 Minutes</td> <td>Nil</td> </tr> <tr> <td>>15 but <=45 Minutes</td> <td>5% of the Monthly FMS cost</td> </tr> <tr> <td>Beyond 45 mins, for every 30 mins of delay</td> <td>10 % of the Monthly FMS cost</td> </tr> </table>	Within 15 Minutes	Nil	>15 but <=45 Minutes	5% of the Monthly FMS cost	Beyond 45 mins, for every 30 mins of delay	10 % of the Monthly FMS cost
Within 15 Minutes	Nil										
>15 but <=45 Minutes	5% of the Monthly FMS cost										
Beyond 45 mins, for every 30 mins of delay	10 % of the Monthly FMS cost										
2	Overall Cloud Solution and application availability	Availability of Cloud Solution Services for Business Applications and Supporting Solutions	>=99.95 % uptime	Availability & Downtime Reports measured using Management Tool. Measured	<table border="1"> <tr> <td>Less than 0.05% of SLA</td> <td>1% of the Monthly FMS cost</td> </tr> <tr> <td>>= 0.05% but <0.1% of SLA</td> <td>5% of the Monthly FMS cost</td> </tr> <tr> <td>>= 0.1% but <0.3% of SLA</td> <td>10% of the Monthly FMS cost</td> </tr> </table>	Less than 0.05% of SLA	1% of the Monthly FMS cost	>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost	>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost
Less than 0.05% of SLA	1% of the Monthly FMS cost										
>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost										
>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost										

S. No	Service	Parameter	Service level	Validation	Penalty	
				24*7 Basis and Validated by Monthly SLA Performance Report.	>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost
					>=0.5% of SLA	20% of the Monthly FMS cost
3	Cloud Virtualization Layer Availability	Cloud Virtualization Layer Availability for Hosted Solution & Services	>=99.95 % uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA Performance Report.	Less than 0.05% of SLA	1% of the Monthly FMS cost
					>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost
					>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost
					>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost
					>=0.5% of SLA	20% of the Monthly FMS cost
4	Cloud Network Availability	Cloud Network Availability for Hosted Solution & Services	>=99.95 % uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA Performance Report.	Less than 0.05% of SLA	1% of the Monthly FMS cost
					>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost
					>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost
					>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost
					>=0.5% of SLA	20% of the Monthly FMS cost
5	Cloud Storage Availability	Cloud Storage Services	>=99.95 % uptime	Availability & Downtime Reports	Less than 0.05% of SLA	1% of the Monthly FMS cost

Section 6. Project Requirements

S. No	Service	Parameter	Service level	Validation	Penalty	
		Availability for Hosted Solution & Services		measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA Performance Report.	>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost
					>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost
					>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost
					>=0.5% of SLA	20% of the Monthly FMS cost
6	Virtual Operating System Availability	Cloud based Virtual Operating System Availability for Hosted Solution & Services	>=99.95 % uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA Performance Report.	Less than 0.05% of SLA	1% of the Monthly FMS cost
					>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost
					>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost
					>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost
					>=0.5% of SLA	20% of the Monthly FMS cost
7	Cloud Orchestration layer availability	Cloud Orchestration layer availability for Hosted Solution & Services	>=99.95 % uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA	Less than 0.05% of SLA	1% of the Monthly FMS cost
					>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost
					>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost
					>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost
					>=0.5% of SLA	20% of the Monthly FMS cost

S. No	Service	Parameter	Service level	Validation	Penalty										
				Performance Report.											
8	Cloud Security Layer Availability	Cloud Orchestration layer availability for Hosted Solution & Services	>=99.95 % uptime	Availability & Downtime Reports measured using Management Tool. Measured 24*7 Basis and Validated by Monthly SLA Performance Report.	<table border="1"> <tr> <td>Less than 0.05% of SLA</td> <td>1% of the Monthly FMS cost</td> </tr> <tr> <td>>= 0.05% but <0.1% of SLA</td> <td>5% of the Monthly FMS cost</td> </tr> <tr> <td>>= 0.1% but <0.3% of SLA</td> <td>10% of the Monthly FMS cost</td> </tr> <tr> <td>>= 0.3% but <0.5% of SLA</td> <td>15% of the Monthly FMS cost</td> </tr> <tr> <td>>=0.5% of SLA</td> <td>20% of the Monthly FMS cost</td> </tr> </table>	Less than 0.05% of SLA	1% of the Monthly FMS cost	>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost	>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost	>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost	>=0.5% of SLA	20% of the Monthly FMS cost
Less than 0.05% of SLA	1% of the Monthly FMS cost														
>= 0.05% but <0.1% of SLA	5% of the Monthly FMS cost														
>= 0.1% but <0.3% of SLA	10% of the Monthly FMS cost														
>= 0.3% but <0.5% of SLA	15% of the Monthly FMS cost														
>=0.5% of SLA	20% of the Monthly FMS cost														

DC - DR Drill policy

For cases of a disaster strike at primary data centre, the SI will arrange to provide the services in an undisturbed manner.

RPO & RTO

Recovery Point Objective (RPO) is the maximum amount of time lag between Primary and Secondary storages. Utility intends to maintain RPO as < 15 minutes for all application and data at primary site.

Recovery Time Objective (RTO) is maximum elapsed time allowed to complete recovery of application processing at DR site. In case of a disaster, the RTO shall be measured from the time when the decision is finalized & intimated to the System Integrator (SI) by Utility to shift the operation to DR site. The System Integrator (SI) in association with Utility personnel shall ensure compliance to following RTOs –

S. No.	Billing System	RTO
1	Metering, Billing, Collection, New Connection, Disconnection, Dismantling and Reconnection, Web self-service, MIS and Reporting, Energy Audit, DMS, CRM, Mobile Applications	1 Hours

SI shall adhere to DC-DR Drill policy formulated in consultation with Utility. The first drill will be conducted and completed within the stipulated ‘project timelines’. Thereafter it shall be an annual exercise. The time and schedule will be decided with the Utility from time to time, and the same shall be adhered. Required activity shall be carried out after necessary approval of Utility.

Sl. No.	Measurement	Service	Service level	Penalty
1	DC - DR Drill	SI shall adhere to the DC-DR drill Policy developed in consultation with Utility. Yearly measurement: DC-DR Drill Yearly	100% of the time the drill should happen 'successfully' as per schedule.	2% of the yearly FMS Charges on non-performance, 1% additional deduction of yearly FMS Charges for per week delay. Note - In case, the DC-DR Drill is not conducted as per schedule due to any business obligations / dependency of Utility. No penalty shall be applied.

Sl. No.	Service	Parameter	Service Level	Measurement Tool/ Validation	Penalty
1	Recovery Point Objective (RPO) (Applicable when taking Disaster Recovery)	Measured during the regular planned or unplanned (outage) changeover from DC to DR or vice versa.	RPO <15 minutes	Monthly Report	1% of Monthly FMS Cost per every additional 15 minutes of data lag.
2	Recovery Time Objective (RTO) (Applicable when taking Disaster Recovery)	Measured during the regular planned or unplanned (outage) changeover from DC to DR or vice versa.	RTO <= 4 Hours	Monthly Report	1% of Monthly FMS Cost per every additional 1 (One) hour of downtime

16.2.2.4 Problem Resolution and Notification Times

Following service levels will be applicable to the SI for handholding and maintenance support. It shall be noted that the SLA period is including problem identification, resolution from SI or OEM and shall bear full responsibility with SI.

Type of Service	Metric	Measure	Threshold		Expected Action/Remarks
As per Problem Report (PR)	Delivery	Initial Response	Critical	1 Hour	Initial review for Category, Priority and whether the PR has sufficient information to understand the problem Assignment to respective individual for analysis Respond to initiator informing of assignment for further analysis
			High	2 Hour	
			Medium	4 Hour	
As per Problem Report (PR)	Delivery	Complete Analysis/ Resolution	Critical	4 Hour	Detailed analysis of Problem Report and provide, root cause, potential risk / impact, effort estimate for resolution and closing of the problem
			High	6 Hour	
			Medium	8 Hour	

a) Threshold Definitions

- (i) Critical: Show-stopper application breakdown/crash. Has serious implications on running the production server and has impacted all business critical process.
- (ii) High: Serious degradation in the application performance. Has impacted majority of the business processes but able to continue the operations with the system limitations. It may have serious implications on the data integrity. It has affected or may affect, more than 5 users for the same problem.
- (iii) Medium: Moderate degradation in the application performance. No implications on the data integrity. No impact on the normal operations/day-to-day working. It has affected or may affect, around less than 5 but 1 or more users for the same problem

b) Penalties in case of failure to meet Service Levels:

Following penalty shall be applicable to the SI in case of failure to meet provisions of Service Level Agreement (SLA) as provided in table above:

- (i) In case of problem categorized as “Critical”: Utility shall recover from the SI, a sum equivalent to 0.1% of the Monthly FMS Cost for every thirty (30) minutes of delay or part thereof over and above the given threshold limit for each of such incidents.
- (ii) In case of problem categorized as “High”: Utility shall recover from the SI, a sum equivalent to 0.1% of the Monthly FMS Cost for every sixty (60) minutes of delay or part thereof over and above the given threshold limit for each of such incidents; and
- (iii) In case of problem categorized as “Medium”: Utility shall recover from the SI, a sum equivalent to 0.1% of the Monthly FMS Cost for every hundred and twenty (120) minutes of delay or part thereof over and above the given threshold limit for each of such incidents.
- (iv) The same incident shall not have happened more than 2 times in a month for critical category and 3 times in a month for high & medium categories, a penalty of 5% of monthly FMS Cost for that month will be levied.
- (v) If the same incident happened more than 3 times in a month for critical category and 4 times in a month for high & medium categories, the performance bank guarantee may be forfeited, and contract may be terminated.

Service level agreement for security incident & event management on Cloud, Application, Network

All events must be monitored, and all incidents should be analyzed/reported and resolved on a 24x7 basis. Security event management should be covered completely but not limited to:

Priority	Security Monitoring Parameter	Response Time	Resolution Time
P(1)	Perimeter attacks, IPS attacks, IDS violations Malware/ Phishing attempts, DDoS attacks, Ransomware attacks.	30 Min	1 Hrs. with Artefact Submission
P(2)	IAM (Identity and access management) Events, DMZ Jumping Netflow, Enhancement, Syslogs events,	1 Hour	3 Hrs with Artefact Submission
P(3)	False Positive Events, Web incidents	6 Hrs.	24 Hrs. with Artefact Submission

SLAs will be as below:

S. No	SLA Parameters for Response and resolution Time	Penalty Calculations
1	>99 %	N/A
2	<99 and >=97%	2% of Monthly FMS cost
3	<97 and >=95%	5% of Monthly FMS cost
4	<95 and >=90%	10% of Monthly FMS cost
5	< 90%	20% of Monthly FMS cost

Requirements –

- i. Service Provider will provide 99% Service availability for the security incident monitoring during Steady State Operations.
- ii. Service provider shall make arrangement to submit 100% incidents logs daily/weekly/monthly and on demand system generated reports in accordance with above measurements parameters.
- iii. The security solution should be Real time, it should identify privilege escalations and shell code executions on the servers instantly.
- iv. The security solution in real time should track application whitelist policy for compliance deviations and generate alerts in conformation to the SLA agreement.
- v. Daily backup of all endpoints – desktops/laptops should be provisioned at central site. The backup can be suitable mix of incremental and periodic full picture to manage compute and communication.
- vi. Backup window of all critical workloads should be 8 hours.
- vii. The application resource management should be agentless & collect samples not more than 10 mins across the infrastructure solution proposed to ensure the CPU/Mem utilizations are not exceeding beyond stated SLA's.

Root Cause Analysis –

Service Provider will maintain a root cause analysis (“RCA”) process and perform, at Service Provider’s discretion, the activities required to diagnose, analyze, resolve, and report on Incidents or problems prior to an SLA Remedy being enforced. Service Provider will:

- i. identify, record, track, and manage the Incident and/or problem identified as potentially having SLA implications from identification through service restoration by
 - determining the ownership of the issue as assignable to Service Provider
 - determining the scope of the Incident and/or problem; and
 - utilizing the ticketing system described herein to manage workflow and reporting
- ii. identify the root cause of problems or failures, where possible
- iii. identify and remedy the failure, and report on any consequences of the failure
- iv. provide customer with a written, electronic report detailing the cause of and procedure for correcting such failure; and
- v. if the RCA points to the SIEM System, substantiate to Customer that all reasonable actions have been taken to prevent recurrence of such failure and notify Customer that the service has been restored.

Report Availability –

All SLA Reports should be available via UI along with all associated LOGs data (RAW Files) to Utility officers

16.2.2.5 Performance related SLAs**a) Utility Business Applications and Portals:**

The System Integrator (SI) is to quote for appropriate systems with specification to meet the performance requirement of system/application.

Sl. No.	Measurement	Service	Service Level	Penalty	Measurement Tool/Method
1	Average loading time of Static Page in a Web Portal for all the applications irrespective of the configuration changes made by the user and the respective sizing (such as compute and memory) implications.	Response time is an important factor from the perspective of End User Experience	< 50 milli seconds	If the deviation is: <ul style="list-style-type: none"> • Less by 1% of SLA, then 1% of the Monthly FMS cost • >1% but < 5% of SLA, Then 5% of the Monthly FMS cost • >=5% but 	To be measured by Time to First Byte (TTFB) through any third-party monitoring tool to be provided by the SI.
2	Average response time of Dynamic Content Pages in a Web Portal (excluding Human Input time) for all the applications irrespective of the configuration changes made by the user and the respective sizing (such as compute and memory) implications.	Responsiveness of DISCOM portal would be critical to solution's performance	< 1 sec	<10% of SLA Then 10% of the Monthly FMS cost <ul style="list-style-type: none"> • >=10% of SLA then 20% of the Monthly FMS cost 	To be measured by Time to First Byte (TTFB) through any third-party monitoring tool to be provided by the SI.
3	Average response time for utility Business Application (excluding Human Input time)	Responsiveness of Utility Business Application	< 1 sec		To be measured by Time to First Byte (TTFB) through any third-party monitoring tool to be provided by the SI.

b) Process Operations Response Times

Process operations response times (end to end) are required of no less than:

Sl. No.	Measurement	Service	Service Level	Penalty	Measurement Tool/Method
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1	Process operations response times	Update transactions to commit transactions: 2 seconds Simple query: 3 seconds Complex query: 4 to 8 seconds Batch Operations: 15 Mins	>=90%	0.5% of monthly FMS Cost	System Generated Report – Tool for Report Generation
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16.2.2.6 Helpdesk Service Levels support

System Integrator (SI) should setup a centralized helpdesk at the location mutually decided and agreed with Utility. System Integrator (SI) shall arrange and maintain within the contract value and throughout the contract period, all infrastructure necessary for managing the Help Desk.

Resources deployed for providing support services should be equipped with mobile phones and other necessary equipment's and solutions. Cost of the same, throughout the contract period shall be borne by the System Integrator (SI) within the contract value. System Integrator (SI) should provide multiple channels to log a complaint such as Cell phones, landlines, E-mail, Intranet etc. Outage of any component would be calculated as a time between logging the call and closing the call. The Calls and e-mails shall be assigned a priority level on the following basis:

Deviation would be calculated based on $(1 - (\text{calls closed}/\text{calls logged})) * 100$

Sl. No.	Parameter	Description	Target	Penalty	Measurement Tool/Method
1	Critical priority	Has critical impact on Purchasers operations. There is certainty of financial loss.	Should be resolved within 1 hour	If the deviation is: • Less by 1% of SLA, then 0.5% of the Monthly FMS cost • >1% but < 5% of SLA, then 3% of the Monthly FMS cost • >=5% but <10% of SLA, then 5% of the Monthly FMS cost • >=10% of SLA, then 10% of the Monthly FMS cost	Help desk Feedback and log details
2	Urgent priority	The problem with impact on a part of system and Purchasers operations. There is a Likelihood of financial loss.	Should be resolved within 4 hours		Help desk Feedback and log details
3	High priority	The high impact problem with effect on the efficiency of users.	Should be resolved within 6 hours		Help desk Feedback and log details
4	Medium priority	The low impact problem with effect on the efficiency of users.	Should be resolved within 24 hours		Help desk Feedback and log details
5	Low priority incident	A fault, which has no particular impact on normal business activities.	Should be resolved within 48 hours		Help desk Feedback and log details
6	Re opened incidents	The call logged by Utility user should be resolved on a permanent basis. The call closed by the help desk should	Call reopened should be less than 10% of the total call closed		Reopened Calls

Sl. No.	Parameter	Description	Target	Penalty	Measurement Tool/Method
		not be reopened by the Utility users within 2 days' time.			

16.3 Services related to SLA

- a) Reporting Procedures: The SI's representative will prepare and distribute SLA performance reports in an agreed upon format by the 7th working day of subsequent month of the reporting period. The reports will include "actual versus target" SLA performance, a variance analysis and discussion of appropriate issues or significant events. Performance reports will be distributed to the Nodal official from Utility /Department of IT, if required.
- b) Monitoring and Auditing: Utility will review the performance of SI against the SLA parameters each month, or at any periodicity defined in the contract document. The review / audit report will form basis of any action relating to imposing penalty or breach of contract. Any such review / audit can be scheduled or unscheduled. The results will be shared with the SI as soon as possible. Utility reserves the right to appoint a third-party auditor to validate the SLA.

16.4 SLA Change Control

16.4.1 It is acknowledged that SLA may change as Utility's business needs evolve over the course of the contract period. As such, this document also defines the following management procedures:

- a) A process for negotiating changes to the SLA.
- b) An issue management process for documenting and resolving particularly difficult issues.
- c) Utility and SI management escalation process to be used in the event that an issue is not being resolved in a timely manner.

16.4.2 Any changes to the levels of service provided during the term of this agreement will be requested, documented, and negotiated in good faith by both parties. Either party can request a change. Changes will be documented as an addendum to SLA and consequently the contract.

16.4.3 SLA Change Process

- a) Both the parties may amend this SLA by mutual agreement in accordance.
- b) Changes can be proposed by either party.
- c) Normally the forum for negotiating SLA changes will be Utility's monthly review meetings.

16.4.4 Version Control - All negotiated SLA changes will require changing the version control number. As appropriate, minor changes may be accumulated for periodic release (e.g., every quarter) or for release when a critical threshold of change has occurred.

16.5 Issue Management

16.5.1 This process provides an appropriate management structure for the orderly consideration and resolution of business and operational issues in the event that quick consensus is not reached between Utility and SI. It is expected that this pre-defined process will only be used on an exception basis if issues are not resolved at lower management levels.

16.5.2 Issue Management Process

- a) Either Utility or SI may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.
- b) Utility will determine which committee or executive level should logically be involved in resolution.
- c) A meeting or conference call may be conducted to resolve the issue in a timely manner. The documented issues will be distributed to the participants at least 24 hours prior to the discussion if the issue is not an emergency requiring immediate attention.
- d) Management of Utility and SI will develop a temporary, if needed, and the permanent solution for the problem at hand. The selected bidder will then communicate the resolution to all interested parties.
- e) In the event a significant business issue is still unresolved, the arbitration procedures described in the Contract will be used.

16.5.3 Issue Escalation Process

- a) The purpose of this escalation process is to provide a quick and orderly method of notifying both parties that an issue is not being successfully resolved at the lowest possible management level. Implementing these procedures ensures that Utility and SI management are communicating at the appropriate levels. Escalation should take place on an exception basis and only if successful issue resolution cannot be achieved in a reasonable time frame.
- b) All issues would be raised to the project management team, which is completely responsible for the day to day aspects of the implementation. The project management team shall classify the issues based on their severity level and resolve them within appropriate timelines.
- c) If project management team is unable to resolve an issue, the issue would be escalated to the top management with options/ risks detailed for decision. Top management will make decisions based on the options/ risks presented by the IT team.
- d) In case one or both the parties are unsatisfied with the decision of the top management of Utility, the dispute will be resolved as specified as per Utility's jurisdiction.

16.6 Contractor Performance & Applicable Penalty

In the event of termination of contract based on non-performance by the SI as per SLA, SI will be solely responsible for risk and cost factor thereon. In such an event, the performance Bank Guarantee furnished by the SI will be encashed and will stand forfeited.

Penalty related to delivery of services may be waived by DISCOM, if cause of such delay is not in System Integrator (SI) control or the delay is due to DISCOM written request. Penalty shall be adjusted in case DISCOM approves such waiver. The penalty recovered shall be adjusted in the subsequent payments.

16.7 Termination of Contract and Penalties

16.7.1 Risk and Cost Factor

In the event of termination of contract on the basis of non-performance by the SI as per SLA, SI will be solely responsible for risk and cost factor thereon.

16.7.2 Breach of SLA

The maximum penalty due to delay in project implementation shall be 10% of the total awarded project cost and maximum penalty in a month during the FMS phase shall be 20% of the Monthly Invoice amount (FMS Cost) for that month.

In case the SI does not meet the service levels mentioned in this RFP for three (3) continuous time-periods per year (for the entire duration of the contract) starting from the date of contract, Utility will treat it as a case of breach of Service Level Agreement. The following steps will be taken in such a case:

1. Utility issues a show cause notice to the selected bidder.
2. SI should reply to the notice within three working days.
3. If Utility authorities are not satisfied with the reply, the performance bank guarantee may be forfeited, and contract may be terminated by Utility as per the contract.

16.7.3 Exclusions

The selected bidder will be exempted from any delays or slippages on SLA parameters arising out of following reasons: -

- a) Delay in execution due to delay (in approval, review etc.) from Utility's side. Any such delays will be notified in written to the IT Team
- b) Force Majeure

PART II

CONTRACT FORM AND CONDITIONS OF CONTRACT

Contract for

**Appointment of System Integrator (SI) for implementation of Utility Billing System
under SaaS model**

Between

[STATE POWER UTILITY]

AND

[SELECTED BIDDER]

Section 7. Contract Form and Conditions of Contract

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A. Form of Contract

THIS Contract (hereinafter referred to as “**Contract**”) executed on this [date] day of [month], [year]:

BETWEEN

[**Insert name of the Utility**] (hereinafter referred to as “**Utility**” which expression shall unless repugnant to the context or meaning thereof include its successors, assigns and permitted substitutes), a company incorporated under the extant provisions of Indian Laws and having its registered office at [Address];

AND

< insert the following if the Selected Bidder identified pursuant to the RFP is Sole Bidder >

..... , *< insert the name of Selected Bidder >* having its registered office at..... [Registered address of the Company] (hereinafter referred to as the “**SI**” which expression shall unless repugnant to the context or meaning thereof include its successors, assigns and permitted substitutes).

< insert the following in case the Selected Bidder identified pursuant to the RFP is a Consortium >

..... *< insert the name of the Lead Member of the Consortium who is the Selected Bidder >*, having its registered office at [Registered address of the Company], the Lead Member acting for and on behalf of the Consortium comprising..... *<insert name of the all the members of the Consortium including the Lead Member >* (hereinafter referred to as the “**Selected Bidder**” which expression shall unless repugnant to the context or meaning thereof include its/ their successors, assigns and permitted substitutes).

WHEREAS the Utility had invited Bids for Appointment of System Integrator (SI) for implementation of Utility Billing System under Software-as-a-Service (SaaS) model (the “Project”) through RFP/Tender No. [Tender Details]

WHEAREAS after evaluation of the Bids received from the Bidders, the Utility accepted the Bid of the SI, and issued its Letter of Award No. [_____] dated [_____] (“**LOA**”) to the Selected Bidder, requiring the Selected Bidder, inter alia, to execute this Contract within the time period prescribed in the RFP.

WHEAREAS the SI, in accordance with the terms of the RFP, shall undertake and perform the obligations and exercise the rights under the LOA, including the obligation to enter into this Contract for implementation of the Utility Billing System.

NOW, THEREFORE, in consideration of the foregoing and the respective covenants and agreements set forth in this Contract, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:

- (a) The General Conditions of Contract (including Attachment 1 “Fraud and Corruption”;
- (b) The Special Conditions of Contract;
- (c) Appendices:

Appendix A: Project Requirements (Billing System Requirements and Service Level Agreement)

Appendix B: FMS Cost

(d) Technical and Financial Bid as submitted by the Selected Bidder

In the event of any inconsistency between the documents, the following order of precedence shall prevail: the Special Conditions of Contract; the General Conditions of Contract, including amendments thereto [... *Insert reference to amendments*....]; Appendix A and Appendix B; and Technical and Financial Bid as submitted by the Selected Bidder. Any reference to this Contract shall include, where the context permits, a reference to its Appendices also.

IN WITNESS WHEREOF, the SI and the Utility, executed these presents and affixed common seals of their respective companies on the Day, Month and Year first mentioned above.

1. Common Seal of Utility has been affixed in my/ our presence pursuant to Board Resolution dated

For Utility

[Signature of Authorized Representative]

.....
[Name of the Authorized Representative]
[Designation of the Authorized Representative]

1. Common Seal of [Name of the SI], has been affixed in my/ our presence pursuant to Board Resolution dated

For [SI]

[Name of the SI],
[Signature of Authorized Representative]

.....
[Name of the Authorized Representative]
[Designation of the Authorized Representative]

WITNESS:

1.	(Signature)	Name
.....		

Designation.....

2. (Signature) Name

 Designation.....

Attested:

.....
 [Signature]
 (Notary Public)

Place: Date:

B. General Conditions of Contract

Article/ Clause

1. Definitions and Interpretations

(a) Definitions

1.1 In this Contract, unless the context otherwise requires, the following words, expressions and abbreviations shall have the following meanings:

- (a) **“System Integrator” or “SI”**, means the responsible implementation agency named in SCC appointed by Utility for implementing the Utility Billing System under SaaS model upon execution of the Contract subsequent to the Letter of Award referred to in SCC;
- (b) **“Affected Party”** means any of the SI or the Utility whose performance has been affected by an event of Force Majeure or Force Majeure Event;
- (c) **“Applicable Laws”** shall mean the laws and any other instruments having the force of law in India as they may be issued and in force from time to time.
- (d) **“Bid”** means the bid submitted by the Bidder(s) in response to the RFP and shall include the Technical Bid and the Financial Bid;
- (e) **“Bidder(s)”** means individual entity or consortium of entities bidding in response to the RFP;
- (f) **“Change Order”** shall have the meaning as ascribed thereto in Article 14 of this Contract.

- (g) **“Consortium Member”** shall mean Any member of the bidding consortium other than the Lead Consortium Member
- (h) **“SI Contract” or “Contract”** shall mean this Contract entered into between, the Selected Bidder (represented by the Lead Member acting for and on behalf of the consortium if the Selected Bidder is a consortium) and the Utility for undertaking the Project and is the legally binding written agreement signed by the Parties and which includes all the attached documents listed in its paragraph 1 of the Form of Contract (the General Conditions (GCC), the Special Conditions (SCC), and the Appendices, Attachments, Annexures etc.).
- (i) **“Contract Period” or “Term of the Contract”** shall have the meaning as ascribed thereto in Article 2.1.2 of this Contract;
- (j) **“Contract Price”** shall have the meaning as ascribed thereto in Article 5.1 of this Contract;
- (k) **“Day”** means a calendar day unless indicated otherwise;
- (l) **“Exit Management Period”** shall mean the transition period encompassing the time from the date of termination of the Contract or end of the Contract Period until the date upon which all transition activities/ services are completed by the SI;
- (m) **“Force Majeure” or “Force Majeure Event”** shall have the meaning as ascribed thereto in Article 9 of this Section;
- (n) **“GCC”** means these General Conditions of Contract.
- (o) **“Goods”** means any good(s) supplied or to be supplied as a part of the Solution by the SI;
- (p) **“Independent Valuer”** shall mean a qualified valuer duly registered under Companies (Registered Valuers and Valuation) Rules, 2017 for Plant and Machinery and jointly appointed by the Parties in the event of termination prior to Project Go-live;
- (q) **“Lender”** means the banks, financial institutions, multilateral funding agencies, non-banking financial companies registered with the Reserve Bank of India (RBI), insurance companies registered with the Insurance Regulatory & Development Authority (IRDA), pension funds regulated by the Pension Fund Regulatory & Development Authority (PFRDA), mutual funds registered with Securities & Exchange Board of India (SEBI), etc., including their successors and assigns, who have agreed to provide the SI with the debt financing, and any successor banks or financial institutions to whom their interests may be transferred or assigned;

- (r) **“Month”** means a calendar month unless indicated otherwise;
- (s) **“Project”** means the Utility’s Billing System implementation Project defined in recital clause in the Contract Form;
- (t) **“Project Implementation Schedule”** shall have the meaning ascribed thereto in Clause 12 of Section 6;
- (u) **“Request for Proposal” or “RFP”** means the Tender of which the number, name and details have been mentioned in **SCC**, including all its Volumes/ Sections/ Forms/ Annexures/ Appendices etc., for Appointment of SI (including all clarification/ addendum/ amendment/ corrigendum/ etc. issued from time to time);
- (v) **“Rupees” or “Rs.” Or “INR” or “₹”** means Indian Rupees;
- (w) **“SCC”** means the Special Conditions of Contract by which the GCC may be amended or supplemented.
- (x) **“Service(s)” or “Related Service(s)”** means any service(s) performed or to be performed as a part of the Solution by the SI;
- (y) **SLA Default Notice means** notice to be issued by the Utility in the event SI fails meet any of the criteria specified in the SLA for cumulatively 3 (three) months in a year so as to entitling levy of maximum penalty for such criteria;
- (z) **“Termination Payment”** shall have the meaning as ascribed thereto in Article 11 of GCC in Section 7;
- (aa) **“Utility”** shall have the same meaning as ascribed to it in the recital clause of the Form of Contract.

(b) Interpretation

1.2 In the interpretation of this Contract, unless the context otherwise requires:

- 1.2.1. Utility and the Selected Bidder shall individually be referred to as “Party” and collectively as “Parties”;
- 1.2.2. Unless otherwise specified a reference to an Article number is a reference to all of its sub-articles;
- 1.2.3. Unless otherwise specified a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Contract including any amendments or modifications to the same from time to time;
- 1.2.4. A word in the singular includes the plural and a word in the plural includes the singular;
- 1.2.5. A word importing a gender includes any other gender;

- 1.2.6. A reference to a person includes a partnership and a body corporate;
- 1.2.7. A reference to legislation includes legislation repealing, replacing or amending that legislation;
- 1.2.8. Where a word or phrase is given a particular meaning, it includes the appropriate grammatical forms of that word or phrase which has a corresponding meaning;
- 1.2.9. In the event of an inconsistency between the terms of the RFP, Bid submitted by the Selected Bidder and the subsequent Contract, the terms of the Contract hereof shall prevail;
- 1.2.10. Whenever a material or article is specified or described by the name of a particular brand, manufacturer or trademark, the specific item shall be understood as establishing type, function and quality desired. Products of other manufacturers may also be considered, provided sufficient information is furnished so as to enable Utility to determine that the products are equivalent to those named.
- 1.2.11. No amendment or other variation of this Contract shall be valid unless it is in writing, is dated, expressly refers to this Contract, and is signed by a duly authorised representative of both Utility and the SI thereto.

2. The Contract

(a) Effectiveness and Term

2.1. EFFECTIVENESS AND TERM

- 2.1.1. This Contract shall come into force and effect on the date of execution of the Contract by the Parties;
- 2.1.2. Unless terminated earlier by either Party or extended by the Utility in accordance with the terms of this Contract, this Contract shall continue in full force and effect until 6 (six) years from the date of execution of the Contract (“Term of the Contract”).
- 2.1.3. The Utility, at its own discretion, may extend the operation and maintenance period of the Billing system at terms mutually agreed upon with the SI.

3. Rights, Title and Interest to Billing System and Equipment

- 3.1 The ownership, rights and title to the Billing system and other equipment installed by SI for operation of the Billing system pursuant to this Contract shall vest with Utility during the entire Term of Contract and post expiry of Contract.

4. Contract Price and Payment

(a) Contract Price

4.1 CONTRACT PRICE

4.1.1 The Contract Price is as indicated in **SCC**

4.1.2 In the event any approval required for imports and/ or use of imported equipment is denied in accordance with all applicable laws including those in relation to testing issued by Ministry of Power (Order No No.9/16/2016-Trans-Part(2) dated 18 November 2020, as amended and/ or modified from time to time), the same shall neither entitle revision of Contract Price nor shall result in revision of the Project Implementation Plan.

(b) Payment Mechanism

4.2 PAYMENT MECHANISM

4.2.1 The payment shall be made to the SI in Indian Rupees (INR) only.

4.2.2 The payment to the SI shall commence from the sate of declaration of Go-live as defined in Section 6;

4.2.3 The payments due to the SI from the Utility shall be paid on monthly basis.

4.2.4 Except in case of Change Order in accordance with Article 14 of this Contract, the sum total of all payments made to the SI shall not exceed the Contract Price quoted in Article 4.1.1

4.2.5 The actual payment shall be net of any applicable liquidated damages and/or penalty due to noncompliance of SLAs by the SI.

4.2.6 SI will raise and deliver the invoice and the Deliverables mentioned above to the Utility for the monthly payments within first 7 (seven) working days of every month. SI shall also raise a supplementary invoice for the agreed amount towards change requests completed in the previous month, in accordance with Article 14.2 of this Contract. Utility will review the SI invoice raised by the SI and the Deliverables including the SLA performance report, in accordance with Article 8. Utility may dispute the amount payable and shall pay the undisputed amount of the payment within 45 calendar days from the date of receipt of invoice. The disputed amount shall be dealt as per Article 13 of this Contract.

4.2.7 In the event the SI fails to meet a particular performance criterion as mentioned under the Service Level Agreement (SLA) specified in Clause 16 of **Section 6** for cumulatively 3 (three) months in a year, resulting in the maximum penalty for the particular performance criterion, Utility may issue an SLA Default Notice to the SI directing it to take steps within 30 days to comply with the performance criterion specified in the SLA¹¹.

4.2.8. In the event that the SI has duly followed the procedure enumerated above and the Utility fails to make any payment on its respective due date, the Utility shall pay interest to the SI on such delayed payment amount (including disputed amount) as from the due date of payment. The applicable interest rate on the delayed payment amount will be equal to the marginal cost of funds-based lending rate (MCLR) for one year of the State Bank of India plus 400 bps (*MCLR shall be as applicable on the 1st April of the financial year in which the date of release of delayed payment lies*). In case the period of default lies in two or more financial years the interest amount shall be calculated separately for the periods falling in different years.

4.2.9. All payments under this SI Contract shall be made to the Sole/Bidder/ Lead Consortium Member and Utility shall have no role in inter se payments to the Sub-contractors/ Consortium Members.

4.3 TAXES AND DUTIES

(c) Taxes and Duties

4.3.1 For Goods whether supplied from or outside India, the SI shall be entirely responsible for all taxes, duties, stamp duties, license fees, and other such levies imposed outside India.

4.3.2 Any statutory increase or decrease in the taxes and duties including GST and Cess as applicable or in the event of introduction of new tax/cess or cessation of existing tax/cess subsequent to the SI's offer on the goods and services explicitly mentioned in financial bid shall be dealt with in accordance with provisions of Change in Law.

4.3.3 Notwithstanding anything above or elsewhere in the Contract, in the event that the input tax credit of the GST charged by the SI is denied by the tax authorities to the Utility for reasons attributable to the SI, the Utility shall be entitled to recover

¹¹ For example, in the event SI fails to meet the norm specified for “**Availability of Billing System per month**” for cumulatively 3 (three) months in a year leading to levy of maximum penalty thereof.

such amount from the SI by way of adjustment from any of the subsequent invoices submitted by the SI to the Utility.

5. **Performance Security**
- 5.1 The SI has furnished Performance Security in the form of an irrevocable bank guarantee valid up to a period of 6 (six) months beyond the end of the Contract Period or extended thereafter, for the amount indicated in **SCC** on the prescribed format. However, in case of delay in Implementation, the validity of the initial Performance Security shall be extended by the period of such delay. In the event delay is solely due to acts and/ or omission of the Utility cost of extending the validity of Performance Security shall be reimbursed to the SI by the Utility.
- 5.2 Any payments shall be made to the SI only after receipt of the initial Performance Security by Utility.
- 5.3 Upon Termination of the Contract due to Utility Event of default or expiry of the Contract Period, the separate Performance Security shall be discharged by Utility without any interest and returned to the SI not later than 14 (fourteen) working days following the date of Termination of the Contract.
- 5.4 Upon Termination of the Contract due to SI Event of default, the Performance Security shall be forfeited by Utility.
- 5.5 In case of any delay by the SI in performing the activities of the scope of work with respect to the Project Implementation Schedule, then upon Utility's request, the SI shall extend the validity of the separate Performance Security for the period for which the Contract is extended. In the event delay is solely due to acts and/ or omission of the Utility cost of extending the validity of separate Performance Security shall be reimbursed to the SI by the Utility.
6. **Liquidated Damages, Penalty and Incentive**
- 6.1 Except in case of Force Majeure or where the delay in delivery of the Solution is caused due to any delay or default of Utility, if the Implementation is delayed by more than 12 (twelve) months from the date of execution of the Contract the SI shall be liable to pay liquidated damages as per the rates specified in **SCC**.

7. SLAs and SLA Audit 7.1 The SI shall be liable to penalties in the event of non-compliance of Service Level Agreements as specified in Section 6;

7.2 A designated team/ person from Utility may review the system generated SLA performance report of SI each month. The review/ audit report will form basis of any action relating to imposing penalty on or breach of Contract of the SI.

7.3 In case, there is no review/ audit report submitted within 15 (fifteen) working days of every month, it shall be deemed that all SLAs were met in the previous month.

8. Force Majeure

(a) Force Majeure Event

8.1 A Force Majeure means any event or circumstance or combination of events and circumstances including those stated below that wholly or partly prevents or unavoidably delays an Affected Party in the performance of its obligations under this SI Contract, but only if and to the extent that such events or circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided if the Affected Party had taken reasonable care or complied with prudent utility practices:

a) Natural Force Majeure Events:

act of God, including, but not limited to drought, fire and explosion (to the extent originating from a source external to the site), earthquake, epidemic, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, or exceptionally adverse weather conditions,

b) Non-Natural Force Majeure Events:

i) Direct Non–Natural Force Majeure Events

- a) Nationalization or compulsory acquisition by any Governmental instrumentality of any material assets or rights of the SI; or
- b) the unlawful, unreasonable or discriminatory revocation of, or refusal to renew, any Consents, Clearances and Permits required by the SI to perform their obligations under the Contract or any unlawful, unreasonable or discriminatory refusal to grant any other Consents, Clearances and permits required for the development/ operation of the Project, provided that a Competent Court of Law declares the revocation or refusal to be

- unlawful, unreasonable and discriminatory and strikes the same down; or
- c) any other unlawful, unreasonable or discriminatory action on the part of any Governmental instrumentality which is directed against the Project, provided that a competent Court of law declares the action to be unlawful, unreasonable and discriminatory and strikes the same down.
 - d) any partial or complete shut-down of the internet services in the Project area
 - e) Shortage of labor, materials or utilities where caused by circumstances that are themselves Force Majeure
 - f) Restrictions imposed by central or state government that prevent or delay project execution

ii) Indirect Non - Natural Force Majeure Events:

- a) an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;
- b) radioactive contamination or ionizing radiation originating from a source in India or resulting from any other Indirect Non-Natural Force Majeure Event mentioned above, excluding circumstances where the source or cause of contamination or radiation is brought or has been brought into or near the Site by the Affected Party or those employed or engaged by the Affected Party; or
- c) industry wide strikes and labor disturbances, having a nationwide impact in India.

(b) Force Majeure Exclusions

8.2 FORCE MAJEURE EXCLUSIONS

8.2.1 Force Majeure shall not include (i) any event or circumstance which is within the reasonable control of the Parties and (ii) the following conditions, except to the extent that they are consequences of an event of Force Majeure:

- i. Unavailability, late delivery, or changes in cost of the machinery, equipment, materials, spare parts etc. for the Project;
- ii. Delay in the performance of any Contractors or their agents;
- iii. Non-performance resulting from normal wear and tear typically experienced in transmission materials and equipment;
- iv. Strikes or labour disturbance at the facilities of the Affected Party;
- v. Insufficiency of finances or funds or the SI Contract becoming onerous to perform; and
- vi. Non-performance caused by, or connected with, the Affected Party's:
 - a. negligent or intentional acts, errors or omissions;
 - b. failure to comply with an Indian Law; or
 - c. breach of, or default under this SI Contract or any Project documents.

(c) Notification of Force Majeure Event

8.3 NOTIFICATION OF FORCE MAJEURE EVENT

8.3.1 The Affected Party shall give notice to the other Party of any event of Force Majeure as soon as reasonably practicable, but not later than 7 (seven) days after the date on which such Party knew or should reasonably have known of the commencement of the event of Force Majeure. If an event of Force Majeure results in a breakdown of communications rendering it unreasonable to give notice within the applicable time limit specified herein, then the Party claiming Force Majeure shall give such notice as soon as reasonably practicable after reinstatement of communications, but not later than 1(one) day after such reinstatement. Provided that such notice shall be a precondition to the Affected Party's entitlement to claim relief under this SI Contract. Such notice shall include full particulars of the event of Force Majeure, its effects on the Party claiming relief and the remedial measures proposed. The Affected Party shall give the other Party regular reports on the progress of those remedial measures and such other information as the other Party may reasonably request about the Force Majeure.

8.3.2 The Affected Party shall give notice to the other Party of (i) the cessation of the relevant event of Force Majeure; and (ii) the cessation of the effects of such event of Force Majeure on the performance of its rights or obligations under this SI Contract, as soon as practicable after becoming aware of each of these cessations.

(d) Duty to Perform and Duty to Mitigate**8.4 DUTY TO PERFORM AND DUTY TO MITIGATE**

9.4.1 To the extent not prevented by a Force Majeure Event, the Affected Party shall continue to perform its obligations as provided in this SI Contract. The Affected Party shall use its reasonable efforts to mitigate the effect of any event of Force Majeure as soon as practicable.

(e) Available Relief for a Force Majeure Event**8.5 AVAILABLE RELIEF FOR A FORCE MAJEURE EVENT**

8.5.1 Subject to this Article 8

- a) no Party shall be in breach of its obligations pursuant to this SI Contract except to the extent that the performance of its obligations was prevented, hindered or delayed due to a Force Majeure Event;
- b) every Party shall be entitled to claim relief for a Force Majeure Event affecting its performance in relation to its obligations under this SI Contract;
- c) The SI shall be entitled to receive payment at rates to be mutually agreed between the Utility and the SI for the additions to the scope of work due to an event of force majeure.

9. Intellectual Property

9.1 All Intellectual Property Rights in all material (including but not limited to all Source code, Object code, records, reports, designs, application configurations, data and written material, products, specifications, reports, drawings and other documents), which have been newly created and developed by the SI solely during the performance of Related Services and for the purposes of inter-alia use or sub-license of such services under this Contract, shall be the property of the SI. The SI undertakes to disclose all such material, which have been newly created and developed by the SI solely during the performance of Related Services and for the purposes of inter-alia use or sub-license of such services under this Contract, to the Utility. The SI hereby grants to Utility a perpetual, non-exclusive, non-transferable, irrevocable, royalty-free license to use all material disclosed to the Utility under the Contract. Nothing contained herein shall be construed as transferring

ownership of any Intellectual Property Right from the SI to the Utility.

9.2 The SI shall ensure that while it uses any software, hardware, processes, document or material in the course of performing the Services, it does not infringe the Intellectual Property Rights of any person and the SI shall keep the Utility indemnified against all costs, expenses and liabilities howsoever, arising out any illegal or unauthorized use (piracy) or in connection with any claim or proceedings relating to any breach or violation of any permission/license terms or infringement of any Intellectual Property Rights by the SI or its personnel during the course of performance of the Related Services. In case of any infringement by the SI, the SI shall have sole control of the defence and all related settlement negotiations

9.3 Subject to Article 9, the SI shall retain exclusive ownership of all methods, concepts, algorithms, trade secrets, software documentation, other intellectual property or other information belonging to the SI that existed before the date of execution of the Contract.

10. Termination

(a) SI Event of Default

10.1 SI Event of Default means any of the following events arising out of any acts or omission of SI, its representative, sub-contracts, employees and which have not occurred solely as a result of any breach of this Contract by the Utility or due to Force Majeure, and where SI has failed to remedy these events within a period of 90 (ninety) days of issuance of a notice by Utility requiring SI to remedy such event.

- a) SI has failed to procure and arrange requisite finances for the implementation of the Project;
- b) SI abandons the implementation of the Project or repudiates this Contract or otherwise takes any action, or evidences or conveys an intention not to be bound by the Contract;
- c) SI, in the judgment of Utility has engaged in corrupt, fraudulent, collusive, or coercive practices, in competing for or in executing the Contract; or
- d) SI is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for SI or for the whole or material part of its assets that has a material bearing on its ability to implement the Project;
- e) SI has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a

- manner that in the reasonable opinion of Utility would adversely affect SI's ability to implement the Project;
- f) A resolution for winding up of SI is passed, or any petition for winding up of SI is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (Ninety) days of the date thereof or SI is ordered to be wound up by a court of competent jurisdiction;
 - g) In the event SI fails to cure the default as indicated in the SLA Default Notice within the time period specified therein;
 - h) Failure of SI to furnish Performance Security in accordance with the provisions of this Contract;
 - i) Failure or inordinate delay by SI to provide Solution as per Contract;
 - j) Any representation or warranty made by the SI during the term of the Contract is found to be false and/or misleading;
 - k) Failure on account of SI to abide by Applicable Laws and regulations;
 - l) The shareholding of the SI ceases to be in accordance with the provisions of this Contract;
 - m) In the event equipment installed or proposed to be installed by the SI is found to have any embedded malware/ trojans/ cyber threat;
 - n) SI fails to comply with the local content requirement as specified in the Bid Submission;
 - o) SI fails to comply with any of its material obligations under this Contract.
 - p) In the event the Solution supplied do not meet the minimum specifications as per the Contract, and the same is not replaced/ modified by the SI to meet the requirements within 14 (fourteen) working days of being informed by Utility, or as mutually decided between Utility and SI.

(b) Utility Event of Default

10.2 Utility Event of Default means any of the following events, unless such event has occurred as a consequence of the SI Event of Default or a Force Majeure event and where Utility has failed to remedy these events within a period of 90 (ninety) days of issuance of a notice by SI requiring Utility to remedy such event:

- a) Utility is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for Utility or for the whole or material part of its assets that has a material bearing on its ability to perform its obligations under this Contract;
- b) Utility has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that in the reasonable opinion of SI would adversely

affect Utility's ability to perform its obligations under this Contract;

- c) A resolution for winding up of Utility is passed, or any petition for winding up of Utility is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within [90 (Ninety)] days of the date thereof or Utility is ordered to be wound up by a court of competent jurisdiction;
- d) The breach by Utility of its obligations under this Contract which has an adverse effect on the performance of SI's obligations under this Contract.

**(c) Termination for SI
Event for Default**

10.3 TERMINATION FOR SI EVENT FOR DEFAULT

10.3.1 Without prejudice to any other right or remedy which Utility may have in respect thereof under this Contract, upon the occurrence of SI Event of Default, Utility shall be entitled to terminate this Contract in the manner provided in Article 10.3.2.

10.3.2 Utility shall issue a Preliminary Notice to SI providing 90 (Ninety) Days, or such extended period as the Utility may allow, to cure the underlying Event of Default. If SI fails to cure the underlying Event of Default within such period allowed, Utility shall be entitled to terminate this Contract by issuing a termination notice to SI.

**(d) Termination for
Utility Event of
Default**

10.4 TERMINATION FOR UTILITY EVENT FOR DEFAULT

10.4.1 Without prejudice to any other right or remedy which SI may have in respect thereof under this Contract, upon the occurrence of a Utility Event of Default, SI shall be entitled to terminate this Contract in the manner provided in Article 10.4.2.

10.4.2 SI shall issue a Preliminary Notice to Utility providing 90 (Ninety) Days, or such extended period as the SI may allow, to cure the underlying Event of Default. If Utility fails to cure the underlying Event of Default within such period allowed, SI shall be entitled to terminate this Contract by issuing a termination notice to Utility.

**(e) Consequences of
Termination**

10.5 CONSEQUENCES OF TERMINATION

Upon Termination of the Contract, the SI shall:

10.5.1 Notwithstanding anything to the contrary contained in this Contract, any termination of this Contract pursuant to its term shall be without prejudice to accrued rights of any

Party, including its right to claim and recover damages and other rights and remedies which it may have in law or contract. All accrued rights and obligations of any of the Parties under this Contract, shall survive the termination of this Contract to the extent such survival is necessary for giving effect to such rights and obligations.

10.5.2 Following issue of the Termination Notice by Utility or SI, Utility take possession and control of SI's control room and call centre and the exclusivity granted to SI under Article 4 will come to an end.

10.5.3 Upon termination of this Contract by Utility or SI on account of SI's Event of Default (in accordance with Article 10.1), or termination of this Contract on account of Utility's event of default (in accordance with Article 10.2), SI shall be entitled to a termination payment subject to proper transfer of the installed Billing System, as agreed mutually upon

- a) In case termination of this Contract is on account of SI's event of default: Termination payment to SI after Go-live has been declared shall be the percentage, specified in **SCC**, of the termination payment Value as determined in terms of this Contract.
- b) In case termination of this Contract is on account of Utility's event of default: Termination payment to SI after Installation Milestone has been declared shall be the percentage, specified in **SCC**, of the termination payment Value as determined in terms of this Contract.
- c) In case termination of this Contract is prior to Go-live the Termination payment shall be equal to:
 - i. the percentage, specified in **SCC**, of the value of the assets proposed to be handed over to the Utility as certified by an independent valuer in the event termination is on account of SI event of default—and
 - ii. the percentage, specified in **SCC**, of the asset values shall be paid to the SI in the event termination is on account of Utility event of default
- d) In the event of termination prior to Installation Milestone, Utility may request the SI to complete any part of the Solution. The cost of such works shall be agreed between the Parties. In the event Parties deem it appropriate the cost may be determined by the Independent Valuer.

Upon termination of this Contract by Utility or SI on account of SI's Event of Default (in accordance with Article 10.1), or termination of this Contract on account of Utility's event of default (in accordance with Article 10.2), SI shall be entitled to raise a supplementary invoice for an amount which is equal to the termination payment. The Supplementary invoice shall be paid separately by the Utility within 30 (thirty) days from the date of such invoice.

10.5.4 The Termination payment value would be calculated basis the following mechanism:

- a) The present value of the receivables for the Billing system installed shall be calculated by multiplying the outstanding payments towards the Billing system that has been implemented as on the date of termination, and discounting the same as on date of termination at the percentage specified in **SCC** (“**Present Value**”).
- b) All amounts due, but not paid by the Utility, including the aggregated amount due to be paid including amount due to be paid towards supplementary invoice, but not paid or recovered from the Utility, for the Billing system operations and maintenance as defined in the RFP by the SI, shall be calculated and factored in to arrive at the net outstanding receivables of the SI (“**Outstanding Receivables**”);
- c) All amounts due, but not paid by the SI, including the aggregated applicable liquidated damages and/(or) penalties due to non-compliance of SLAs by the SI, but not paid or recovered from the SI, for the Billing system operations and maintenance as defined in the RFP by the SI, shall be calculated and factored in to arrive at the net outstanding payables by the SI (“**Outstanding Payables**”);
- d) Termination Payment Value shall be equal to the sum of Net Present Value and Outstanding Receivables as per Article 10.5.4.(a) and (b); reduced by Outstanding Payables as per Article 10.5.4.(c) and the sum of insurance proceeds received by the SI for the Billing system, (if any).

(f) Exit Management

10.5.5 Upon Termination of the Contract or expiry of the contract period, the SI shall prepare and present a detailed Exit Management Plan within 5 (five) working days of termination notice receipt to the Utility (“**Exit Management Plan**”) in accordance with Article 10.6.

- 10.5.6 The Utility or its nominated agency will review the Exit Management plan. If approved, SI shall start working on the same immediately. If the plan is rejected, SI shall prepare alternate plan within 2(two) working days. If the second plan is also rejected, Utility will provide a plan for SI and it should be adhered by in totality.
- 10.5.7 The Exit Management Plan should cover at least the following:
- a) Execute all documents that may be necessary to effectively transfer the ownership and title, including OEM warranties in respect of all equipment;
 - b) Handover all developed codes, related documentation and other Configurable Items, if any in his possession;
 - c) Handover the list of all IT Assets, passwords at all locations to Utility.
- 10.5.8 The SI and the Authorized personnel from Utility will sign a completion certificate at the end of successful completion (all points tracked to closure) of the Exit Management Plan.

10.6 Exit Management

10.6.1 Exit Management

In case the Contract with the Utility ends or is terminated before the expiry date of Contracts, the Parties shall agree at that time whether, and if so during what period, the provisions of this Exit Management Plan shall apply. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Plan. The exit management shall be done in such a manner that operations should continue without any restriction on access/usage of any kind of functionality. At the end of the Contract period, SI shall provide necessary handholding and transition support to the Utility or its agency for maintaining the system post the Contract with the SI. This includes (but not limited to):

- a) Conducting detailed walkthrough and demonstrations for the Billing Solution;
- b) Handing over of Billing Solution, Utility's data and all other relevant documentation including updated detailed bill of quantities for materials and services provided under the Contract;
- c) Addressing the queries/clarifications of the designated staff / new agency with respect to the working / performance levels of the infrastructure;

- d) Conducting training sessions;
- e) Knowledge Transfer;
- f) Any other activity, over and above these, as may be deemed necessary to meet the service levels and requirements specified in the RFP.

10.6.2 Transfer of Assets / Billing Solution

- a) Utility shall be entitled to serve notice in writing on the SI at any time during the Exit Management Period requiring the SI and/or its sub-contractor to provide the Utility with a complete and up to date list of the Assets within 30 (thirty) days of such notice. Utility shall also be entitled to serve notice in writing on the SI at any time prior to the end of the Exit Management Period requiring the SI to transfer to the Utility or its nominated agencies in accordance with Article 10.
- b) In case of contract being terminated by Utility, Utility reserves the right to ask SI to continue running the project operations for a period of 3 (three) months after termination orders are issued. In case of contract being terminated by SI, Utility reserves the right to ask the SI to continue running the project operations for a period of 6 (six) months after termination notice is served by SI. In such case, payments during the Exit Management Period shall be made in accordance with the Article 5.2 and 11.5 (as the case may be).
- c) Upon service of a notice under this Plan, the following provisions shall apply:
 - i. All title to the assets as per the updated detailed bill of quantities for materials and services provided under the Contract shall be transferred to Utility, on or before the last day of the Exit Management Period.
 - ii. Payment to the outgoing SI shall be made to the tune of last set of completed Services / deliverables, subject to SLA requirements.

10.6.3 Cooperation and provision of information

During the Exit Management Period:

- a) SI will facilitate / allow the Utility or its nominated agency access to information reasonably required to define the then current mode of operation associated with the provision of the services to enable the Utility to assess the existing services being delivered;

- b) Promptly on reasonable request by the Utility, the SI shall provide access to and copies of all information held or controlled by them which they have prepared or maintained in accordance with this Contract relating to any material aspect of the services (whether provided by the SI or sub-contractors appointed by the SI) to the Utility or its nominated agency. Such information shall include details pertaining to the list of assets as per updated detailed bill of quantities for materials and services provided under the Contract, services rendered and other performance data. SI shall permit the Utility or its nominated agencies to have reasonable access to its employees and facilities to understand the methods of delivery of the services employed by the SI and to assist appropriate knowledge transfer; and
- c) In the event of Termination prior to Installation Milestone, SI and Utility shall jointly appoint an Independent Valuer to certify the value of assets, as per the updated detailed bill of quantities for materials and services provided under the Contract, proposed to be handed over to the Utility upon termination. The cost of Independent Valuer shall be paid by the SI.

10.6.4 Confidential information, security and data

SI shall promptly on the commencement of the Exit Management Period supply to the Utility or its nominated agency the following:

- a. information relating to the list of assets as per the updated detailed bill of quantities for materials and services provided under the Contract, current Services rendered and consumer and performance data relating to the performance of sub-contractors in relation to the Services;
- b. documentation relating to the Project's Intellectual Property Rights;
- c. documentation relating to sub-contractors;
- d. all current and updated data as is reasonably required for purposes of Utility or its nominated agencies transitioning the services in a readily available format;
- e. all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable Utility or its nominated agencies, to carry out due diligence in order to transition the provision of the Services to Utility or its nominated agencies, (as the case may be).

10.6.5 Transfer of certain agreements

On request by the Utility or its nominated agency, the SI shall affect such assignments, licenses and sub-licenses as Utility may require in favor of the Utility or its nominated agency reasonably necessary for the carrying out of replacement services. These agreements may include equipment lease, maintenance or service provision agreement between selected SI and third-party lessors, service providers, and any other agreements related to the Services.

10.6.6 General obligations of the SI during exit management period

- a. The SI shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to the Utility or its nominated agency and which the SI has in its possession or control at any time during the Exit Management Period.
- b. For the purposes of this Schedule, anything in the possession or control of the SI or associated entity, or sub-contractors is deemed to be in the possession or control of the SI.
- c. The SI shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

10.6.7 Exit management process

The SI shall prepare an Exit Management Plan for transfer of operations to the Utility or its nominated agency, in the event of termination or expiry of the contract with the Utility, without affecting services to stakeholders adversely. SI shall get this process approved by Utility. The Plan shall include, but not be limited to, the following-

- a. A detailed program of the transfer process including details of the means to be used to ensure continuing provision of the Services throughout the transfer process or until the cessation of the Services and of the management structure to be used during the transfer;
- b. Plans for the communication with such of the SI's subcontractors, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on the Utility's project operations and Billing system Services to other stakeholders as a result of undertaking the transfer;
- c. Plans for provision of contingent support to Utility or its nominated Agency for a reasonable period after transfer.
- d. The Exit Management Plan including all updates shall be presented by the SI to and approved by the Utility or its nominated agencies.

- e. During the Exit Management Period, the SI shall use its best efforts to deliver the services.
- f. Payments during the Exit Management Period shall be made in accordance with the Articles 5.2 and 11.5 (as the case may be)
- g. The Exit Management plan shall be furnished in writing to the Utility or its nominated agencies within 90(ninety) days from date of execution this SI contract
- h. The SI shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date. The updated plan shall be furnished in writing to the Utility or its nominated agencies within 15 days from the end of such period.

11. Liability/ Indemnity

- 11.1 The SI hereby agrees to indemnify Utility, for all conditions and situations mentioned in this Article, in a form and manner acceptable to Utility. The SI agrees to indemnify Utility and its officers, servants, agents (“Utility Indemnified Persons”) from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract Period out of:
- a) any negligence or wrongful act or omission by the SI or its agents or employees or any third Party associated with SI in connection with or incidental to this Contract; or
 - b) any infringement of patent, trademark/copyright or industrial design rights arising from the use of the supplied Solution or any part thereof.
- 11.2 The SI shall also indemnify Utility against any privilege, claim or assertion made by third party with respect to right or interest in, ownership, mortgage or disposal of any asset, property, movable or immovable as mentioned in any Intellectual Property Rights, licenses and permits.
- 11.3 Without limiting the generality of the provisions of the Article 11.1 and 11.2, the SI shall fully indemnify, hold harmless and defend Utility Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which Utility Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to the Solution,

information, design or process supplied or used by the SI in performing the SI's obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the SI shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Solution or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the SI shall promptly make every reasonable effort to secure for the Utility a license, at no cost to Utility, authorizing continued use of the infringing work. If the SI is unable to secure such license within a reasonable time, the SI shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof.

(a) Survival on Termination

11.4 SURVIVAL ON TERMINATION

11.4.1 The provisions of this Article 11 shall survive the Termination of the Contract

(b) Defence of Claim

11.5 DEFENCE OF CLAIMS

11.5.1 If any proceedings are brought or any claim is made against the Utility arising out of the matters referred to in Article 11, the Utility shall promptly give the SI a notice thereof, and the SI may at its own expense and in the Utility's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claims.

11.5.2 If the SI fails to notify the Utility within 28 (twenty-eight) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Utility shall be free to conduct the same on its own behalf.

11.5.3 The Utility shall, at the SI's request, afford all available assistance to the SI in conducting such proceedings or claim, and shall be reimbursed by the SI for all reasonable expenses incurred in so doing.

(c) Limitation of Liability

11.6 LIMITATION OF LIABILITY

11.6.1 Except in cases of gross negligence or wilful misconduct:

- a) Neither Party shall be liable to the other Party for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided

that this exclusion shall not apply to any obligation of the SI to pay liquidated damages to the Utility; and

- b) The aggregate liability of the SI to the Utility, whether under the Contract, in tort, or otherwise, shall not exceed the Contract Price. Provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the SI to indemnify the Utility with respect to infringement of any Intellectual Property Rights.

12. Governing Laws and Settlement of Disputes

12.1 The Utility and the SI shall make every effort to resolve amicably any disagreement or dispute arising between them under or in connection with the Contract, by direct informal negotiation.

12.2 If the Utility and the SI fail to resolve such a dispute (the date of commencement of the dispute shall be taken from the date when this Article reference is quoted by either Party in a formal communication clearly mentioning existence of dispute or as mutually agreed) or difference by mutual consultation within 28 (twenty-eight) days from the commencement of such consultation, either Party may require that the dispute be referred for resolution to the formal mechanisms specified in this Article 12.

12.3 Specifically, for the resolution of disputed payments, All disputes or differences in respect of which the decision, if any, has not become final or binding as aforesaid in Article 12.2 shall be referred to a dedicated Conciliation committee for RDSS, formulated by Ministry of Power (MoP) for resolution of any disputes under the scheme. This Conciliation Committee shall be an alternate dispute resolution mechanism being put in the place by the MoP. The process shall be in-line with the notification, as and when published by the MoP. If the successful bidder is not willing to take recourse to this process or has any reluctance in this behalf, there shall be no compulsion to take such a recourse. This Conciliation process shall be conducted under Part III of the Arbitration and Conciliation Act, 1996. In the event of the conciliation proceedings being successful, the parties to the dispute would sign the written settlement agreement and the conciliators would authenticate the same. Such settlement agreement would then be binding on the parties in terms of Section 73 of the Arbitration and Conciliation Act, 1996. After successful conclusion of

proceedings, the Parties to the conciliation process, have to undertake and complete all necessary actions for implementation of the terms of settlement within a period of 30 days from execution of settlement agreement, unless a different timeline not exceeding 60 days is agreed upon in settlement agreement. All pending claims of parties, in connection with the dispute, before any other legal forum are to be withdrawn within the said 30 days in pursuance of the settlement agreement. In case of failure of the conciliation process at the level of the Conciliation Committee, the parties may withdraw from conciliation process and take recourse to the laid down legal process of Courts. However, the option of Arbitration would not be available once the conciliation mechanism has been exercised.

12.4 All disputes or differences in respect of which the decision, if any, has not become final or binding as aforesaid in Article 12.2 or if the parties are not willing to refer the dispute to the dedicated Conciliation committee for RDSS, then the dispute shall be settled by arbitration in the manner hereinafter provided. The arbitration shall be conducted by three arbitrators, one arbitrator each to be nominated by the SI and the Utility and the third to be appointed as the presiding arbitrator by both the arbitrators in accordance with the Arbitration and Conciliation Act, 1996. If either of the parties fails to appoint its nominee arbitrator within 60 (sixty) days after receipt of a notice from the other party invoking the arbitration, the nominee arbitrator appointed by one of the party invoking the arbitration clause shall act as the sole arbitrator to conduct the arbitration under the Arbitration and Conciliation Act 1996, as amended from time to time.

12.5 The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 or any statutory modification thereof. The seat of arbitration shall be as specified in **SCC**.

12.6 The Contract shall be governed by and interpreted in accordance with laws of India. The Courts, specified in **SCC**, shall have exclusive jurisdiction in all matters arising under this Contract.

12.7 Parties to Perform Obligations: Notwithstanding the existence of any Dispute and difference referred to the Arbitration Tribunal as provided in Article 12.4 and save as the Arbitration Tribunal may otherwise direct by a final or interim order, the Parties hereto shall continue to perform

their respective obligations (which are not in dispute) under this Contract.

13. Change Order

(a) Change Request/ Change Order for New/Enhancements to Software Applications

13.1 Change Request/Change Order for New/Enhancements to Software Applications

Another form of change may arise when the Utility discovers the need to have enhancements in the delivered software applications and/or entirely new functional requirements in the applications (“New Requirements”), subject to Article 13.1.5 of this Contract.

13.1.1 At any point in time the Utility may raise a Change Request to include New Requirements in the Billing system application. This Change Request shall include the following:

- Identification and documentation of the need for the change
- Functional details of the change
- Information related to initiator, initiation date and
- Priority of the change

13.1.2 The SI will analyse and evaluate the Change Request to come up with the estimate of the effort involved in terms of man-days required (in respective skill areas) and time schedule as per agreed priority and document the same. Utility will use the estimated effort of the new requirements made by the SI and together with the quoted man-month rates arrive at a cost estimate. For all technical resources, the quoted man-month rate shall be used. Efforts of support staff shall not be taken into consideration for this purpose.

13.1.3 Based on the agreed cost estimate, the Utility shall raise a “Change Order”. The SI shall undertake the development of the New Requirements only after securing express consent of the Utility. If the consent of Utility is not received, then the change will not be carried out. The change will be implemented in accordance to the agreed cost, effort, and schedule by the SI and the change will be verified by the Utility on completion of implementation.

13.1.4 If the Change Order for New Requirements agreed to herein causes an increase or decrease in cost of, or the time required for, firm’s performance of any provisions under the Agreement, equitable adjustments shall be made in the Agreement Price or Delivery Schedule, or both, and the

Agreement shall accordingly be amended. Any claims by firm for adjustment under this must be asserted within 30 (thirty) days from the date of SI receiving the change order.

13.1.5 The following categories of Change Requests shall not be treated as “New Requirements” and the SI is expected to deliver these Change Requests as per agreed schedule without any commercial implications.

- All bug fixes
- All upgrades of the licensed platforms
- Changes made to report templates
- New reports not exceeding [x] numbers
- Integration with national level systems like NFMS etc.
- Minor changes not requiring more than 10 man-days
- Aspects already covered under existing scope of work provided in this Contract

13.1.6 In the case of New Requirements in Software Applications, Utility may at any time, by a written Change Request seek changes to be implemented within the general scope of the Agreement provided this does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Solution and the technical compatibility of the change envisaged with the nature of the Solution as specified in the Contract.

13.1.7 The Change Request/New Requirement management procedure will follow the following steps: -

- i. Identification and documentation of the need for the Change Request/New Requirement - The information related to initiator, initiation date and details of Change Request/New Requirement and priority of the change/New Requirement will be documented by the Utility.
- ii. Analysis and evaluation of the Change Request/New Requirement - Impact of the change/new requirement in terms of the estimated effort, changed schedule, cost and the items impacted will be analyzed and documented by the SI.
- iii. Approval or disapproval of the Change Request/New Requirement – the Utility will approve or disapprove the Change Request/New Requirements. Once approved the Change Request is converted into a Change Order which is subject to the conditions laid down in Article 13.1.5.
- iv. Implementation of the change/New Requirement – The Change Order/New Requirement will be

implemented in accordance with the agreed cost, effort, and schedule by the SI.

- v. Verification of the change/New Requirement - The Change Order/New Requirement will be verified by the Utility on implementation of the change request.

14. Miscellaneous

(a) Waiver

14.1 WAIVER

14.1.1 Subject to Article 14.1.2, no relaxation, forbearance, delay, or indulgence by either Party in enforcing any of the terms and conditions of the Contract or the granting of time by either Party to the other shall prejudice, affect, or restrict the rights of that Party under the Contract. Neither shall any waiver by either Party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

14.1.2 The waiver by either Party of a breach or default of any of the provisions of this Contract by the other Party shall not be interpreted as:

- a) A waiver of any succeeding breach of the same or other provision, nor shall any delay or omission on the part of the other Party to exercise; or
- b) A way to avail itself of any right, power, or privilege that it has or may have under this contract to operate as waiver of any breach or default by the other Party.
- c) Any waiver of a Party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the Party granting such waiver, and must specify the right and the extent to which it is being waived.

(b) Extension of Time

14.2 EXTENSIONS OF TIME

14.2.1 If at any time during performance of the Contract, the SI or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to this Contract, the SI shall promptly notify the Utility in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the SI's notice, the Utility shall evaluate the situation and may at its discretion extend the SI's time for performance, in which case the extension shall be ratified by the Parties by amendment of the Contract.

14.2.2 Except in case of Force Majeure, as provided in Article 9 or where the delay in delivery of the Goods or completion of Related Services is caused due to any delay or default of the Utility, any extension granted under Article 14.2.1 shall not absolve the SI from its liability to the pay of liquidated damages pursuant to Article 7. Time will be the essence of the Contract and no variation shall be permitted in the delivery time/delivery schedule mentioned in the order unless agreed by the Utility. The SI is expected to implement the systems for the project area as per the schedule indicated in the Contract.

14.3 INSURANCE

(c) Insurance

14.3.1 The Goods supplied under the Contract shall be fully insured by the SI against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery.

14.3.2 The SI shall furnish to the Utility copies of certificates and policies of the Insurances as soon as they are affected and renewed by or on behalf Of the SI from time to time in terms of Article 14.

14.4 TRANSPORTATION

(d) Transportation

14.4.1 The SI shall at its own risk and expense transport all the SI's equipment to the site by the mode of transport that the SI judges most suitable under all the circumstances.

14.4.2 Unless otherwise provided in the Contract, the SI shall be entitled to select any safe mode of transport operated by any person to carry the SI's equipment.

14.4.3 The SI shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the SI's equipment to the Project site. Utility shall use its best endeavours in a timely and expeditious manner to assist the SI in obtaining such approvals, if requested by the SI.

15. Confidential Information

15.1 Both SI and the Utility undertake to each other to keep confidential all information (written as well as oral) concerning the business and affairs of the other, which has been obtained or received as a result of the discussions leading up to or the entering of the Contract.

15.2 After the entering of the Contract, the Utility and the SI shall keep confidential and shall not, without the written consent of the other Party hereto, divulge to any third party any

documents, data, or other information furnished directly or indirectly by the other Party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the SI may furnish to its subcontractors such documents, data, and other information it receives from the Utility to the extent required for the subcontractors to perform its work under the Contract, in which event the SI shall obtain from such subcontractors an undertaking of confidentiality similar to that imposed on the SI under this Article 16.

15.3 The Utility shall not use such documents, data, and other information received from the SI for any purposes unrelated to the Contract. Similarly, the SI shall not use such documents, data, and other information received from the Utility for any purpose other than the design, procurement, or other work and services required for the performance of the Contract.

15.3.1 The obligation of a Party under Articles 15.1 and 15.2 above, however, shall not apply to information that:

- a) Utility or SI need to share with the institutions participating in the financing of the Contract;
- b) now or hereafter enters the public domain through no fault of that Party;
- c) can be proven to have been possessed by that Party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other Party; or
- d) Otherwise lawfully becomes available to that Party from a third Party that has no obligation of confidentiality.

15.3.2 The above provisions of this Article 15 shall not in any way modify any undertaking of confidentiality given by either of the Parties hereto prior to the date of execution of the Contract in respect of the Supply or any part thereof.

15.3.3 Each of the Parties to this Contract, undertakes to the other to take all such steps as shall from time to time be necessary to ensure compliance with the provisions of the above Articles by its employees, agents and sub-contractors.

15.3.4 The provisions of this Article 15 survive completion or termination, for whatever reason, of the Contract.

16. Subcontracting

16.1 The SI shall be permitted to appoint subcontractor(s) so as to meet its obligations under the Contract with the Utility, with intimation to the Utility, provided they ensure that any

person engaged by SI are not blacklisted by any Government organization or regulatory agencies or Government Undertaking as on the date of intimation to the Utility (as defined under the Section 2 of this RFP).

16.2 SI shall engage only such sub-contractor(s) who satisfy the eligibility requirement in terms of applicable laws including the guidelines issued vide Order No. F/No.6/18/2019-PPD by Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23 July 2020 and as amended from time to time.

17. Warranty

17.1 The SI warrants that all the Goods that would be used as part of Solution would be new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

17.2 The SI further warrants that the Goods shall be free from defects arising from any act or omission of the SI or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.

17.3 The warranty of the Billing system shall remain valid till expiry of the Contract Period.

17.4 The SI shall be responsible for comprehensive maintenance of all the equipment and systems supplied & installed under this Contract during the Operational Period. There may be some variation during detailed engineering. SI will have to make their own assessment of the systems and deploy manpower accordingly. However, it is to be ensured that specified manpower of requisite qualification is deployed.

17.5 The maintenance of the system supplied & installed by the SI shall be comprehensive. The SI shall be responsible for providing all the spares as may be required. The spares shall be maintained by the SI at no extra cost to the Utility.

- 18. Change in Laws and Regulations**
- 18.1 Unless otherwise specified in the Contract, if after the Bid Submission Deadline indicated in **SCC**, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in India where the sites is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the project delivery, then such delivery shall be correspondingly amended, to the extent that the SI has thereby been affected in the performance of any of its obligations under the Contract.
- 18.2 The Party affected by a change in law shall give notice giving details of the likely impact of the change in law. The Parties shall negotiate in good faith to place the affected party at the same economic position as if no change in law had occurred. Provided only such change in law events which have financial impact beyond a threshold specified in **SCC**, are to be considered for the purposes of grant of relief to the affected Party.
- 18.3 Notification of Change In Law: If the SI is affected by a Change in Law in accordance with Article 19.1 and wishes to claim relief for such Change in Law under this Article 18, it shall give notice to the Utility of such Change in Law as soon as reasonably practicable after becoming aware of the same. Any notice served pursuant to Articles 17 shall provide, amongst other things, precise details of the Change in Law and its effect on the SI.
- 19. Severability**
- 19.1 If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract or the Contract as a whole and the remaining provisions of the Contract shall remain in full force and effect.
- 20. Language**
- 20.1 The official language of the Contract is English. Contract as well as all correspondence and documents relating to the Contract exchanged by the SI and Utility, shall be written in English. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages

in English, in which case, for purposes of interpretation of the Contract, the English translation shall govern.

20.2 The SI shall bear all costs of translation to English and all risks of the accuracy of such translation. The SI shall be bound to the English translation and what has been stated therein.

21. Assignment

21.1 The SI shall not assign, in whole or in part, their obligations under this Contract without prior permission of the Utility.

21.2 However, in case of default by the SI in debt repayments or in the event of default by the SI as per Article 10 of Section 7, the Utility may facilitate the Lenders to substitute the existing SI with their nominee SI subject to the fulfilment of the qualification requirements and provisions of the Contract and subsequently execute an amendment to this Contract.

22. Entire Agreement

22.1 This Contract along with all its annexures, schedule and the provisions of the RFP reflect the entire understanding of the Parties.

22.2 No variation or modification of the terms of the Contract shall be made except by written amendment signed by the Parties.

23. Disclaimer

23.1 Utility reserves the right to share, with any consultant of its choosing, any resultant proposals in order to secure expert opinion.

23.2 Utility reserves the right to accept any proposal deemed to be in the best interest of the Utility.

24. Public Disclosure

24.1 All materials provided to Utility by the SI may be disclosed in accordance with the provisions of applicable law including but not limited to the Right To Information Act, 2005 (RTI), etc.

24.2 The SI's team shall not make or permit to be made a public announcement or media release about any aspect of this Contract unless Utility first gives the SI its written consent.

25. Adherence to Safety Procedures, Regulations and Restriction Rules, and

25.1 SI shall comply with the provision of all laws including labour laws, rules, regulations and notifications issued there under from time to time. All safety and labour laws enforced by statutory

agencies and by Utility shall be applicable in the performance of this Contract and SI's team shall abide by these laws.

- 25.2 Access to the Utility's locations shall be strictly restricted. No access to any person except the designated personnel belonging to the SI who are genuinely required for execution of work or for carrying out management/maintenance who have been explicitly authorized by Utility shall be allowed entry to the Utility's locations. Even if allowed, access shall be restricted to the pertaining equipment of Utility only. The SI shall maintain a log of all such activities.
- 25.3 The SI shall take all measures necessary or proper to protect the personnel, work and facilities and shall observe all reasonable safety rules and instructions. SI's team shall adhere to all security requirement/regulations of Utility during the execution of the work. Utility's employees and associates also shall comply with safety procedures/policy.
- 25.4 The SI shall report as soon as possible any evidence, which may indicate or is likely to lead to an abnormal or dangerous situation and shall take all necessary emergency control steps to avoid such abnormal situations.
- 25.5 Utility will be indemnified for all the situations mentioned in this Article in the similar way as defined in Article 11.

26. Non-Solicitation of Staff

- 26.1 The Articles of this contract, which by nature are intended to survive termination of this Contract, shall remain in effect after such termination

27. Survival

- 27.1 The Articles of this contract, which by nature are intended to survive termination of this Contract, shall remain in effect after such termination.
- 27.2 In the event SI is a consortium and a Party proposes to cease to be a member of the Consortium it shall send a notice to the Utility and all other members of the Consortium. In the event no objection is received from the Utility and/ or other Consortium Member within 15 days of the receipt of notice, the Consortium Member shall be entitled to leave the Project after giving a notice of 7 days.
- 27.3 Notwithstanding that exit of any member of the consortium, the Lead Consortium Member shall be responsible for development of the Project and compliance with the terms and conditions of this SI Contract.
- 27.4 In the event Lead Consortium Member proposes to bring in a

new entity for implementation of the Project, such new entity shall execute a deed of adherence stating that it shall comply with the provisions of the Consortium Agreement and the SI Contract. Also, the new entity, as on date of replacement shall, satisfy the qualification requirements as mentioned in section 3: Eligibility and Qualification requirements.

28. Notices

28.1 All notices to be given under this Contract shall be in writing and in the English language.

28.2 A Notice shall be effective when delivered or on the notice effective date, whichever is later.

28.3 All notices must be delivered personally, by registered or certified mail or by facsimile transmission or email.

28.4 All notices shall be effective:

- a) If sent by facsimile transmission or email, when sent (on receipt of confirmation of the correct number or address);
- b) If sent by registered post or certified mail, within 5 (five) days of dispatch;
- c) If delivered personally, on receipt by intended recipient, provided that all notices given by facsimile transmission shall be confirmed by registered or certified mail.

28.5 Each party shall forthwith notify the other party of any change in its address to which notices under this Contract are to be delivered, mailed or facsimiled.

29. [Advance Payment security (Optional)]

29.1 *[Utility, at its discretion, may provide to the successful bidder an interest-bearing advance payment against an advance payment security furnished by the successful bidder in the form of a bank guarantee for [15] % of the Contract Price.*

29.2 *Within 14 (fourteen) Days of the receipt of Letter of Award from the Utility, the Successful Bidder shall furnish the Advance Payment Security, using for that purpose the format of Advance payment Security given in Form 3 in Section 8.*

29.3 *The utility shall provide an advance payment for [70] % of the advance payment security furnished by the successful bidder, at the time of contract signing.*

29.4 *The amount of the security shall be reduced in proportion to the value of the services executed by and paid to the successful bidder from time to time and shall automatically become null and void when the full amount of the advance payment has been recovered by the Utility. The security shall be returned to the successful bidder immediately after its expiration*

29.5 *The interest rate on advance payment shall be Marginal Cost of Funds Based Lending Rate (MCLR) for one year of the State Bank of India, prevailing on the date of advance payment to the Successful Bidder. The interest accrued on interest bearing advance*

shall be adjusted first before releasing any payment. The interest rate shall be calculated on the daily progressive balances outstanding as on the date of recovery/adjustment i.e., on daily rest basis.]

C. Special Conditions of Contract

GCC Article/ Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
4.1.1	<Insert Contract Price>
5.1	[3% of the Contract Price or as per the prevalent GoI guidelines/ Orders]
6.1	[2% of the Contract Price for every month of delay capped at 10%]
10.5.3 (a)	[60] %
10.5.3 (b)	[100] %
10.5.3 (c) i	[60] %
10.5.3 (c) ii	[100] %
10.5.4 (a)	[10.5] %
12.5	[insert state capital where Utility is operating]
12.6	[insert state capital where Utility is operating]
18.1	<indicate the Bid Submission Deadline date>
18.2	[0.2 % of the Contract Price]

Appendix A – Project Requirements (Billing System Requirements and Service Level Agreement)

[This Appendix shall include Section 6 of the RFP Document including all amendments/clarification etc. thereto]

Appendix B – FMS Charges

[This Appendix shall include Bill of Material given in Section 5 of the RFP Document and the charges agreed thereof]

Section 8. Contract Related Forms

Form No.	Document
1	Performance Security as per the format prescribed in Form 1
2	Letter of Award as per the format prescribed in Form 2
3	Format for Bank Guarantee for Advance payment in Form 3 (<i>Optional</i>)

Form 1: Format of Performance Security

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page.]

Reference No. Bank Guarantee No. Dated:

To:
[Utility]
[Address]

Dear Sir/ Madam,

WHEREAS*[Insert name of the Sole Bidder/ Lead Consortium Member]* with address *[Insert address of the Sole Bidder/ Lead Consortium Member]* having its registered office at *[Insert address of the Sole Bidder/ Lead Consortium Member]* (hereinafter, the “Contractor”), subsequent to participation in Tender No. [Tender Details] (the “RFP”) issued by [Utility] (hereinafter, the “Beneficiary”) for Appointment of SI for Implementation of Utility Billing System under SaaS Model, have been issued the Letter of Award as the Selected Bidder. The Selected Bidder was required to incorporate the SI. Further the SI was required to furnish a Performance Security in the form of a Bank Guarantee

And WHEREAS a Bank Guarantee for Rupees *[Insert amount in words equivalent]* (.....) *[Insert amount in figures]* valid till *[Insert Contract Period]* is required to be submitted by the SI as per the terms and conditions of the RFP.

We,.....*[Insert name of the Bank and address of the Branch giving the Bank Guarantee]* having our registered office at*[Insert address of the registered office of the Bank]* hereby give this Bank Guarantee No.*[Insert Bank Guarantee number]* dated*[Insert the date of the Bank Guarantee]*, and hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the Beneficiary any officer authorized by it in this behalf any amount not exceeding Rupees*[Insert amount in words]* (... ..) *[Insert amount in figures]* to the said Beneficiary on behalf of the Contractor.

We *[Insert name of the Bank]* also agree that non-performance, delayed performance or violation of any of the terms and conditions of the contract by SI would constitute a default on the part of the Bidder and that this Bank Guarantee is liable to be invoked and encashed within its validity by the Beneficiary in case of any occurrence of a default on the part of the SI or the Selected Bidder and that the encashed amount is liable to be forfeited by the Beneficiary.

This agreement shall be valid and binding on this Bank up to and inclusive of *[Insert the date of validity of the Bank]* and shall not be terminable by notice or by Guarantor change in the constitution of the Bank or the firm of the Bidder Or by any reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, conceded with or without our knowledge or consent by or between the Bidder and the Beneficiary.

NOTWITHSTANDING anything contained hereinbefore, our liability under this guarantee is restricted to Rupees.....*[Insert amount in words equivalent]*. Our Guarantee shall remain in force till *[Insert the contract period]*. Unless demands or claims under this Bank Guarantee are made to us in writing on or before..... *[Insert contract period]*, all rights of the Beneficiary under this Bank Guarantee shall be forfeited, and we shall be released and discharged from all liabilities there under.

[Insert the address of the Bank with complete postal branch code, telephone and fax numbers, and official round seal of the Bank]

[Insert signature of the Bank's Authorized Signatory]

Attested:

..... *[Signature]* (Notary Public)

Place: Date:

INSTRUCTIONS FOR SUBMITTING BANK GUARANTEE

1. Bank Guarantee to be executed on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.
2. The Bank Guarantee by Bidder shall be given from the Scheduled Commercial Banks.

Form 2: Format of Letter of Award

Sub: Bid for Appointment of SI for Implementation of Utility Billing System under SaaS Model

REF: - 1. Request for Proposal for selection of SI dated [•] (“RFP”)

2. Your proposal dated [•] (“Proposal”)

3. Your clarification [•]

Dear Sir,

1. This is in reference to your Proposal in relation to the RFP.
2. Pursuant to the evaluations of the Bid, your bid has been found to be most suited.
3. A draft of the SI Contract was provided to you along with the RFP. Please note that there shall be no change whatsoever in the terms and conditions as set out in the draft Contract.
4. Please note that in the event of failure to comply with any terms and conditions of this Letter of Award, the entire Bid Security may be forfeited.
5. Any further correspondence in connection with the Project should be addressed to the [insert details of the appropriate authority •]” with a copy to Chairman/ Managing Director, till further instructions are issued.
6. The terms and conditions as set out in this Letter of Award shall stand valid until execution of the SI Contract.
7. Please acknowledge the receipt and return the duplicate copy of this Letter of Award after signing and stamping it in all the pages to the undersigned as a token of acceptance.

Thanking You

Yours truly

[insert details of the Utility]

Reference No.

Bank Guarantee No.

Dated:

Form 3: Format of Bank Guarantee for Advance payment (Optional)

Bank Guarantee No.

Date.....

Contract No.....

.....[Name of Contract].....

To: [Name and address of the Employer]

Dear Ladies and/or Gentlemen,

We refer to the Contract ("the Contract") signed on(insert date of the Contract) between you and M/s (Name of Contractor)....., having its Principal place of business at (Address of Contractor) and Registered Office at (Registered address of Contractor) ("the Contractor") concerning (Indicate brief scope of work).....for the complete execution of the (insert name of Package along with name of the Project).....

Whereas, in accordance with the terms of the said Contract, the Employer has agreed to pay or cause to be paid to the Contractor an Advance Payment in the amount of..... (Amount in figures and words).....

By this letter we, the undersigned,(insert name & address of the issuing bank)....., a Bank (which expression shall include its successors, administrators, executors and assigns) organized under the laws of and having its Registered/Head Office at(insert address of registered office of the bank).....do hereby irrevocably guarantee repayment of the said amounts upon the first demand of the Employer without cavil or argument in the event that the Contractor fails to commence or fulfill its obligations under the terms of the said Contract, and in the event of such failure, refuses to repay all or part (as the case may be) of the said advance payment to the Employer.

Provided always that the Bank's obligation shall be limited to an amount equal to the outstanding balance of the advance payment, taking into account such amounts, which have been repaid by the Contractor from time to time in accordance with the terms of payment of the said Contract as evidenced by appropriate payment certificates.

This Guarantee shall remain in full force from the date upon which the said advance payment is received by the Contractor upto thirty (30) days beyond the date on which the entire advance so advanced along with the interest if any due thereon has been fully adjusted in terms of the Contract i.e., up to of thirty (30) days beyond the date of Completion of the Facilities under the Contract. This Guarantee may be extended from time to time, as may be desired by M/s. on whose behalf this Guarantee has been issued.

Any claims to be made under this Guarantee must be received by the Bank during its period of validity, i.e. up to thirty (30) days beyond the date of Completion of the Facilities by the Employer i.e. up to and inclusive of(dd/mm/yy).

For and on behalf of the Bank

[Signature of the authorised signatory(ies)]

Signature_____

Name_____

Designation_____

POA Number_____

Contact Number(s): Tel._____ Mobile_____

Fax Number_____

email_____

Common Seal of the Bank_____

Witness:

Signature_____

Name_____

Address_____

Contact Number(s): Tel._____ Mobile_____

email_____

Note:

1. For the purpose of executing the Bank Guarantee, the non-judicial stamp papers of appropriate value shall be purchased in the name of Bank who issues the 'Bank Guarantee'.

2. The Bank Guarantee shall be signed on all the pages by the Bank Authorities indicating their POA nos. and should invariably be witnessed.
3. The Bank Guarantee should be in accordance with the proforma as provided. However, in case the issuing bank insists for additional paragraph for limitation of liability, the following may be added at the end of the proforma of the Bank Guarantee [*i.e., end paragraph of the Bank Guarantee preceding the signature(s) of the issuing authority(ies) of the Bank Guarantee*]:

Quote

“Notwithstanding anything contained herein:

1. Our liability under this Bank Guarantee shall not exceed _____ (*value in figures*) _____ [*_____ (value in words)* _____].
2. This Bank Guarantee shall be valid up to _____ (*validity date*) _____.
3. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only & only if we receive a written claim or demand on or before _____ (*validity date*) _____.”

Unquote