



# ENERGY EFFICIENCY SERVICES LIMITED

(A JV of PSUs of Ministry of Power, Govt. of India)

A-13, IWAI Building, 4<sup>th</sup> & 5<sup>th</sup> Floors, Sector-1,  
NOIDA - 201 301.

## CONTRACTS DEPARTMENT

### INTERNATIONAL COMPETITIVE BIDDING (OPEN) TENDER THROUGH E-PROCUREMENT

## SECTION-1

### DETAILED INVITATION FOR BIDS (IFB)

FOR

**Name of the Work:** *International Competitive Bidding (ICB) for Design, Supply, Installation, Integration, Commissioning, Operation and Maintenance/FMS Support of Advanced Metering Infrastructure (AMI) Solution for 5-million Smart Electricity Meters with GPRS-based Communication Module for Haryana and Uttar Pradesh.*

**NIT/Bid Document No.:** EESL/06/ICB-AMI-System Integrator/171809048.

EESL invites Electronic-bid (E-bid) from interested bidders for the aforesaid work(s) under Single-stage Three-envelope Bidding Process **THROUGH E-TENDERING\***. For details about the IFB, please refer to the details that follow.

**MOST IMPORTANT:** *Any further information/notice/amendment, etc. in respect of this Tender shall be uploaded/made available only on EESL's E-Procurement portal/website, (<https://eesl.eproc.in>), and no separate information/notice shall be released either to any firm individually or through Press advertisement for the corrigendum/addendum/amendment, etc. The interested firms are, therefore, advised to regularly keep visiting and checking the E-Procurement portal/website for any further/forthcoming/last-minute information/notice/development/amendment/clarification regarding the subject Tender.*

*For & on behalf of EESL*

(Vikas Hura)  
Officer (Contracts)

\*The bids for E-tenders will be submitted online on the web site <https://eesl.eproc.in>. Oral, telephonic, telegraphic bids or those submitted in hard copies/physical form will not be entertained. In case, anything to the contrary is mentioned anywhere in the Tender, the same should be ignored.

### BID DETAILS

NIT/Bid Document No.	EESL/06/ICB-AMI-System Integrator/171809048.
Bidding Document Cost	Rs. 25,000/- (Rupees Twenty Five Thousand only) ( <i>non-refundable &amp; non-adjustable</i> ).
Earnest Money Deposit (EMD)/ Bid Security	Rs. 34,70,00,000/- (Rupees Thirty Four Crore and Seventy Lakh only) ( <i>refundable without payment of any interest</i> ) (EMD to be valid up to 225 days from the date of techno-commercial bid opening).
Contract Performance Guarantee/Security	In the form of a BG @ 10 % of the total Contract value, valid to cover the installation duration (3 years) + warranty and O&M/FMS duration (5 years) + three (3) months' claim period + 3 months' mobilization/testing phase.
Document Sale Date & Timing, i.e., Last date & time for downloading RfP from website	From 07-09-2017 to 28-09-2017 (up to 1400 hours IST).
Online Bid Submission Period	From 07-09-2017 to <b>28-09-2017 (up to 1430 hours IST)</b> .
Pre-bid Meeting	<b>20-09-2017</b> (Wednesday), at 1130 hrs. IST at EESL Office's, NOIDA at the address given in the last row of this table. <b><u>Last Date for Receipt of Pre-bid Queries: 17-09-2017.</u></b> <i>No registration/fee deposition/separate invitation is required for the interested firms for attending the Pre-bid meeting. However, the bidders are required to forward their Pre-bid queries at least two (2) working days in advance (refer details inside).</i>
Techno-commercial E-bid Opening Date & Time	28-09-2017 (Thursday), at 1500 hrs. IST.
Bid Validity Duration	180 days from the date of opening of techno-commercial bid.
Bid Documents Sections in this Tender	Section-2 – Information to Bidders (ITB). Section-3 – General Conditions of Contract (GCC). Section-4 – Technical Specification and Special Conditions of Contract (SCC). Section-5 – Measurement and Verification. Section-6 – Forms & Procedures.
Contact Person(s) for Technical Queries  ( <i>copy of the query to be marked to Contracts Dept. as well</i> )	Mr. Ajay Kumar Sharma, Dy. GM (Tech.) / Ms. Mayuri Chaukhande, AM (Tech.) / Mr. Bharat Kanojiya, Engineer (Tech.); Energy Efficiency Services Ltd. Tel.: 0120-4908000. E-mail: <a href="mailto:asharma1@eesl.co.in">asharma1@eesl.co.in</a> , <a href="mailto:mchaukhande@eesl.co.in">mchaukhande@eesl.co.in</a> , <a href="mailto:bkanojiya@eesl.co.in">bkanojiya@eesl.co.in</a>
Contact Person(s) for Tender- related Queries	Mr. Vikas Hura, Officer (Contracts)/Mr. Kumar Saurabh, DGM (T&C)/Mr. Rajneesh Rana, Addl. GM (Contracts & BD). Energy Efficiency Services Ltd. Tel.: 0120-4908000, 4040830. E-mail: <a href="mailto:eproc@eesl.co.in">eproc@eesl.co.in</a>
RfP to be addressed to	AGM (C & BD), Energy Efficiency Services Limited, C/o Projects & Development India Ltd., PDIL Bhawan, 1 <sup>st</sup> Floor, A-14, Sector-1, NOIDA-201 301, Distt. Gautam Budh Nagar, U.P.



1.0 All the bids must be accompanied by the Bidding Document Cost and the EMD, as mentioned above. **Bids not accompanying the Bidding Document Cost and EMD, or those accompanied by these instruments of inadequate value, shall not be entertained and in such cases, the bids shall not be opened.**

The Bidding Document Cost has to be necessarily submitted in the form of Demand Draft (DD)/Pay Order/Banker's Cheque in favour of "Energy Efficiency Services Limited", issued by any scheduled/nationalised bank and payable at NOIDA/New Delhi.

The EMD in the form of a Bank Guarantee (BG) should be **strictly** as per format at Attachment-2 in Section-6. The BG shall be from any Indian Nationalized Bank/other scheduled Private banks/International banks, to be from among the list of banks given at Annexure I of Section-6. In case of international bidder(s), the BG could be from any such International bank having a branch in India or an Indian Nationalised bank having a branch in the country of origin of the international bidder(s) mentioned in Annexure I. The International Bidders are also required to enclose with their EMD BG a letter of BG confirmation from a corresponding Indian bank. The EMD must remain valid for duration of 45 days beyond the original bid validity duration of 180 days, i.e., 225 days from date of techno-commercial bid opening. If any extension in bid validity is sought by EESL, the bidder may be asked to extend the validity of EMD, which the bidder shall have to do without any cost implications to EESL.

The Bidding Document Cost and the EMD must reach the following address in a sealed envelope superscribed "**EMD and Bidding Document Fee for NIT/Bid Document No. -----**-----" before the submission date & time mentioned above.

AGM (C & BD),  
Energy Efficiency Services Limited,  
C/o Projects & Development India Ltd.,  
PDIL Bhawan, 1<sup>st</sup> Floor, A-14, Sector-1,  
NOIDA-201 301, Distt. Gautam Budh Nagar, U.P  
Tel.: 0120-4908000.

The details of the instruments of Bidding Document Cost and the EMD (DD/BG, etc. as applicable) have to be entered online in relevant fields/columns of the module while submitting the E-bid. It must be ensured by the bidder that the original instruments towards Bidding Document Cost and EMD are received by EESL before opening time of the techno-commercial bids for verification of the details of the same as given online by the bidder. Failure to comply with this would render the bid liable for rejection and the bid will not be opened online. EESL will not be responsible for any delay, loss or non-receipt of Bidding/RfP Document Cost or EMD sent by post/courier.

Any relaxation/exemption sought by bidders shall only be considered in accordance with relevant clauses Section-2 (ITB) regarding submission/payment of EMD and Bidding Document Cost and shall be subject to fulfilment of conditions defined in the said clauses. Since all the conditions explained in the said clauses for seeking exemption from submission of Bidding Document Cost and EMD are self-explanatory, bidders should ascertain about their fulfilment of all conditions and submit their bid accordingly. If at any stage, it is found that false information is furnished or non-compliance of any of the conditions defined at the said clauses, the bid/offer shall be considered as non-responsive and would not be



considered for further evaluation. Bidder seeking exemption from submission of the Bidding Document Cost and the EMD has to mandatorily submit/upload the scanned copy of their valid original registration certificate(s) as asked for in the relevant, clause along with other relevant documents as part of their online bid.

2.0 EESL reserves the right to cancel / withdraw the IFB without assigning any reason whatsoever and in such a case, no bidder / intending bidder shall have any claim arising out of such action.

3.0 The subject procurement will be done through e-tendering. The NIT is available on the website <https://eesl.eproc.in> or could be viewed after following the link of 'e-Tendering' on EESL's website's Home Page, i.e., <http://eeslindia.org> from where the bidders registered with EESL (registration process is explained at the Home Page) will be able to download the Tender documents and submit their bids online. The Tender submission, Tender closing and opening will be done electronically and online.

**NOTE: EESL has appointed M/s. C1 India Pvt. Ltd., NOIDA as implementation agency for carrying out e-Procurement. Also, as per IT ACT 2000, use of Digital Signature Certificate (DSC) is mandatory for participating in the E-tendering process. New bidders should register on the website <https://eesl.eproc.in> by payment of one-time registration fee of Rs. 5,000/- through DD in favour of "Energy Efficiency Services Limited".**

*Bidders are requested to visit "e-Tendering" section at EESL website, [www.eeslindia.org](http://www.eeslindia.org) for instructions and registration on E-tendering portal.*

#### **Steps for Registration on EESL's E-Procurement Portal**

- (i) Open portal by entering URL <https://eesl.eproc.in> in internet explorer.
- (ii) Download and read 'System Requirement Manual' and Registration Manual from our e-tendering portal <https://eesl.eproc.in>
- (iii) Click on 'Login/Sign Up' link and then Registration link for new registration.
- (iv) Fill all mandatory fields and click on submit button.
- (v) Login with the user id and password you have created. You will be redirected to a page where you have to enter your challenge phrase which is received in your registered email id.
- (vi) Register your class-III Signing and Encryption Digital Signature Certificate (DSC).
- (vii) Fill all mandatory fields of Common Info form and upload scan copy of your DD (in favour of "Energy Efficiency Services Limited", Noida) in PDF format of INR 5,000/- and click on save and send the original DD to EESL, Noida office, Covering Letter on your letter head pad and print out of page regarding registration of approval (automatically generated on screen).
- (viii) Also read the instructions given under E-tendering link available at home page of EESL website [www.eeslindia.org](http://www.eeslindia.org).

**Note:** Online registration shall be done on e-tendering website, i.e., <https://eesl.eproc.in> & in general, activation of registration may take 24 hours subject to the submission of original DD. It is sole responsibility of the bidder to register in advance.

#### **A. Digital Signature Certificate:**

It is mandatory for all the bidders to have class-III Digital Signature Certificate (DSC) with signing and Encryption certificate (in the name of person who will sign the BID) from any of the licensed Certifying Agency (Bidders can see the list of licensed CAs from the link [www.cca.gov.in](http://www.cca.gov.in) ) to participate in e-tendering of EESL.

#### **B. EESL Global Support Telephones and e-mail id**

Contact Details: +91-124-4302033/36/37, +91-8826814007  
[eeslsupport@c1india.com](mailto:eeslsupport@c1india.com), [sandeep.bhandari@c1india.com](mailto:sandeep.bhandari@c1india.com)

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## SECTION-2

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## SECTION-2

### INSTRUCTIONS TO THE BIDDER (ITB) / CONSORTIUM OF BIDDERS

#### A. The Bidding Documents

##### 1.1 The bidding documents include the following

Section-1	Invitation for Bids (IFB)
Section-2	Instructions to Bidder / Consortium of Bidders
Section-3	General Conditions of Contract
Section-4	Special Conditions of Contract explaining in detail technical specifications, scope of work for supply/supply and installation & Commissioning/Consultancy, drawings, documents in support of bidder's qualifications (Qualifying Requirement), and Online Price Bid format.
Section-5	Measurements and Verification
Section-6	Forms & Procedure Format of Bid Form. Format for submitting BG format in lieu of EMD. Format for Power of Attorney. Format for Certificate regarding acceptance of important terms and conditions. Format for Deviations Statement. Format for submission of Contract Performance Guarantee (CPG). Form of acceptance of Fraud Prevention Policy. Format for submitting BG for Advance Payment, wherever applicable. Format for RTGS/NEFT payments. Format for Declaration of quantity.

The bidder is expected to examine all the instructions, forms, terms, specifications and other information in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the bidder's risk and may result in rejection of bid.

#### Definitions

In the "Bid / Tender / Contract Document" as herein defined where the context so admits, the following words and expression will have the following meaning:

1. "Affiliate" shall mean a company that either directly or indirectly
  - i) controls or
  - ii) is controlled by or
  - iii) is under common control with

a Bidding Company (in the case of a single company) and "control" means ownership by one company

2. "B.I.S" shall mean specifications of Bureau of Indian Standards (BIS);
3. "Bid / Tender" shall mean the Techno Commercial and the Price Bid submitted by the Bidder along with all documents/credentials/attachments, formats, etc., in response to this Bid Document, in accordance with the terms and conditions hereof.
4. "Bidder / Tenderer" shall mean Bidding Company submitting the Bid. Any reference to the Bidder includes Bidding Company including its successors, executors and permitted assigns jointly and severally, as the context may require";
5. "Bid Security" shall mean the unconditional and irrevocable bank guarantee/ demand draft to be submitted along with the Bid by the Bidder under ITB Clause 2.4 of this Bid;
6. "Bidding Company" shall refer to such single/consortium company that has submitted the Bid in accordance with the provisions of this Bid;
7. "Bid Deadline" shall mean the last date and time for submission of Bid in response to this Bid as specified in Bid information Sheet and as specified in ITB Clause 3.2 of this Bid document including all amendments thereto;
8. "Bid Document" shall mean all Definitions, Sections, Layouts, Drawings, Photographs, Formats & Annexures etc. as provided in this bid including all the terms and conditions hereof.
9. "Chartered Accountant" shall mean a person practicing in India or a firm whereof all the partners

practicing in India as a Chartered Accountant(s) within the meaning of the Chartered Accountants Act, 1949;

10. "Competent Authority" shall mean Managing Director (MD) of EESL himself and/or a person or group of persons nominated by MD for the mentioned purpose herein;
11. "Company" shall mean a body incorporated in India under the Companies Act, 1956;
12. "Contract" means the agreement entered into between the Employer and the Contractor, as recorded in the Contract Form signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein;
13. "Contract Price / Contract Value" shall mean the sum accepted or the sum calculated in accordance with the prices accepted in Bid and/or the Contract rates as payable to the Contractor for the entire execution and full completion of the Work (Price for Supply, Transportation(including loading, unloading and transfer to Site), Insurance including change order.
14. "Completion of Work" means that the Project/Works have been completed operationally and structurally and Commissioning has been attained as per Technical Specifications.
15. "Commissioning" means successful operation of the Project/Works by the Contractor, for the purpose of carrying out Guarantee Test(s).
16. "Contract Document" shall mean collectively the Bid Document, Design, Drawings, and Specifications, Annexures, agreed variations, if any, and such other documents consisting the bid and acceptance thereof;
17. "Contractor's Equipment" means all plant, Works, equipment, machinery, tools, apparatus, appliances or things of every kind required in or for installation, completion and maintenance of Works that are to be provided by the Contractor, but does not include plant and equipment, or other things intended to form or forming part of the Works.
18. "Day" means calendar day;
19. "Defect Liability Period" means the period of validity of the warranties given by the Contractor (commencing at Completion of the Project/Works, during which the Contractor is responsible for defects with respect to the Project/Works.
20. "Employer" or "EESL" shall mean Energy Efficiency services Limited, New Delhi.
21. "Eligibility Criteria" shall mean the Eligibility Criteria as set forth in Section 3: Technical & Special Conditions of Contract of this BID;
22. "Engineer-in-Charge" shall mean the person designated from time to time by the Employer and shall include those who are expressly authorized by him to act for and on his behalf for operation of this Contract;
23. "Effective Date" means the date from which the Time for Completion shall be determined;
24. "GCC" means the General Conditions of Contract contained in this section;
25. "GHI" shall mean Global Horizontal Irradiation.
26. "Goods" means permanent plant, equipment, machinery, apparatus, articles and things of all kinds to be provided and incorporated in the Works by the Contractor under the Contract but does not include Contractor's Equipment,.
27. "Guarantee Test(s)" means the test(s) specified in the Technical Specification to be carried out to ascertain whether the Project/Works is able to attain the functional requirements specified in the Technical Specifications.
28. "The Government" means the Government of India.
29. "IEC" shall mean specifications of International Electro-technical Commission;
30. "EESL" shall mean Energy Efficiency Services Limited;
31. "Mobilization" shall mean establishment of adequate infrastructure by the Contractor at Site comprising of construction equipment's, aids, tools tackles, offices with facilities such as power, water, communication etc. including manpower comprising of Engineers, Supervising personnel and an adequate strength of skilled, semi-skilled and un-skilled workers, who with the so established infrastructure shall be in a position to commence execution of Work at site(s), in accordance with the agreed Time Schedule of Completion of Work.
32. "O&M/ AMC" shall mean Operation & Maintenance(O& M)/ Annual Maintenance Contract (AMC) of the supplied equipments;
33. "Parent Company" shall mean a company that holds paid-up equity capital directly or indirectly in the Bidding Company, as the case may be;
34. "Price Bid" shall mean separate Envelope, containing the Bidder's Quoted Price as per the format prescribed in Section-4 (Technical & Special Conditions of Contract) of this BID;
35. "Qualified Bidder" shall mean the Bidder(s) who, after evaluation of their Techno Commercial Bid as per Eligibility Criteria set forth in Section 3: Technical & Special Conditions of Contract of this BID stand qualified for opening and evaluation of their Price Bid;
36. "SNA" shall mean State Nodal Agency.
37. "SCC" means the Special Conditions of Contract.

38. "Statutory Auditor" shall mean the auditor of a Company appointed under the provisions of the Companies Act, 1956 or under the provisions of any other applicable governing law;
39. "Services" means all those services ancillary to the supply of the Works, to be provided by the Contractor under the Contract; e.g. transportation(including loading, unloading and transfer to Site) and provision of marine or other similar insurance, inspection, expediting, Site preparation works (including the provision and use of Contractor's Equipment and the supply of all civil, structural and construction materials required),installation,/Pre-commissioning, commissioning, carrying out guarantee tests, operations, maintenance, the provision of operations and maintenance manuals, training of Employer's personnel and one or two persons from the beneficiaries groups are imparted trainings etc.
40. "Successful Bidder(s) / Contractor(s)" shall mean the Bidder(s) selected by Employer pursuant to this Bid i.e. on whom award is made. They are also called as implementing partner which includes Consultants also.
41. "Site" means the Land and other places upon which the Works are to be installed, and such other land or places as may be specified in the Contract as forming part of the Site. The details of the Site are as contained in Section 3: Technical& Special Conditions of Contract of this BID.
42. "Sub-Contractor" means any person or firm or Company (other than the Contractor) to whom any part of the Work has been entrusted by the Contractor, with the written consent of the Engineer-in-Charge, and the legal representatives, successors and permitted assigns of such person, firm or company.
43. "Standards" shall mean the standards mentioned in the technical specification of the goods and equipment utilized for the Work or such other standard which ensure equal or higher quality and such standards shall be latest issued by the concerned institution like Bureau of Indian standards(BIS), MNRE, etc.
44. "Time for Completion" means the time within which Completion of the Project/Works is to be attained in accordance with the stipulations in the SCC and the relevant provisions of the Contract;
45. "Work" means the "Goods" to be supplied and installed, as well as all the "Services" to be carried out by the Contractor under the Contract;
46. "Wp" shall mean Watt Peak.
47. Third Parties means to which employer has awarded some work and consultant may be required to co-ordinate with third parties as per scope of work.
48. Agreed Remuneration means the fee to which consultant is entitled as per their quoted and agreed price according to the contract.
49. Consultant: The consultant shall be the professional undertaking or the professional individual named in the contract who is appointed by the employer to perform the services.

### **Interpretations**

1. Words comprising the singular shall include the plural & vice versa
2. An applicable law shall be construed as reference to such applicable law including its amendments or re-enactments from time to time.
3. A time of day shall save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
4. Different parts of this contract are to be taken as mutually explanatory and supplementary to each other and if there is any differentiation between or among the parts of this contract, they shall be interpreted in a harmonious manner so as to give effect to each part.
5. The table of contents and any headings or sub headings in the contract has been inserted for case of reference only & shall not affect the interpretation of this agreement.

### **1.2 Clarification on Bidding Documents**

A prospective Bidder requiring any clarification to the bidding documents may notify the EESL in writing or by post or by telex or telefax) at the EESL's mailing address indicated below. The EESL will respond in writing to any request for clarification or modification of the bidding documents that it receives no later than ten (10) days prior to the deadline for submission of bids prescribed by the EESL. Written copies of the EESL's response (including an explanation of the query but not identification of its source) will be sent to all prospective Bidders that have received the bidding documents.

The address of EESL, for communication:  
 Addl. General Manager (Contracts & BD),  
 Energy Efficiency Services Limited,  
 C/o Projects & Development India Ltd.,  
 PDIL Bhawan, 1st Floor, A-14, Sector-1,  
 NOIDA-201 301, Distt. Gautam Budh Nagar, U.P.

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The Bidder is advised to visit and examine the site where the facilities are to be installed and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for supply and installation of the facilities. The costs of visiting the site shall be borne by the bidder fully.

EESL will also facilitate the bidder and any of its personnel or agents for getting permission from the authorities, where actual work is to be executed, to enter upon its premises and lands for the purpose of such inspection, but only upon the express condition that the Bidder, its personnel and agents will release and indemnify the EESL and also the authorities, where work is to be executed, and its personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection.

Whenever the bidder is silent about the acceptance of RfP/IFB conditions such as bank guarantee, warranty period, liquidated damages, certification of relation clause no.2.13 [Conflict of Interest] etc. it shall be presumed that the bidder has accepted and certified RfP/IFB conditions and no further correspondence seeking specific confirmation about acceptance of these conditions shall be made.

The Bidder shall be deemed to have examined the Bid document, to have obtained his own information in all matters whatsoever that might affect carrying out the Works in line with the Technical specifications and Scope of Work specified in the document at the offered rates and to have satisfied himself to the sufficiency of his Bid. The bidder shall be deemed to know the scope, nature and magnitude of the work and requirement of materials, equipment, tools and labour involved, local and national wage structures and as to what all works he has to complete in accordance with the Bid documents irrespective of any defects, omissions or errors that may be found in the Bid documents

### **1.3 Amendment to bidding documents**

At any time prior to the deadline for submission of bids, the EESL may, for any reason, whether at its own initiative, or in response to a clarification requested by a prospective Bidder, amend the bidding documents.

The amendment will be notified in writing or by cable to all prospective bidders who have purchased the bidding documents and will be binding on them. Bidders are required to immediately acknowledge receipt of any such amendment, and it will be assumed that the information contained therein have been taken into account by the Bidder in its bid.

In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their bid, the EESL may, at its discretion, extend the deadline for the submission of bids.

### **1.4 Cost of tender Documents**

Interested bidder/consortium of bidders may download the RfP/ Tender documents from the website [www.eeslindia.org](http://www.eeslindia.org) or may purchase the detailed RfP from the EESL office, address of which is given above at 1.2, between 0900 hrs. and 1730 hrs. on working days on payment of amount as mentioned in Section-1. The payment would be accepted in the form of crossed Demand Draft (DD)/Pay Order/Banker's Cheque, drawn from any Scheduled Bank, payable at par at NOIDA, in favour of "Energy Efficiency Services Limited".

While submitting the bid (in case tender documents are downloaded from EESL website), bidder shall submit Tender Document Cost as mentioned in Section-1 in the form of DD/Pay Order/Banker's Cheque in favour of "Energy Efficiency Services Limited" payable at NOIDA along with the bid. However bidders who directly purchase the tender documents from EESL can do so by payment of requisite bid document fee at EESL office in the form of DD/Pay order or Banker's Cheque.

Exemption from payment of Tender/Bidding Document Cost/Fee shall be as per the provisions in Clause/Para No. 2.4 of the ITB.

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## B. Preparation of Bids

### 2.1 Procedure for Submission of Bid/RfP.

Single Stage Single Envelope Bidding Process:

The Bidder or Consortium of bidders should submit hard copy of the offer, i.e. Techno Commercial and Price Bid together in a single sealed envelope superscripted with Bid/RfP number and date, content of envelope, name of work and Bid opening date. Bid-Form, Power of Attorney, Certificate regarding acceptance of important terms and conditions, Deviations Statement, Form of acceptance of Fraud Prevention Policy, etc. as per format defined in Section-6 (Forms & Procedures) shall also be submitted in the same envelope.

Single Stage Two Envelope Bidding Process:

The Bidder shall seal the proposal in one outer and two inner envelopes labeled as Envelope-I and Envelope-II. Two Envelopes should contain the details of the offer as follows:

Envelope-I should contain (This envelope appear ONLINE in dynamic form in case of E-tenders)

- i. Tender Document Cost in the form of DD/Pay Order/Banker's Cheque (wherever applicable).
- ii. Bid Security/Earnest Money Deposit in the form of Banker's Cheque/Demand Draft/Pay order in favor of "Energy Efficiency Services Limited" or in the form of Bank Guarantee as prescribed format as Attachment-2 of Section-6 (Forms & Procedures). **(Only EMD and Bid document fee related document to be submitted by post in sealed envelope super-scribed with RfP/Tender reference in case of e-tender).**
- iii. Power of attorney to sign the bid as Attachment-3 of Section-6 (Forms & Procedures). Bidders to use their own format.
- iv. Certificate regarding acceptance of important terms and conditions as per ITB Clause No. 4.6 as Attachment-4 of Section-6 (Forms & Procedures).
- v. Letter of the bidder submitting the bid in the form as stipulated in the bid document, i.e., as per Bid Form as Attachment-1 of Section-6 (Forms & Procedures).
- vi. Deviation statement as per Attachment-5 of Section-6 (Forms & Procedures).
- vii. Form of acceptance of EESL fraud prevention policy as per Attachment-7 of Section-6 (Forms & Procedures).
- viii. Techno-commercial bid as indicated in bid document. Documentary evidence regarding bidder's qualifications to perform the contract as required in qualifying Requirement.

Envelope-II should contain Price Bid, to be submitted in 2<sup>nd</sup> inner sealed envelope, shall comprise of: (In case of E-tender Price bid is to be submitted ONLINE)

- i. Price Bid in the format prescribed in the tender document.

The entire two separately sealed envelopes will then be placed in one outer envelope, sealed and marked properly and submitted to the EESL office on or before the deadline for submission of the bid. Every envelope (2 inner and 1 outer) should be super-scribed with Bid/RfP number and date, content of envelope i.e. bid security/price bid etc., name of work and Bid opening date.

Single Stage Three Envelope Bidding Process:

The Bidder shall seal the proposal in one outer and three inner envelopes labeled as Envelope-I, Envelope-II and Envelope-III. Three Envelopes should contain the details of the offer as follows:

Envelope-I should contain (This envelope appear ONLINE in dynamic form in case of E-tenders).

- i. Bid document fee/cost of tender documents inform of DD/Pay order or banker's cheque [wherever applicable].
- ii. Bid Security fees/Earnest Money Deposit in form of Banker's Cheque/Demand Draft/Pay order in favor of "Energy Efficiency Services Limited" or in the form of Bank Guarantee as prescribed format [attachment 2 of section - 6, Forms& Procedure]. **(Only EMD and Bid document fee related document to be submitted by post in sealed envelope superscripted with RfP/Tender reference in case of e-tender)**
- iii. Letter of the bidder submitting the bid in the form as stipulated in the bid document i.e., as per

- iv. Bid Form as attachment 1 of section - 6, Forms & Procedure.
- v. Power of attorney to sign the bid as attachment 3 of section - 6, Forms & Procedure. Bidders to use their own format.
- vi. Certificate regarding acceptance of important terms and conditions as per ITB clause 4.6 as attachment 4 of section – 6 (Forms & Procedures).
- vii. Form of acceptance of EESL fraud prevention policy as per attachment 7 of section-6 (Forms & Procedures).

Envelope-II i.e. Techno commercial Proposal of the bid, to be submitted in 2<sup>nd</sup> inner sealed envelope, shall comprise of: (This envelope appear ONLINE in dynamic form in case of e tenders)

- i. Deviation statement as per attachment 5 of section - 6, Forms & Procedures.
- ii. Techno-commercial bid as indicated in bid document. Documentary evidence regarding bidder's qualifications to perform the contract as required in qualifying Requirement.

Envelope-III should contain Price Bid, to be submitted in 3<sup>rd</sup> inner sealed envelope, shall comprise of: (In case of e tender Price bid is to be submitted ONLINE)

- i. Price Bid in the format prescribed in the tender document.

The entire three separately sealed envelopes will then be placed in one outer envelope, sealed and marked properly and submitted to the EESL office on or before the deadline for submission of the bid. Every envelope (3 inner and 1 outer) should be superscripted with Bid/RfP number and date, content of envelope i.e. bid security/price bid etc , name of work and Bid opening date.

Copy of Bid/RfP should be a complete document and should be bound as a volume separately. The document should be page numbered and appropriately flagged and contain the list of contents with page numbers. The deficiency in documentation may result in the rejection of the Bid. All pages of the bid are to be signed by the authorized signatory (authorized through power of attorney) and must be having official seal of the bidder.

Bids not accompanied by cost of tender documents/Bid Security Fees or EMD etc. shall be out-rightly rejected and treated as non-responsive, unless exempted from payment/submission of tender document cost/EMD, in which case, the documents asked for towards exemption need to be enclosed in the bid. Further, their price-bid will be not be opened.

For tenders received in unsealed/unstapled/open condition or without any superscription, resulting in opening of tender before due date, the risk and responsibility of losing confidentiality shall rest with the tenderer (applicable for manual tender only)

## 2.2 Cost of Bid/ RfP

The Bidder or Consortium of bidders shall bear all costs associated with the preparation and submission of its Bid/RfP, including cost of presentation for the purposes of clarification of the bid, if so desired by the EESL. EESL will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

## 2.3 Language of Bids

The proposal prepared by the bidder/consortium of bidders and all correspondence and documents relating to the Bid/RfP exchanged by the bidder/consortium of bidders and EESL, shall be written in English language, provided that any printed literature furnished by the bidder/consortium of bidders may be written in another language so long the same is accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

## 2.4 Bid Security/Earnest Money Deposit (EMD) (To be submitted Offline before bid submission time)

Amount of Bid Security: Bid Security/Earnest Money deposit as mentioned in Section I is to be submitted.

The bidder shall furnish, as part of its bid, a bid security in a separate envelope (ITB Clause 2.1). The bid security shall, at the bidder's option, be in the form of a Banker's cheque, Demand Draft in favor of "Energy Efficiency Services Limited" or a bank guarantee as per format in section VI. Bid security/EMD shall remain valid for a period of 45 days beyond the original bid validity period. If there is any extension in bid validity period, then EESL may ask the bidder to extend the validity of bid security.

Any bid not accompanied by an acceptable Bid Security and Tender Document cost, unless exempted as per the Tender's provisions, shall be rejected by EESL as being non-responsive and returned to the bidder without being opened. The bid security of a consortium must be in the name of all the partners in the consortium submitting the bid. If lead partner is mentioned in case of consortium, then bid security can be in the name of lead partner.

The bid securities of unsuccessful bidders will be returned as promptly as possible after the award is made to lowest evaluated technically acceptable bidder.

The bid security of the successful bidder will be returned when the bidder has signed the contract agreement, and has furnished the required performance security.

Please note that:

- (i) All PSUs and Govt. Department may be exempted from Tender Document Fee and EMD for all Tenders of EESL.
- (ii) Vendors registered with NSIC under single point registration scheme certificate may be given exemption from EMD & Tender Document fee for all tenders of EESL subject to following conditions:
  - (a) NSIC Certificate must be valid for 3 months from the date of Bid-Opening,
  - (b) Monetary Limit of Annual Turnover in NSIC certificate should be Greater than or equal to the Annual Turnover required for that particular project.
  - (c) The supply item for which the tendering is done should be mentioned in the list of items attached with NSIC certificate.

The bid security may be forfeited if:

- a) If the bidder withdraws its bid during the period of bid validity as specified in the bid.
- b) If the bidder does not accept computational/arithmetical error correction made by EESL and as explained in "Financial Evaluation" section of the Bid/ RfP document.
- c) If the bidder does not accept assumptions, estimations etc. used for evaluation of bids as specified by EESL in tender documents and revision of his bid accordingly, in case other assumptions are used. If the bidder does not accept the sharing as specified in the bid.
- d) If the Bidder refuses to withdraw, without any cost to the EESL, any deviation not listed in Attachment 5 but found elsewhere in the bid; or
- e) In the case of successful bidder, if the bidder fails within the specified time limit:
  - To sign the contract agreement within 15 days of placement of LoI/Award letter.
  - To furnish the required performance guarantee, in accordance with the tender document.

## 2.5 Power of Attorney

Power of Attorney as attachment 3 in first envelope: A power of attorney duly authorized by a notary public, indicating that the person(s) signing the bid has/have the authority to sign the bid and thus the bid is binding upon the bidder during the full period of its validity in accordance with ITB clause 2.10.

## 2.6 Certificate Regarding Acceptance of Important Conditions

Certificate Regarding Acceptance of Important Conditions as attachment 4 is to be submitted in first envelope.

No deviation, other than mentioned in Deviation statement, is permitted by the EESL, to the provisions of the bidding documents listed in ITB sub-clause 4.6. The Bidders are advised that while making their bid proposals and quoting prices, these conditions may appropriately be taken into consideration. Bidders are required to furnish a certificate indicating their compliance to the provisions relating to the clauses listed in ITB sub-clause 4.6 in Attachment 4. Attachment 4 for acceptance of important conditions duly signed and stamped by the bidder is to be furnished in a separate sealed

first envelope/Online. Any bid not accompanied by such certificate in a separate sealed first envelope/such certificate Online shall be rejected by the EESL and returned to the Bidder without being opened.

## **2.7 Deviations,**

Deviations, if any, from the terms and conditions of bidding documents or technical specifications shall be listed only in Attachment 5 to the bid. The Bidder shall also provide the additional price, if any, for withdrawal of the deviations. However, the attention of the bidders is drawn to the provisions of ITB sub-clause 4.6 regarding the rejection of bids that are not substantially responsive to the requirements of the bidding documents.

Bidders may further note that except for the deviations listed in Attachment 5, the bid shall be deemed to comply with all the requirement in the bidding documents and the bidders shall be required to comply with all such requirements of bidding documents and technical specifications without any extra cost to the EESL irrespective of any mention to the contrary, anywhere else in the bid, failing which the bid security of the bidder may be forfeited.

At the time of award of contract, if so desired by the EESL, the bidder shall withdraw these deviations listed in Attachment-5 at the cost of withdrawal stated by him in his bid. In case the bidder does not withdraw the deviations proposed by him, if any, at the cost of withdrawal stated in the bid, his bid will be rejected and bid security forfeited.

## **2.8 Bid prices**

Unless otherwise specified in the technical specifications, bidders shall quote for the entire facilities on a "single responsibility" basis such that the total bid price covers all the contractor's obligations mentioned in or to be reasonably inferred from the bidding documents in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation, survey cost, monitoring and verification cost and completion of the facilities including supply of mandatory spares or spares to be supplied during warranty (if any). This includes all requirements under the contractor's responsibilities for testing, pre -commissioning and commissioning of the facilities and, where so required by the bidding documents, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the bidding documents, all in accordance with the requirements of the General Conditions of Contract and Technical Specification.

Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding documents. If a Bidder wishes to make a deviation to the provisions of the bidding documents, such deviations shall be listed in Attachment 5 of its bid. The bidder shall also provide the additional price, if any, for withdrawal of the deviations, pursuant to ITB sub-clause 2.7.

Bidders shall give a breakdown of the prices in the manner and detail called for in the price schedules.

## **2.9 Price Basis**

Price basis of the price quoted shall be on F.O.R (Free on Road) destination basis for site. Price mentioned in the quotation must be firm. Hence prices in Letter of Award shall be firm and not subject to escalation till the execution of the complete order and its subsequent amendments accepted by the bidder even though the completion / execution of the order may take longer time than the delivery period specified and accepted in the Letter of Award.

Statutory variation in applicable taxes & duties (other than excise duty) shall only be on account of Employer in case bidder has shown the rates of present taxes in their bid and other prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. Even in case prices asked in Bid price Schedule are quoted as inclusive of taxes , tax rates shall be shown separately. Bidders shall quote all prices in Indian Rupees only.

## **2.10 Period of Validity of Bid**

Bids shall remain valid for a period of 90 days after the closing date prescribed by the EESL for the receipt of bids. A bid valid for a shorter period may be rejected by the EESL as being non responsive.

In exceptional circumstances, the EESL may solicit the bidder's consent to an extension of the bid validity period. The request and response thereto shall be made in writing thro' letters/ e-mails .If the bidder accepts to prolong the period of validity, the bid security/EMD shall also be suitably extended. A bidder may refuse the request for Bid Validity Extension without forfeiting its bid security. A bidder granting the request will not be required nor permitted to modify its bid.

### **2.11 Format and Signing of Bid**

The original copy of the bid, consisting of the documents listed in ITB sub-clause 1.1 shall be typed or written in indelible ink and shall be signed by the bidder or a person or persons duly authorized to bind the bidder to the contract. The authorization shall be indicated by written power of attorney accompanying the bid and submitted as Attachment 3 to the bid under ITB sub-clause 2.5. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.

Any interlineations, erasures or overwriting shall only be valid if they are initialed by the signatory to the bid.

### **2.12 Contents of the RfP/Bid**

The Bidder or consortium of bidders is expected to examine all instructions, forms, terms & conditions and scope of work in the RfP/bid documents. Failure to furnish all information required or submission of an RfP/bid document not substantially responsive to the RfP/bid document in every respect will be at the bidder's risk and may result in the rejection of the RfP/bid.

### **2.13 Conflict of Interest**

EESL's policy requires that a bidder participating in a procurement/contract process under EESL financed projects shall not have a conflict of interest. All bidders found to have a conflict of interest shall be ineligible for award of contract.

A. Bidder may be considered to have a conflict of interest in a bidding process if:

- a) it, or any of its affiliates, has been engaged by EESL to provide consulting services for the preparation or implementation of a project, and participates in a bidding to provide goods, works, or non-consulting services resulting from or directly related to such consulting services. Or
- b) it submits more than one bid in a bidding process, either individually or as a partner in a joint venture, except for permitted alternative bids. This will result in the disqualification of all bids in which the bidder is involved. However, this does not limit the inclusion of a firm as a subcontractor in more than one bid and the participation of a bidder as a subcontractor in another bid in certain types of procurement/contract, if permitted by the EESL's bidding documents; or
- c) it (including its personnel or sub-contractors) has a business or family relationship with a member of a EESL's staff (or of the project implementing staff, or of a recipient of a part of the loan) who: are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or would be involved in the implementation or supervision of such contract unless the authority inviting tenders shall be informed of the fact/ such relationship at the time of submission of the tender and the conflict stemming from such relationship has been resolved in a manner acceptable to the EESL throughout the procurement process and execution of the contract. EESL may in its discretion reject the tender or rescind the contract.; or
- d) it does not comply with any other conditions that may be specified in the Company's Standard Bidding Documents relevant to the specific procurement process.

### **2.14 Disclaimer**

EESL and/or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information, forecasts, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in connection with any omission, negligence, default, lack of care or misrepresentation on the part of EESL and/or any of its officers, employees.

## **2.15 Authorized Signatory (Bidder or Consortium of bidders)**

The bidder or consortium of bidders as used in the RfP/ bid document shall mean the one who has signed the bid/RfP document forms. The bidder or consortium of bidders should be the duly authorized representative of the bidder/consortium of bidders, for which a certificate of authority/power of attorney will be submitted along with the offer. This should clearly define the authority provided to the authorized representative. Complete offer, all certificates and documents (including reply to any clarifications sought and any subsequent correspondences) shall be furnished and signed on all pages by the authorized representative.

The power of attorney or authorization, or any other document consisting of adequate proof of the ability of the signatory to bind the bidder or consortium of bidders shall be annexed to the bid as attachment 3 in envelope 1. EESL may reject outright any proposal not supported by adequate proof of the signatory's authority.

## **2.16 Consortium related conditions**

The bidder shall have the option to submit the proposal either alone or along with other partner companies. Prerequisites for bidder have been specified in qualifying requirement and other parts of the tender document. The lead partner shall be the sole point of contact for all purposes of the Contract. The lead partner will have the prime and sole responsibility for the execution of the scope of work. Any information/clarification submitted to the lead partner by EESL will mean that the same has been conveyed to all partners. However, the partner companies should not be involved in any major litigation that may have an impact of affecting or compromising the delivery of services as required under this contract. The bidder or any of the partner companies should not have been black-listed by any Central / State Government or Public Sector Undertakings. If at any stage of tendering process or during the currency of the contract, any suppression / falsification of such information is brought to the knowledge, EESL shall have the right to reject the proposal or terminate the contract, as the case may be, without any compensation to the tenderer & forfeiture of bid security/EMD/CPG.

## **2.17 Contact details of the Bidder or Consortium of bidders**

Bidder or Consortium of bidders who wants to receive EESL's response to queries should give their contact details to EESL. The Bidder or Consortium of bidders should send their contact details in writing at the EESL's contact address.

## **2.18 Inspection / Checking / Testing**

All materials / equipments manufactured by the bidder/consortium of bidders against the Letter of Award shall be subject to inspection, check and/or test by the EESL or his authorized representative at all stages and place, before, during and after the manufacture. All these tests shall be carried out in the as per technical specifications and bidder shall submit the relevant test reports. If upon delivery the material / equipment does not meet the specification, the materials / equipment shall be rejected and returned to the bidder for repairs / modification etc. or for replacement. In such cases all expenses including the to-and-fro freight, repacking charges, any other costs etc. shall be to the account of the bidder.

## **2.19 Removal of Rejected Goods and Replacement**

If upon delivery, whether inspected and approved earlier or otherwise, the material/equipment is not in conformity with the specification, the same shall be rejected by EESL or duly authorized representative and notification to this effect will be issued to the bidder normally within 7 days from the date of receipt of the material at the work/site/office.

The bidder shall arrange removal of the rejected items within 15 days from the date of notification. In the event, the bidder fails to lift the materials within the said 15 days, EESL shall be at liberty to dispose off such rejected items in any manner as it may deemed fit. All expenses incurred on storage, disposal etc. shall be recoverable from the bidder.

## **2.20 Access to Bidders Premises**

EESL and/or its authorized representative shall be provided access to bidder and/or his sub- bidder's premises, at any time during the pendency of the Order, for expediting, inspection, checking, etc. of work, if it is felt by EESL.

### **2.21 Taxes, Levies and Duties**

Prices of items shall be quoted as per instruction contained in SCC. However, in general, prices shall be inclusive of sales tax, transportation, insurance, levies , service tax and any other duties payable including entry tax/octroy etc, (wherever applicable) on FOR destination/site basis. All taxes and duties shall be clearly indicated. Bidder is to arrange on its own to deliver the material at site. No road permit is provided by EESL.

For hiring of consultant/consultancy work also service tax shall be quoted exclusive of basic price. However, rates of such taxes consider while preparing the offer should invariably be mention in the offer so that any variation in taxes (except excise duty) can be paid as actual.

### **2.22 Terms of Payment**

The payment will be made by EESL to the bidder in accordance with the terms and conditions specified in section 4 of special conditions of contract of tender document/agreed upon during negotiation and reproduced in Letter of Award.

### **2.23 Delivery Schedule**

Time will be the essence of order and no variation shall be permitted in the delivery time/delivery schedule mentioned in the order unless agreed by EESL without levy of LD. Tentative time schedule is enclosed in the RfP/ bid document. Delivery of the equipment/material described shall be deemed to constitute acceptance of this order and terms and conditions by the bidder at the price specified.

### **2.24 Source of Supply**

The bidder shall ensure that the indigenous capacity is utilized to the fullest extent possible in execution of this order. Where the imports are unavoidable, all such items shall be imported by the bidder in time against his own import license without affecting the contractual delivery schedule.

### **2.25 Patent Indemnity**

Royalties and fees for patents covering material/equipment or processes used in executing the work shall be to the account of the bidder. The bidder shall satisfy all demands that may be made at any time for such royalties and fees and he alone shall be liable for damages, infringement and shall keep EESL indemnified in that regard in the event of any equipment/ material or part there of supplied by the bidder is involved in any suit or other proceedings held to constitute infringement and its used is enjoyed, the bidder shall, at his own expenses, either procure for EESL the right to continue the use of such equipment/material replace it with a non-infringing material / equipment or modify it so it become non- infringing.

Tenderer shall agree to indemnify the EESL or/and hold it/them harmless from against all claims, liability, loss, damage or expense including counsel fees arising from or by reasons of an action or claimed trade mark patent or copyright infringement or any litigation based thereon with respect to any part of the quoted items and such obligation shall survive acceptance of and payment for the items.

### **2.26. Force Majeure**

Bidder shall not be considered in default if delay in delivery occurs due to causes beyond his control such as acts of God, natural calamities, civil wars, strikes, fire, frost, floods, riot. Only those causes which have duration of more than 7 days shall be considered cause of force/ calendar majeure. A notification to this effect duly certified by local chamber of commerce/ statutory authorities shall be given by the bidder to EESL by registered/speed post letter. In the event of delay due to such causes, the delivery schedule will be extended for a length of time equal to the period of force majeure or at the option of EESL, the order may be cancelled. Such cancellation, would be without any liability

whatsoever on the part of EESL. In the event of such cancellation, the bidder shall refund any amount advanced or paid to the bidder by EESL and deliver back any materials issued to him by the Purchaser and release facilities, if any provided by the Purchaser.

## **2.27 Limitation of Liability**

Except in cases of criminal negligence or willful misconduct, the Implementing Partner shall not be liable to the EESL, whether in contract, tort, or otherwise, 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 Implementing Partner to pay liquidated damages to the EESL and the aggregate liability of the Implementing Partner to the EESL, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Implementing Partner to indemnify the EESL with respect to patent infringement or as specified in SCC.

## **C. Submission of Bids**

### **3.1 Sealing and Marking of Bids**

The Bidder shall seal the original copy of the bid in envelope duly marking the envelopes as "ORIGINAL BID". All envelopes must be super-scribed with name of work, RfP No., envelope no., content of envelope and date and bid opening date. The envelopes shall then be sealed in an outer envelope which should also be super scribed with name of work, RfP/ bid document no./package no. and date and bid opening date.

### **3.2 Deadline for submission of bids**

Bids must be received by the EESL at the address specified as under and the bids will be opened at the same address as per timings stated in IFB and as repeated below.

Addl. General Manager (Contracts & BD),  
Energy Efficiency Services Limited,  
C/o Projects & Development India Ltd.,  
PDIL Bhawan, 1st Floor, A-14, Sector-1,  
NOIDA-201 301, Distt. Gautam Budh Nagar, U.P.  
Phone: 0120- 4908000  
Fax: 011-4908049  
Email: rana@eesl.co.in / ksaurabh@eesl.co.in

Date of submission of bids: As mentioned in Section I

Date of bid opening: As mentioned in Section I

Bids must be received at the address specified above but no later than the time and date stated as above. In the event of the specified date for submission of bids being declared a holiday for the EESL, the bids will be received up to the appointed time on the next working day.

The EESL may, at its discretion, extend this deadline for submission of bids by amending the bidding documents in accordance with ITB Sub-Clause 1.3, in which case all rights and obligations of EESL and bidders will thereafter be subject to the deadline as extended.

No bid may be withdrawn in the interval between the bid submission deadline and the expiration of the bid validity period specified in ITB Clause 2.10. Withdrawal of a bid during this interval may result in the bidder's forfeiture of its bid security, pursuant to ITB Sub-Clause 2.4.

### **3.3 Late Bids:**

Any bid received by the EESL after the bid submission deadline prescribed by the EESL, pursuant to ITB Clause 3.1 & 3.2, will be rejected and returned in unopened condition.

## **D Bid Opening and Evaluation**

### **4.1 Bid Opening Process**

The EESL will open all bids in the presence of bidders' representatives who choose to attend the opening at the time, on the date and at the place specified in the NIT. Bidders' representatives shall

sign a format as proof of their attendance. In the event of the specified date for the opening of bids being declared a holiday for the EESL, the bids will be opened at the appointed time on the next working day.

Bidders' names, bid prices, discounts, the presence or absence of requisite bid security and other such details as the EESL, at its discretion, may consider appropriate, will be announced at the opening. Late bids pursuant to ITB clause 3.2, and/or bids not accompanied by the "Certificate regarding acceptance of important conditions" as per Attachment-4 in a separate sealed envelope pursuant to ITB sub-clause 2.6, and/or bids not accompanied by requisite bid security in a separate sealed envelope pursuant to ITB clause 2.4, will be rejected and returned unopened to the bidder.

Bids that are not opened and read out at bid opening will not be considered for further evaluation, regardless of the circumstances.

The EESL will prepare minutes of the bid opening.

#### **4.2 Clarification on Bids**

During bid evaluation, the EESL may, at its discretion, ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid shall be sought, offered or permitted. The address for communication will be same as ITB clause 1.2.

#### **4.3 Preliminary Examination of Bids.**

The EESL will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

#### **4.4 Arithmetical errors rectification process**

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between sub totals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept the correction of errors, its bid will be rejected and the bid security will be forfeited in accordance with ITB Sub-Clause 2.4.

The EESL may waive any minor informality, nonconformity or irregularity in a bid that does not constitute a material deviation, whether or not identified by the bidder in Attachment 4 to its bid, and that does not prejudice or affect the relative ranking of any bidder as a result of the technical and commercial evaluation, pursuant to ITB clauses 4.7 and 4.8.

#### **4.5 Preliminary Evaluation**

Prior to the detailed evaluation, the EESL will determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the bidding documents. For purposes of this determination, a substantially responsive bid is one that conforms to all the terms, conditions and specifications of the bidding documents without material deviations, objections, conditionality's or reservations. A material deviation, objection, conditionality or reservation is one (i) that affects in any substantial way the scope, quality or performance of the contract; (ii) that limits in any substantial way, inconsistent with the bidding documents, the EESL's rights or the successful bidder's obligations under the contract; or (iii) whose rectification would unfairly affect the competitive position of other bidders who are presenting substantially responsive bids.

#### **4.6 Acceptance of Important Condition**

No deviation, whatsoever, is permitted by the EESL to the provisions relating to the following clauses (Important Conditions). Party is to submit the following as attachment 4 in envelope 1:

Governing Laws

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Clause 7 of ITB

NIT/Bid Document No. EESL/06/ICB-AMI-System Integrator/171809048.	SECTION - 2 (ITB)	Page 17 of 33
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Settlement of Disputes	-	Clause 17 of ITB
Terms of payment	-	Clause 2.0 of SCC
Performance Security	-	Clause 5.9 of ITB
Taxes and Duties	-	Clause 8 of ITB
Completion Time Guarantee	-	Clause 9 of ITB
Defects Liability	-	Clause 10 of ITB
Functional Guarantee	-	Clause 11 of ITB
Patent Indemnity	-	Clause 2.25 of ITB
Limitations of Liability	-	Clause 2.27 of ITB
Project information, Estimation, Assumptions and conditions for Evaluation	-	As per Tables in price bid

Bidders are required to furnish a certificate as per Attachment 4, indicating their compliance to the provisions of the above clauses in a separate sealed envelope. In case the certificate as per Attachment-4 duly signed and stamped by the bidder, is not furnished along with the bid in a separate sealed envelope, the bid shall be rejected and returned to the bidder without being opened

At the time of award of contract, if so desired by the EESL the bidder shall withdraw the deviations listed in attachment 5 at the cost of withdrawal stated by him, in his bid. In case the bidder does not withdraw the deviations proposed by him in attachment 5 to his bid, if any; at the cost of withdrawal stated in his bid, his bid will be rejected and security will be forfeited.

The EESL's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence. If a bid is not substantially responsive, it will be rejected by the EESL, and may not subsequently be made responsive by the bidder by correction of the nonconformity.

#### **4.7 Technical Evaluation**

The EESL will carry out a detailed evaluation of the bids previously determined to be substantially responsive in order to determine whether the technical aspects are in accordance with the requirements set forth in the bidding documents. In order to reach such a determination, the EESL will examine and compare the technical aspects of the bids on the basis of the information supplied by the bidders, taking into account the following factors:

- a) Overall completeness and compliance with the technical specifications and drawings; deviations from the technical specifications as identified in Attachment 5 to the bid; suitability of the facilities offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the bid. The bid that does not meet minimum acceptable standards of completeness, consistency and detail will be rejected for non- responsiveness.
- b) Achievement of specified performance criteria by the facilities as per scope of work
- c) Type, quantity and long-term availability warranty spare parts and also mandatory and recommended spare parts and maintenance services
- d) Any other relevant factors, if any, listed in the tender document, or that the EESL deems necessary or prudent to take into consideration.

#### **4.8 Commercial Evaluation**

The comparison shall be of the FOR site price of domestically manufactured plant and equipment including type test charges, if any and mandatory spares, warranty spares plus applicable sales tax & duties as well duties and taxes paid/payable on components and raw materials incorporated or to be incorporated in the plant and equipment including mandatory spares/warranty spares plus the cost of loading, unloading, local transportation, insurance covers, installation and commissioning, civil work other services required under the contract including service tax and surcharge, if any plus any survey cost, monitoring and verification cost, distribution cost, scrap disposal cost, annual maintenance cost, any services as per scope of work, administrative charges and statutory agencies cost including service tax and surcharge, if any. The EESL's comparison will also include the costs resulting from application of the evaluation procedures described in ITB sub-clause 4.9. However, the price of recommended spare parts or optional spares or services, if asked in the bid, shall not be considered for evaluation of bids.

The EESL's evaluation of a bid will take into account, in addition to the bid prices indicated in price schedules in section 4 along with the corrections pursuant to ITB sub-clause 4.3, the following costs and factors that will be added to each bidder's bid price in the evaluation using pricing information available to the EESL, in the manner and to the extent indicated in ITB sub-clause 4.9 and in the technical specifications:

- a) The cost of all quantifiable deviations and omissions from the contractual and commercial conditions and the technical specifications as identified in Attachment 5 to the Bid.
- b) Compliance with the time schedule called for and evidenced as needed in a milestone schedule provided in the bid.
- c) The functional guarantees of the facilities offered as per scope of work.
- d) The extra cost of work, services, facilities etc, required to be provided by the EESL of third parties.

**4.9 Evaluations of Deviations:**

Pursuant to ITB Sub-Clause 4.8, the following evaluation methods will be followed:

a) Technical and Commercial Deviations

The evaluation shall be based on the evaluated cost of fulfilling the contract in compliance with all commercial, contractual and technical obligations under this bidding document. In arriving at the evaluated cost, the price for withdrawal of deviations shown in Attachment 5 to the bid will be used if necessary. If such a price is not given in Attachment-5, the EESL will make its own assessment of the cost of such a deviation for the purpose of ensuring fair comparison of bids.

b) Time schedule (program of performance)

The plant and equipment covered by this bidding are required to be transported/ shipped and installed, and the facilities are to be completed within the period as mentioned below.

Completion of all facilities/work: As per year/months in SSC.

The above date will be the effective date specified in the contract agreement. Bidders are required to base their prices on the time schedule or, where no time schedule is given, on the completion date(s) given above. No credit will be given for earlier completion.

The master network and the key milestone dates will be discussed with the successful bidder and agreed upon in pre-award discussion before issuance of Letter of Award. Engineering drawing and data submission schedule shall also be discussed and finalized before the issuance of Letter of Award.

After the Letter of Award, the contractor shall plan the sequence of work manufacture, supply, installation to meet the above stated dates of successful completion of facilities and shall ensure all work, manufacture, shop testing, inspection and shipment of the equipment in accordance with the required sequence.

c) Functional Guarantees of the facilities

Bidders shall state the functional guarantees (e.g. performance, efficiency, consumption) of the proposed facilities in response to the technical specifications. In case a minimum (or a maximum, as the case may be) level of functional guarantees is specified in the technical specifications for the bids to be considered responsive, bids offering plant and equipment with such functional guarantees less (or more) than the minimum (or maximum) specified shall be rejected.

d) Work, services, facilities etc., to be provided by the EESL

Where bids include the undertaking of work or the provision of services or facilities by the EESL in excess of the provisions allowed for in the bidding documents, the EESL shall assess the costs of such additional work, services and/or facilities during the duration of the contract. Such costs shall be added to the bid price for evaluation.

**4.10 Illustrative Method of Evaluation**

	Any Bidder(INR)
1 Quoted bid price without taxes and duties (After considering arithmetical errors)	
i) Ex works including Excise duty price including Type test Charges/Lab Test charges + inland transportation including inland Transit insurance etc. For equipment and spares	N1
ii) Prices for dismantling and/or installation	N2
iii) Prices for additional Warranty, if any	N3
iv) Total Price	N(N1+N2+N3)
 2. Taxes and Duties	
i) CST/VAT	T1
ii) Service Tax	T2
iii) Total	T(T1+T2)
 3. Cost Compensation	
i) Technical Cost Compensation	TCC
ii) Commercial Cost Compensation	CCC
iii) Total	TCC+CCC
 4. Adjustments for Functional Guarantees	X
 5. Final Evaluated Bid Price	N+T+TCC+CCC+X

**4.11 Contacting the Employer**

Subject to ITB Clause 20, no Bidder shall contact the Employer on any matter relating to its bid, from the time of the opening of bids to the time the contract is awarded.

Information relating to the examination, evaluation and comparison of bids and recommendations for the award of contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a Bidder to influence the Employer in the Employer’s bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder’s bid.

**E Award of Contract**

**5.1 Post qualification**

In the absence of pre-qualification, the EESL will determine to its satisfaction whether the bidder selected as having submitted the lowest evaluated responsive bid/or bidder giving highest return to EESL, as the case may be, as mentioned in special condition of contract is qualified to satisfactorily perform the contract in terms of the qualifying requirements stipulated in IFB/NIT and section 3.

The determination will take into account the bidder's financial, technical and production capabilities, in particular its contract, work in hand, future commitments and current litigation. It will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder in RfP forms in section IV to the bid, as well as such other information as the EESL deems necessary and appropriate.

An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid, in which event the EESL will proceed to the next lowest evaluated bid/next bid giving highest return to EESL to make a similar determination of that bidder's capabilities to perform satisfactorily.

The capabilities of the vendors and subcontractors proposed in section 3, if permitted, to the bid to be used by the lowest evaluated bidder or bidder giving highest return to EESL as per SCC will also be evaluated for acceptability. Their participation should be confirmed with a letter of intent between the parties, as needed. Should a vendor or subcontractor be determined to be unacceptable, the bid will not be rejected, but the Bidder will be required to substitute an acceptable vendor or subcontractor without any change to the bid price.

The Employer reserves the right to assess the capacity and capability of the bidder/ his collaborator to satisfactory execute the contract. Such assessment shall include but not be limited to the evaluation of adequacy of facilities, services, resources, design / engineering capability and financial capability

## 5.2 Award criteria

Subject to ITB Clause 5.5, the EESL will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and to be the lowest evaluated technically acceptable bid or bid offering highest return to EESL as the case may be as per tender documents and special conditions of contract, further provided that the Bidder is determined to be qualified to perform the contract satisfactorily

Except for the deviations listed in Attachment-5, the bidder would be required to comply with all the requirements of bidding documents without any extra cost to EESL failing which his bid security will be forfeited. Further, the EESL may request the bidder to withdraw any or all of the deviations listed in Attachment – 5 to the winning bid, at the price shown for the deviation in Attachment 5 to the bid. In case the bidder does not withdraw the deviations proposed by him, if any, at the cost of withdrawal stated in the bid, his bid will be rejected and bid security forfeited.

The mode of contracting with the Successful Bidder will be as per stipulation briefly indicated below:

- (i) First Contract: For supply of plant and equipment.
- (ii) Second Contract: For providing all services i.e. inland transportation for delivery at site, inland transit insurance, unloading, storage, handling at site, installation (including civil. Structural steel work & allied work, if applicable) insurance covers other than inland transit insurance, erection, testing & commissioning, conducting Guarantee tests in respect of all the Goods supplied under the 'First Contract' and all other
- (iii) Services as specified in the Contract Documents.

The above Contracts will contain a cross-fall breach clause specifying that breach of one Contract will constitute breach of the other Contract which will confer a right on the Employer to terminate the other Contract also at the risk and the cost of the Contractor

## 5.3 Quantity Variation

The EESL reserves the right to vary the quantity of any of the spares and maintenance equipment upto +/- 20% and/or delete any items of spares altogether at the time of Award of Contract.

Successful bidder, on whom award is made, is to supply this quantity variation at same price and terms and conditions of contract.

#### **5.4 Additions / Alterations / Modifications**

EESL reserves the right to make minor additions/alterations/modifications to the quantity of the items to the extent of +/- 20% in the Letter of Award. The bidder shall supply such quantities also at the same rate as originally agreed to and incorporated in the Letter of Award. However EESL may increase this quantity, if required.

#### **5.5 EESL's right to accept any bid and to reject any or all bids**

The EESL reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of contract, without thereby assigning any reason thereof and incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the EESL's action.

#### **5.6 Letter of Intent / Letter of Award**

Prior to the expiration of the period of bid validity, the EESL will notify the successful bidder in writing by issuing Letter of Intent or Letter of Award either through telefax/ scanned e-mail or through registered/speed post/couriered letter, that its bid has been accepted. The letter of award will constitute the formation of the contract. In case, bidder does not return the duplicate copy of LOA with duly signed and acceptance within 10 days, then the LOA will be deemed to be accepted by the successful bidder, on whom award is made.

The bidder shall return duplicate copy of the Lol/LoA/contract and the other enclosed documents duly signed as a token of acceptance, within 15 days from the date of receipt of this order. Bidder is to make two original copies of contract containing Contract agreement at top, and then Letter of award, techno commercial offer, copy of price bid and copy of all tender documents are to be placed. Three more copies of the contract to be submitted by the bidder in addition to two original at bidder's own cost. Total five copies of contract including two originals copies are to be submitted. This is to be done on instructions of Contract deptt.

Upon the successful bidder's furnishing of the performance security pursuant to ITB Clause 5.9, the EESL will promptly notify each unsuccessful bidder and will discharge its bid security.

#### **5.7 Cancellation**

EESL reserves the rights to cancel the order in the part or in full by giving one week advance notice thereby if-

- The bidder fails to comply with any of the terms of the order.
- The bidder becomes bankrupt or goes in to liquidation.
- The bidder makes general assignment for the benefit of the creditors and any receiver is appointed for the property owned by the bidder.

#### **5.8 Modifications**

This order constitutes an entire agreement between the parties hereto. Any modifications to this Order shall become binding only upon the same being confirmed in writing duly signed by both the parties.

Signing the Contract Agreement

At the same time as the EESL notifies the successful Bidder that its bid has been accepted, the EESL will send the bidder the contract agreement provided in the bidding documents, incorporating all agreements between the parties.

Within twenty-one (21) days of receipt of the contract agreement, the successful bidder shall sign and date the contract agreement and return it to the EESL. Contract agreement will contain agreement on stamp paper, bid documents and bidder's offer etc.

## 5.9 Performance security

Within twenty-eight (28) days after receipt of the letter of award, the successful bidder shall furnish the performance security for ten percent (10%) of the contract price or as specified in tender documents and in the form provided in the section "Forms and Procedures" of the bidding documents or in another form acceptable to the EESL.

In case Joint Deed(s) of Undertaking by the Contractor along with his associate(s)/collaborator(s) form part of the Contract, then, unconditional Bank Guarantee(s) from such associate(s)/collaborator(s) for amount(s) specified in Bid

Failure of the successful Bidder to comply with the requirements of ITB Clause 5.7 or Clause 5.8 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the EESL may make the award to the next lowest evaluated bidder or call for new bids.

## 5.10 Corrupt or Fraudulent practices:

The EESL requires that bidders observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the EESL: defines, for the purposes of this provision, the terms set forth below as follows:

a. i) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution ; and

ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the EESL, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the EESL of the benefits of free and open competition;

b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract of the EESL.

## 5.11 Ineligibility for Future Tenders

Notwithstanding the provisions specified in ITB sub clause 2.4 and ITB sub clause 5.7 and 5.8, if a bidder after having been issued and letter of award, either does not sign the contract agreement pursuant to ITB clause 5.7 or does not submit a acceptable performance security pursuant to ITB clause 5.9, such bidder may be considered ineligible for participating in future tenders of EESL for a period as may be decided by the EESL.

Successful bidder is to submit interchangeability certificate for its product supplied for replacement during warranty and maintenance period and even when it is purchased from open market. In case due to change in technology , the supplied product is not available during warranty/ maintenance period than the improved version of product can be used in warranty/ maintenance period with same or improved technical parameters or the combination thereof after written communication of Engineer in Charge at same cost& terms and conditions. Successful Bidder, on whom letter of award has been placed, has also to confirm that the prices of improved version of product is not lesser than the original product or its parts in comparison.

Note: Special Terms and Conditions will prevail upon the instruction to Bidders.

## 6.0 Liquidated Damages

In case of any delay in the execution of the order beyond the stipulated time schedule including any extension permitted in writing, EESL reserves the right to recover from the bidder a sum equivalent to 0.5% of the value of the delayed equipment installation/unexecuted portion of work for each week of delay and part thereof subject to a maximum of 5% of the total value of the contract.

Alternatively, EESL reserves the right to purchase and distribute equipment/ material from elsewhere at the sole risk at the cost of successful bidder/contractor and recover all such extra cost incurred by EESL in procuring the material from resources available including EMD/Bid Security/encashment of Bank Guarantee or any other sources etc. Further, if any extra cost is incurred by EESL due to delay in work completion by the party beyond the completion time as per P.O./L.O.A., the same shall also be recovered from party's invoice/EMD/BGs etc .

Alternatively, EESL may cancel the order completely or partly without prejudice to his right under the alternatives mentioned above.

## **7.0 Governing Law**

The Contract shall be governed by and interpreted in accordance with laws in force in India. The Courts of Delhi shall have exclusive jurisdiction in all matters arising under the Contract.

## **8.0 Tax and Duties**

8.1 Except as otherwise specifically provided in the Contract, the Implementing Partner shall bear and pay all taxes, duties, levies and charges assessed on the Implementing Partner, its Sub Implementing Partners or their employees by all municipal, state or national government authorities in connection with the Facilities in and outside of the country where the Site is located.

8.2 Notwithstanding above Sub-Clause 8.1 above, the EESL shall bear and promptly reimburse all customs and import duties, if imposed in future, on the Plant and Equipment including Type Test and mandatory spares supplied from abroad and specified in Price Schedule (and on spare parts to be supplied from abroad and specified in Schedule, when awarded) and that are to be incorporated into the Facilities, by the law of the country where the Site is located. However, if the plant and equipment are shipped in Shipper's containers, then the custom duty levied on the cost of empty containers shall be borne and paid/ reimbursed by the Implementing Partner. The EESL shall also bear and pay/ reimburse to the Implementing Partner/Assignee of Foreign Implementing Partner (if applicable) Sales Tax (but not the surcharge in lieu of Sales Tax), Local Tax including Entry Tax / Octroi (if applicable) in respect of direct transactions between the EESL and the Implementing Partner, if imposed on the Plant and Equipment including Type Test and Mandatory Spares manufactured within the EESL's country and specified in Price (and also on locally supplied spares quoted when awarded) to be incorporated in the Facilities, by the law of country where the site is located. For this purpose, the Ex-works price if quoted in foreign currency and so incorporated in the contract, shall be converted to Indian Rupees as per the TT buying exchange rates established by State Bank of India prevailing on the actual date of Ex-works (India) dispatch.

All taxes, duties and levies on works contract, if any, shall be to the Implementing Partner's account and no separate claim in this regard will be entertained by the EESL.

8.3 If any tax exemptions, reductions, allowances or privileges is available to the Implementing Partner in the country where the Site is located, the EESL shall use its best endeavors to enable the Implementing Partner to benefit from any such tax savings to the maximum allowable extent.

8.4 For the purpose of the Contract, it is agreed that the Contract Price specified in Contract Price and Terms of Payment of the Contract Agreement is based on the taxes, duties, levies and charges prevailing at the date seven (7) days prior to the last date of bid submission in the country where the Site is located (hereinafter called "Tax" in this Sub-Clause 8.4). If any rates of Tax are increased or de-created, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Implementing Partner in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there-from. However, these adjustments would be restricted to direct transactions between the EESL and the Contractor/assignee of Foreign Implementing Partner (if applicable). These adjustments shall not be applicable on procurement of raw materials, intermediary components etc. by the Implementing Partner/assignee and also not applicable on the bought out items dispatched directly from sub-vendor's works to site.

## 9.0 Completion Time Guarantee:

9.1 If the Successful bidder, on whom award is made/Implementing Partner/Consultant fails to attain Completion of the Facilities or any part thereof within the Time for Completion or any extension thereof under ITB Clause 2.23, the Successful bidder, on whom award is made/Implementing Partner/Consultant shall pay to the EESL liquidated damages in the amount computed at the rates specified in the SCC. The aggregate amount of such liquidated damages shall in no event exceed the amount specified as "Maximum" in the SCC. Once the "Maximum" is reached, the EESL may consider termination of the Contract.

Such payment shall completely satisfy the Successful bidder, on whom award is made/Implementing Partner/Consultant obligation to attain Completion of the Facilities or the relevant part thereof within the Time for Completion or any extension thereof under ITB Clause 2.23. The Implementing Partner shall have no further liability whatsoever to the EESL in respect thereof.

However, the payment of liquidated damages shall not in any way relieve the Successful bidder, on whom award is made/Implementing Partner/Consultant from any of its obligations to complete the Facilities or from any other obligations and liabilities of the Implementing Partner under the Contract.

## 10.0 Defect Liability

10.1 The Successful bidder, on whom award is made/Implementing Partner/Consultant warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant and Equipment supplied and of the work executed, wherever applicable.

10.2 The Defect Liability Period shall be eighteen (18) months from the date of Completion of the Facilities (or any part thereof) or twelve (12) months from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the SCC.

If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant and Equipment supplied or of the work executed by the Implementing Partner, the Implementing Partner shall promptly, in consultation and agreement with the EESL regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good (as the Implementing Partner shall, at its discretion, determine) such defect as well as any damage to the Facilities caused by such defect. The Implementing Partner shall not be responsible for the repair, replacement or making good of any defector of any damage to the Facilities arising out of or resulting from any of the following causes:

- improper operation or maintenance of the Facilities by the EESL
- operation of the Facilities outside specifications provided in the Contract.
- Normal wear and tear.

10.3 The EESL shall give the Successful bidder, on whom award is made/Implementing Partner a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The EESL shall afford all reasonable opportunity for the Implementing Partner to inspect any such defect.

10.4 The EESL shall afford the Implementing Partner all necessary access to the Facilities and the Site to enable the Implementing Partner to perform its obligations.

The Implementing Partner may, with the consent of the EESL, remove from the Site any Plant and Equipment or any part of the Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.

10.5 If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the EESL may give to the Implementing Partner a notice requiring that tests of the defective part of the Facilities shall be made by the Implementing Partner immediately upon completion of such remedial work, whereupon the Implementing Partner shall carry out such tests.

If such part fails the tests, the Implementing Partner shall carry out further repair, replacement or making good (as the case may be) until that part of the Facilities passes such tests. The tests in character shall in any case be not less than what has already been agreed by the EESL and the Implementing Partner for the original equipment/part of the Facilities.

10.6 If the Implementing Partner fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), the EESL may, following notice to the Implementing Partner, proceed to do such work, and the reasonable costs incurred by the EESL in connection therewith shall be paid to the EESL by the Implementing Partner or may be deducted by the EESL from any monies due to the Implementing Partner or claimed under the Performance Security.

10.7 If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the EESL because of any of the aforesaid reasons. Upon correction of the defects in the Facilities or any part thereof by repair/ replacement, such repair/replacement shall have the Defect Liability Period extended by a period of twelve (12) month from the time such replacement/ repair of the Facilities or any part thereof.

10.8 In addition, the Implementing Partner shall also provide an extended warranty for any such component of the Facilities and during the period of time as may be specified in the SCC. Such obligation shall be in addition to the defect liability specified under ITB Clause 10.2 or as specified in SCC.

## 11.0 Functional Guarantees

11.1 The Implementing Partner guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees as specified in the Contract Agreement, subject to and upon the conditions therein specified.

11.2 If, for reasons attributable to the Implementing Partner, the guaranteed level of the Functional Guarantees specified in the Contract Agreement are not met either in whole or in part, the Implementing Partner shall, within a mutually agreed time, at its cost and expense make such changes, modifications and/or additions to the Plant or any part thereof as may be necessary to meet such Guarantees. The Implementing Partner shall notify the EESL upon completion of the necessary changes, modifications and/or additions, and shall seek the EESL's consent to repeat the Guarantee Test. If the specified Functional Guarantees are not established even during the repeat of the Guarantee Test, the EESL may at its option, either

- Reject the Equipment and recover the payments already made, or
- Terminate the Contract and recover the payments already made, or
- Accept the equipment after levy of liquidated damages in accordance with the provisions specified in the Contract Agreement.

## 12.0 Inspections and Tests

12.1 Inspection of Goods: The Employer or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Employer. (SCC and the Technical Specifications shall specify what inspections and tests the Employer requires and where they are to be conducted). The Employer shall notify the Contractor in writing in a timely manner of the identity of any representatives retained for these purposes.

12.2 The inspections and tests may be conducted on the premises of the Contractor or its subcontractor(s), at point of delivery and/or at the Goods final destination. If conducted on the premises of the Contractor or its subcontractor(s), all reasonable Works and assistance, including access to drawings and production data shall be furnished to the inspectors at no cost to the Employer.

12.3 Should any inspected or tested Goods fail to conform to the specifications, the Employer may reject and the Contractor shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Employer.

12.4 The Employer's right to inspect, test and, where necessary, reject the Goods after the arrival at Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Employer or its Representative prior to the Goods shipment.

12.5 Nothing in GCC Clause 6 shall in any way release the Contractor from any warranty or other obligations under this Contract.

12.5 Manuals and Drawings

12.6 Before the Goods and Services are taken over by the Employer, the Contractor shall supply operation and maintenance manuals together with drawings of the goods and equipment. These shall be in such detail as will enable the Employer to operate, maintain, adjust and repair all parts of the equipment as stated in the specifications.

12.7 The manuals and drawings shall be in the English ruling language and in such form and numbers as stated in the contract.

12.8 Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purpose of taking over until such manuals and drawings have been supplied to the Employer.

12.9 It shall be the obligation of the Contractor to train and familiarise the designated person by the Employer in regard to the operation manual and drawings.

### **13.0 Insurance**

13.1 The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. For delivery of goods at site, the insurance shall be obtained by the Contractor, for an amount not less than the Contract Price of the goods from "warehouse to warehouse" (final destinations) on "All Risks" basis including War risks and strikes.

### **14.0 Transportation, Demurrage Wharfage, Etc.**

14.1 Contractor is required under the Contract to transport the Goods to place of destination defined as Site. Transport to such place of destination in India including insurance, as shall be specified in the Contract, shall be arranged by the Contractor, and the related cost shall be included in the Contract Price.

Successful bidder, on whom letter of award is placed, is to ensure all safety guidelines, rules and regulations, labour laws etc. Successful bidder indemnify EESL for any accident, injury met by its labour, employee or any other person working for him. Any compensation sought by its labour, employee or any other person working for him shall be paid by successful bidder as per settlement solely. EESL has no role to play in this matter

### **15.0 Warranty**

15.1 The Contractor warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Contractor further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by the Employer's Specifications) or from any act or omission of the Contractor, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

15.2 This warranty of all the Works shall remain valid for 2 year after the Commissioning. The Contractor shall, in addition, comply with the performance and/or guarantees specified under the Contract. If for reasons attributable to the Contractor, these guarantees are not attained in whole or in part, the Contractor shall:

15.3 make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC Clause 2;  
OR

15.4 pay liquidated damages to the Employer with respect to the failure to meet the contractual guarantees.

15.5. The Employer shall notify the Contractor in writing of any claims arising under this warranty.

15.6 Upon receipt of such notice, the Contractor shall, within the period of 15 days and with all reasonable speed, repair or replace the defective Goods or parts thereof, free of cost at the ultimate destination. The Contractor shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever shall lie on the Employer for the replaced parts/goods thereafter. In the event of any correction of defects or replacement of defective material during the Warranty period, the Warranty for the corrected or replaced material shall be extended to a further period.

15.7 If the Contractor, having been notified, fails to remedy the defect(s) within 15 days, the Employer may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Employer may have against the Contractor under the Contract. The performance guarantee and liquidated damages to be recovered without prejudice to other rights of the Employer.

## **16.0 Termination for Default**

16.1 The Employer may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Contractor, terminate the Contract in whole or part:

16.2 if the Contractor fails to deliver any or all of the Goods and complete the Work within the period(s) specified in the Contract within any extension thereof granted by the Employer pursuant to GCC Clause 20; or

16.3 if the Contractor fails to perform any other obligation(s)/duties under the Contract.

16.4 If the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

16.5 In the event the Employer terminates the Contract in whole or in part, pursuant to GCC Clause 22.1, the Employer may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Contractor shall be liable to the Employer for any excess costs for such similar Goods or Services. However, the Contractor shall continue the performance of the Contract to the extent not terminated.

## **17.0. Settlement of Disputes**

### **17.1 Adjudicator**

17.1.1 If any dispute of any kind whatsoever shall arise between the EESL and the Implementing Partner in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the Facilities—whether during the progress of the Facilities or after their completion and whether before or after the termination, abandonment or breach of the Contract—the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, then the dispute shall be referred in writing by either party to the Adjudicator, with a copy to the other party.

17.1.2 The Adjudicator shall give its decision in writing to both parties within twenty-eight (28) days of a dispute being referred to it. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the EESL or the Implementing Partner within fifty-six (56) days of such reference, the decision shall become final and binding upon the EESL and the Implementing Partner. Any decision that has become final and binding shall be implemented by the parties forthwith.

17.1.3 Should the Adjudicator resign or die, or should the EESL and the Implementing Partner agree that the Adjudicator is not fulfilling its functions in accordance with the provisions of the Contract; another retired Judge of High Court/Supreme Court of India shall be jointly appointed by the EESL and the Implementing Partner as adjudicator under the Contract. Failing agreement between the two within twenty eight (28) days, the new retired judge of High Court/Supreme Court of India shall be appointed as the Adjudicator under the Contract at the request of either party by the Appointing Authority specified in the SCC. The adjudicator shall be paid fee plus reasonable expenditures incurred in the execution of its duties as adjudicator under the contract. This cost shall be divided equally between the EESL and the Implementing Partner.

### **17.2 Arbitration**

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17.2.1 If either the EESL or the Implementing Partner is dissatisfied with the Adjudicator's decision, or if the Adjudicator fails to give a decision within twenty-eight (28) days of a dispute being referred to it, then either the EESL or the Implementing Partner may, within fifty-six (56) days of such reference, give notice to the other party, with a copy for information to the Adjudicator, of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

17.2.2 Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with Sub-Clause 17.2.1, shall be finally settled by arbitration. Arbitration may be commenced prior to or after completion of the Facilities.

17.2.3 Any dispute submitted by a party to arbitration shall be heard by an arbitration panel composed of three arbitrators, in accordance with the provisions set forth below.

17.2.4 The EESL and the Implementing Partner shall each appoint one arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the two arbitrators do not succeed in appointing a third arbitrator within twenty-eight (28) days after the latter of the two arbitrators has been appointed, the third arbitrator shall, at the request of either party, be appointed by the Appointing Authority for arbitrator designated in the SCC.

17.2.5 If one party fails to appoint its arbitrator within forty-two (42) days after the other party has named its arbitrator, the party which has named an arbitrator may request the Appointing Authority to appoint the second arbitrator.

17.2.6 If for any reason an arbitrator is unable to perform its function, the mandate of the Arbitrator shall terminate in accordance with the provisions of applicable laws as mentioned in ITB Clause 7 (Governing Law) and a substitute shall be appointed in the same manner as the original arbitrator.

17.2.7 Arbitration proceedings shall be conducted (i) in accordance with the rules of procedure designated in the SCC, (ii) in the place designated in the SCC, and (iii) in the language in which this Contract has been executed.

17.2.8 The decision of a majority of the arbitrators (or of the third arbitrator chairing the arbitration, if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction as decree of the court. The parties thereby waive any objections to or claims of immunity from such enforcement.

17.2.9 The arbitrator(s) shall give reasoned award.

17.3 Notwithstanding any reference to the Adjudicator or arbitration herein,

- the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree
- the EESL shall pay the Implementing Partner any monies due to the Implementing Partner.

## 18.0 MSME Bidder

Are you registered as MICRO, SMALL or MEDIUM Enterprise under MSMED Act 2006?

If YES,

A) Please indicate relevant category with copy of documentary proof issued by the concerned authorities :

B) Does your firm fall under MSE's owned by SC/ST Entrepreneurs.? If so, enclose a copy of documentary evidence:

IN ADDITION TO ABOVE FOLLOWING WILL ALSO BE APPLICABLE FOR CONSULTANCY/PROJECT MANAGEMENT CONTRACT SERVICES.

## 19.0 THIRD-PARTY CONSULTANCY SERVICES

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19.1 The Employer (EESL) is obliged, at its own expense, to make the necessary provision for the performance of those services by third parties commissioned by it, as described in Special Conditions of Contract

## 20.0 SCOPE OF SERVICES

20.1 The Consultant shall deliver the Services in full and on time.

20.2 The Services to be performed by the Consultant encompass all the part services described and explained in Special Conditions of Contract, Terms of Reference plus Tender Documents and The Consultant's bid. Furthermore, the Consultant must deliver all the standard and special services as defined in the RfP.

20.3 The Consultant shall work together with third parties wherever commissioned by the Employer. The Employer is not responsible for these third parties or their performance, when the work is assigned to consultant to co-ordinate with them. In addition, the Consultant must comprehensively coordinate their services with its own services, as far as possible.

### 20.1 STANDARD AND SPECIAL SERVICES

20.1.1 In addition to the Services specified explicitly in the Contract, the Consultant shall also perform all other services, if necessary, that are not listed under the contractual services, but are customarily required in order to properly discharge the contractual obligations ("standard services"). The standard services shall be fully compensated through the Agreed Remuneration in the contract.

20.1.2 "Special Services" are services that are not included under the contractual or standard services, but must necessarily be delivered by the Consultant in order to properly perform its duties under the Contract, because the external circumstances of service delivery have changed unexpectedly, or because the Employer has suspended the Services *Force Majeure* or because the Employer, with the prior consent of EESL, requires services that were not included in the invitation to tender but are necessary.

No extra cost is payable to fulfill the standard and / or special services.

### 20.2 DUE DILIGENCE

20.2.1 Except where otherwise stipulated in this Contract, or otherwise legally stipulated within the country or within another legal system (including the legal system in the Consultant's jurisdiction) by provisions that impose higher demands than this Contract, when performing its obligations under this Contract the Consultant shall exercise due diligence and provide the Services in compliance with professional practice and to the recognized quality standards, in accordance with current scientific and generally accepted engineering standards. The Consultant must document its work, the progress of the Project and the decisions it takes in an appropriate form that is acceptable to the Employer, bearing in mind the requirements of tender/RfP/Letter of Award.

### 20.3 REPORTING

20.3.1 The Consultant shall inform the Employer promptly of all extraordinary circumstances that arise *during the performance of the services and of all matters* requiring EESL approval. The consultant is to make reports as defined in scope of work and submit the same as per timelines defined in the contract.

### 20.4 STAFFING

20.4.1 The Consultant shall employ the staff specified in bid [Staffing Schedule] to implement performance of the Services. The list of designated key staff and any changes to it shall require the prior written approval of the Employer.

20.4.2 The Employer may require the Consultant to terminate the contract of, or replace, any staff member who fails to meet the requirements as per contract. Any such demand must be submitted in writing to the Consultant stating the reasons for it.

20.4.3 If staff employed by the Consultant need to be replaced, the Consultant shall ensure that the staff member in question is replaced promptly by an individual who possesses at least equivalent qualifications.

20.4.4 If any one of the Consultant's staff falls ill for more than one month and this jeopardizes the performance of this Contract by the Consultant, the Consultant shall replace this staff member with another staff member who possesses at least equivalent qualifications.

20.4.5 Staff shall only be replaced after prior approval by the Employer, such approval not to be unreasonably withheld. The exchange, replacement, or planned dispensation of replacement (as exception to existing rules) of key staff specified by name shall require the prior approval of EESL.

20.4.6 If the Consultant must terminate the contract of, or replace, any staff during the Contract period, the costs thus accrued shall be borne by the Consultant, except where staff are removed or replaced at the Employer's request. In this case, the Employer shall meet the costs of replacing the staff member, unless the staff member in question does not meet the requirements.

## 20.5 CONTACT PERSON OF THE CONSULTANT

20.5.1 The Consultant shall appoint for the exercise of all rights and obligations arising from this Contract a natural person as its contact person for the Employer under this Contract.

20.5.2 The Consultant shall specify and provide respective contact data to the Employer - for an individual at the Consultant's place of business who can be reached at any time in cases of emergency or crisis as well as a deputy of the Consultant. The Consultant shall notify the Employer without delay of any change of elected person or their contact data.

## 21.0 INDEPENDENCE OF THE CONSULTANT

21.1 The Consultant undertakes that neither the Consultant nor any enterprise associated with the Consultant shall bid for the Project as manufacturer, supplier, or building contractor. This prohibition also applies to any bidding for any further consulting services, insofar as such consulting services might lead to a restriction of competition or a conflict of interests. Any violation of this stipulation may lead to the immediate cancellation of this Contract and require the reimbursement of any and all costs incurred by the Employer up to the time of such violation as well as compensation for any and all losses and damages incurred by the Employer as a result of such cancellation.

## 22.0 COMMENCEMENT AND COMPLETION

22.1.1 The Consultant shall begin performing the Services on the prescribed date on which execution of the Contract shall take place, but not earlier than and without undue delay after the Contract has come into force. The Consultant shall deliver the Services in accordance with the time schedule in the bid [Time Schedule for the Performance of the Services defined in SCC], and shall complete the Services within the Completion Period, subject to any further extensions to this Contract accorded by employer.

22.1.2 In relation to optional services (if any), the Consultant shall commence delivery of the optional services not earlier than upon receipt of notification from the Employer,

22.1.3 Any change to the time schedule [*Time Schedule for the Performance of the Services*] due to a reasonable request by either party shall be mutually agreed upon in writing.

## 23.0 FORCE MAJEURE

In addition to Force Majeure defined in clause 2.26, following will also be applicable for consultancy work.

23.1 In the event of Force Majeure, the contractual obligations, as far as affected by such event, shall be suspended for as long as performance remains impossible due to the Force Majeure, provided that one party to the Contract receives notification of the Force Majeure event from the other party within two weeks after its occurrence and both the parties agree for that to be a force majeure. Any and all liability of the Consultant for damages arising due to its absence caused by the Force Majeure is excluded.

23.2 In the event of Force Majeure, the Consultant shall be entitled to an extension of the Contract equal to the delay caused by such Force Majeure. If the performance of the Services is rendered permanently impossible by the Force Majeure, both parties to this Contract shall be entitled to terminate the Contract on mutual agreement basis only.

23.3 In case of suspension or termination of the Contract due to Force Majeure, the Services performed up to the time of the Force Majeure and all necessary expenditure (which is evidenced) of the Consultant arising from the discontinuing of the Services shall be invoiced on the basis of contractual prices subject to employer agreement with the work. Neither party shall make any further claims.

## 24.0 SUSPENSIONS OR TERMINATION

24.1 The Employer may fully or partially suspend the Services or terminate this Contract after serving written notice of at least 30 days. In this event, the Consultant must immediately take all measures necessary to ensure that the Services are discontinued and the expenditure minimized. The Consultant shall hand over all reports, drafts and documents to be drawn up by the date in question to the Employer. In case of termination Force majeure shall apply mutatis mutandis.

24.2 If the Consultant fails to meet its contractual obligations without sufficient reason; in accordance with the Contract; or on time, the Employer may serve a notice upon the Consultant and request it to duly perform its Services. If the Consultant fails to remedy the performance deficit within a period of 21 days of having been called upon to do so by the Employer, the Employer shall be entitled, after this period has elapsed, to terminate the Contract by written notice.

24.3 If the termination of the Contract is due to a default on the part of the Consultant, the Consultant shall be entitled to demand the Agreed Remuneration for the Services performed until the date of termination but not yet remunerated. The Employer shall be entitled to demand compensation for the direct damages caused by the default.

## **25.0 REMUNERATION OF THE CONSULTANT**

25.1 The Consultant shall receive the remuneration agreed in the Special Conditions and bid price schedule for performing the Services owed under this Contract, subject to the conditions listed therein and the conditions below.

## **26.0 TERMS OF PAYMENT**

26.1 Except where otherwise agreed in the Special Conditions, the Employer shall pay the Consultant's remuneration as follows:

- (a) Advance payment, due within 30 days of award of Contract upon presentation of an invoice against equivalent advance bank guarantee, if mentioned in SCC.
- (b) Payments based on deliverables as per tender/SCC or as agreed upon in amendments.
- (c) The final payment shall be made after the Services have been performed in full and confirmation had been provided by the Employer to that Consultant.

## **27.0 METHOD OF PAYMENT**

Payment shall be made according to the conditions set out in the Special Conditions or as agreed upon.

## **28.0 INSURANCE AGAINST LIABILITY AND DAMAGES**

28.1 The Consultant is advised to take out insurance for the period of the Contract, on the terms specified in the Special Conditions, including, but not limited to, the following:

- a) Professional liability insurance;
- b) Personal liability insurance;
- c) Equipment insurance covering loss of or physical damage to all equipment acquired, used, provided or paid for by the Employer within the context of this Contract; and
- d) Motor vehicle third party liability insurance and motor vehicle comprehensive insurance for the vehicles acquired in connection with this Contract.

EESL will not be responsible in case any accident/ mis-happenings with consultant employee or contract person and for any equipment damage or theft occurs and in no case EESL shall pay for it..

In case of any contradiction in ITB and SCC, than SCC will prevail.

## **LIST OF ACRONYMS**

EMD: Earnest Money Deposit  
Eol: Expression of Interest  
SCC: Special Conditions of Contract  
INR: Indian Rupees  
IST: Indian Standard Time  
LED: Light Emitting Diodes  
Lol: Letter of Intent  
LoA: Letter of Acceptance

MoU: Memorandum of Understanding  
MoP: Ministry of Power  
RECL: Rural Electrification Corporation Ltd  
EESL: Energy Efficiency Services Ltd  
O&M: Operation & Maintenance  
RfP: Request for Proposal  
R&M: Repair & Maintenance  
SD: Security Deposit  
CPG: Contract Performance Guarantee  
FTL: Fluorescent Tube Light  
SVL: Sodium Vapor Lamp  
PMA: Project Management Agency

SECTION-3

GENERAL CONDITIONS OF CONTRACT (GCC)

GENERAL CONDITIONS CONTRACT (GCC)		
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## **A. Contract and Interpretation**

### **1. Definitions**

1.1 The following words and expressions shall have the meanings hereby assigned to them:

“Contract” means the Contract Agreement entered into between the EESL and the Implementing Partner, together with the Contract Documents referred to therein; they shall constitute the Contract, and the term “the Contract” shall in all such documents be construed accordingly.

“Contract Documents” means the documents listed in Article 1.1 (Contract Documents) of the Form of Contract Agreement (including any amendments thereto).

“GCC” means the General Conditions of Contract hereof.

“SCC” means the Special Conditions of Contract.

“Day” means calendar day of the Gregorian calendar.

“Month” means calendar month of the Gregorian calendar.

“Employer” means EESL, New Delhi/Noida and includes the legal successors or permitted assigns of the EESL.

“Project Manager” means the person appointed by the EESL in the manner provided in GCC Sub-Clause 17.1 (Project Manager) hereof and named as such in the SCC to perform the duties delegated by the EESL.

“Contractor or Implementing Partner” means the person(s) whose bid to perform the Contract has been accepted by the EESL and is named as such in the Contract Agreement, and includes the legal successors or permitted assigns of the Implementing Partner.

“Contractor or Implementing Partner’s Representative” means any person nominated by the Implementing Partner and approved by the EESL in the manner provided in GCC Sub-Clause 17.2 (Implementing Partner’s Representative and Construction Manager) hereof to perform the duties delegated by the Implementing Partner.

“Sub Contractor or Sub Implementing Partner,” including vendors, means any person to whom execution of any part of the Facilities, including preparation of any design or supply of any Plant and Equipment, is subcontracted directly or indirectly by the Implementing Partner, and includes its legal successors or permitted assigns.

“Adjudicator” means the person or persons named as such in the SCC to make a decision on or to settle any dispute or difference between the EESL and the Implementing Partner referred to him or her by the parties pursuant to GCC Sub-Clause 6.1 (Adjudicator) hereof.

“Contract Price” means the sum specified in Article 2.1 (Contract Price) of the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.

“Facilities” means the Plant and Equipment to be supplied and installed, as well as all the Installation Services to be carried out by the Implementing Partner under the Contract.

“Plant and Equipment” means permanent plant, equipment, machinery, apparatus, articles and things of all kinds to be provided and incorporated in the Facilities by the Implementing Partner under the Contract (including the spare parts to be supplied by the Implementing Partner under GCC Sub-Clause 7.3 here-of), but does not include Implementing Partner’s Equipment.

“Installation Services” means all those services ancillary to the supply of the Plant and Equipment for the

Facilities, to be provided by the Implementing Partner under the Contract; e.g., transportation and provision of marine or other similar insurance, inspection, expediting, Site preparation works (including the provision and use of Implementing Partner's Equipment and the supply of all construction materials required), installation, testing, pre-commissioning, commissioning, operations, maintenance, the provision of operations and maintenance manuals, training of EESL's Personnel etc.

"Contractor or Implementing Partner's Equipment" means all plant, facilities, equipment, machinery, tools, apparatus, appliances or things of every kind required in or for installation, completion and maintenance of Facilities that are to be provided by the Implementing Partner, but does not include Plant and Equipment, or other things intended to form or forming part of the Facilities.

"Site" means the land and other places upon which the Facilities are to be installed, and such other land or places as may be specified in the Contract as forming part of the Site.

"Effective Date" means the date from which the Time for Completion shall be determined as stated in Article 3 (Effective Date for Determining Time for Completion) of the Form of Contract Agreement.

"Time for Completion" means the time within which Completion of the Facilities as a whole (or of a part of the Facilities where a separate Time for Completion of such part has been prescribed) is to be attained in accordance with the stipulations in the SCC and the relevant provisions of the Contract.

"Completion" means that the Facilities (or a specific part thereof where specific parts are specified in the SCC) have been completed operationally and structurally and put in a tight and clean condition, and that all work in respect of Pre-commissioning of the Facilities or such specific part thereof has been completed; and Commissioning has been attained as per Technical Specifications.

"Pre-commissioning" means the testing, checking and other requirement specified in the Technical Specifications that are to be carried out by the Implementing Partner in preparation for Commissioning as provided in GCC Clause 24 (Completion) hereof.

Commissioning" means trial/intial operation of the Facilities or any part thereof by the Implementing Partner, which operation is to be carried out by the Contractor as provided in GCC Sub-Clause 25.1 (Commissioning) hereof, for the purpose of carrying out Guarantee Test(s).

"Guarantee Test(s)" means the test(s) specified in the Technical Specifications to be carried out to ascertain whether the Facilities or a specified part thereof is able to attain the Functional Guarantees specified in the Technical Specifications in accordance with the provisions of GCC Sub Clause 25.2 (Guarantee Test) hereof.

Operational Acceptance" means the acceptance by the EESL of the Facilities (or any part of the Facilities where the Contract provides for acceptance of the Facilities in parts), which certifies the Implementing Partner's fulfilment of the Contract in respect of Functional Guarantees of the Facilities (or the relevant part thereof) in accordance with the provisions of GCC Clause 28 (Functional Guarantees) hereof and shall include deemed acceptance in accordance with GCC Clause 25 (Commissioning and Operational Acceptance) hereof.

Defect LiabilityPeriod" means the period of validity of the warranties given by the Implementing Partner commencing at Completion of the Facilities or a part thereof, during which the Implementing Partner is responsible for defects with respect to the Facilities (or the relevant part thereof) as provided in GCC Clause 27 (Defect Liability) hereof.

## **2. Contract Documents**

2.1 Subject to Article 1.2 (Order of Precedence) of the Contract Agreement all documents forming part of the Contract (and all parts thereof) are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole.

2.2 The Contract will be signed in three originals and the Implementing Partner shall be provided with one signed original and the rest will be retained by the EESL.

2.3 The Implementing Partner shall provide free of cost to the EESL all the engineering data, drawing and descriptive materials submitted with the bid, in at least five (5) copies to form a part of the Contract

immediately after Notification of Award/ letter of Award.

2.4 Subsequent to signing of the Contract, the Implementing Partner at his own cost shall provide the EESL with at least five(05) true copies of Contract Agreement within thirty (30) days after signing of the Contract.

### **3. Interpretation**

#### **3.1 Language**

**3.1.1** Unless the Implementing Partner is a national of the EESL's country and the EESL and the Implementing Partner agree to use the local language, all Contract Documents, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be written in English, and the Contract shall be construed and interpreted in accordance with that language.

3.1.2 If any of the Contract Documents, correspondence or communications are prepared in any language other than the governing language under GCC Sub-Clause 3.1.1 above, the English translation of such documents, correspondence or communications shall prevail in matters of interpretation.

#### **3.2 Singular and Plural**

The singular shall include the plural and the plural the singular, except where the context otherwise requires.

#### **3.3 Headings**

The headings and marginal notes in the General Conditions of Contract are included for ease of reference, and shall neither constitute a part of the Contract nor affect its interpretation.

#### **3.4 Persons**

Words importing persons or parties shall include firms, corporations and government entities.

#### **3.5 Inco terms**

Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties there under shall be as prescribed by Incoterms.

Inco terms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1er, 75008 Paris, France.

#### **3.6 Construction of the Contract**

**3.6.1** The Contracts to be entered into between the EESL and the successful bidder shall be as under :

- i) First Contract: For Ex-works (India) supply of plant and equipment and accessories by bidder including mandatory spares and spares to be supplied during warranty
- ii) Second Contract: for providing all services i.e. loading, inland/air/shipment transportation for delivery at site, inland/air/shipment transit insurance, unloading, storage, handling at site, installation, insurance covers other than inland transit insurance, testing, commissioning and conducting Guarantee tests in respect of all the equipments supplied under the 'First Contract' and all other services including civil works, if any, as specified in the Contract Documents including sales tax and duties as asked in price bid in section IV. It will also cover cost for Repair and Maintenance and equipmentsand/or additional warranty, where ever asked for ,supplied under the 'First Contract' and all other services including civil works, if any, as specified in the Contract Documents. All items in second contract must be quoted including service tax.
- iii) Third Contract: For providing all services including Awareness programme for public/stake holders/workshops/printing brochure and other materials, Survey cost, Monitoring and verification cost, scrap disposal cost, arrangement of office at both sites and Statuary agencies cost including service tax.

All the above Contracts will contain a cross-fall breach clause specifying that breach of one Contract will constitute breach of the other Contracts which will confer a right on the Employer to terminate the other Contracts also at the risk and the cost of the contractor /Implementing Partner for the Project, for which awards have been made.

In case, value of second contract viz transportation, insurance is lower or the supply cost includes transportation, insurance etc than three contract may be merged in two contract.

Arbitration: 1. Appointing authority for adjudicator: MD, EESL

2. The place of arbitration shall be: New Delhi

Prices are to be quoted as Firm during currency of contract. No price adjustment is allowed.

General:

1. In case of investment partner, A project manager is to be deputed from their side for co-ordinating activities.
2. Word Implementing Partner for any Project used in General Conditions of contract includes persons of Investment partner, executing and implementing agencies etc
3. Notification of award means Letter of Intent and Letter of award

3.6.2 The award of separate Contracts shall not in any way dilute the responsibility of the Implementing Partner for the successful completion of the Facilities as per Contract Documents and a breach in one Contract shall automatically be construed as a breach of the other Contract(s) which will confer a right on the EESL to terminate the other Contract(s) also at the risk and the cost of the Implementing Partner.

### **3.7 Entire Agreement**

Subject to GCC Sub-Clause 16.4 hereof, the Contract constitutes the entire agreement between the EESL and Implementing Partner with respect to the subject matter of Contract and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.

### **3.8 Amendment**

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party here to.

### **3.9 Independent Contractor or Implementing Partner**

The Implementing Partner shall be an independent Implementing Partner performing the Contract. The Contract does not create any agency, partnership, joint venture or other joint relationship between the parties here to.

Subject to the provisions of the Contract, the Contractor or Implementing Partner shall be solely responsible for the manner in which the Contract is performed. All employees, representatives or Sub Contractor or Sub Implementing Partners engaged by the Implementing Partner in connection with the performance of the Contract shall be under the complete control of the Implementing Partner and shall not be deemed to be employees of the EESL, and nothing contained in the Contract or in any subcontract awarded by the Implementing Partner shall be construed to create any contractual relationship between any such employees, representatives or Sub Contractor or Sub Implementing Partners and the EESL.

### **3.10 Joint Venture or Consortium**

If the Implementing Partner is a joint venture or consortium of two or more firms, all such firms shall be jointly and severally bound to the EESL for the fulfilment of the provisions of the Contract and shall designate one of such firms to act as a leader with authority to bind the joint venture or consortium. The composition or the constitution of the joint venture or consortium shall not be altered without the prior consent of the EESL.

### **3.11 Non-Waiver**

3.11.1 Subject to GCC Sub-Clause 3.11.2 below, 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, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

3.11.2 Any waiver of a party's rights, powers or remedies under the Contract must be in writing, must be 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.

### **3.12 Severability**

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.

### **3.13 Country of Origin**

"Origin" means the place where the materials, equipment and other supplies for the Facilities are mined, grown, produced or manufactured, and from which the services are provided.

## **4. Notices**

4.1 Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing, and shall be sent by personal delivery, airmail post, special courier, cable, telegraph, telex, facsimile or Electronic Data Interchange (EDI) to the address of the relevant party set out in the Contract Coordination Procedure to be finalised pursuant to GCC Sub-Clause 17.2.3.1, with the following provisions.

4.1.1 Any notice sent by cable, telegraph, facsimile or shall be confirmed within two (2) days after despatch by notice sent by airmail/ post or special courier, except as otherwise specified in the Contract.

4.1.2 Any notice sent by airmail post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after despatch. In proving the fact of despatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped and conveyed to the postal authorities or courier service for transmission by airmail or special courier.

4.1.3 Any notice delivered personally or sent by telegraph, facsimile shall be deemed to have been delivered on date of its despatch.

4.1.4 Either party may change its postal, cable, telex, facsimile or EDI address or addressee for receipt of such notices by ten (10) days' notice to the other party in writing.

4.2 Notices shall be deemed to include any approvals, consents, instruction orders and certificates to be given under the Contract.

## **5. Governing Law**

5.1 The Contract shall be governed by and interpreted in accordance with laws in force in India. The Courts of Delhi shall have exclusive jurisdiction in all matters arising under the Contract.

## **6. Settlement of Disputes**

### **6.1 Adjudicator**

6.1.1 If any dispute of any kind whatsoever shall arise between the EESL and the Implementing Partner in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the Facilities—whether during the progress of the Facilities or after their completion and whether before or after the termination, abandonment or breach of the Contract—the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, then the dispute shall be referred in writing by either party to the Adjudicator, with a copy to the other party.

6.1.2 The Adjudicator shall give its decision in writing to both parties within twenty-eight (28) days of a dispute being referred to it. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the EESL or the Implementing Partner within fifty-six (56) days of such reference,

the decision shall become final and binding upon the EESL and the Implementing Partner. Any decision that has become final and binding shall be implemented by the parties forthwith.

6.1.3 Should the Adjudicator resign or die, or should the EESL and the Implementing Partner agree that the Adjudicator is not fulfilling its functions in accordance with the provisions of the Contract; another retired Judge of High Court/Supreme Court of India shall be jointly appointed by the EESL and the Implementing Partner as adjudicator under the Contract. Failing agreement between the two within twenty eight (28) days, the new retired judge of High Court/Supreme Court of India shall be appointed as the Adjudicator under the Contract at the request of either party by the Appointing Authority specified in the SCC. The adjudicator shall be paid fee plus reasonable expenditures incurred in the execution of its duties as adjudicator under the contract. This cost shall be divided equally between the EESL and the Implementing Partner.

## **6.2 Arbitration**

6.2.1 If either the EESL or the Implementing Partner is dissatisfied with the Adjudicator's decision, or if the Adjudicator fails to give a decision within twenty-eight (28) days of a dispute being referred to it, then either the EESL or the Implementing Partner may, within fifty-six (56) days of such reference, give notice to the other party, with a copy for information to the Adjudicator, of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

6.2.2 Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with GCC Sub-Clause 6.2.1, shall be finally settled by arbitration. Arbitration may be commenced prior to or after completion of the Facilities.

### **In case the Contractor is a Public Sector Enterprise or a Government Department**

6.2.3 In case the Contractor is a Public Sector Enterprise or a Government Department, the dispute shall be referred for resolution in Permanent Machinery for Arbitration (PMA) of the Department of Public Enterprise, Government of India. Such dispute or difference shall be referred by either party for Arbitration to the sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary/Additional Secretary, when so authorized by the Law Secretary, whose decision shall bind the Parties finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

### **In case the Contractor is not a Public Sector Enterprise or a Government Department**

6.2.4 In all other cases, any dispute submitted by a party to arbitration shall be heard by an arbitration panel composed of three arbitrators, in accordance with the provisions set forth below.

6.2.5 The Employer and the Contractor shall each appoint one arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the two arbitrators do not succeed in appointing a third arbitrator within twenty-eight (28) days after the latter of the two arbitrators has been appointed, the third arbitrator shall, at the request of either party, be appointed by the Appointing Authority for arbitrator designated in the SCC.

6.2.6 If one party fails to appoint its arbitrator within forty-two (42) days after the other party has named its arbitrator, the party which has named an arbitrator may request the Appointing Authority to appoint the second arbitrator.

6.2.7 If for any reason an arbitrator is unable to perform its function, the mandate of the Arbitrator shall terminate in accordance with the provisions of applicable laws as mentioned in GCC Clause 5 (Governing Law) and a substitute shall be appointed in the same manner as the original arbitrator.

6.2.8 Arbitration proceedings shall be conducted in accordance with The Arbitration and Conciliation Act, 1996 and its subsequent thereof. The venue of arbitration shall be New Delhi.

6.2.9 The decision of a majority of the arbitrators (or of the third arbitrator chairing the arbitration panel, if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction as decree of the court. The parties thereby waive any objections to or claims of immunity from such enforcement.

6.2.10 The arbitrator(s) shall give reasoned award.

Notwithstanding any reference to the Adjudicator or arbitration herein,

the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree

the Employer shall pay the Contractor any monies due to the Contractor.

## **B. Subject Matter of Contract**

### **7. Scope of Facilities**

7.1 Unless otherwise expressly limited in the Technical Specifications, the Implementing Partner's obligations cover the provision of all Plant and Equipment and the performance of all Installation Services required for the design, the manufacture (including procurement, quality assurance, construction, installation, associated civil works, Precommissioning and delivery) of the Plant and Equipment and the installation, completion, commissioning and performance testing of the Facilities in accordance with the plans, procedures, specifications, drawings, codes and any other documents as specified in the Technical Specifications. Such specifications include, but are not limited to, the provision of supervision and engineering services; the supply of labour, materials, equipment, spare parts (as specified in GCC Sub-Clause 7.3 below) and accessories; Implementing Partner's Equipment; construction utilities and supplies; temporary materials, structures and facilities; transportation (including, without limitation, unloading and hauling to, from and at the Site); and storage, except for those supplies, works and services that will be provided or performed by the EESL, as set forth in Appendix 6 (Scope of Works and Supply by the EESL) to the Contract Agreement.

7.2 The Contractor or Implementing Partner shall, unless specifically excluded in the Contract, perform all such work and/or supply all such items and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Completion of the Facilities as if such work and/or items and materials were expressly mentioned in the Contract.

7.3 In addition to the supply of Mandatory Spare Parts if asked and warranty spares included in the Contract, the Implementing Partner agrees to supply spare parts required for the operation and maintenance of the Facilities. However, the identity, specifications and quantities of such spare parts and the terms and conditions relating to the supply thereof are to be agreed between the EESL and the Implementing Partner, and the price of such if asked spare parts shall be that given in Price Schedule which shall be added to the Contract Price. The price of such spare parts shall include the purchase price there for and other costs and expenses (including the Implementing Partner's fees) relating to the supply of spare parts. The prices of spares covered under the Price Schedule shall be kept valid for a period as specified in SCC.

7.3.1 The Contractor / Implementing Partner agrees that the spare parts recommended by him for 3 years operation and quoted in price Schedule shall be supplied by him at the same terms and conditions as are otherwise applicable to this Contract. Further, the Implementing Partner also agrees to supply spare parts required for the operation and maintenance of the Facilities as per provision of subsequent paragraphs of this Sub-Clause.

7.3.1.1 All the spares for the equipment under the Contract will strictly conform to the Specification and other relevant documents and will be identical to the corresponding main equipment/components supplied under the Contract and shall be fully interchangeable.

7.3.1.2 All the mandatory spares covered under the Contract shall be produced along with the main equipment as a continuous operation and the delivery of the spares will be effected along with the main equipment in a phased manner and the delivery would be completed by the respective dates for the various categories of equipment as per the agreed network. In case of recommended spares the above will be applicable provided the orders for the recommended spares have been placed with the Implementing Partner prior to commencement of manufacture of the main equipment.

7.3.1.3 The Implementing Partner will provide the EESL with the manufacturing drawings, catalogues, assembly drawings and any other document required by the EESL so as to enable the EESL to identify the recommended spares. Such details will be furnished to the EESL as soon as they are prepared but in any case not later than six months prior to commencement of manufacture of the corresponding main equipment.

7.3.1.4 To enable the EESL to finalise the requirement of recommended spares which are ordered subsequent to placement of order for main equipment/plant, in addition to necessary technical details, catalogue and such other information brought-out herein above, the Implementing Partner will also provide a justification in support of reasonableness of the quoted prices of spares which will, inter-alia, include documentary evidence that the prices quoted by the Implementing Partner to the EESL are not higher than those charged by him from other customers in the same period.

7.3.1.5 In addition to the spares recommended by the Implementing Partner, if the EESL further identifies certain items of spares, the Implementing Partner will submit the prices and delivery quotation for such spares within thirty (30) days of receipt of such request with a validity period of six (6) months for consideration by the EESL and placement of order for additional spares if the EESL so desires.

7.3.1.6 The quality plan and the inspection requirement finalised for the main equipment will also be applicable to the corresponding spares.

7.3.1.7 The Contractor or Implementing Partner will provide the EESL with all the addresses and particulars of his sub-suppliers while placing the order on vendors for items/components/equipment covered under the Contract and will further ensure with his vendors that the EESL, if so desires, will have the right to place order for spares directly on them on mutually agreed terms based on offers of such vendors.

7.3.1.8 The Contractor or Implementing Partner shall guarantee the long term availability of spares to the EESL for the full life of the equipment covered under the Contract. The Implementing Partner shall guarantee that before going out of production of spare parts of the equipment covered under the Contract, he shall give the EESL at least 2 years advance notice so that the latter may order his bulk requirement of spares, if it so desires. The same provision will also be applicable to Sub-Implementing Partners. Further, in case of discontinuance of manufacture of any spares by the Contractor and/or his Sub-Contractor or Implementing Partner, Implementing Partner will provide the EESL, two years in advance, with full manufacturing drawings, material specification and technical information including information on alternative equivalent makes required by the EESL for the purpose of manufacture/procurement of such items.

7.3.1.9 The prices of all future requirements of item of spares beyond 3 years operational requirement will be derived from the corresponding ex-works price at which the order for such spares have been placed by EESL as a part of mandatory spares or recommended spares, or from the rates of mandatory spares or recommended spares as quoted by/ negotiated with the Implementing Partner. Ex-works order price of future spares shall be computed in accordance with the price adjustment provisions covered under the main Contract excepting that the base indices will be counted from the scheduled date of Commissioning of the last equipment under the main project and there will be no ceiling on the amount of variation in the prices. The above option for procuring future recommended spares by the EESL shall remain valid for the period of 5 years from the date of Commissioning of the equipment.

7.3.1.10 The Implementing Partner will indicate in advance the delivery period of the items of spares, which the EESL may procure in accordance with above sub-clause. In case of emergency requirements of spares, the Contractor would make every effort to expedite the manufacture and delivery of such spares on the basis of mutually agreed time schedule.

7.3.1.11 In case the Implementing Partner fails to supply the mandatory, recommended or long term spares in the terms stipulated above, the EESL shall be entitled to purchase the same from the alternate sources at the risk and the cost of the Implementing Partner and recover from the Implementing Partner, the excess amount

paid by the EESL over the rates worked on the above basis. In the event of such risk purchase by the EESL, the purchases will be as per the Works and Procurement Policy of the EESL prevalent at the time of such purchases and the EESL at his option may include a representative from the Implementing Partner in finalising the purchases.

7.3.1.11 It is expressly understood that the final settlement between the parties in terms of relevant clauses of the Contract Documents shall not relieve the Implementing Partner of any of his obligations under the provision of long term availability of spares and such provisions shall continue to be enforced till the expiry of 5 years period reckoned from the scheduled date of Commissioning of the Plant and Equipment unless otherwise discharged expressly in writing by the EESL. Further, the provisions pertaining to long term availability of spares shall be extended beyond 5 years applicability period mentioned hereinabove if so desired by the EESL and at the mutually acceptable escalation formula.

7.3.1.13 The Implementing Partner shall warrant that all spares supplied will be new and in accordance with the Contract Documents and will be free from de-fects in design, material and workmanship and shall further guarantee as under:

- (i) For 3 years operational spares (both mandatory and recommended)
  - a) For any item of spares ordered or to be ordered by the EESL for 3 years operational requirement of the plant which are manufactured as a continuous operation together with the corresponding main equipment/component, the Defect Liability Period will be twelve (12) months from the scheduled date of commercial operation of main equipment/ plant under the Contract. 'Commercial Operation' shall mean the conditions of operation in which the complete equipment covered under the Contract is officially declared by the EESL to be available for continuous operation at different loads upto and including rated capacity. Such declaration by the EESL, however, shall not relieve or prejudice the Implementing Partner any of his obligations under the Contract. In case of any failure in the original component/equipments due to faulty designs, materials and workmanship, the corresponding spare parts, if any, supplied will be replaced without any extra cost to the EESL unless a joint examination and analysis by the EESL and the Implementing Partner of such spare parts prove that the defect found in the original part that failed, can safely be assumed not to be present in spare parts. Such replaced spare parts will have the same Defect Liability as applicable to the replacement made for the defective original part/component provided that such replacement for the original equipment and the spare replaced are again manufactured together. The discarded spare parts will become the property of the Implementing Partner as soon as they have been replaced by the Implementing Partner.
  - b) For the item of spares ordered or to be ordered by the EESL for 3 years operational requirement of the plant, which with the written approval of the EESL, are not manufactured as a continuous operation will be warranted for 7000 hrs of trouble free operation if used within a period of eighteen (18) months reckoned from the date of delivery at site. However, if such spare parts are put to use after eighteen (18) months of the delivery at Site then the guarantee of such spares will stand valid till the expiry of thirty six (36) months from the scheduled date of Commissioning of equipment/plant covered under the contract or 7000 hrs of trouble free operation after such spares are put in service, whichever is earlier.
  - c) For long term requirement

For item of spares that may be ordered by the EESL to cover requirements beyond 3 years of Initial Operation of the plant, the warranty will be till the expiry of 7000 hrs of trouble free operation if used within a period of eighteen (18) months from the date of delivery at site. For item of spares that may be used after eighteen (18) months from the date of delivery at site, the warranty period will be 12 months from the date they are put to use or 7000 hrs of trouble free operation, whichever is earlier. In any case the defect liability of spares will expire at the end of forty eight (48) months from the date of their receipt at site.

- (ii) The Defect Liability of spares covered in para (b) & (c) above, that are not used within 18 months from the respective date of the delivery at Site will, however, be subject to condition

that all such spares being stored/maintained/preserved in accordance with Implementing Partner's standard recommended practice, if any, and the same has been furnished to the EESL.

## **8. Time for Commencement and Completion**

8.1 The Implementing Partner shall commence work on the Facilities from the date of Notification of Award and without prejudice to GCC Sub-Clause 26.2 hereof, the Implementing Partner shall thereafter proceed with the Facilities in accordance with the time schedule specified in Appendix 4 (Time Schedule) to the Contract Agreement or / and as mentioned in special conditions of contract.

8.2 The Implementing Partner shall attain Completion of the Facilities (or of a part where a separate time for Completion of such part is specified in the Contract) within the time stated in the SCC or within such extended time to which the Implementing Partner shall be entitled under GCC Clause 40 (Extension of Time for Completion) hereof.

## **9. Contractor or Implementing Partner's Responsibilities**

9.1 The Contractor or Implementing Partner shall design, manufacture (including associated purchases and/or subcontracting), install and complete the Facilities with due care and diligence in accordance with the Contract.

9.2 The Contractor or Implementing Partner confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the Facilities (including any data as to boring tests) provided by the EESL, and on the basis of information that the Contractor or Implementing Partner could have obtained from a visual inspection of the Site (if access thereto was available) and of other data readily available to it relating to the Facilities as at the date twenty-eight (28) days prior to bid submission. The Implementing Partner acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Facilities.

9.3 The Implementing Partner shall acquire in its name all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located that are necessary for the performance of the Contract, including, without limitation, visas for the Contractor or Implementing Partner's and Sub Contractor or Implementing Partner's personnel and entry permits for all imported Implementing Partner's Equipment. The Implementing Partner shall acquire all other permits, approvals and/or licenses that are not the responsibility of the EESL under GCC Sub-Clause 10.3 hereof and that are necessary for the performance of the Contract.

9.4 The Implementing Partner shall comply with all laws in force in the country where the Facilities are installed and where the Installation Services are carried out. The laws will include all national, provincial, municipal or other laws that affect the performance of the Contract and bind upon the Implementing Partner. The Implementing Partner shall indemnify and hold harmless the EESL from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the Contractor or Implementing Partner or its personnel, including the Contractor or Sub Implementing Partners and their personnel, but without prejudice to GCC Sub Clause 10.1 hereof.

9.5 Any Plant, Material and Services that will be incorporated in or be required for the Facilities and other supplies shall have their origin as specified under GCC Clause 3.13 (Country of Origin).

## **10. EESL's Responsibilities**

10.1 The EESL shall ensure the accuracy of all information and/or data to be supplied by the EESL as described in Appendix 6 (Scope of Works and Supply by the EESL) to the Contract, except when otherwise expressly stated in the Contract.

10.2 The EESL shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, as specified in Appendix 6 (Scope of Works and Supply by the EESL) to the Contract Agreement. The EESL shall give full possession of and accord all rights of access thereto on or before the date(s) specified in Appendix 6.

10.3 The EESL shall acquire and pay for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which such authorities or undertakings require the EESL to obtain them in the EESL's name, are necessary for the execution of the Contract (they include those required for the performance by both the Implementing Partner and the EESL of their respective obligations under the Contract), including those specified in Appendix 6 (Scope of Works and Supply by the EESL)

to the Contract Agreement.

10.4 If requested by the Implementing Partner, the EESL shall use its best endeavours to assist the Implementing Partner in obtaining in a timely and expeditious manner all permits, approvals and/or licenses necessary for the execution of the Contract from all local, state or national government authorities or public service undertakings that such authorities or undertakings require the Contractor or Implementing Partner or Sub Contractor or Implementing Partners or the personnel of the Contractor or Implementing Partner or Sub Contractor or Implementing Partners, as the case may be, to obtain.

10.5 Unless otherwise specified in the Contract or agreed upon by the EESL and the Implementing Partner, the EESL shall provide sufficient, properly qualified operating and maintenance personnel; shall supply and make available all raw materials, utilities, lubricants, chemicals, catalysts other materials and facilities ; and shall perform all work and services of whatsoever nature, to enable the Implementing Partner to properly carry out Precommissioning, Commissioning and Guarantee Tests, all in accordance with the provisions of Appendix 6 (Scope of Works and Supply by the EESL) to the Contract Agreement at or before the time specified in the program furnished by the Contractor or Implementing Partner under GCC Sub- Clause 18.2 (Program of Performance) hereof and in the manner there-upon specified or as otherwise agreed upon by the EESL and the Contractor or Implementing Partner.

10.6 The EESL shall be responsible for the continued operation of the Facilities after Completion, in accordance with GCC Sub-Clause 24.8, and shall be responsible for facilitating the Guarantee Test(s) for the Facilities, in accordance with GCC Sub-Clause 25.2.

10.7 All costs and expenses involved in the performance of the obligations under this GCC Clause 10 shall be the responsibility of the EESL save those to be incurred by the Implementing Partner with respect to the performance of Guarantee Tests, in accordance with GCC Sub-Clause 25.2.

### **C. Payment**

#### **11. Contract Price**

11.1 The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Form of Contract Agreement.

11.2 The Contract Price shall be adjusted in accordance with provisions of Appendix-2 (Price Adjustment) to the Contract Agreement, if applicable. It will be mentioned in SCC.

11.3 Subject to GCC Sub-Clauses 9.2, 10.1 and 35 (Unforeseen Conditions) hereof, the Implementing Partner shall be deemed to have satisfied itself as to the hereof, correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.

#### **12. Terms of Payment**

12.1 The Contract price shall be paid as specified in Appendix 1 (Terms and Procedures of Payment) to the Contract Agreement. The procedures to be followed in making application for and processing payments shall be those outlined in the same Appendix 1.

12.2 No payment made by the EESL herein shall be deemed to constitute acceptance by the EESL of the Facilities or any part(s) thereof.

12.3 The currency or currencies in which payments are made to the Implementing Partner under this Contract shall be specified in Appendix 1 (Terms and Procedures of Payment) to the Contract Agreement, subject to the general principle that payments will be made in the currency or currencies in which the Contract Price has been stated in the Contract.

#### **13. Securities**

##### **13.1 Issuance of Securities**

The Implementing Partner shall provide the securities specified below in favour of the EESL at the times, and in the amount, manner and form specified below.

##### **13.2 Advance Payment Security**

13.2.1 The Implementing Partner shall, within twenty-eight (28) days of the notification of contract award, provide a

security in an amount equal to the advance payment calculated in accordance with Appendix 1 (Terms and Procedures of Payment) to the Contract Agreement, and in the currency or currencies of the contract, with a initial validity of up to ninety (90) days beyond the schedule date of Completion of the Facilities in accordance with GCC Clause 24. However, in case of delay in completion of facilities under the package, the validity of the security shall be extended by the period of such delay.

13.2.2 The security shall be in the form of an unconditional bank guarantee as per the proforma provided in Section VII (Forms and Procedures)- Form of Advance Payment Security. The Advance payment Security shall be reduced prorata every three (3) months after First Running Account Bill/Stage Payment under the Contract based on the value of equipment/facilities received. The cumulative amount of reduction at any point of time shall not exceed seventy five percent (75%) of the advance corresponding to cumulative value of the respective equipment Facilities supplied and received as per a certificate issued by the Project Manager and the balance of 25% released after ninety (90) days beyond the Completion of those Facilities. It should be clearly understood that reduction in the value of security for advances shall not in any way dilute the Implementing Partner's responsibility and liabilities under the Contract including in respect of the Facilities for which the reduction in the value of security is allowed.

### 13.3 Contract Performance Security

13.3.1 The Implementing Partner shall, within twenty-eight (28) days of the Notification of Award, provide securities for the due performance of the Contract for ten percent (10%) of the Contract Price of all the Contracts, with a initial validity up to ninety (90) days beyond the end of scheduled Defect Liability Period of the last equipment covered under the package. If the EESL accepts to enter into 'Second Contract' and/or 'Third Contract' with the Assignee of a foreign Implementing Partner, pursuant to GCC Sub-Clause 3.6, the said Assignee, in addition to the Contract Performance Securities to be provided by the foreign Implementing Partner for ten percent (10%) of the value of all the Contracts i.e. First Contract, Second Contract and Third Contract, shall provide within twenty eight (28) days of the Notification of Award, separate Contract Performance Security(ies) equivalent to ten percent (10%) of the value of Contract(s) entered into with the Assignee, for the due performance of Contract, with a initial validity up to ninety (90) days beyond the end of Scheduled Defect Liability period of the last equipment covered under the package. However, in case of delay in completion of the defect liability period, the validity of all the contract performance securities shall be extended by the period of such delay.

13.3.2 The performance security shall be denominated in the currency or currencies of the Contract, or in a freely convertible currency acceptable to the EESL, and shall be in the form of unconditional bank guarantee provided in Section-VII (Forms and Procedures)-Form of Performance Security of the bidding documents.

13.3.3 Unless otherwise stipulated in SCC, the security shall be reduced pro rata to the Contract Price of a part of the Facilities for which a separate time for Completion is provided, twenty one (21) months after Completion of the Facilities or where relevant part thereof, or fifteen (15) months after Operational Acceptance of the Facilities (or the relevant part thereof), whichever occurs first; provided, however, that if the Defects Liability Period has been extended on any part of the Facilities pursuant to GCC Sub-Clause 27.8 hereof, the Implementing Partner shall issue an additional security in an amount proportionate to the Contract Price of that part. The security shall be returned to the Implementing Partner immediately after its expiration, provided, however, that if the Implementing Partner, pursuant to GCC Sub-Clause 27.10, is liable for an extended warranty obligation, the performance security shall be extended for the period and up to the amount agreed upon or as specified in the SCC.

## 14. Taxes and Duties

14.1 Except as otherwise specifically provided in the Contract, the Implementing Partner shall bear and pay all taxes, duties, levies and charges assessed on the Implementing Partner, its Sub-Implementing Partners or their employees by all municipal, state or national government authorities in connection with the Facilities in and outside of the country where the Site is located.

14.2 Notwithstanding GCC Sub-Clauses 14.1 above, the EESL shall bear and promptly reimburse all customs and import duties, if imposed in future, on the Plant and Equipment including Type Test and mandatory spares supplied from abroad and specified in Price Schedule (and on spare parts to be supplied from abroad and specified in Schedule, when awarded) and that are to be incorporated into the Facilities, by the law of the country where the Site is located. However, if the plant and equipment are shipped in Shipper's containers, then the custom duty levied on the cost of empty containers shall be borne and paid/reimbursed by the Implementing Partner. The EESL shall also bear and pay/reimburse to the Implementing Partner/Assignee of Foreign Implementing Partner (if applicable) Sales Tax (but not the surcharge in lieu of Sales Tax), Local Tax including Entry Tax / Octroi (if applicable) in respect of direct transactions between the EESL and the Implementing Partner, if imposed on the

Plant and Equipment including Type Test and Mandatory Spares manufactured within the EESL's country and specified in Price (and also on locally supplied spares quoted when awarded) to be incorporated in the Facilities, by the law of country where the site is located. For this purpose, the Ex-works price if quoted in foreign currency and so incorporated in the contract, shall be converted to Indian Rupees as per the TT buying exchange rates established by State Bank of India prevailing on the actual date of Ex-works (India) despatch.

All taxes, duties and levies on works contract, if any, shall be to the Implementing Partner's account and no separate claim in this regard will be entertained by the EESL.

14.3 If any tax exemptions, reductions, allowances or privileges is available to the Implementing Partner in the country where the Site is located, the EESL shall use its best endeavours to enable the Implementing Partner to benefit from any such tax savings to the maximum allowable extent.

14.4 For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies and charges prevailing at the date seven (7) days prior to the last date of bid submission in the country where the Site is located (hereinafter called "Tax" in this GCC Sub-Clause 14.4). If any rates of Tax are increased or de-creased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Implementing Partner in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there-from, as the case may be, in accordance with GCC Clause 36 (Change in Laws and Regulations) hereof. However, these adjustments would be restricted to direct transactions between the EESL and the Contractor/assignee of Foreign Implementing Partner (if applicable). These adjustments shall not be applicable on procurement of raw materials, intermediary components etc. by the Implementing Partner/assignee and also not applicable on the bought out items despatched directly from sub-vendor's works to site.

#### **D. Intellectual Property**

#### **15. Copyright**

15.1 The copyright in all drawings, documents and other materials containing data and information furnished to the EESL by the Implementing Partner herein shall remain vested in the Implementing Partner or, if they are furnished to the EESL directly or through the Implementing Partner by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party. The EESL shall however be free to reproduce all drawings, documents and other material furnished to the EESL for the purpose of the contract including, if required, for operation and maintenance of the facilities.

#### **16. Confidential Information**

16.1 The EESL and the Implementing Partner 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 termination of the Contract. Notwithstanding the above, the Contractor or Implementing Partner may furnish to its Sub Contractor or Implementing Partner(s) such documents, data and other information it receives from the EESL to the extent required for the Sub Contractor or Implementing Partner(s) to perform its work under the Contract, in which event the Implementing Partner shall obtain from such Sub Contractor or Implementing Partner(s) an undertaking of confidentiality similar to that imposed on the Implementing Partner under this GCC Clause 16.

16.2 The EESL shall not use such documents, data and other information received from the Implementing Partner for any purpose other than the operation and maintenance of the Facilities. Similarly, the Implementing Partner shall not use such documents, data and other information received from the EESL for any purpose other than the design, procurement of Plant and Equipment, construction or such other work and services as are required for the performance of the Contract.

16.3 The obligation of a party under GCC Sub-Clauses 16.1 and 16.2 above, however, shall not apply to that information which

(a) now or hereafter enters the public domain through no fault of that party.

(b) 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 hereto

(c) Otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

16.4 The above provisions of this GCC Clause 16 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Facilities or any part thereof.

16.5 The provisions of this GCC Clause 16 shall survive termination, for what-ever reason, of the Contract.

## **E. Work Execution**

### **17. Representatives**

#### **17.1 Project Manager**

If the Project Manager is not named in the Contract, then within fourteen (14) days of the Effective Date, the EESL shall appoint and notify the Implementing Partner in writing of the name of the Project Manager. The EESL may from time to time appoint some other person as the Project Manager in place of the person previously so appointed, and shall give a notice of the name of such other person to the Implementing Partner without delay. The EESL shall take reasonable care to see that no such appointment is made at such a time or in such a manner as to impede the progress of work on the Facilities. The Project Manager shall represent and act for the EESL at all times during the currency of the Contract. All notices, instructions, orders, certificates, approvals and all other communications under the Contract shall be given by the Project Manager, except as herein otherwise provided.

All notices, instructions, information and other communications given by the Implementing Partner to the EESL under the Contract shall be given to the Project Manager, except as herein otherwise provided.

#### **17.2 Contractor's representative & Construction Manager**

17.2.1 If the Implementing Partner's Representative is not named in the Contract, then within fourteen (14) days of the Effective Date, the Implementing Partner shall appoint the Implementing Partner's Representative and shall request the EESL in writing to approve the person so appointed. If the EESL makes no objection to the appointment within fourteen (14) days, the Implementing Partner's Representative shall be deemed to have been approved. If the EESL objects to the appointment within fourteen (14) days giving the reason therefor, then the Implementing Partner shall appoint a replacement within fourteen (14) days of such objection, and the foregoing provisions of this GCC Sub-Clause 17.2.1 shall apply thereto.

17.2.2 The Implementing Partner's Representative shall represent and act for the Implementing Partner at all times during the currency of the Contract and shall give to the Project Manager all the Implementing Partner's notices, instructions, information and all other communications under the Contract.

All notices, instructions, information and all other communications given by the EESL or the Project Manager to the Implementing Partner under the Contract shall be given to the Implementing Partner's Representative or, in its absence, its deputy, except as herein otherwise provided.

The Implementing Partner shall not revoke the appointment of the Implementing Partner's Representative without the EESL's prior written con-sent, which shall not be unreasonably withheld. If the EESL consents thereto, the Implementing Partner shall appoint some other per-son as the Implementing Partner's Representative, pursuant to the procedure set out in GCC Sub-Clause 17.2.1

17.2.3 The Implementing Partner's Representative may, subject to the approval of the EESL (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Implementing Partner's Representa-tive, and shall specify the powers, functions and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until a copy thereof has been delivered to the EESL and the Project Manager.

Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this GCC Sub-Clause 17.2.3 shall be deemed to be an act or exercise by the Implementing Partner's

Representative.

17.2.3.1 Notwithstanding anything stated in GCC Sub-clause 17.1 and 17.2.1 above, for the purpose of execution of contract, the EESL and the Implementing Partner shall finalise and agree to a Contract Co-ordination Procedure and all the communication under the Contract shall be in accordance with such Contract Co-ordination Procedure.

17.2.4 From the commencement of installation of the Facilities at the Site until Operational Acceptance, the Implementing Partner's Representative shall appoint a suitable person as the construction manager (hereinafter referred to as "the Construction Manager"). The Construction Manager shall supervise all work done at the Site by the Implementing Partner and shall be present at the Site throughout normal working hours except when on leave, sick or absent for reasons connected with the proper performance of the Contract. When-ever the Construction Manager is absent from the Site, a suitable person shall be appointed to act as his or her deputy.

17.2.5 The EESL may by notice to the Implementing Partner object to any representative or person employed by the Implementing Partner in the execution of the Contract who, in the reasonable opinion of the EESL, may behave inappropriately, may be incompetent or negligent, or may commit a serious breach of the Site regulations provided under GCC Sub-Clause 22.3. The EESL shall provide evidence of the same, whereupon the Implementing Partner shall remove such person from the Facilities.

17.2.6 If any representative or person employed by the Implementing Partner is removed in accordance with GCC Sub-Clause 17.2.5, the Contractor shall, where required, promptly appoint a replacement.

## **18. Work Program**

### **18.1 Contractor or Implementing Partner's Organization**

The Implementing Partner shall supply to the EESL and the Project Manager a chart showing the proposed organization to be established by the Implementing Partner for carrying out work on the Facilities. The chart shall include the identities of the key personnel together with the curricula vitae of such key personnel to be employed within twenty-one (21) days of the Effective Date. The Implementing Partner shall promptly inform the EESL and the Project Manager in writing of any revision or alteration of such an organization chart.

### **18.2 Program of Performance**

Within twenty-eight (28) days after the date of notification of award of Contract, the Implementing Partner shall prepare and submit to the Project Manager a detailed program of performance of the Contract, made in the form of PERT Network and showing the sequence in which it proposes to design, manufacture, transport, assemble, install and pre-commission the Facilities, as well as the date by which the Implementing Partner reasonably requires that the EESL shall have fulfilled its obligations under the Contract so as to enable the Implementing Partner to execute the Contract in accordance with the program and to achieve Completion and Acceptance of the Facilities in accordance with the Contract. The program so submitted by the Implementing Partner shall accord with the Time Schedule included in Appendix 4 (Time Schedule) to the Contract Agreement and any other dates and periods specified in the Contract. The Implementing Partner shall update and revise the program as and when appropriate or when required by the Project Manager, but without modification in the Time for Completion given in the SCC and any extension granted in accordance with GCC Clause 40, and shall submit all such revisions to the Project Manager.

### **18.3 Progress Report**

The Contractor or Implementing Partner shall monitor progress of all the activities specified in the program referred to in GCC Sub-Clause 18.2 (Program of Performance) above, and supply a progress report to the Project Manager every month.

The progress report shall be in a form acceptable to the Project Manager and shall also indicate: (a) percentage completion achieved compared with the planned percentage completion for each activity; and (b) where any activity is behind the program, giving comments and likely consequences and stating the corrective action being taken.

### **18.4 Progress of Performance**

If at any time the Implementing Partner's actual progress falls behind the program referred to in GCC Sub-Clause 18.2 (Program of Performance), or it becomes apparent that it will so fall behind, the Implementing Partner shall, at the request of the EESL or the Project Manager, prepare and submit to the Project Manager a revised program, taking into account the prevailing circumstances, and shall notify the Project Manager of the steps being taken to expedite progress so as to attain Completion of the Facilities within the Time for Completion under GCC Sub-Clause 8.2 (Time for Commencement and Completion), any extension thereof entitled under GCC Sub-Clause 40.1 (Extension of Time for Completion), or any extended period as may otherwise be agreed upon between the

EESL and the Implementing Partner.

### **18.5 Work Procedures**

The Contract shall be executed in accordance with the Contract Documents and the procedures given in the section on Forms and Procedures of the Contract Documents.

If agreed between the EESL and the Implementing Partner, the Implementing Partner may execute the Contract in accordance with its own standard project execution plans and procedures to the extent that they do not conflict with the provisions contained in the Contract.

### **18.6 Maintenance of Records of Weekly Progress Review meeting at Site**

The Contractor shall be required to attend all weekly site progress review meetings organised by the 'Project Manager' or his authorised representative. The deliberations in the meetings shall inter alia include the weekly program, progress of work (including details of manpower, tools & plants deployed by the Contractor vis-a-vis agreed schedule), inputs to be provided by Employer, delays, if any and recovery program, specific hindrances to work and work instructions by Employer. The minutes of the weekly meetings shall be recorded in triplicate in a numbered register available with the Project Manager or his authorised representative. These representative and the Contractor and one copy of the signed records shall be handed over to the Contractor.

## **19. Subcontracting**

19.1 Appendix 5 (List of Approved Sub-Implementing Partners) to the Contract Agreement specifies major items of supply or services and a list of approved Sub-Implementing Partners against each item, including vendors. Insofar as no Sub-Implementing Partners are listed against any such item, the Implementing Partner shall prepare a list of Sub-Implementing Partners for such item for inclusion in such list. The Implementing Partner may from time to time propose any addition to or deletion from any such list. The Implementing Partner shall submit any such list or any modification thereto to the EESL for its approval in sufficient time so as not to impede the progress of work on the Facilities. Such approval by the EESL for any of the Sub-Implementing Partners shall not relieve the Implementing Partner from any of its obligations, duties or responsibilities under the Contract.

19.2 The Implementing Partner shall select and employ its Sub-Implementing Partners for such major items from those listed in the lists referred to in GCC Sub-Clause 19.1.

19.3 For items or parts of the Facilities not specified in Appendix 5 (List of Approved Sub-Implementing Partners) to the Contract Agreement, the Implementing Partner may employ such Sub-Implementing Partners as it may select, at its discretion.

## **20. Design and Engineering**

### **20.1 Specifications and Drawings**

20.1.1 The Implementing Partner shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice.

The Implementing Partner shall be responsible for any discrepancies, errors or omissions in the specifications, drawings and other technical documents that it has prepared, whether such specifications, drawings and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors or omissions are not because of inaccurate information furnished in writing to the Implementing Partner by or on behalf of the EESL.

20.1.2 The Implementing Partner shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designated by or on behalf of the EESL, by giving a notice of such disclaimer to the Project Manager.

### **20.2 Codes and Standards**

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of bid submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied after approval by the EESL and shall be treated in accordance with GCC Clause 39 (Changes Originating from Implementing Partner).

### **20.3 Approval/Review of Technical Documents by Project Manager, where ever applicable**

20.3.1 The Implementing Partner shall prepare (or cause its SubImplementing Partners to prepare) and furnish to the Project Manager the documents listed in Appendix 7 (List of Documents for Approval or Review) to the Contract Agreement for its approval or review as specified and in accordance with the requirements of GCC Sub-Clause 18.2 (Program of Performance).

Any part of the Facilities covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval thereof.

GCC Sub-Clauses 20.3.2 through 20.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

20.3.2 Within twenty one (21) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Sub-Clause 20.3.1, the Project Manager shall either return one copy thereof to the Implementing Partner with its approval endorsed thereon or shall notify the Implementing Partner in writing of its disapproval thereof and the reasons therefor and the modifications that the Project Manager proposes.

20.3.3 The Project Manager shall not disapprove any document, except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good engineering practice.

20.3.4 If the Project Manager disapproves the document, the Implementing Partner shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC Sub-Clause 20.3.2. If the Project Manager approves the document subject to modification(s), the Implementing Partner shall make the required modification(s), and upon resubmission with the required modifications the document shall be deemed to have been approved.

The procedure for submission of the documents by the Implementing Partner and their approval by the Project Manager shall be discussed and finalised with the Implementing Partner.

20.3.5 If any dispute or difference occurs between the EESL and the Implementing Partner in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) thereto that cannot be settled between the parties within a reasonable period, then such dispute or difference may be referred to an Adjudicator for determination in accordance with GCC Sub-Clause 6.1 (Adjudicator) hereof. If such dispute or difference is referred to an Adjudicator, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed. The Implementing Partner shall proceed with the Contract in accordance with the Project Manager's instructions, provided that if the Adjudicator upholds the Implementing Partner's view on the dispute and if the EESL has not given notice under GCC Sub-Clause 6.1.2 hereof, then the Implementing Partner shall be reimbursed by the EESL for any additional costs incurred by reason of such instructions and shall be relieved of such responsibility or liability in connection with the dispute and the execution of the instructions as the Adjudicator shall decide, and the Time for Completion shall be extended accordingly.

20.3.6 The Project Manager's approval, with or without modification of the document furnished by the Implementing Partner, shall not relieve the Implementing Partner of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager.

20.3.7 The Implementing Partner shall not depart from any approved document unless the Implementing Partner has first submitted to the Project Manager an amended document and obtained the Project Manager's approval thereof, pursuant to the provisions of this GCC Sub-Clause 20.3.

If the Project Manager requests any change in any already approved document and/or in any document based thereon, the provisions of GCC Clause 39 (Change in the Facilities) shall apply to such request.

## **21. Procurement**

### **21.1 Plant and Equipment**

Subject to GCC Sub-Clause 14.2, the Implementing Partner shall manufacture or procure and transport all the Plant and Equipment in an expeditious and orderly manner to the Site.

## 21.2 EESL-Supplied Plant, Equipment, and Materials

If Appendix 6 (Scope of Works and Supply by the EESL) to the Contract Agreement provides that the EESL shall furnish any specific items of machinery, equipment or materials to the Implementing Partner, the following provisions shall apply:

21.2.1 The EESL shall, at its own risk and expense, transport each item to the place on or near the Site as agreed upon by the parties and make such item available to the Implementing Partner at the time specified in the program furnished by the Implementing Partner, pursuant to GCC Sub-Clause 18.2 (Program of Performance), unless otherwise mutually agreed.

21.2.2 Upon receipt of such item, the Implementing Partner shall inspect the same visually and notify the Project Manager of any detected shortage, defect or default. The EESL shall immediately remedy any shortage, defect or default, or the Implementing Partner shall, if practicable and possible, at the request of the EESL, remedy such shortage, defect or default at the EESL's cost and expense. After inspection, such item shall fall under the care, custody and control of the Implementing Partner. The provision of this GCC Sub-Clause 21.2.2 shall apply to any item supplied to remedy any such shortage or default or to substitute for any defective item, or shall apply to defective items that have been repaired.

21.2.3 The foregoing responsibilities of the Implementing Partner and its obligations of care, custody and control shall not relieve the EESL of liability for any undetected shortage, defect or default, nor place the Implementing Partner under any liability for any such shortage, defect or default whether under GCC Clause 27 (Defect Liability) or under any other provision of Contract.

## 21.3 Transportation

21.3.1 The Implementing Partner shall at its own risk and expense transport all the Plant and Equipment and the Implementing Partner's Equipment to the Site by the mode of transport that the Implementing Partner judges most suitable under all the circumstances.

### Packing Material

The Contractor shall ensure that all the plant and equipment are suitably packed and protected to prevent damage or deterioration during its transportation to site, handling and storage at site till the time of its installation. The ownership of all such packing material (except empty shipper's containers on which the customs duty has been paid by the Contractor) shall stand transferred to the Employer upon dispatch of the plant and equipment and endorsement of dispatch documents in favour of the Employer.

21.3.2 Unless otherwise provided in the Contract, the Implementing Partner shall be entitled to select any safe mode of transport operated by any person to carry the Plant and Equipment and the Implementing Partner's Equipment.

21.3.3 Upon despatch of each shipment of the Plant and Equipment and the Implementing Partner's Equipment, the Implementing Partner shall notify the EESL by telex, cable, facsimile or Electronic Data Interchange (EDI) of the description of the Plant and Equipment and of the Implementing Partner's Equipment, the point and means of dispatch, and the estimated time and point of arrival in the country where the Site is located, if applicable, and at the Site. The Implementing Partner shall furnish the EESL with relevant shipping documents to be agreed upon between the parties.

21.3.4 The Implementing Partner shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the Plant and Equipment and the Implementing Partner's Equipment to the Site. The EESL shall use its best endeavors in a timely and expeditious manner to assist the Implementing Partner in obtaining such approvals, if requested by the Implementing Partner. The Implementing Partner shall indemnify and hold harmless the EESL from and against any claim for damage to roads, bridges or any other traffic facilities that may be caused by the transport of the Plant and Equipment and the Implementing Partner's Equipment to the Site.

## 21.4 Customs Clearance

The Implementing Partner shall, at its own expense, handle all imported Plant and Equipment and Implementing Partner's Equipment at the point(s) of import and shall handle any formalities for customs clearance, subject to the EESL's obligations under GCC Sub-Clause 14.2, provided that if applicable laws or regulations require any application or act to be made by or in the name of the EESL, the EESL shall take all necessary steps to comply with such laws or regulations. In the event of delays in customs clearance due to fault of the EESL, the

Implementing Partner shall be entitled to an extension in the Time for Completion, pursuant to GCC Clause 40.

## **22. Installation**

### **22.1 Setting Out/Supervision/Labour**

22.1.1 Bench Mark: The Implementing Partner shall be responsible for the true and proper setting-out of the Facilities in relation to bench marks, reference marks and lines provided to it in writing by or on behalf of the EESL. If, at any time during the progress of installation of the Facilities, any error shall appear in the position, level or alignment of the Facilities, the Implementing Partner shall forthwith notify the Project Manager of such error and, at its own expense, immediately rectify such error to the reasonable satisfaction of the Project Manager. If such error is based on incorrect data provided in writing by or on behalf of the EESL, the expense of rectifying the same shall be borne by the EESL.

22.1.2 Implementing Partner's Supervision: The Implementing Partner shall give or provide all necessary superintendence during the installation of the Facilities, and the Construction Manager or its deputy shall be constantly on the Site to provide full-time superintendence of the installation. The Implementing Partner shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand.

#### 22.1.3 Labour:

- (a) The Implementing Partner shall provide and employ on the Site in the installation of the Facilities such skilled, semi-skilled and unskilled labor as is necessary for the proper and timely execution of the Contract. The Implementing Partner is encouraged to use local labor that has the necessary skills.
- (b) Unless otherwise provided in the Contract, the Implementing Partner shall be responsible for the recruitment, transportation, accommodation and catering of all labor, local or expatriate, required for the execution of the Contract and for all payments in connection therewith.
- (c) The Implementing Partner shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all labor and personnel to be employed on the Site into the country where the Site is located.
- (d) The Implementing Partner shall at its own expense provide the means of repatriation to all of its and its SubImplementing Partner's personnel employed on the Contract at the Site to their various home countries. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Implementing Partner defaults in providing such means of transportation and temporary maintenance, the EESL may provide the same to such personnel and recover the cost of doing so from the Implementing Partner.
- (e) The Implementing Partner shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous or disorderly conduct or behavior by or amongst its employees and the labor of its SubImplementing Partners.
- (f) The Implementing Partner shall, in all dealings with its labor and the labor of its SubImplementing Partners currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labor.

### **22.2 Contractor, Implementing Partner's Equipment**

22.2.1 All Contractors or Implementing Partners' Equipment brought by the Implementing Partner onto the Site shall be deemed to be intended to be used exclusively for the execution of the Contract. The Implementing Partner shall not remove the same from the Site without the Project Manager's consent that such Implementing Partner's Equipment is no longer required for the execution of the Contract.

22.2.2 Unless otherwise specified in the Contract, upon completion of the Facilities, the Implementing Partner shall remove from the Site all Equipment brought by the Implementing Partner onto the Site and any surplus materials remaining thereon.

22.2.3 The EESL will, if requested, use its best endeavours to assist the Implementing Partner in obtaining any local, state or national government permission required by the Implementing Partner for the export of the Implementing Partner's Equipment imported by the Implementing Partner for use in the execution of the Contract that is no longer required for the execution of the Contract.

### **22.3 Site Regulations and Safety**

The EESL and the Implementing Partner shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Implementing Partner shall prepare and submit to the EESL, with a copy to the Project Manager, proposed Site regulations for the EESL's approval, which approval shall not be unreasonably withheld.

Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Facilities, gate control, sanitation, medical care, and fire prevention.

### **22.4 Opportunities for Other Implementing Partners**

22.4.1 The Implementing Partner shall, upon written request from the EESL or the Project Manager, give all reasonable opportunities for carrying out the work to any other Implementing Partners employed by the EESL on or near the Site.

22.4.2 If the Implementing Partner, upon written request from the EESL or the Project Manager, makes available to other Implementing Partners any roads or ways the maintenance for which the Implementing Partner is responsible, permits the use by such other Implementing Partners of the Implementing Partner's Equipment, or provides any other service of whatsoever nature for such other Implementing Partners, the EESL shall fully compensate the Implementing Partner for any loss or damage caused or occasioned by such other Implementing Partners in respect of any such use or service, and shall pay to the Implementing Partner reasonable remuneration for the use of such equipment or the provision of such services.

22.4.3 The Implementing Partner shall also so arrange to perform its work as to minimize, to the extent possible, interference with the work of other Implementing Partners. The Project Manager shall determine the resolution of any difference or conflict that may arise between the Implementing Partner and other Implementing Partners and the workers of the EESL in regard to their work.

22.4.4 The Implementing Partner shall notify the Project Manager promptly of any defects in the other Implementing Partners' work that come to its notice, and that could affect the Implementing Partner's work. The Project Manager shall determine the corrective measures, if any, required to rectify the situation after inspection of the Facilities. Decisions made by the Project Manager shall be binding on the Implementing Partner.

### **22.5 Emergency Work**

If, by reason of an emergency arising in connection with and during the execution of the Contract, any protective or remedial work is necessary as a matter of urgency to prevent damage to the Facilities, the Implementing Partner shall immediately carry out such work.

If the Implementing Partner is unable or unwilling to do such work immediately, the EESL may do or cause such work to be done as the EESL may determine is necessary in order to prevent damage to the Facilities. In such event the EESL shall, as soon as practicable after the occurrence of any such emergency, notify the Implementing Partner in writing of such emergency, the work done and the reasons therefor. If the work done or caused to be done by the EESL is work that the Implementing Partner was liable to do at its own expense under the Contract, the reasonable costs incurred by the EESL in connection therewith shall be paid by the Implementing Partner to the EESL. Otherwise, the cost of such remedial work shall be borne by the EESL.

### **22.6 Site Clearance**

22.6.1 Site Clearance in Course of Performance: In the course of carrying out the Contract, the Implementing Partner shall keep the Site reasonably free from all unnecessary obstruction, store or remove any surplus materials, clear away any wreckage, rubbish or temporary works from the Site, and remove any Implementing Partner's Equipment no longer required for execution of the Contract.

22.6.2 Clearance of Site after Completion: After Completion of all parts of the Facilities, the Implementing Partner shall clear away and remove all wreckage, rubbish and debris of any kind from the Site, and shall leave the Site and Facilities clean and safe.

### **Disposal of Scrap**

The Contractor shall with the agreement of the Employer promptly remove from the site any 'Scrap' generated during performance of any activities at site in pursuance of the Contract. The term 'Scrap' shall refer to scrap / waste / remnants arising out of the fabrication of structural steel work and piping work at the project site in the course of execution of the contract and shall also include any wastage of cables during the termination process while installing the cables.

The ownership of such Scrap shall vest with the Contractor except in cases where the items have been issued by the Employer from its stores for their installation only without any adjustment to the Contract Price. The removal of scrap shall be subject to the Contractor producing the necessary clearance from the relevant authorities (Custom, Excise etc.), if required by the law, in respect of disposal of the scrap. The liability for the payment of the applicable taxes/duties shall be that of the Contractor. Harmful scrap shall be disposed as per environmental statutory or other guidelines at contractor or implementing partner own cost.

The Contractor shall also indemnify to keep the Employer harmless from any act of omission or negligence on the part of the Contractor in following the statutory requirements with regard to removal/disposal of scrap. The Indemnity Bond shall be furnished by Contractor as per proforma enclosed in Section-VII (Forms and Procedure) as Form No. 14. Further, in case the laws require the Employer to take prior permission of the relevant Authorities before handing over the scrap to the Contractor, the same shall be obtained by the Contractor on behalf of the Employer.

However scrap generated in say replacement of pumps (i.e. old pumps as scrap) or any other scrap which is owned by EESL as per contract agreement, the same shall be disposed by EESL and EESL will get the payment. Contractor or Implementing Partner will co-ordinate with EESL and the agency picking up the scrap, for scrap disposal.

### **22.7 Watching and Lighting**

The Implementing Partner shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the Facilities, or for the safety of the owners and occupiers of adjacent property and for the safety of the public.

### **22.8 Work at Night and on Holidays**

22.8.1 Unless otherwise provided in the Contract, no work shall be carried out during the night and on public holidays of the country where the Site is located without prior written consent of the EESL, except where work is necessary or required to ensure safety of the Facilities or for the protection of life, or to prevent loss or damage to property, when the Implementing Partner shall immediately advise the Project Manager, provided that provisions of this GCC Sub-Clause 22.8.1 shall not apply to any work which is customarily carried out by rotary or double-shifts.

22.8.2 Notwithstanding GCC Sub-Clauses 22.8.1 or 22.1.3, if and when the Implementing Partner considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the EESL's consent thereto, the EESL shall not unreasonably withhold such consent.

### **23. Test and Inspection**

23.1 The Implementing Partner shall at its own expense carry out at the place of manufacture and/or on the Site all such tests and/or inspections of the Plant and Equipment and any part of the Facilities as are specified in the Contract.

23.2 The EESL and the Project Manager or their designated representatives shall be entitled to attend the aforesaid test and/or inspection, provided that the EESL shall bear all costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

23.3 Whenever the Implementing Partner is ready to carry out any such test and/or inspection, the Implementing Partner shall give a reasonable advance notice of such test and/or inspection and of the place and time thereof to the Project Manager. The Implementing Partner shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the EESL and the Project Manager (or their designated representatives) to attend the test and/or inspection.

23.4 The Implementing Partner shall provide the Project Manager with a certified report of the results of any such test and/or inspection.

If the EESL or Project Manager (or their designated representatives) fails to attend the test and/or inspection, or if it is agreed between the parties that such persons shall not do so, then the Implementing Partner may proceed with the test and/or inspection in the absence of such persons, and may provide the Project Manager with a certified report of the results thereof.

23.5 The Project Manager may require the Implementing Partner to carry out any test and/or inspection not required by the Contract, provided that the Implementing Partner's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of work on the Facilities and/or the Implementing Partner's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected.

23.6 If any Plant and Equipment or any part of the Facilities fails to pass any test and/or inspection, the Implementing Partner shall either rectify or replace such Plant and Equipment or part of the Facilities and shall repeat the test and/or inspection upon giving a notice under GCC Sub-Clause 23.3.

23.7 If any dispute or difference of opinion shall arise between the parties in connection with or arising out of the test and/or inspection of the Plant and Equipment or part of the Facilities that cannot be settled between the parties within a reasonable period of time, it may be referred to the Adjudicator for determination in accordance with GCC Sub-Clause 6.1 (Adjudicator).

23.8 The Implementing Partner shall afford the EESL and the Project Manager, at the EESL's expense, access at any reasonable time to any place where the Plant and Equipment are being manufactured or the Facilities are being installed, in order to inspect the progress and the manner of manufacture or installation, provided that the Project Manager shall give the Implementing Partner a reasonable prior notice.

23.9 The Implementing Partner agrees that neither the execution of a test and/or inspection of Plant and Equipment or any part of the Facilities, nor the attendance by the EESL or the Project Manager, nor the issue of any test certificate pursuant to GCC Sub-Clause 23.4, shall release the Implementing Partner from any other responsibilities under the Contract.

23.10 No part of the Facilities or foundations shall be covered up on the Site without the Implementing Partner carrying out any test and/or inspection required under the Contract. The Implementing Partner shall give a reasonable notice to the Project Manager whenever any such part of the Facilities or foundations are ready or about to be ready for test and/or inspection; such test and/or inspection and notice thereof shall be subject to the requirements of the Contract.

23.11 The Implementing Partner shall uncover any part of the Facilities or foundations, or shall make openings in or through the same as the Project Manager may from time to time require at the Site, and shall reinstate and make good such part or parts.

If any part of the Facilities or foundations have been covered up at the Site after compliance with the requirement of GCC Sub-Clause 23.10 and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating, and making good the same shall be borne by the EESL, and the Time for Completion shall be reasonably adjusted to the extent that the Implementing Partner has thereby been delayed or impeded in the performance of any of its obligations under the Contract.

## 24. Completion of the Facilities

24.1 As soon as the Facilities or any part thereof has, in the opinion of the Implementing Partner, been completed operationally and structurally and put in a tight and clean condition as specified in the Technical Specifications, excluding minor items not materially affecting the operation or safety of the Facilities, the Implementing Partner shall so notify the EESL in writing.

24.2 Within seven (7) days after receipt of the notice from the Implementing Partner under GCC Sub-Clause 24.1, the EESL shall supply the operating and maintenance personnel specified in Appendix 6 (Scope of Works and Supply by the EESL) to the Contract Agreement, required for Precommissioning of the Facilities or any part thereof.

Unless otherwise specified in the Technical Specifications, the EESL shall also provide, within the said seven (7) day period, the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters required for Precommissioning of the Facilities or any part thereof.

24.3 As soon as reasonably practicable after the operating and maintenance personnel have been supplied by the EESL and the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters, if so specified in Appendix 6 (Scope of Works and Supply by the EESL)/ Technical Specifications, have been provided by the EESL in accordance with GCC Sub-Clause 24.2, the Implementing Partner shall commence Precommissioning of the Facilities or the relevant part thereof in preparation for Commissioning.

24.4 As soon as all works in respect of Precommissioning are completed and, in the opinion of the Implementing Partner, the Facilities or any part thereof is ready for Commissioning, the Implementing Partner shall commence Commissioning as per procedures stipulated in Technical Specifications, and as soon as Commissioning is satisfactorily completed, the Implementing Partner shall so notify the Project Manager in writing.

24.5 The Project Manager shall, within fourteen (14) days after receipt of the Implementing Partner's notice under GCC Sub-Clause 24.4, either issue a Completion Certificate in the form specified in the Forms and Procedures section in the bidding documents, stating that the Facilities or that part thereof have reached Completion as at the date of the Implementing Partner's notice under GCC Sub-Clause 24.4, or notify the Implementing Partner in writing of any defects and/or deficiencies.

If the Project Manager notifies the Implementing Partner of any defects and/or deficiencies, the Implementing Partner shall then correct such defects and/or deficiencies, and shall repeat the procedure described in GCC Sub Clause 24.4.

If the Project Manager is satisfied that the Facilities or that part thereof have reached Completion, the Project Manager shall, within seven (7) days after receipt of the Implementing Partner's repeated notice, issue a Completion Certificate stating that the Facilities or that part thereof have reached Completion as at the date of the Implementing Partner's repeated notice.

If the Project Manager is not so satisfied, then it shall notify the Implementing Partner in writing of any defects and/or deficiencies within seven (7) days after receipt of the Implementing Partner's repeated notice, and the above procedure shall be repeated.

24.6 If the Project Manager fails to issue the Completion Certificate and fails to inform the Implementing Partner of any defects and/or deficiencies within fourteen (14) days after receipt of the Implementing Partner's notice under GCC Sub-Clause 24.4 or within seven (7) days after receipt of the Implementing Partner's repeated notice under GCC Sub-Clause 24.5, or if the EESL makes use of the Facilities or part thereof, then the Facilities or that part thereof shall be deemed to have reached Completion as of the date of the Implementing Partner's notice or repeated notice, or as of the EESL's use of the Facilities, as the case may be.

24.7 As soon as possible after Completion, the Implementing Partner shall complete all outstanding minor items so that the Facilities are fully in accordance with the requirements of the Contract, failing which the EESL will undertake such completion and deduct the costs thereof from any monies owing to the Implementing Partner.

24.8 Upon Completion, the EESL shall be responsible for the care and custody of the Facilities or the relevant part thereof, together with the risk of loss or damage thereto, and shall thereafter take over the Facilities or the relevant part thereof.

## **25. Commissioning, Guarantee Test and Operational Acceptance**

### **25.1 Commissioning**

25.1.1 Commissioning of the Facilities or any part thereof shall be completed by the Implementing Partner as per procedures detailed in the Technical Specifications.

The EESL shall, unless otherwise specified in Appendix 6 (Scope of Works and Supply by the EESL)/ Technical Specifications, supply the operating and maintenance personnel and all raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters required for Commissioning of the Facilities.

### **25.2 Guarantee Test (where ever applicable)**

25.2.1 The Guarantee Test (and repeats thereof) shall be conducted by the Implementing Partner after Commissioning of the Facilities or the relevant part thereof to ascertain whether the Facilities or the relevant part can attain the Functional Guarantees specified in the Contract Documents. The Implementing Partner's and Project Manager's advisory personnel shall attend the Guarantee Test. The EESL shall promptly provide the Implementing Partner with such information as the Implementing Partner may reasonably require in relation to the conduct and results of the Guarantee Test (and any repeats thereof).

25.2.2 If for reasons not attributable to the Implementing Partner, the Guarantee Test of the Facilities or the relevant part thereof cannot be successfully completed within the period from the date of Completion specified in the SCC or any other period agreed upon by the EESL and the Implementing Partner, the Implementing Partner shall be deemed to have fulfilled its obligations with respect to the Functional Guarantees, and GCC Sub-Clauses 28.2 and 28.3 shall not apply.

### **25.3 Operational Acceptance**

25.3.1 Subject to GCC Sub-Clause 25.4 (Partial Acceptance) below, Operational Acceptance shall occur in respect of the Facilities or any part thereof when

- (a) the Guarantee Test has been successfully completed and the Functional Guarantees are met; or
- (b) the Guarantee Test has not been successfully completed or has not been carried out for reasons not attributable to the Implementing Partner within the period from the date of Completion specified in the SCC or any other agreed upon period as specified in GCC Sub-Clause 25.2.2 above, but successful Completion of the Facilities has been achieved; or
- (c) the Implementing Partner has paid the liquidated damages specified in GCC Sub-Clause 28.3 hereof; and
- (d) any minor items mentioned in GCC Sub-Clause 24.7 hereof relevant to the Facilities or that part thereof have been completed.

25.3.2 At any time after any of the events set out in GCC Sub-Clause 25.3.1 have occurred, the Implementing Partner may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate in the form provided in the Bidding Documents or in another form acceptable to the EESL in respect of the Facilities or the part thereof specified in such notice as at the date of such notice.

25.3.3 The Project Manager shall, after consultation with the EESL, and within forty five (45) days after receipt of the Implementing Partner's notice, issue an Operational Acceptance Certificate.

25.3.4 If within forty five (45) days after receipt of the Implementing Partner's notice, the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Implementing Partner in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the Facilities or the relevant part thereof shall be deemed to have been accepted as at the date of the Implementing Partner's said notice.

### **25.4 Partial Acceptance**

25.4.1 If the Contract specifies that Completion and Commissioning shall be carried out in respect of parts of the Facilities, the provisions relating to Completion and Commissioning including the Guarantee Test shall apply to each such part of the Facilities individually, and the Operational Acceptance Certificate shall be issued accordingly for

each such part of the Facilities.

25.4.2 If a part of the Facilities comprises facilities such as buildings, for which no Commissioning or Guarantee Test is required, then the Project Manager shall issue the Operational Acceptance Certificate for such facility when it attains Completion, provided that the Implementing Partner shall thereafter complete any outstanding minor items that are listed in the Operational Acceptance Certificate.

## F. Guarantees and Liabilities

### 26. Completion Time Guarantee

26.1 The Implementing Partner guarantees that it shall attain Completion of the Facilities (or a part for which a separate time for completion is specified in the SCC) within the Time for Completion specified in the SCC pursuant to GCC Sub-Clause 8.2, or within such extended time to which the Implementing Partner shall be entitled under GCC Clause 40 (Extension of Time for Completion) hereof.

26.2 If the Implementing Partner fails to attain Completion of the Facilities or any part thereof within the Time for Completion or any extension thereof under GCC Clause 40 (Extension of Time for Completion), the Implementing Partner shall pay to the EESL liquidated damages in the amount computed at the rates specified in the SCC. The aggregate amount of such liquidated damages shall in no event exceed the amount specified as "Maximum" in the SCC. Once the "Maximum" is reached, the EESL may consider termination of the Contract, pursuant to GCC Sub-Clause 42.2.2.

Such payment shall completely satisfy the Implementing Partner's obligation to attain Completion of the Facilities or the relevant part thereof within the Time for Completion or any extension thereof under GCC Clause 40 (Extension of Time for Completion). The Implementing Partner shall have no further liability whatsoever to the EESL in respect thereof.

However, the payment of liquidated damages shall not in any way relieve the Implementing Partner from any of its obligations to complete the Facilities or from any other obligations and liabilities of the Implementing Partner under the Contract.

Save for liquidated damages payable under this GCC Sub-Clause 26.2, the failure by the Implementing Partner to attain any milestone or other act, matter or thing by any date specified in Appendix 4 (Time Schedule) to the Contract Agreement and/or other program of work prepared pursuant to GCC Clause 18 (Program of Performance) shall not render the Implementing Partner liable for any loss or damage thereby suffered by the EESL.

### 27. Defect Liability

27.1 The Implementing Partner warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant and Equipment supplied and of the work executed.

27.2 The Defect Liability Period shall be eighteen (18) months from the date of Completion of the Facilities (or any part thereof) or twelve (12) months from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the SCC.

If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant and Equipment supplied or of the work executed by the Implementing Partner, the Implementing Partner shall promptly, in consultation and agreement with the EESL regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good (as the Implementing Partner shall, at its discretion, determine) such defect as well as any damage to the Facilities caused by such defect. The Implementing Partner shall not be responsible for the repair, replacement or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:

- (a) improper operation or maintenance of the Facilities by the EESL
- (b) operation of the Facilities outside specifications provided in the Contract.
- (c) Normal wear and tear.

27.3 The Implementing Partner's obligations under this GCC Clause 27 shall not apply to

- (a) any materials that are supplied by the EESL under GCC Sub- Clause 21.2 (EESL-Supplied Plant, Equipment and Materials), are normally consumed in operation, or have a normal life shorter than the Defect Liability Period stated herein.
- (b) any designs, specifications or other data designed, supplied or specified by or on behalf of the EESL or any matters for which the Implementing Partner has disclaimed responsibility herein.
- (c) any other materials supplied or any other work executed by or on behalf of the EESL, except for the work executed by the EESL under GCC Sub-Clause 27.7.

27.4 The EESL shall give the Implementing Partner a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The EESL shall afford all reasonable opportunity for the Implementing Partner to inspect any such defect.

27.5 The EESL shall afford the Implementing Partner all necessary access to the Facilities and the Site to enable the Implementing Partner to perform its obligations under this GCC Clause 27.

The Implementing Partner may, with the consent of the EESL, remove from the Site any Plant and Equipment or any part of the Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.

27.6 If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the EESL may give to the Implementing Partner a notice requiring that tests of the defective part of the Facilities shall be made by the Implementing Partner immediately upon completion of such remedial work, whereupon the Implementing Partner shall carry out such tests.

If such part fails the tests, the Implementing Partner shall carry out further repair, replacement or making good (as the case may be) until that part of the Facilities passes such tests. The tests in character shall in any case be not less than what has already been agreed by the EESL and the Implementing Partner for the original equipment/part of the Facilities.

27.7 If the Implementing Partner fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), the EESL may, following notice to the Implementing Partner, proceed to do such work, and the reasonable costs incurred by the EESL in connection therewith shall be paid to the EESL by the Implementing Partner or may be deducted by the EESL from any monies due to the Implementing Partner or claimed under the Performance Security.

27.8 If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the EESL because of any of the aforesaid reasons. Upon correction of the defects in the Facilities or any part thereof by repair/ replacement, such repair/replacement shall have the Defect Liability Period extended by a period of twelve (12) month from the time such replacement/ repair of the Facilities or any part thereof.

27.9 Except as provided in GCC Clauses 27 and 33 (Loss of or DamagetoProperty / Accident or Injury to Workers/Indemnification), the Implementing Partnershall be under no liability whatsoever and howsoever arising, and whetherunder the Contract or at law, in respect of defects in the Facilities or anypart thereof, the Plant and Equipment, design or engineering or workexecuted that appear after Completion of the Facilities or any part thereof,except where such defects are the result of the grossnegligence ,fraud, criminal or wilful action of the Implementing Partner.

27.10 In addition, the Implementing Partner shall also provide an extended warranty for any such component of the Facilities and during the period of time as may be specified in the SCC. Such obligation shall be in addition to the defect liability specified under GCC Sub-Clause 27.2.

## **28. Functional Guarantees**

28.1 The Implementing Partner guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees specified in Appendix 8 (Functional Guarantees) to the Contract Agreement, subject to and upon the conditions therein specified.

28.2 If, for reasons attributable to the Implementing Partner, the guaranteed level of the Functional Guarantees specified in Appendix 8 (Functional Guarantees) to the Contract Agreement are not met either in whole or in part, the Implementing Partner shall, within a mutually agreed time, at its cost and expense make such changes, modifications and/or additions to the Plant or any part thereof as may be necessary to meet such Guarantees. The Implementing Partner shall notify the EESL upon completion of the necessary changes, modifications and/or additions, and shall seek the EESL's consent to repeat the Guarantee Test. If the specified Functional Guarantees are not established even during the repeat of the Guarantee Test, the EESL may at its option, either

- (a) Reject the Equipment and recover the payments already made, or
- (b) Terminate the Contract pursuant to GCC Sub-Clause 42.2.2 and recover the payments already made, or
- (c) Accept the equipment after levy of liquidated damages in accordance with the provisions specified in Appendix-8 (Functional Guarantees) to the Contract Agreement.

28.3 In case the EESL exercises its option to accept the equipment after levy of liquidated damages, the payment of liquidated damages under GCC Sub-Clause 28.2, up to the limitation of liability specified in the Appendix-8 (Functional Guarantees) to the Contract Agreement, shall completely satisfy the Implementing Partner's guarantees under GCC Sub-Clause 28.2, and the Implementing Partner shall have no further liability whatsoever to the EESL in respect thereof. Upon the payment of such liquidated damages by the Implementing Partner, the Project Manager shall issue the Operational Acceptance Certificate for the Facilities or any part thereof in respect of which the liquidated damages have been so paid.

## 29. Patent Indemnity

29.1 The Implementing Partner shall, subject to the EESL's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the EESL and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the EESL may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: (a) the installation of the Facilities by the Implementing Partner or the use of the Facilities in the country where the Site is located; and (b) the sale of the products produced by the Facilities in any country.

Such indemnity shall not cover any use of the Facilities or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the Facilities or any part thereof, or any products produced thereby in association or combination with any other equipment, plant or materials not supplied by the Implementing Partner, pursuant to the Contract Agreement.

29.2 If any proceedings are brought or any claim is made against the EESL arising out of the matters referred to in GCC Sub-Clause 29.1, the EESL shall promptly give the Implementing Partner a notice thereof, and the Implementing Partner may at its own expense and in the EESL's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Implementing Partner fails to notify the EESL within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the EESL shall be free to conduct the same on its own behalf. Unless the Implementing Partner has so failed to notify the EESL within the twenty-eight (28) day period, the EESL shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

The EESL shall, at the Implementing Partner's request, afford all available assistance to the Implementing Partner in conducting such proceedings or claim, and shall be reimbursed by the Implementing Partner for all reasonable expenses incurred in so doing.

29.3 The EESL shall indemnify and hold harmless the Implementing Partner and its employees, officers and Sub-Implementing Partners from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Implementing Partner may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the EESL.

## 30. Limitation of Liability

30.1 Except in cases of criminal negligence or wilful misconduct,

- (a) the Implementing Partner shall not be liable to the EESL, whether in contract, tort, or otherwise, 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 Implementing Partner to pay liquidated damages to the EESL and
- (b) the aggregate liability of the Implementing Partner to the EESL, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Implementing Partner to indemnify the EESL with respect to patent infringement or as specified in SCC.

## G. Risk Distribution

### 31. Transfer of Ownership

31.1 Ownership of the Plant and Equipment (including spare parts) procured in the country where the Site is located shall be transferred to the EESL when the Plant and Equipment are reached at site.

31.2 Ownership of the Implementing Partner's Equipment used by the Implementing Partner and its Sub-Implementing Partners in connection with the Contract shall remain with the Implementing Partner or its Sub-Implementing Partners.

31.3 Ownership of any Plant and Equipment in excess of the requirements for the Facilities shall revert to the Implementing Partner upon Completion of the Facilities or at such earlier time when the EESL and the Implementing Partner agree that the Plant and Equipment in question are no longer required for the Facilities, provided quantity of any Plant and Equipment specifically stipulated in the Contract shall be the property of the EESL whether or not incorporated in the Facilities.

### 31.4 Disposal of surplus material

Ownership of any Plant and Equipment in excess of the requirements for the Facilities (i.e. surplus material) shall revert to the Contractor upon Completion of the Facilities and Guarantee Test or at such earlier time when the Employer and the Contractor agree that the Plant and Equipment in question are no longer required for the Facilities, provided quantity of any Plant and Equipment specifically stipulated in the Contract shall be the property of the Employer whether or not incorporated in the Facilities. The Contractor shall remove from the site such surplus material brought by him in pursuance of the Contract, subject to the Contractor producing the necessary clearance from the relevant authorities (Customs, Excise etc.), if required by law, in respect of re-export or disposal of the surplus material locally. The liability for the payment of the applicable taxes/ duties, if any, on the surplus material so re-exported and/or disposed locally shall be that of the Contractor.

The Contractor shall also indemnify to keep the Employer harmless from any act of omission or negligence on the part of the Contractor in following the statutory requirements with regard to removal / disposal of surplus material. The Indemnity Bond shall be furnished by contractor as per proforma enclosed in Section-VII (Forms and Procedure) as Form No. 14. Further, in case the laws require the Employer to take prior permission of the relevant Authorities before handing over the surplus material to the Contractor, the same shall be obtained by the Contractor on behalf of the Employer.

31.5 Notwithstanding the transfer of ownership of the Plant and Equipment, the responsibility for care and custody thereof together with the risk, of loss or damage thereto shall remain with the Implementing Partner pursuant to GCC Clause 32 (Care of Facilities) hereof until Completion of the Facilities or the part thereof in which such Plant and Equipment are incorporated.

31.5 In case of two/three Contracts entered into between the EESL and the Implementing Partner as per GCC Sub-Clause 3.6 or where the EESL hands over his equipment to the Implementing Partner for executing the Contract, then the Implementing Partner shall at the time of taking delivery of the Equipment through Bill of Lading or other despatch documents furnish Trust Receipt for Plant, Equipment and Materials and also execute an Indemnity Bond in favour of the EESL in the form acceptable to EESL for keeping the equipment in safe custody and to utilise the same exclusively for the purpose of the said Contract. Proforma for the Trust Receipt and Indemnity bond. The EESL shall also issue a separate Authorisation Letter to the Implementing Partner to enable him to take physical delivery of plant, equipment and materials from the EESL.

## 32 Care of Facilities

32.1 The Implementing Partner shall be responsible for the care and custody of the Facilities or any part thereof until the date of Completion of the Facilities pursuant to GCC Clause 24 (Completion of the Facilities) or, where the Contract provides for Completion of the Facilities in parts, until the date of Completion of the relevant part, and shall make good at its own cost any loss or damage that may occur to the Facilities or the relevant part thereof from any cause whatsoever during such period. The Implementing Partner shall also be responsible for any loss or damage to the Facilities caused by the Implementing Partner or its SubImplementing Partners in the course of any work carried out, pursuant to GCC Clause 27 (Defect Liability). Notwithstanding the foregoing, the Implementing Partner shall not be liable for any loss or damage to the Facilities or that part thereof caused by reason of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Sub-Clauses 32.2 and 38.1.

32.2 If any loss or damage occurs to the Facilities or any part thereof or to the Implementing Partner's temporary facilities by reason of

- (a) (insofar as they relate to the country where the Site is located) nuclear reaction, nuclear radiation, radioactive contamination, pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced Implementing Partner could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance, including War Risks and Political Risks, taken out under GCC Clause 34 (Insurance) hereof.
- (b) any use or occupation by the EESL or any third party (other than a SubImplementing Partner) authorized by the EESL of any part of the Facilities.
- (c) any use of or reliance upon any design, data or specification provided or designated by or on behalf of the EESL, or any such matter for which the Implementing Partner has disclaimed responsibility herein,

the EESL shall pay to the Implementing Partner all sums payable in respect of the Facilities executed, notwithstanding that the same be lost, destroyed or damaged, and will pay to the Implementing Partner the replacement value of all temporary facilities and all parts thereof lost, destroyed or damaged. If the EESL requests the Implementing Partner in writing to make good any loss or damage to the Facilities thereby occasioned, the Implementing Partner shall make good the same at the cost of the EESL in accordance with GCC Clause 39 (Change in the Facilities). If the EESL does not request the Implementing Partner in writing to make good any loss or damage to the Facilities thereby occasioned, the EESL shall either request a change in accordance with GCC Clause 39 (Change in the Facilities), excluding the performance of that part of the Facilities thereby lost, destroyed or damaged, or, where the loss or damage affects a substantial part of the Facilities, the EESL shall terminate the Contract pursuant to GCC Sub-Clause 42.1 (Termination for EESL's Convenience) hereof, except that the Implementing Partner shall have no entitlement to profit under paragraph (e) of GCC Sub-Clause 42.1.3 in respect of any unexecuted Facilities as at the date of termination.

32.3 The Implementing Partner shall be liable for any loss of or damage to any Implementing Partner's Equipment, or any other property of the Implementing Partner used or intended to be used for purposes of the Facilities, except (i) as mentioned in GCC Sub-Clause 32.2 (with respect to the Implementing Partner's temporary facilities), and (ii) where such loss or damage arises by reason of any of the matters specified in GCC Sub-Clauses 32.2(b) and (c) and 38.1.

32.3 With respect to any loss or damage caused to the Facilities or any part thereof or to the Implementing Partner's Equipment by reason of any of the matters specified in GCC Sub-Clause 38.1, the provisions of GCC Sub-Clause 38.3 shall apply.

## 33 Loss of or Damage to Property; Accident or Injury to workers; Indemnification

33.1 Subject to GCC Sub - Clause 33.3, the Implementing Partner shall indemnify and hold harmless the EESL and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property (other than the Facilities whether accepted or not), arising in connection with the supply and installation of the Facilities and by reason of the negligence of the Implementing Partner or its SubImplementing Partners, or their employees, officers or agents, except any injury, death or property damage caused by the negligence of the EESL, its Implementing Partners, employees, officers or agents.

33.2 If any proceedings are brought or any claim is made against the EESL that might subject the Implementing Partner to liability under GCC Sub-Clause 33.1, the EESL shall promptly give the Implementing Partner a notice thereof and the Implementing Partner may at its own expense and in the EESL's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Implementing Partner fails to notify the EESL within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the EESL shall be free to conduct the same on its own behalf. Unless the Implementing Partner has so failed to notify the EESL within the twenty-eight (28) day period, the EESL shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

The EESL shall, at the Implementing Partner's request, afford all available assistance to the Implementing Partner in conducting such proceedings or claim, and shall be reimbursed by the Implementing Partner for all reasonable expenses incurred in so doing.

33.3 The EESL shall indemnify and hold harmless the Implementing Partner and its employees, officers and Sub-Implementing Partners from any liability for loss of or damage to property of the EESL, other than the Facilities not yet taken over, that is caused by fire, explosion or any other perils, in excess of the amount recoverable from insurances procured under GCC Clause 34 (Insurances), provided that such fire, explosion or other perils were not caused by any act or failure of the Implementing Partner.

33.4 The party entitled to the benefit of an indemnity under this GCC Clause 33 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.

## **34 Insurance**

34.1 To the extent specified in Appendix 3 (Insurance Requirements) to the Contract Agreement, the Implementing Partner shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified in the said Appendix. The identity of the insurers and the form of the policies shall be subject to the approval of the EESL, who should not unreasonably withhold such approval.

### **(a) Cargo Insurance During Transport**

Covering loss or damage occurring while in transit from the Implementing Partner's or Sub-Implementing Partner's works or stores until arrival at the Site, to the Plant and Equipment (including spare parts therefor) and to the Implementing Partner's Equipment.

### **(b) Installation All Risks Insurance**

Covering physical loss or damage to the Facilities at the Site, occurring prior to Completion of the Facilities, with an extended maintenance coverage for the Implementing Partner's liability in respect of any loss or damage occurring during the Defect Liability Period while the Implementing Partner is on the Site for the purpose of performing its obligations during the Defect Liability Period.

### **(c) Third Party Liability Insurance**

Covering bodily injury or death suffered by third parties (including the EESL's personnel) and loss of or damage to property occurring in connection with the supply and installation of the Facilities.

### **(d) Automobile Liability Insurance**

Covering use of all vehicles used by the Implementing Partner or its Sub-Implementing Partners (whether or not owned by them) in connection with the execution of the Contract.

### **(e) Workers' Compensation**

In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.

### **(f) EESL's Liability**

In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.

### **(g) Other Insurances**

Such other insurances as may be specifically agreed upon by the parties hereto as listed in the said Appendix 3.

34.2 The EESL shall be named as co-insured under all insurance policies taken out by the Implementing Partner pursuant to GCC Sub-Clause 34.1, except for the Third Party Liability, Workers' Compensation and EESL's Liability Insurances, and the Implementing Partner's SubImplementing Partners shall be named as co-insured's under all insurance policies taken out by the Implementing Partner pursuant to GCC Sub-Clause 34.1 except for the Cargo Insurance During Transport, Workers' Compensation and EESL's Liability Insurances. All insurers' rights of subrogation against such co-insured's for losses or claims arising out of the performance of the Contract shall be waived under such policies.

34.3 The Implementing Partner shall, in accordance with the provisions of Appendix 3 (Insurance Requirements) to the Contract Agreement, deliver to the EESL certificates of insurance (or copies of the insurance policies) as evidence that the required policies are in full force and effect. The certificates shall provide that no less than twenty-one (21) days' notice shall be given to the EESL by insurers prior to cancellation or material modification of a policy.

34.4 The Implementing Partner shall ensure that, where applicable, its SubImplementing Partner(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such SubImplementing Partners are covered by the policies taken out by the Implementing Partner.

34.5 The EESL shall at its expense take out and maintain in effect during the performance of the Contract those insurances specified in Appendix 3 (Insurance Requirements) to the Contract Agreement.

34.6 If the Implementing Partner fails to take out and/or maintain in effect the insurances referred to in GCC Sub-Clause 34.1, the EESL may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Implementing Partner under the Contract any premium that the EESL shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Implementing Partner. If the EESL fails to take out and/or maintain in effect the insurances referred to in GCC 34.5, the Implementing Partner may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the EESL under the Contract any premium that the Implementing Partner shall have paid to the insurer, or may otherwise recover such amount as a debt due from the EESL. If the Implementing Partner fails to or is unable to take out and maintain in effect any such insurances, the Implementing Partner shall nevertheless have no liability or responsibility towards the EESL, and the Implementing Partner shall have full recourse against the EESL for any and all liabilities of the EESL herein.

34.7 Unless otherwise provided in the Contract, the Implementing Partner shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GCC Clause 34, and all monies payable by any insurers shall be paid to the Implementing Partner as per the procedure outlined in GCC Sub- Clause 34.8 below. The EESL shall give to the Implementing Partner all such reasonable assistance as may be required by the Implementing Partner. With respect to insurance claims in which the EESL's interest is involved, the Implementing Partner shall not give any release or make any compromise with the insurer without the prior written consent of the EESL. With respect to insurance claims in which the Implementing Partner's interest is involved, the EESL shall not give any release or make any compromise with the insurer without the prior written consent of the Implementing Partner.

34.8 (i) wherever total damages/loss of equipment/material, would occur, the Implementing Partner will be entitled to payment of all payments received from the underwriters except the following amounts:

(a) The amount paid to the Implementing Partner under the Contract in respect of equipment/material damaged/lost (excluding the pro-rata initial advance) but including the entire amount of escalation, if any, already paid to the Contractor.

(b) Custom Duties and other taxes and duties which have already been paid by the EESL.

In the event the claim money settled, is less than the total of the amount in a & b above, then the entire claim money settled will be retained by the EESL and the Implementing Partner will forth-with pay the EESL the short fall amount between the claim money and the total of amounts as per a & b mentioned above.

Subsequent payments, if any, due under the Contract shall be regulated by the relevant terms of payment.

(II) In case of damage to any equipment/material during any stage, the Implementing Partner upon rectification of the damaged equipment to the satisfaction of the EESL shall be paid to the extent of full claims settled by the underwriters.

### **35 Unforeseen Conditions**

35.1 If, during the execution of the Contract, the Implementing Partner shall encounter on the Site any physical conditions (other than climatic conditions) or artificial obstructions that could not have been reasonably foreseen prior to the date of the Contract Agreement by an experienced Implementing Partner on the basis of reasonable examination of the data relating to the Facilities (including any data as to boring tests) provided by the EESL, and on the basis of information that it could have obtained from a visual inspection of the Site (if access thereto was available) or other data readily available to it relating to the Facilities, and if the Implementing Partner determines that it will in consequence of such conditions or obstructions incur additional cost and expense or require additional time to perform its obligations under the Contract that would not have been required if such physical conditions or artificial obstructions had not been encountered, the Implementing Partner shall promptly, and before performing additional work or using additional Plant and Equipment or Implementing Partner's Equipment, notify the Project Manager in writing of

- a) the physical conditions or artificial obstructions on the Site that could not have been reasonably foreseen.
- b) the additional work and/or Plant and Equipment and/or Implementing Partner's Equipment required, including the steps which the Implementing Partner will or proposes to take to overcome such conditions or obstructions.
- c) the extent of the anticipated delay.
- d) the additional cost and expense that the Implementing Partner is likely to incur.

On receiving any notice from the Implementing Partner under this GCC Sub-Clause 35.1, the Project Manager shall promptly consult with the EESL and Implementing Partner and decide upon the actions to be taken to overcome the physical conditions or artificial obstructions encountered. Following such consultations, the Project Manager shall instruct the Implementing Partner, with a copy to the EESL, of the actions to be taken.

35.2 Any reasonable additional cost and expense incurred by the Implementing Partner in following the instructions from the Project Manager to overcome such physical conditions or artificial obstructions referred to in GCC Sub-Clause 35.1 shall be paid by the EESL to the Implementing Partner as an addition to the Contract Price.

35.3 If the Implementing Partner is delayed or impeded in the performance of the Contract because of any such physical conditions or artificial obstructions referred to in GCC Sub-Clause 35.1, the Time for Completion shall be extended in accordance with GCC Clause 40 (Extension of Time for Completion).

### **36 Change in Laws and Regulations**

36.1 If, after the date seven (7) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the costs and expenses of the Implementing Partner and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Implementing Partner has thereby been affected in the performance of any of its obligations under the Contract. However, these adjustments would be restricted to direct transactions between the EESL and the Implementing Partner/Assignee of Foreign Implementing Partner (if applicable). These adjustments shall not be applicable on procurement of raw materials, intermediary components etc. by the Implementing Partner/Assignee of Foreign Implementing Partner and shall also not be applicable on bought out items despatched directly from sub-vendor works to site. Further, no adjustment of the Contract Price and/or payment or reimbursement of taxes, duties or levies shall be made on account of variation in or withdrawal of Deemed Export benefits. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with the Appendix 2 to the Contract Agreement.

### **37 Force Majeure**

37.1 "Force Majeure" shall mean any event beyond the reasonable control of the EESL or of the Implementing Partner, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected.

37.2 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen (14) days after the occurrence of such event.

37.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with GCC Clause 40 (Extension of Time for Completion).

37.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Contract and to fulfil its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC Sub-Clauses 37.6 and 38.5.

37.5 No delay or non performance by either party hereto caused by the occurrence of any event of Force Majeure shall

- a) constitute a default or breach of the Contract
  
- b) (subject to GCC Sub-Clauses 32.2, 38.3 and 38.4) give rise to any claim for damages or additional cost or expense occasioned thereby

If and to the extent that such delay or non performance is caused by the occurrence of an event of Force Majeure.

37.6 If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the currency of the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which the dispute shall be resolved in accordance with GCC Clause 6.

37.7 Notwithstanding GCC Sub-Clause 37.5, Force Majeure shall not apply to any obligation of the EESL to make payments to the Implementing Partner herein.

## **38 War Risks**

38.1 "War Risks" shall mean any of the following events occurring or existing in or near the country (or countries) where the Site is located:

- a) war, hostilities or warlike operations (whether a state of war is declared or not), invasion, act of foreign enemy and civil war
- b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts, and
- c) any explosion or impact of any mine, bomb, shell, grenade or other projectile, missile, munitions or explosive of war.

38.2 Notwithstanding anything contained in the Contract, the Implementing Partner shall have no liability whatsoever for or with respect to

- a) destruction of or damage to Facilities, Plant & Equipment, or any part thereof
- b) destruction of or damage to property of the EESL or any third party
- c) injury or loss of life

if such destruction, damage, injury or loss of life is caused by any War Risks, and the EESL shall indemnify and hold the Implementing Partner harmless from and against any and all claims, liabilities, actions, lawsuits, damages, costs, charges or expenses arising in consequence of or in connection with the same.

38.3 If the Facilities or any Plant and Equipment or Implementing Partner's Equipment or any other property of the Implementing Partner used or intended to be used for the purposes of the Facilities shall sustain destruction or damage by reason of any War Risks, the EESL shall pay the Implementing Partner for

- a) any part of the Facilities or the Plant and Equipment so destroyed or damaged (to the extent not already paid for by the EESL)
- b) replacing or making good any Implementing Partner's Equipment or other property of the Implementing Partner so destroyed or damaged so far as may be required by the EESL, and as may be necessary for completion of the Facilities,
- c) replacing or making good any such destruction or damage to the Facilities or the Plant and Equipment or any part thereof.

If the EESL does not require the Implementing Partner to replace or make good any such destruction or damage to the Facilities, the EESL shall either request a change in accordance with GCC Clause 39 (Change in the Facilities), excluding the performance of that part of the Facilities thereby destroyed or damaged or, where the loss, destruction or damage affects a substantial part of the Facilities, shall terminate the Contract, pursuant to GCC Sub-Clause 42.1 (Termination for EESL's Convenience).

38.4 Notwithstanding anything contained in the Contract, the EESL shall pay the Implementing Partner for any increased costs or incidentals to the execution of the Contract that are in any way attributable to, consequent on, resulting from, or in any way connected with any War Risks, provided that the Implementing Partner shall as soon as practicable notify the EESL in writing of any such increased cost.

38.5 If during the performance of the Contract any War Risks shall occur that financially or otherwise materially affect the execution of the Contract by the Implementing Partner, the Implementing Partner shall use its reasonable efforts to execute the Contract with due and proper consideration given to the safety of its and its SubImplementing Partners' personnel engaged in the work on the Facilities, provided, however, that if the execution of the work on the Facilities becomes impossible or is substantially prevented for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of any War Risks, the parties will attempt to develop a mutually satisfactory solution, failing which the dispute will be resolved in accordance with GCC Clause 6.

38.6 In the event of termination pursuant to GCC Sub-Clauses 38.3, the rights and obligations of the EESL and the Implementing Partner shall be specified in GCC Sub-Clauses 42.1.2 and 42.1.3, except that the Implementing Partner shall have no entitlement to profit under paragraph (e) of GCC Sub-Clause 42.1.3 in respect of any unexecuted Facilities as of the date of termination.

## **H. Change in Contract Element**

### **39.1 Changes in the Facilities**

39.1.1 The EESL shall have the right to propose, and subsequently require, that the Project Manager order the Implementing Partner from time to time during the performance of the Contract to make any change, modification, addition or deletion to, in or from the Facilities (hereinafter called "Change"), provided that such Change falls within the general scope of the Facilities and does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Facilities and the technical compatibility of the Change envisaged with the nature of the Facilities as specified in the Contract.

39.1.2 The Implementing Partner may from time to time during its performance of the Contract propose to the EESL (with a copy to the Project Manager) any Change that the Implementing Partner considers necessary or desirable to improve the quality, efficiency or safety of the Facilities. The EESL may at its discretion approve or reject any Change proposed by the Implementing Partner.

39.1.3 Notwithstanding GCC Sub-Clauses 39.1.1 and 39.1.2, no change made necessary because of any default of the Implementing Partner in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Completion.

39.1.4 The procedure on how to proceed with and execute Changes is specified in GCC Sub-Clauses 39.2 and 39.3.

### **39.2 Changes Originating from EESL**

If the EESL proposes a Change pursuant to GCC Sub-Clause 39.1.1, it shall send to the Implementing Partner a "Request for Change Proposal," requiring the Implementing Partner to prepare and furnish to the Project Manager as soon as reasonably practicable a "Change Proposal," which shall include the following:

- a) brief description of the Change
- b) effect on the Time for Completion
- c) estimated cost of the Change
- d) effect on Functional Guarantees (if any)
- e) effect on any other provisions of the Contract.

39.2.2 The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If the rates and prices of any change are in the Contract, the parties thereto shall agree on specific rates for the valuation of the Change.

39.2.3 If before or during the preparation of the Change Proposal it becomes apparent that the aggregate effect of compliance therewith and with all other Change Orders that have already become binding upon the Implementing Partner under this GCC Clause 39 would be to increase or decrease the Contract Price as originally set forth in Article 2 (Contract Price) of the Contract Agreement by more than fifteen (15) percent, the Implementing Partner may give a written notice of objection thereto prior to furnishing the Change Proposal as aforesaid. If the EESL accepts the Implementing Partner's objection, the EESL and the Implementing Partner shall agree on specific rates for valuation of the change.

39.2.4 Upon receipt of the Change Proposal, the EESL and the Implementing Partner shall mutually agree upon all matters therein contained including agreement on rates if such rates are not available in the Contract or if the limit of 15% set forth in Clause 39.2.3 has been exceeded. Within fourteen (14) days after such agreement, the EESL shall, if it intends to proceed with the Change, issue the Implementing Partner with a Change Order.

If the EESL is unable to reach a decision within fourteen (14) days, it shall notify the Implementing Partner with details of when the Implementing Partner can expect a decision.

If the EESL decides not to proceed with the Change for whatever reason, it shall, within the said period of fourteen (14) days, notify the Implementing Partner accordingly.

39.2.5 If the EESL and the Implementing Partner cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters identified in the Change Proposal, the EESL may nevertheless instruct the Implementing Partner to proceed with the Change by issue of a "Pending Agreement Change Order."

Upon receipt of a Pending Agreement Change Order, the Implementing Partner shall immediately proceed with effecting the Changes covered by such Order. The parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal.

### **39.3 Changes Originating from Implementing Partner**

39.3.1 If the Implementing Partner proposes a Change pursuant to GCC Sub-Clause 39.1.2, the Implementing Partner shall submit to the Project Manager a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GCC Sub-Clause 39.2.1.

Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GCC Sub-Clauses 39.2.4 and 39.2.5

## **40. Extension of Time for Completion**

40.1 The Time(s) for Completion specified in the SCC shall be extended if the Implementing Partner is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:

- a) any Change in the Facilities as provided in GCC Clause 39 (Change in the Facilities)
- b) any occurrence of Force Majeure as provided in GCC Clause 37 (Force Majeure), unforeseen conditions as provided in GCC Clause 35 (Unforeseen Conditions), or other occurrence of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Sub-Clause 32.2
- c) any suspension order given by the EESL under GCC Clause 41 (Suspension) hereof or reduction in the rate of progress pursuant to GCC Sub-Clause 41.2 or
- d) any changes in laws and regulations as provided in GCC Clause 36 (Change in Laws and Regulations) or

- e) any default or breach of the Contract by the EESL, specifically including failure to supply the items listed in Appendix 6 (Scope of Works and Supply by the EESL) to the Contract Agreement, or any activity, act or omission of any other Implementing Partners employed by the EESL or
- f) any other matter specifically mentioned in the Contract;

by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Implementing Partner.

40.2 Except where otherwise specifically provided in the Contract, the Implementing Partner shall submit to the Project Manager a notice of a claim for an extension of the Time for Completion, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the EESL and the Implementing Partner shall agree upon the period of such extension. In the event that the Implementing Partner does not accept the EESL's estimate of a fair and reasonable time extension, the Implementing Partner shall be entitled to refer the matter to the Adjudicator, pursuant to GCC Sub-Clause 6.1 (Adjudicator).

40.3 The Implementing Partner shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

## 41 Suspension

41.1 The EESL/ Project Manager may, by notice to the Implementing Partner, order the Implementing Partner to suspend performance of any or all of its obligations under the Contract. Such notice shall specify the obligation of which performance is to be suspended, the effective date of the suspension and the reasons therefore. The Implementing Partner shall thereupon suspend performance of such obligation (except those obligations necessary for the care or preservation of the Facilities) until ordered in writing to resume such performance by the Project Manager/ EESL.

If, by virtue of a suspension order given by the Project Manager/EESL other than by reason of the Implementing Partner's default or breach of the Contract, the Implementing Partner's performance of any of its obligations is suspended for an aggregate period of more than ninety (90) days, then at any time thereafter and provided that at that time such performance is still suspended, the Implementing Partner may give a notice to the Project Manager requiring that the EESL shall, within twenty-eight (28) days of receipt of the notice, order the resumption of such performance or request and subsequently order a change in accordance with GCC Clause 39 (Change in the Facilities), excluding the performance of the suspended obligations from the Contract.

If the EESL fails to do so within such period, the Implementing Partner may, by a further notice to the Project Manager, elect to treat the suspension, where it affects a part only of the Facilities, as a deletion of such part in accordance with GCC Clause 39 (Change in the Facilities) or, where it affects the whole of the Facilities, as termination of the Contract under GCC Sub-Clause 42.1 (Termination for EESL's Convenience).

### 41.2 If

- a) the EESL has failed to pay the Implementing Partner any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to Appendix 1 (Terms and Procedures of Payment) to the Contract Agreement, or commits a substantial breach of the Contract, the Implementing Partner may give a notice to the EESL that requires payment of such sum, requires approval of such invoice or supporting documents, or specifies the breach and requires the EESL to remedy the same, as the case may be. If the EESL fails to pay such sum, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, or fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Implementing Partner's notice or
- b) the Implementing Partner is unable to carry out any of its obligations under the Contract for any reason attributable to the EESL, including but not limited to the EESL's failure to provide possession of or access to the Site or other areas in accordance with GCC Sub-Clause 10.2, or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities; then the Implementing Partner may by fourteen (14) days' notice to the EESL suspend performance of all or any of its obligations under the Contract, or reduce the rate of progress.

41.3 If the Implementing Partner's performance of its obligations is suspended or the rate of progress is reduced pursuant to this GCC Clause 41, then the Time for Completion shall be extended in accordance with GCC Sub-Clause 40.1, and any and all additional costs or expenses incurred by the Implementing Partner as a result of such suspension or reduction shall be paid by the EESL to the Implementing Partner in addition to the Contract Price, except in the case of suspension order or reduction in the rate of progress by reason of the Implementing Partner's default or breach of the Contract.

41.4 During the period of suspension, the Implementing Partner shall not remove from the Site any Plant and Equipment, any part of the Facilities or any Implementing Partner's Equipment, without the prior written consent of the EESL.

## **42 Termination**

### **42.1 Termination for EESL's Convenience**

42.1.1 The EESL may at any time terminate the Contract for any reason by giving the Implementing Partner a notice of termination that refers to this GCC Sub-Clause 42.1.

42.1.2 Upon receipt of the notice of termination under GCC Sub-Clause 42.1.1, the Implementing Partner shall either immediately or upon the date specified in the notice of termination

- (a) cease all further work, except for such work as the EESL may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition
- (b) terminate all subcontracts, except those to be assigned to the EESL pursuant to paragraph (d)(ii) below
- (c) remove all Implementing Partner's Equipment from the Site, repatriate the Implementing Partner's and its SubImplementing Partners' personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition.
- (d) In addition, the Implementing Partner, subject to the payment specified in GCC Sub-Clause 42.1.3, shall
  - (i) Deliver to the EESL the parts of the Facilities executed by the Implementing Partner up to the date of termination
  - (ii) to the extent legally possible, assign to the EESL all right, title and benefit of the Implementing Partner to the Facilities and to the Plant and Equipment as at the date of termination, and, as may be required by the EESL, in any subcontracts concluded between the Implementing Partner and its SubImplementing Partners
  - (iii) deliver to the EESL all non-proprietary drawings, specifications and other documents prepared by the Implementing Partner or its SubImplementing Partners as at the date of termination in connection with the Facilities.

42.1.3 In the event of termination of the Contract under GCC Sub-Clause 42.1.1, the EESL shall pay to the Implementing Partner the following amounts:

- (a) the Contract Price, properly attributable to the parts of the Facilities executed by the Implementing Partner as of the date of termination
- (b) the costs reasonably incurred by the Implementing Partner in the removal of the Implementing Partner's Equipment from the Site and in the repatriation of the Implementing Partner's and its SubImplementing Partners' personnel.
- (c) any amounts to be paid by the Implementing Partner to its SubImplementing Partners in connection with the termination of any subcontracts, including any cancellation charges.

- (d) costs incurred by the Implementing Partner in protecting the Facilities and leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Sub-Clause 42.1.2
- (e) the cost of satisfying all other obligations, commitments and claims that the Implementing Partner may in good faith have undertaken with third parties in connection with the Contract and that are not covered by paragraphs (a) through (d) above.

#### **42.2 Termination for Contractor or Implementing Partner's Default**

42.2.1 The EESL, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons therefor to the Implementing Partner, referring to this GCC Sub-Clause 42.2:

- (a) if the Implementing Partner becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Implementing Partner is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Implementing Partner takes or suffers any other analogous action in consequence of debt.
- (b) if the Implementing Partner assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC Clause 43 (Assignment).
- (c) if the Implementing Partner, in the judgement of the EESL has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this Sub-Clause:

"corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.

"fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the EESL and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the EESL of the benefits of free and open competition.

#### 42.2.2 If the Implementing Partner

- (a) has abandoned or repudiated the Contract
- (b) has without valid reason failed to commence work on the Facilities promptly or has suspended (other than pursuant to GCC Sub-Clause 41.2) the progress of Contract performance for more than twenty-eight (28) days after receiving a written instruction from the EESL to proceed
- (c) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause
- (d) refuses or is unable to provide sufficient materials, services or labor to execute and complete the Facilities in the manner specified in the program furnished under GCC Clause 18 (Program of Performance) at rates of progress that give reasonable assurance to the EESL that the Implementing Partner can attain Completion of the Facilities by the Time for Completion as extended

then the EESL may, without prejudice to any other rights it may possess under the Contract, give a notice to the Implementing Partner stating the nature of the default and requiring the Implementing Partner to remedy the same. If the Implementing Partner fails to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice, then the EESL may terminate the Contract forthwith by giving a notice of termination to the Implementing Partner that refers to this GCC Sub-Clause 42.2.

42.2.3 Upon receipt of the notice of termination under GCC Sub-Clauses 42.2.1 or 42.2.2, the Implementing Partner shall, either immediately or upon such date as is specified in the notice of termination,

cease all further work, except for such work as the EESL may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition

- (a) terminate all subcontracts, except those to be assigned to the EESL pursuant to paragraph (d) below
- (b) deliver to the EESL the parts of the Facilities executed by the Implementing Partner up to the date of termination.
- (c) to the extent legally possible, assign to the EESL all right, title and benefit of the Implementing Partner to the Works. and to the Plant and Equipment as at the date of termination, and, as may be required by the EESL, in any subcontracts concluded between the Implementing Partner and its SubImplementing Partners.
- (d) deliver to the EESL all drawings, specifications and other documents prepared by the Implementing Partner or its SubImplementing Partners as at the date of termination in connection with the Facilities.

42.2.4 The EESL may enter upon the Site, expel the Implementing Partner, and complete the Facilities itself or by employing any third party. The EESL may, to the exclusion of any right of the Implementing Partner over the same, take over and use with the payment of a fair rental rate to the Implementing Partner, with all the maintenance costs to the account of the EESL and with an indemnification by the EESL for all liability including damage or injury to persons arising out of the EESL's use of such equipment, any Implementing Partner's Equipment owned by the Implementing Partner and on the Site in connection with the Facilities for such reasonable period as the EESL considers expedient for the supply and installation of the Facilities.

Upon completion of the Facilities or at such earlier date as the EESL thinks appropriate, the EESL shall give notice to the Implementing Partner that such Implementing Partner's Equipment will be returned to the Implementing Partner at or near the Site and shall return such Implementing Partner's Equipment to the Implementing Partner in accordance with such notice. The Implementing Partner shall thereafter without delay and at its cost remove or arrange removal of the same from the Site.

42.2.5 Subject to GCC Sub-Clause 42.2.6, the Implementing Partner shall be entitled to be paid the Contract Price attributable to the Facilities executed as at the date of termination, the value of any unused or partially used Plant and Equipment on the Site, and the costs, if any, incurred in protecting the Facilities and in leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Sub-Clause 42.2.3. Any sums due to the EESL from the Implementing Partner accruing prior to the date of termination shall be deducted from the amount to be paid to the Implementing Partner under this Contract.

42.2.6 If the EESL completes the Facilities, the cost of completing the Facilities by the EESL shall be determined.

If the sum that the Implementing Partner is entitled to be paid, pursuant to GCC Sub-Clause 42.2.5, plus the reasonable costs incurred by the EESL in completing the Facilities, exceeds the Contract Price, the Implementing Partner shall be liable for such excess.

If such excess is greater than the sums due to the Implementing Partner under GCC Sub-Clause 42.2.5, the Implementing Partner shall pay the balance to the EESL, and if such excess is less than the sums due to the Implementing Partner under GCC Sub-Clause 42.2.5, the EESL shall pay the balance to the Implementing Partner.

The EESL and the Implementing Partner shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

### **42.3 Termination by Contractor or Implementing Partner**

#### **42.3.1 If**

(a) the EESL has failed to pay the Implementing Partner any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to Appendix 1

(Terms and Procedures of Payment) of the Contract Agreement, or commits a substantial breach of the Contract, the Implementing Partner may give a notice to the EESL that requires payment of such sum, requires approval of such invoice or supporting documents, or specifies the breach and requires the EESL to remedy the same, as the case may be. If the EESL fails to pay such sum, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Implementing Partner's notice, or

(b) the Implementing Partner is unable to carry out any of its obligations under the Contract for any reason attributable to the EESL, including but not limited to the EESL's failure to provide possession of or access to the Site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities which the EESL is required to obtain as per provision of the Contract or as per relevant applicable laws of the country,

then the Implementing Partner may give a notice to the EESL thereof, and if the EESL has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Implementing Partner is still unable to carry out any of its obligations under the Contract for any reason attributable to the EESL within twenty-eight (28) days of the said notice, the Implementing Partner may by a further notice to the EESL referring to this GCC Sub-Clause 42.3.1, forthwith terminate the Contract.

42.3.2 The Implementing Partner may terminate the Contract forthwith by giving a notice to the EESL to that effect, referring to this GCC Sub-Clause 42.3.2, if the EESL becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the EESL takes or suffers any other analogous action in consequence of debt.

42.3.3 If the Contract is terminated under GCC Sub-Clauses 42.3.1 or 42.3.2, then the Implementing Partner shall immediately

(a) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition

(b) terminate all subcontracts, except those to be assigned to the EESL pursuant to paragraph (d)(ii)

(c) remove all Implementing Partner's Equipment from the Site and repatriate the Implementing Partner's and its SubImplementing Partner's personnel from the Site

(d) In addition, the Implementing Partner, subject to the payment specified in GCC Sub-Clause 42.3.4, shall

(i) deliver to the EESL the parts of the Facilities executed by the Implementing Partner up to the date of termination

(ii) to the extent legally possible, assign to the EESL all right, title and benefit of the Implementing Partner to the Facilities and to the Plant and Equipment as of the date of termination, and, as may be required by the EESL, in any subcontracts concluded between the Implementing Partner and its SubImplementing Partners

(iii) deliver to the EESL all drawings, specifications and other documents prepared by the Implementing Partner or its SubImplementing Partners as of the date of termination in connection with the Facilities.

42.3.4 If the Contract is terminated under GCC Sub-Clauses 42.3.1 or 42.3.2, the EESL shall pay to the Implementing Partner all payments specified in GCC Sub-Clause 42.1.3, and reasonable compensation for all loss or damage sustained by the Implementing Partner arising out of, in connection with or in consequence of such termination.

42.3.5 Termination by the Implementing Partner pursuant to this GCC Sub-Clause 42.3 is without prejudice to any other rights or remedies of the Implementing Partner that may be exercised in lieu of or in addition to rights conferred by GCC Sub-Clause 42.3.

42.4 In this GCC Clause 42, the expression "Facilities executed" shall include all work executed, Installation Services provided, any or all Plant and Equipment acquired (or subject to a legally binding obligation to purchase by the Implementing Partner and used or intended to be used for the purpose of the Facilities, up to and including the date of termination.

42.5 In this GCC Clause 42, in calculating any monies due from the EESL to the Implementing Partner, account shall be taken of any sum previously paid by the EESL to the Implementing Partner under the Contract, including any advance payment paid pursuant to Appendix 1 (Terms and Procedures of Payment) to the Contract Agreement.

#### **43. Assignment**

43.1 The Implementing Partner shall not, without the express prior written consent of the EESL, assign to any third party the Contract or any part thereof, or any right, benefit, obligation or interest therein or thereunder, except that the Implementing Partner shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

#### **44. Bankruptcy**

If the Contractor shall become bankrupt or have a receiving order made against him or compound with his creditors, or being a corporation commence to be wound up, not being a voluntary winding up for the purpose only of amalgamation / reconstruction, or carry on its business under a receiver for the benefit of its creditors or any of them, the Owner will be at liberty :

to terminate the contract forthwith by notice in writing to the liquidator or receiver or to any person in whom the contract may become vested & to act in the manner provided in GCC clause 42 entitled "Termination" as though the last mentioned notice has been the notice referred to in such clause and the equipment and materials have been taken out of the contractor's hands.

to give such liquidator, receiver or other person, the option of carrying out the contract subject to his providing a guarantee, for the due and faithful performance of the contract up to an amount to be determined by the Owner.

#### **45. Contractor Performance & Feedback and Evaluation System**

The Employer has in place an established 'Contractor Performance & Feedback System' against which the contractor's performance during the execution of contract shall be evaluated on a continuous basis at regular intervals. In case the performance of the contractor is found unsatisfactory on any of the following four parameters, the contractor shall be considered ineligible for participating in future tenders for a period as may be decided by the Employer.

Financial Status

Project Execution & Project Management Capability

Engineering & QA Capability

Claims & Disputes.

#### **46. Fraud Prevention Policy**

The contractor along with their associate/collaborator/sub-contractors/sub-vendors/ consultants/service providers shall strictly adhere to the Fraud Prevention Policy of EESL displayed on its tender website [www.eeslindia.org](http://www.eeslindia.org)

The Contractor along with their associate/collaborator/sub-contractors/sub-vendors/ consultants/service providers shall observe the highest standard of ethics and shall not indulge or allow anybody else working in their organisation to indulge in fraudulent activities during execution of the contract. The contractor shall immediately apprise the Employer about any fraud or suspected fraud as soon as it comes to their notice.

## SECTION-4

### Scope of Supplies/Work/Services, Technical Specifications, Qualifying Requirements, Terms and Conditions, and Special Conditions of Contract

**NOTE:** THE TERMS AND CONDITIONS STIPULATED HEREIN (I.E., IN SECTION-4) WILL SUPERSEDE ANY CONTRADICTION/SIMILAR/OVERLAPPING TERMS AND CONDITIONS IN ANY OTHER SECTION/PART OF THE TENDER.

### PART-A: General Information

**Name of the Work:** International Competitive Bidding (ICB) for Design, Supply, Installation, Integration, Commissioning, Operation and Maintenance, FMS Support of Advanced Metering Infrastructure (AMI) Solution for 5-million Smart Electricity Meters with GPRS-based Communication Module for Haryana and Uttar Pradesh.

**NIT/Bid Document No.:** EESL/06/ICB-AMI-System Integrator/171809048.

**BIDS ARE TO BE SUBMITTED AS FOLLOWS:-**

*(Please note that, EESL has switched the tender system into E-tendering. Bidders shall submit their bid accordingly as per the terms and conditions of E-tendering mode.)*

**Envelope-I should contain**

- i. **Physical Copy to be Submitted and Scanned Copy to be uploaded:** Bidding Document Cost in the form of Banker's Cheque/Demand Draft/Pay Order drawn in favour of "Energy Efficiency Services Limited", payable at NOIDA.
- ii. **Physical Copy to be Submitted and Scanned Copy to be uploaded:** Bid Security/Earnest Money Deposit in form of Banker's Cheque/Demand Draft/Pay order in favour of "Energy Efficiency Services Limited" or in the form of Bank Guarantee as per prescribed format at Attachment-2 of Section-6 (*Forms and Procedure*).
- iii. **Scanned Copy to be uploaded:** Bid Form as per the Attachment-1 of Section-6, i.e., letter of the bidder(s) submitting the bid.
- iv. **Scanned Copy to be uploaded:** Power of Attorney to Sign the Bid as per the Attachment-3 of Section-6 - Bidder(s) to use their own format.
- v. **Scanned Copy to be uploaded:** Certificate of Acceptance of Important Terms and Conditions as per ITB Clause No. 4.6, as per the format at Attachment-4 of Section-6.
- vi. **Scanned Copy to be uploaded:** Acceptance of EESL's Fraud Prevention Policy as per the format at Attachment-7 of Section-6.
- vii. **Scanned Copy to be uploaded:** NEFT/RTGS Mandate Form duly attested by Bank as per Attachment-13 of Section-6.

**Envelope-II, i.e., Techno-Commercial Proposal of the Bid Should Contain (uploaded scanned copies of) the following:**

- i. **Deviation Statement** as per the format at Attachment-5 of Section-6.  
**NOTE:** EESL reserves the right to consider or disregard deviations, and reject bids in case of non-compliance. Bids containing material deviations from or reservation to the terms and conditions and specifications mentioned in the Tender shall be treated as non-responsive and shall not be considered further.
- ii. Techno-commercial bid as indicated in bid document, i.e., **documentary evidences regarding bidder's qualifications to perform the Contract, as required per the Eligibility Criteria, Qualifying Requirements and Bid Evaluation Criteria.**
- iii. One complete set of tender documents and subsequent amendments (if any), duly signed and stamped on each page.

**Envelope-III should contain Price Bid (to be filled-up only online – hard copy not required)**

Since the bids are to be submitted through E-tendering mode, the prices are to be filled on e-tender portal only and bidder(s) are requested **not to submit the price bid in hard copy at EESL along with the documents. The same shall not be entertained.**

- i. Price Bid Sheet Format is prescribed at **ANNEX-A** in the Tender document – only for illustration purpose ***(prices are to be filled on E-tender portal only)***.

**Opening and Further Processing of the Bids**

Initially, Envelope-I containing the documents (as stated above) will be opened electronically. Envelope-II will be opened electronically on the same day of only those bidder(s), who have submitted EMD and requisite documents in Envelope-I.

Documents found in Envelope-II shall be scrutinized by EESL w.r.t. the Qualifying Requirements and Bid Evaluation Criteria.

Envelope-III (Price Bid) shall be opened electronically subsequently, subject to acceptance of Techno-Commercial Bid. Price Bid opening date will be intimated to only those bidder(s), who are found technically and commercially acceptable by EESL.

Price-Bid of the techno-commercially disqualified bidder(s) will not be opened and the EMD submitted by them shall be returned on approval of the Competent Authority.

The opened Price Bids shall be evaluated as per the criteria set out in the Tender and the award(s) of Contract shall be recommended accordingly. EMD of the unsuccessful bidder(s) shall be returned after receiving approval of the Competent Authority for award of Contract(s). EMD of the implementation partner(s) shall be returned only on receipt of the CPG by EESL as per the provision of the LOA/Contract (as the case may be).

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## **PART-B: Scope of Supplies/Work/Services and Qualifying Requirements**

### **1 INTRODUCTION TO ENERGY EFFICIENCY SERVICES LIMITED**

A joint venture of NTPC Limited, Power Finance Corporation, Rural Electrification Corporation and POWERGRID, Energy Efficiency Services Limited (EESL) was set up under Ministry of Power to facilitate implementation of energy efficiency projects. EESL is an Energy Service Company (ESCO) that seeks to unlock energy efficiency market in India, estimated to at US\$ 12 billion that can potentially result in energy savings of up to 20 per cent of current consumption, by way of innovative business and implementation models.

Till date, EESL, through their flagship programmes UJALA and Street Lighting National Programme annually saves over \$ 900 million. EESL has successfully distributed over 200 million LED bulbs and has retrofitted over 2 million LED street lights across India. It also acts as the resource center for capacity building of State DISCOMs, ERCs, SDAs, upcoming ESCOs, financial institutions, etc. EESL is the one-stop turnkey destination to implement energy efficiency for public utilities and corporates at your commercial offices, hospitality and Hotels etc.

#### **Objectives of EESL:**

- a) To facilitate preparation of energy-efficiency projects for Demand Side Measures including municipal functions, agriculture, public building, lighting, etc.
- b) To implement schemes, programmes and policies of Central and state governments or its agencies.
- c) To partner with private ESCOs and other companies to promote energy-efficiency.
- d) To provide consultancy services in the field of energy-efficiency, CDM projects, and other related areas.
- e) To identify and impart training to build the capacity of stakeholders.

### **2 BACKGROUND and OBJECTIVE**

The Indian power sector is the World's third largest power producer (330 GW installed capacity as on 30-Jun-2017) and the fourth largest consumer of electricity. From being a totally state owned sector, the journey towards corporatization began in the late 1990's with increasing private participation starting with the generation sub-sector and spreading to the transmission and distribution sub-sectors. The integrated state utilities were unbundled to make separate generation, transmission and distribution entities in each state. There has also been significant legislation which supported this reform process and the strengthening of the regulatory commissions to oversee the activities of the power utilities.

Distribution is the most important link in the entire power sector value chain. As the only interface between utilities and consumers, it is the cash register for the entire sector. Post reforms of the 1990s, the Distribution sub-sector is till date dominated by state owned utilities which together control more than 95% of the consumer base. One of the key issue troubling these state utilities is financial viability due to the accumulated losses and continuing performance issues contributing to an average Aggregated Technical and Commercial Loss in excess of 22%.

The central government has supported the distribution sector through several schemes such as Financial Restructuring Packages and several other schemes which have worked to improve the operational performance of the distribution utilities. In 2001, the government had launched the Accelerated Power Development and Reform Programme (APRDP) program to bring down the AT&C losses of Discoms by providing them grants to upgrade their transmission infrastructure. In 2008, the government restructured this scheme and launched it as Restructured Accelerated Power Development and Reforms Programme (R-APDRP). Funds were set aside for states to improve the distribution infrastructure and IT enablement. A strong, efficient and robust distribution system is crucial for providing 24x7 affordable power for all in India.

The central government has also launched the following schemes for the distribution sector:

- a) IPDS (Integrated Power Development Scheme) is the next iteration of R-APDRP scheme which means to extend the coverage of IT infrastructure to larger areas in the country.
- b) DDUGJY Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) focuses on feeder separation for rural households and agricultural purpose.
- c) UDAY (Ujwal Discom Assurance Yojana) is a debt restructuring plan for Discoms with financial assistance tied to achievement of specified outputs such as AT&C loss reduction, coal rationalization, Smart metering etc.

Smart metering and Smart Grid development in India is driven primarily through the National Smart Grid Mission (NSGM) which was established to plan and monitor the implementation of policies and programmes related to Smart Grid activities in India. There are over 14 smart grid pilots in various stages of implementation across the country which is being monitored by NSGM

In September 2016, the Central Electricity Authority (CEA) released a report on strategy for roll out of smart meters by state/union territories. In August 2015, BIS published the new smart meter standards "IS 16444: AC Static direct connected wathour smart meter- Class 1 and 2 specification", was revised and published as IS 15959: Part 2- Smart meter in March 2016.

With the pilots and standards in place the stage has been set to scale up the roll-out of smart meters in India.

## 2.1 Objective of the Project

Create a sustainable impact by increasing DISCOM revenues. Hence, some of the priority focus areas are increasing the billing efficiency and increase in customer satisfaction etc.

The Central government has identified smart meters as one of the lynchpins on which the IT infrastructure would be utilized. To meet this objective, Energy Efficiency Services Limited (EESL) has decided to undertake this activity into two parts:

- i) Supply of smart meters with GPRS compatible NIC cards.
- ii) Installation, testing , commissioning and integration of the AMI system.

For the first part, a Tender to procure smart meters by aggregating the demand from various states and disseminating them to the respective DISCOM has already been published by EESL on 1<sup>st</sup> August 2017. The bidders are advised to refer this link <https://goo.gl/Ji62YD> for Tender and the relevant corrigendum at <https://goo.gl/KX8rvQ>

This Tender, which caters to the second part, aims at selecting a System Integrator (SI) who will be responsible to undertake all the installation, testing, commissioning and integration of the AMI infrastructure. Please refer to the Scope of Work section of this document for more details.

EESL's ESCO led approach (BOOT Model): The ESCO business model for the project overall includes the following:

- a) Implementation of AMI solution (Smart Meters, Communication, HES, Analytics, Cyber security, MDMS and associated integration, Back End requirements, O & M during project period)
- b) Set up required backend hardware and integration of AMI meters to the AMI system and also to the legacy system of the utilities

## 2.2 Project Areas

Select towns in the states of India, namely, Uttar Pradesh and Haryana have been tentatively identified for roll-out of Advanced Metering Infrastructure (AMI). Overview of these states is given in table below.

**Table 1 – State Wise Consumers**

S. No.	Name of State	No. of Smart Meters in AMI Solution
1	Haryana	10,00,000
2	Uttar Pradesh	40,00,000

The bidder(s) shall note that this tender is to be read in continuation with the following documents:

- Tender for procuring 5 million smart meters: NIT/Bid Document No. EESL/06/ICB-Smart Meters-ESCO-HR-UP/171807030 dated 01 August 2017 (and its further amendment/s), having E-Tender ID: 1373, available at <https://goo.gl/Ji62YD>
- Amendment No. 3 to the tender: Ref. No. EESL/06/Tender-171807030(1373)/ICB-Smart Meter-HR-UP-ESCO/Amdt-3(Clar) dated 25 August 2017 available at <https://goo.gl/KX8rvQ>

An indicative breakup of single phase whole-current meters, three phase whole-current meters, three phase LT CT meters is given in the table below:

**Table 2 – Indicative Breakup of Meter Types**

S. No.	Type of Meter	Proposed Quantity (Nos.)
1	Single Phase Meter	45,00,000
2	Three Phase Whole-Current Meter	4,50,000
3	Three Phase LT CT Meter	50,000

An indicative list of the towns in Haryana and Uttar Pradesh for this project is given in table below.

**Table 3 – City wise Project Areas**

S. No.	Selected City	DISCOM
1	Gurugram	DHBVN
2	Faridabad	
3	Karnal	UHBVN
4	Panipat	
5	Allahabad	PUVVNL
6	Gorakhpur	
7	Varanasi	
8	Aligarh	DVVNL
9	Jhansi	
10	Mathura	
11	Faizabad	MUVVNL
12	Bareilly	
13	LESA	
14	Moradabad	PVVNL
15	Meerut	
16	Kanpur	KESCO

### 2.3 Stakeholders Map

For the purpose of this tender, a stakeholder map has been tabulated in Table below along with web-links for further information perusal by the bidder(s).

**Table 4 – Key Stakeholders**

S. No.	Name	URL	Role
1	Ministry of Power (MoP)	<a href="http://www.powermin.nic.in/">http://www.powermin.nic.in/</a>	Responsible for evolving general policy in the field of energy
2	Central Electricity Authority (CEA)	<a href="http://www.cea.nic.in/">http://www.cea.nic.in/</a>	Technical Arm of Indian power sector
3	Haryana Electricity Regulatory Commission (HERC)	<a href="https://herc.gov.in/">https://herc.gov.in/</a>	State Electricity Regulatory Commission for Haryana
4	Uttar Pradesh Electricity Regulatory Commission (UPERC)	<a href="http://www.uperc.org/">www.uperc.org/</a>	State Electricity Regulatory Commission for Uttar Pradesh
5	Energy Efficiency Services Limited (EESL)	<a href="https://eeslindia.org/">https://eeslindia.org/</a>	JV of PSU's for Demand side management initiatives
6	National Smart Grid Mission (NSGM)	<a href="http://www.nsgm.gov.in/en">http://www.nsgm.gov.in/en</a>	Central government body for accelerating smart grid initiatives in India
7	Uttar Haryana Bijli Vitran Nigam (UHBVN)	<a href="http://uhbvn.org.in/">http://uhbvn.org.in/</a>	Electricity distribution company in northern part of Haryana

S. No.	Name	URL	Role
8	Dakshin Haryana Bijli Vitran Nigam (DHBVN)	<a href="http://dhbvn.org.in/">http://dhbvn.org.in/</a>	Electricity distribution company in southern part of Haryana
9	Uttar Pradesh Power Corporation Limited (UPPCL)	<a href="https://www.uppcl.org/">https://www.uppcl.org/</a>	Electricity transmission and distribution company in Uttar Pradesh
10	Purvanchal Vidyut Vitaran Nigam Limited (PUVVNL)	<a href="http://puvvnl.up.nic.in/">http://puvvnl.up.nic.in/</a>	Electricity distribution company in eastern part of Uttar Pradesh
12	Dakshinanchal Vidhyut Vitran Nigam Limited (DVVNL)	<a href="http://www.dvvnl.org/">www.dvvnl.org/</a>	Electricity distribution company in southern part of Uttar Pradesh
13	Madhyanchal Vidyut Vitaran Nigam Limited (MVVNL)	<a href="https://www.mvvnl.in/">https://www.mvvnl.in/</a>	Electricity distribution company in central part of Uttar Pradesh
14	Paschimanchal Vidyut Vitran Nigam Limited (PVVNL)	<a href="https://www.pvvnl.org/">https://www.pvvnl.org/</a>	Electricity distribution company in western part of Uttar Pradesh
15	Kanpur Electricity Supply Company Limited (KESCO)	<a href="https://kesco.co.in/">https://kesco.co.in/</a>	Electricity distribution company in Kanpur town of Uttar Pradesh
16	Bureau of Indian Standards (BIS)	<a href="https://www.bis.org.in">https://www.bis.org.in</a>	National standards body of India

### 3 EXISTING IT SYSTEMS IN UTTAR PRADESH AND HARYANA POWER DISTRIBUTION UTILITIES

DISCOMs will have applications which shall be integrated with the existing applications currently running in respective DISCOMs such as MBC, AMR, SCADA, MDAS etc. The integration mechanism shall support easy manageability, configurability, scalability and easy integration with existing and any future systems without any architectural changes. The integration is expected to be real time or batch where appropriate and shall operate without manual intervention. Batch processes shall be avoided and implemented only in case where on-line real time integrated operation is not feasible.

EESL's AMI solution would require to be integrated with the legacy applications currently deployed in the state of UP and Haryana. An indicative existing / legacy application landscape of UP and Haryana DISCOMs, is provided below:

#### 3.1 Uttar Haryana Bijli Vitran Nigam (UHBVN) and Dakshin Haryana Bijli Vitran Nigam (DHBVN)

The legacy application landscape of Haryana includes applications deployed in RAPDRP. The project for implementation R-APDRP was carried out by M/s HCL Technologies Ltd., IT Implementation Agency (ITIA). The details of core product in the R-APDRP Solution is provided in table below.

**Table 5 - Details of Core Product in the R-APDRP Solution at DHBVN**

S. No.	System	Name/Version
1	Oracle Utilities Application	CCB 2.3.1
2	Oracle Database	11.2.0.4
3	Platform	Sparc

#### 3.2 Uttar Pradesh Power Corporation Limited (UPPCL)

The legacy application landscape of UPPCL in 168 towns under RAPDRP: CC&B (Oracle) and MDAS (Secure Meters). Other details like functionalities are as per SRS of RAPDRP part A.

The table below shows technical data sheet of MDAS/HES system proposed to be implemented in non-RAPDRP area.

Table 6 - Technical Data Sheet of MDAS deployed at UPPCL

Components	Technology
Platform & Version details (Java/.net)	Windows 2008 R2
Web server & Version (Such as Java/IIS)	IIS
Application Server & Version (Such as Glassfish / IIS)	IIS
Language Details	English
Database including version details	Oracle 11Gr2 (11.2.0.3)
Details of operating system environment	Solaris X86-64 10
Details of workflow (Such as jBPM / Windows workflow foundation)	N/A
Details of directory services used	Sun DSEE & Active Directory

Table 7 - Technical Data Sheet of CC&amp;B deployed at UPPCL

Components	Technology
Platform & Version details (Java/.net)	Solaris Sparc CCB 2.3.1
Web server & Version (Such as Java/IIS)	N/A
Application Server & Version (Such as Glassfish / IIS)	Weblogic 11g
Language Details	English
Database including version details	Oracle 11Gr2 (11.2.0.3)
Details of operating system environment	Solaris Sparc 10
Details of workflow (Such as jBPM / Windows workflow foundation)	N/A
Details of directory services used	Sun DSEE & Active Directory

## 4 DESIGN CONSIDERATION FOR EESL AMI SOLUTION

The bidder shall adhere to the following design principles while designing the AMI solution for EESL:

### 4.1 Open and Industry Standards for Interoperability

The proposed solution must have highest degree of interoperability and the solution components shall be standard based and adopt an open approach rather than support a specific technology or vendor.

### 4.2 Service Oriented Architecture (SOA)

AMI solution components must follow SOA principles to provide specific services using well defined interfaces. The AMI solution design shall be based on cross-functional components or subsystems and shall be implemented in such a way that there is an opportunity for reuse. The integration architecture shall be based on the concept of a service so all the applications of the AMI solution are able to integrate without any complexity.

### 4.3 Integration and Support for API Driven Design

EESL AMI system is envisaged as a system API driven architecture at the core of it. AMI system features can be accessed via any user interface (internal or 3rd party applications) which shall work on top of these APIs. Adoption of open standards API are of paramount importance for the EESL AMI system. Data access must be always through APIs, no application will access AMI data directly from the storage layer or data access layer. For every internal data access also (access between various modules) there will be APIs and no direct access will be there to ensure the AMI system is scalable and secure.

### 4.3.1 Design principles for AMI solution integration

- a) The integration middleware should be based on Service Oriented Architecture (SOA) and other forms of Application Program Interfaces (API) and use publish / subscribe mechanism
- b) The integration middleware to be an open architecture based
- c) Implementation and configuration of functional APIs from meter manufacturers and configuration of head end system
- d) All meter data of 15 minute blocks shall be polled once every 24 hours. The duration to polling frequency shall be remotely configurable and can be altered as per the requirement of EESL/DISCOMS
- e) AMI Implementing Partner must store and manage the security information related to Smart Meters. This include Device Security keys and asset information for processing further business flows.
- f) The AMI Implementing Partner must support the mass receipt (up to 5 million AMI meters every day) and the update of MDMS with the necessary asset information to complete meter reading and billing.
- g) The AMI Implementing Partner must integrate the proposed AMI solution with at least 5 smart manufacturers to exchange meter data.
- h) The AMI Implementing Partner shall configure, receive and store the AMI meter test data and asset status as received from AMI meter manufacturer, or as captured by meter testing systems, including the certificates from issuing authorities.
- i) The integration middleware/interface must validate the Data to be integrated
- j) It must maintain integration logs that confirm the success or otherwise of the interface, complete with control totals
- k) The integration mechanism adopted must have minimal impact on the existing systems  
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.

Bidder shall provide the approach and methodology (A&M) for integration. Integration shall include both hardware and protocol. Successful bidder to coordinate with existing RAPDRP implementing agency to facilitate integration.

### 4.4 Data Migration

Data is to be migrated from its legacy systems as per requirement of the DISCOM. The DISCOM's consumer database and MBC database shall be updated through the master data provided by the AMI Implementing Partner Data to be migrated will be cleansed, rationalized, transformed (if required) and reconciled. Conversion programs may need to be written to handle this task.

The following is the indicative list of the type of data that must be migrated to/from the legacy system.

- a) All Open transactions at the time of replacement of old meter with Smart meter
- b) Old/New customer/master data
- c) New Meter Data
- d) Events and outage data for analytics, reporting purposes etc.
- e) All meter exceptions and alarms
- f) All user groups and user roles
- g) Historical usage/billing data (which includes interval/scalar meter data and usage data) require to migrate (may be last 2 years of data or more as per business need) – due to estimation purpose, Re-bill generation, proration/profiling (as part of estimation), load forecasting purpose etc.

In addition, the AMI Implementing Partner shall ensure that any other data that is required to be migrated for the optimum operations of the AMI system needs to be taken up for migration. It is the responsibility of the AMI Implementing Partner to ensure that at all times the field data (customers, meters, etc.) shall be in sync across all the systems both legacy and new.

### 4.5 Ease of Management

The solution must factor capabilities and features that allows for ease of management and trouble-shooting. The underlying technology needs to be user friendly. By having easy to use principle, training can be kept to a minimum thereby aiding IT change management and the risk of using a system improperly can be minimized. The solution shall provide support:

- a) Monitoring of services using monitoring tools like Enterprise Management
- b) Ability to provide backup and restore of data

- c) Support maintenance, enhancement and refactoring the solution without architectural changes
- d) Administering the solution with minimal user intervention and using role based administration, well defined user interfaces and access policies
- e) Ability to log and report at a sub-system level state, health of the solution. It shall also log different events encountered by the subsystem.

#### 4.6 N-Tier / Modular Design

The application user interface, logic, data must be separate. The logical design of components, subsystems, application systems and databases will be ideally partitioned. These partitions shall have well-defined interfaces established. Logical boundaries are needed to separate components from each other. Modular design is more adaptive to changes in internal logic, platforms, and structures. It is easier to support, is more scalable and supports interoperability.

#### 4.7 High Availability, Failover and Load Balancing

Proposed Architecture shall have adequate redundancies so as to have no single point of failure for the solution. The solution tier for critical applications should consist minimum of two nodes clustered on a fail-over configuration for the critical components like Web, application and database servers at the Data center site. On failure of the primary application server, the 'failover' server shall take over processing, similarly on failure of a database server, the other server shall continue seamlessly, thus providing the desired availability.

AMI applications shall have the capability to failover to a redundant or secondary unit upon failure of the primary unit. Likewise, the load on the primary unit shall be shared with a secondary unit upon the primary unit reaching its capacity.

#### 4.8 Business Continuity and Disaster Recovery

In case if primary site / DC fails, the business shall continue from DR site. Connectivity between primary site and DR site shall be redundant. In case of Failures of Storage at DC, DR Backups shall be used to restore the Database from the last backup taken. This shall be defined in Backup policy during project execution. AMI Implementing Partner shall propose the backup strategy and any other additional BoM if needed to meet this requirement.

Bidders are expected to keep the above issues in mind and propose technically best alternative to ensure that the system is available for the users in all times by conceptualizing various scenarios and explaining how their solution addresses all the possible scenarios. While the Bill of material proposed is the bare minimum required to be supplied, AMI Implementing Partner shall propose additional BOM as may be required to meet the above objectives.

#### 4.9 Support for Cloud Enabled Deployment

Application will be hosted in a Private Cloud chosen by EESL and all the users of EESL / DISCOMS will access the application over MPLS VPN and Internet. AMI solution shall be cloud enabled that is technologies shall support deployment on a virtualized platform. The AMI solution shall support:

- a. The ability to deploy and run the application within a private cloud platform to take advantage of next generation cloud features
- b. Run services in virtualized environments multi-client capable services

#### 4.10 Zoned Deployment

The IT Infrastructure will have multiple security layers to secure the infrastructure from threats. The proposed deployment have different security zones as briefed below and all zones shall have separate firewall in addition to the external (Perimeter security appliances). The firewall policies shall be configured based on zone based requirements.

- i. **Militarized security Zone for Production Servers (Database and Application server Farm (MZ):**

Militarize Zone (MZ) will secure host all critical application, Data Base server, Storage etc. The Zone shall not be accessible from Internet directly. All user traffic will to enter in this security zone after firewall only. The proposed solution will have provision of dedicated Internal Firewall to secure the critical production (Data base and Application) environment.

ii. **Demilitarized Security Zone (DMZ) Web server Farm Zone:**

This security zone will host all servers that can be accessed from external users after authentication and traffic filtering. This zone shall host the Web servers, Access control and sign on servers, Antivirus Server etc.

iii. **Test , development and Staging zone (TDSZ):**

This zone will host all servers required for test and development for applications. This zone will have limited access and it will not have any direct access to Production zone (MZ) and the activity shall be monitored.

iv. **IT infra management zone**

The technical manpower proposed by Service Provider for DC and DR infrastructure will use this facility and will be able to access the infrastructure from this zone only. This can be based at EESL Hq or IA's site. Traffic for this zone will be virtually segregated / zoned by firewall.

#### 4.11 Information Security: Log Monitoring and Correlation

All Servers / sub systems / network devices / appliances as proposed by AMI Implementing Partner shall have capability and throw logs to the log server. The Logs and events generated by network and hardware component / devices of the system shall be monitored. AMI Implementing Partner must provide a Security information and event management (SIEM) solution for the same which shall be capable to provide various security alerts, events, logs generated from various IT infrastructure (Hardware/Software) components. AMI Implementing Partner would need to ensure the IT security compliance and therefore monitor the threats/logs generated by various equipment's / sub systems.

#### 4.12 Backup and Recovery

Data is an asset, just as personnel, physical resources, and financial resources are assets. Data and information are resources that are extremely valuable for the organization; hence data management processes must be in place to maintain the data. AMI Implementing Partner needs to prepare a backup policy which shall be approved by EESL. AMI Implementing Partner would be required to design detailed backup and recovery policies which shall be implemented at the time of deployment and the responsibility of taking backups and testing the backups as per the backup policy shall be of AMI Implementing Partner for the entire project period. AMI Implementing Partner shall ensure that the data is replicated at the backup and DR Site. AMI Implementing Partner shall be responsible for safe and secure storage of complete data.

#### 4.13 Policy And Documentation

Bidders will have to develop, document and implement the following:

- a) Data Backup, Archival and Retention Policy
- b) Security Policy
- c) Business Continuity and Disaster Recovery Policy

All the policy and procedure which will ensure availability and security at all times, these policies has to be updated every six months (twice a year) or as per requirements of EESL. AMI Implementing Partner MUST design and implement the policy (with EESL inputs) in compliance to the ISO standards (such as Information security ISO 27001). Design of Information Security Policy shall necessarily include but not limited to the following policies to ensure IT security:

- a) IT Risk Management Policy
- b) Information Classification Policy
- c) Access Control Policy
- d) User ID and Password Management Policy
- e) Internet Access Policy
- f) Asset Management Policy
- g) Incident Management Policy
- h) E-mail Security Policy

#### 4.14 Scalability

Scalability is the most important aspect of the project. It is envisaged that the users and geographic locations may increase over the next few years. The system architecture and the network design shall have the ability to handle the growth with respect to functions, users, load and geographic sites. Also, applications must evolve to support new business requirements and make use of new technologies. Bidder must factor both vertical and horizontal scalability in the design and deployment of EESL AMI application. The sizing of AMI solution shall be done for 5 million smart meters and the bidder shall factor 100% scalability for the offered solution, i.e. upto 10 million smart meters.

#### 4.15 Technical Obsolescence

The systems including communication technologies, which are at a risk of technical obsolescence over the next few years and over the operating life of the system shall be identified and reported. This may also include end-of-sale and end-of-support policies governing the proposed technologies. The compatibility between the various elements of the system need to be considered and mitigation options, not be limited to periodic update from OEM/system supplier/AMI Implementing Partner, shall be indicated in detail.

### 5 SCOPE OF WORK

The project scope for EESL AMI solution shall comprise of design, supply, install, commission, integrate and maintain the Advanced Metering Infrastructure (AMI) for 5 million smart meters scalable upto 10 million smart meters. EESL intends to deploy the AMI system with its auxiliary applications for the project implementation duration: 3 years design, development, integration and Go-Live, and FMS/O&M for 5 years from the date of Go Live.

The following are core components of AMI system:

- a) Smart Meters with GPRS compatible NIC card (Procured by EESL & shall be provided to the AMI Implementing Partner)
- b) Communication infrastructure
- c) Head End System (HES)
- d) Meter Data Management System (MDMS)
- e) Web application with updated on-line data of consumers etc.
- f) Mobile app
- g) Analytics

The intent of this project is to implement the AMI system for 5 million consumers with following functions:

- a) AMI Implementing Partner shall install all the meters at the specified locations and shall establish GPRS based network connectivity for the installed meters
- b) Capability to access the real-time data and provide all information on a single console in an integrated manner to remotely control the entire network and increase operational efficiency
- c) Implementing Partner shall establish network platform that can support all the applications like Head End System, MDMS etc. over single communications platform using GPRS network technology
- d) Integration with existing IT applications of Power Distribution Utilities

The bidder shall refer to the Bill of Quantities in this Tender for the detailed list of components.

Technology embedded in the communications system for smart meters shall enable the EESL / Utilities to monitor and manage the AMI solution through the GPRS based network that can scale up to the required level for AMI functionalities as per "Functional Requirements of Advanced Metering Infrastructure (AMI) in India" issued by the Central Electricity Authority (CEA) in August 2016. The system shall also provide analytics services such as detailed visualized reporting on the power consumption.

EESL also wants to achieve the device level interoperability and it will be the responsibility of AMI Implementing Partner to ensure that all the systems, sub-systems and equipment/devices shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing continuous commercial operations as per the existing and upcoming future requirements of the EESL / State DISCOMS.

The scope of work for the AMI Implementing Partner of this tender shall include, in complete conformity with subsequent sections of the specifications, site survey, planning, design, engineering, supply, manufacturing, transportation and insurance, delivery at site, unloading, handling, storage, installation, integration, configuration,

testing, commissioning, integration, demonstration for acceptance, training, maintenance and documentation of the following:-

1. Carry out site Survey of site locations to assess the following:
  - a) Consumer Indexing
  - b) Smart Meter Installation
  - c) Provisioning of GPRS Network
  - d) Management of SIM cards pertaining to the GPRS network
2. Implement & commission AMI system architecture capable of upgrades and scaling as per EESL requirements with robust System security features with due consideration of data privacy, confidentiality cyber security guidelines etc.
3. Installation, testing and commissioning of the proposed AMI solution.
4. Deployment of all the application on Cloud including Head End System and Meter Data Management System
5. Integration with existing legacy system and upcoming DISCOM systems including Metering, Billing and Collection Systems
6. Development of Interface with mobile app and web portal/dashboard.
7. Interoperability at meter level. (Successful communication testing with at-least 5 meter suppliers)
8. FMS Support for the project duration.

The AMI Implementing Partner shall be responsible for proper data exchange among Smart meter, MDMS, HES and other operational/ requisite software as part of fully functional AMI system.

AMI Implementing Partner shall adhere to the appropriate security algorithm for encryption and decryption. For smooth functioning of the entire system, it is essential that the details of such algorithm including the mechanism of security key generation be kept in a secured escrow account which shall be used by the DISCOM only in case of termination of the contract for reasons whatsoever.

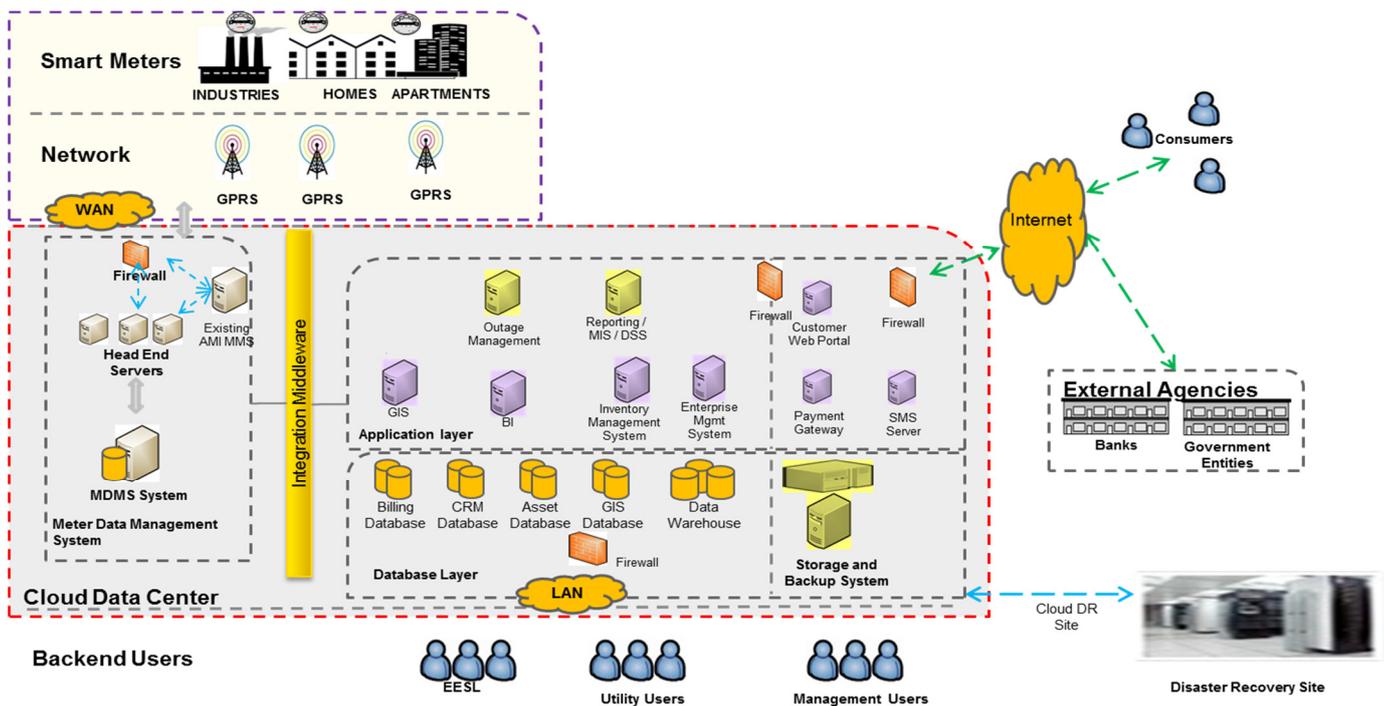
The entire responsibility of fully functional AMI system, except for warranty/guarantee of faulty meter, shall rest with one agency i.e. AMI Implementing Partner in order to meet the performance levels as given in this document. The TSP/communication provider shall provide a communication network capable of servicing 3G technology compliant with IPv6.

The AMI Implementing Partner shall submit a technical solution document describing overall architecture and operational philosophy of the proposed AMI solution including the methodology for achieving different functionalities (as specified in this tender) and also highlight additional features, along with limitations, if any.

## **Illustrative Solution Architecture of AMI Solution**

EESL on behalf of Utilities / DISCOMs in participating states intends to deploy Advanced Metering Infrastructure (AMI) in their service areas as per the high level solution architecture (cloud based) depicted in the below Figure. The smart meters supplied by the bidder(s) shall communicate with the Head End System (HES) using GPRS networks module. The communications module shall be of pluggable-type and shall be capable of servicing 3G technology compliant with IPv6.

## Illustrative High Level Solution Architecture (cloud based)



AMI solution comprising the Head End System (HES), Meter Data Management System (MDMS) and other applications envisaged to be deployed for this project shall be hosted on a cloud.

### 5.1 Site Survey and Consumer Indexing

The AMI Implementing Partner(s) shall carry out the site survey of electrical assets and conduct door to door survey to obtain consumer details in the defined project areas. The process shall include capturing of information related to electrical assets and consumer details for enumerating and identifying the connected location of consumers under the electrical hierarchy. The AMI Implementing Partner(s) shall capture the details of field data of project area and update the master data for the same, in computerized file and share it with the DISCOM for migration in the DISCOM GIS system. This includes the identification of metering locations and consumers to their respective poles, transformers and feeders etc.

The objective of consumer indexing is to identify the electrical connectivity of consumer installation on electrical hierarchy from the respective distribution transformer (DT) and to ensure that proper energy accounting of the particular consumer happens. The overall connectivity is established from a substation (SS), feeder, DT to the consumer premises.

The task of site survey and consumer indexing will consist of but not limited to the following:

- Obtaining details of existing consumer indexing and network data available with DISCOM as a starting reference point.
- Obtain authorization to consumer premise and to assets by the DISCOM. Ensure that only authorized surveyors visit the premise with proper identity proof along with DISCOM's authorization approval.
- Updation of DISCOM asset and consumer details within the geographical boundary covered as part of the scope. The details of new/shifted consumers and other new assets shall be provided by DISCOM.
- Consumer indexing for added/shifted consumers based on the ledger/field survey with physical verification of the existing consumer database. Modification/correction of consumers based on electrical system with the help of DISCOM.
- Carrying out QA/QC on the collected consumer data.

- f) Submission of data of the consumers in computerized file to the DISCOMs. The file shall have the facility to edit, update and create data. Further, (2) hard copies of the deliverables, for approvals/comments by the concerned officer(s), shall also be submitted by the Implementing Partner.
- g) Maintaining the updated consumer indexing data and carrying out energy accounting in the AMI system for day to day operations for the entire duration of the project. This involves continuous survey and capture of incremental data by the Implementing Partner monthly/quarterly as specified by the DISCOM. AMI Implementing Partner shall obtain the updated information (network and consumer) on fortnightly basis from the DISCOM to maintain the updated consumer indexing.
- h) Getting the consumer indexing data verified/validated by the concerned officers/ authorities. The Implementing Partner is expected to obtain approval from competent authority. The Implementing Partner(s) shall obtain the acceptance/take over certificate by the concerned officers/ authorities.
- i) For the purpose of data validation and quality check, the sample size would be 10% of the total consumers under the assignment. The error toleration level shall be 5% of the sample size.
- j) In case of comments by the concerned officers/ authorities, the same would be incorporated and resubmitted by the Implementing Partner(s). It will be the responsibility of the Implementing Partner(s) to ensure that Consumer data collected does not become stale during the course of the execution of the project.
- k) The survey activity shall include physical verification of electrical distribution network in the project areas starting from 66 kV / 33 kV feeders radiating from EHV (220/132 kV) sub stations located in the physical area of the city/circle and from the place where 33 kV feeders enter into the physical boundaries of the city/circle and up to 66 kV/ 33 kV bus of 66 / 33/11 kV sub stations. In case, any changes are noticed/observed during field survey, then information of the assets(Feeder , DT etc.) are to be verified and updated.
- a) Surveyor shall walk along with the line and identify the consumers to whom supply is released from each pole / service pillar and identify the Distribution Transformer from where each Consumer is fed.
- b) The bidder shall submit Distribution Transformer wise, LT feeder wise list of consumers along with relevant codes as soon as it is completed for each feeder.
- c) The indexing has to be carried out in a way by which it would be possible to relate the following:
  - i) The administrative control hierarchy
  - ii) The location / geographical area
  - iii) The 66 KV/ 33 KV/11 KV power sub-stations
  - iv) The main road/landmark through which 11 KV feeder passes from the 11 KV feeder code.
  - v) The 11/0.4 KV distribution transformer
  - vi) The attributes of poles/feeder pillar boxes (over/under ground) with respect to the main road, branch roads and lanes from the index of poles.
  - vii) Complete attributes of the consumers; viz, consumer code present in CRM system, consumer name, address, mobile number, asset id of source of power supply, service type (poles, feeder/pillarbox, OH/UG), tariff category, meter make, meter location, meter serial number etc.
  - viii) Each of the consumers, indexed on the basis of initial record available with the DISCOM and later verified by field survey, will have an exclusive numeric code. The consumer code shall provide complete identity of the consumer as well as his connectivity to the electrical system profile.
  - ix) Asset code of the assets present on the field meant for linkage of consumer with nearest entity and asset entity with other.

## 5.2 Meter Installation at Consumer Premises

The smart meter installation shall be done by the AMI Implementing Partner as per the meter installation guidelines of the DISCOMs.

### 5.2.1 Scope Of Meter Installation

The scope of installation work is two-fold and shall include the cost of all labor (electrical, civil and others), materials, tools and other incidental expenses in connection with additional labor requirement. The AMI Implementing Partner shall seek for approval from EESL/DISCOMs for installing smart meters. The details are:

- a) Meter Inventory Management and Warehousing

- b) AMI Site survey (GPRS feasibility analysis etc.)
- c) Meter Installation
- d) SIM card management

a) Meter Inventory Management & Warehousing

EESL shall initially open/provide a warehousing facility for each project location so that the meters can be stored in that warehouse till contract award to bidder. EESL shall handover the warehouse to AMI Implementing Partner.

Meter management, ownership and installation shall be the responsibility shall lie with the AMI Implementing Partner once meters are handed over to them by EESL at the warehouse facility. Any physical damages including fire and theft and damages not covered by OEM shall be the responsibility of AMI Implementing Partner Cost of same shall be recovered from AMI Implementing Partner's payment. AMI Implementing Partner shall be given an opportunity to inspect the warehouse and meter package before it is being handed over to the AMI Implementing Partner. The handover process / terms shall be mutually agreed between the AMI Implementing Partner & EESL.

b) AMI Site survey (GPRS feasibility analysis etc.)

The broad scope of site survey will include the following but are not limited to;

- i) Capturing complete meter details(Meter type, make, class, serial no., YOM, attached consumer, etc)
- ii) Conducting feasibility analysis of the GPRS connectivity at individual sites and capture details.
- iii) Capturing details of newly installed smart meters.
- iv) The master data populated after AMI site survey shall be in the same format as for the consumer indexing survey to ensure data consistency.
- v) Post completion of Smart Meter installation ,it will be the responsibility of the AMI Implementing Partner(s) to ensure that the master data of the AMI system is in sync with that of the RAPDRP systems

c) Meter Installation

Installation services shall be performed in a professional and courteous manner, from initial appointment setup to final installation of the meter. Customer service, effective project team and customer communication are of the utmost importance to this project. All site installation personnel employed on this project will be subject to background checks and shall, at all times, carry a suitable Govt. issues photo ID (such as Driving License, Voter Card, Aadhaar etc.) for identification.

The implementation shall install meters as per the delivery schedule mentioned in below table:

**Table 8 – Installation Schedule**

Year	Year 1	Year 2	Year 3	Total no. of meters to be installed
<b>Number of meters to be installed</b>	20,00,000	20,00,000	10,00,000	<b>50,00,000</b>

Please note that:

- a. Year 1 is defined as one year after date of project award
- b. EESL will ensure that delivery would be uniformly done throughout the year on monthly pro-rata basis. i.e. 600,000 meter per year would mean delivery of 50,000 meters per month
- c. AMI Implementing Partner shall install 50,00,000 smart meters within 1 month after the end of 3 years to account for the last lot of meters that will be supplied by the meter supplier in the 36<sup>th</sup> month
- d. The meter warehouse details could be spread across Haryana and Uttar Pradesh states of India and the details shall be intimated later

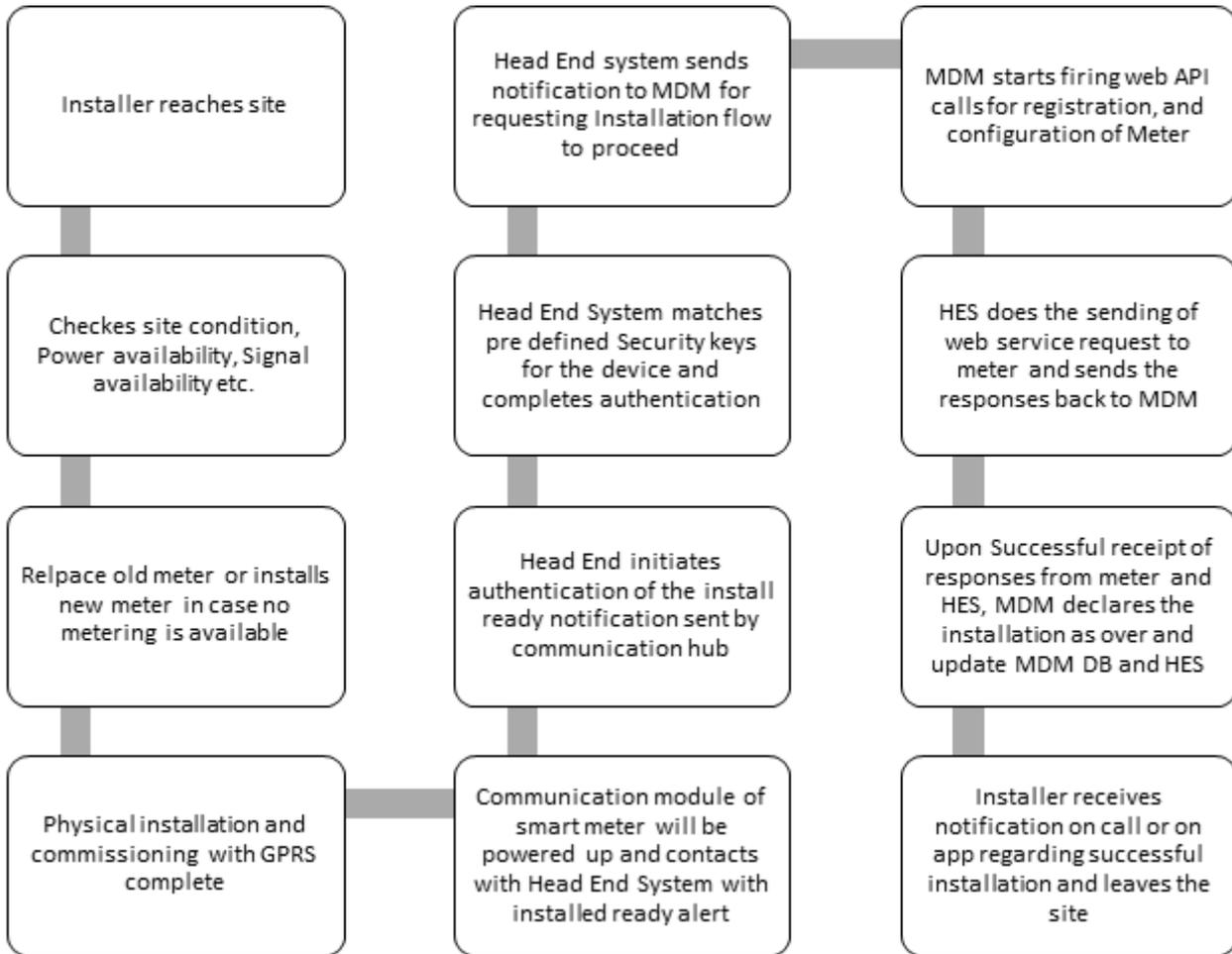
Scope of AMI Implementing Partner shall include:

- i) Removal of Old Meter & taking down the meter reading
- ii) Installation of new smart meters with GPRS NIC card

- iii) Install SIM Card in the meter & activate / register new meters with Head End System & MDMS
- iv) Transfer Old & new meter data to the DISCOM (DISCOM Billing Software)
- v) Provide or capture meter location through GPS
- vi) Digital photograph of meter reading before and after installation
- vii) Train the DISCOM installation personnel
- viii) Manage the installation performance
- ix) Provide daily, real-time project status updates of installations to EESL & DISCOMS

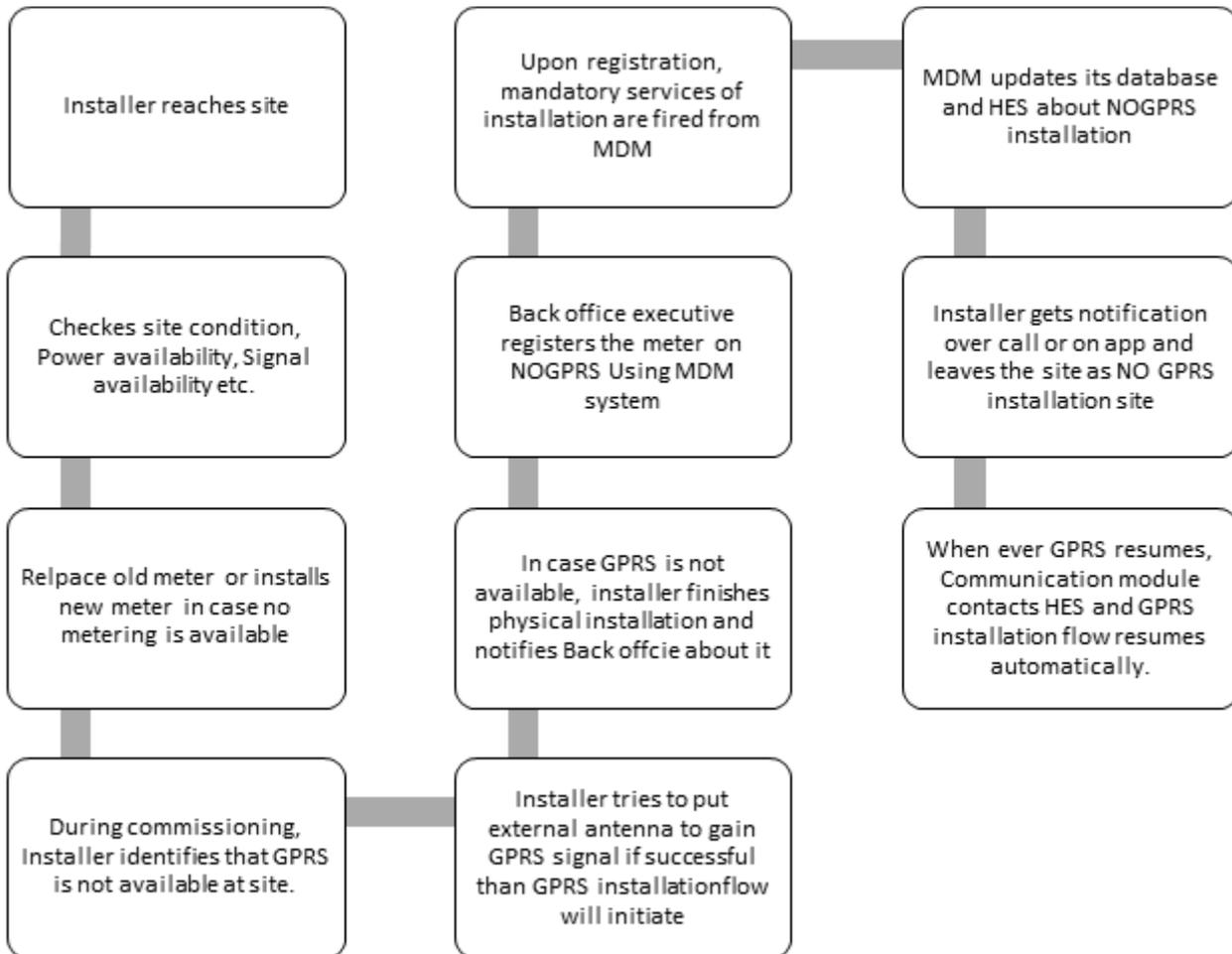
Indicative Installation steps when GPRS is available is mentioned below.

**Indicative Installation steps under the scenario when GPRS is available**



Indicative Installation steps when GPRS is not available is mentioned below.

**Indicative Installation steps under the scenario when GPRS is not available**



**d) SIM Card Management**

AMI Implementing Partner shall ensure the availability, insertion and management of The SIM cards to be used in communication module of smart meters. In order to pursue this, following points need to be ensured by the system Integrator.

- i) Procurement and availability of SIM cards from NBSP before the installation starts.
- ii) AMI Implementing Partner will be responsible for management of SIM inventory including but not limited to total installed, in-stock, replaced and rejected/suspended/terminated SIMs.
- iii) AMI Implementing Partner shall ensure that the SIM information is available in the head end system before physical installation is carried out.
- iv) AMI Implementing Partner shall ensure quality aspect of physical SIMs from NBSP along with the maintenance of buffer stock of SIMs & their activation - deactivation.
- v) AMI Implementing Partner shall have ensure timely suspension, termination, activation and re-activation of SIMs and the process shall comply to the prevailing regulations of DoT / TRAI & shall be approved by EESL.
- vi) AMI Implementing Partner need to monitor the usage, alarm, events and connectivity of NBSP core components for the SIM cards used in AMI solution.
- vii) SIMs need to be preconfigured for activation before meter installation begins and SI shall work in close coordination with Telecom service Providers.
- viii) AMI Implementing Partner shall ensure that communication module is properly sealed after SIM insertion before installation.

- ix) Replacement of faulty SIM cards as per the agreed SLA.
- x) Provide daily, real-time project status updates of installations to EESL & DISCOMS

### 5.2.2 Location

The meter shall be preferably located in a building, outside living area, suitable for physical inspection without entering into consumer's living area.

### 5.2.3 Civil Works

Civil works associated with the installation of the smart meters for the stability of meter case is to be done by the AMI Implementing Partner only with the approval of the concern authority.

### 5.2.4 Installation Quality

DISCOM specific checks would be carried out on the quality of installation by checking performance of the sensors, wiring methods, alarms, communication to control center and time lag in data acquisition.

### 5.2.5 Installation Schedule

The AMI Implementing Partner shall establish an overall methodology and schedule for installation of each phase of the project. AMI Implementing Partner will provide DISCOMS / EESL a schedule of where work is planned for that day and each subsequent day of that week. The purpose of this information is to provide coordination and communication between the DISCOMS and AMI Implementing Partner/installer for the work. If the schedule changes for whatever reason, an updated daily schedule shall be provided.

### 5.2.6 Work Hours

AMI Implementing Partner shall propose normal work hours, which must be approved by the Utilities. AMI Implementing Partner must indicate the number of people proposed for all installation periods, including evening and weekend times.

### 5.2.7 Response to Complaints

Should the AMI Implementing Partner or its installation contractor receive a call or complaint from a customer or the DISCOMS / EESL regarding installation, the AMI Implementing Partner shall immediately log the call, including caller's name, address, account number if available, date and time of call, nature of problem and the action taken. Copies of all call logs shall be forwarded to the EESL/DISCOMS not less than once per day.

### 5.2.8 Improper Installations

The AMI Implementing Partner shall be responsible for replacing any meter improperly installed and for correct any damage to meters by use of improper tools etc. during installation.

### 5.2.9 Material Scrap/Disposal

All debris resultant from the excavation or construction operation shall be removed from each installation site the same day at the AMI Implementing Partner's expense. No excess materials shall be dumped on private property or deposited into the storm drains or sewer. Disposing of all waste and all debris in accordance with Local, State regulations at the contractor's expense.

### 5.2.10 Maintenance & Post-Installation Support

For 15 days after the meter has been notified as installed, AMI Implementing Partner must respond to calls from the DISCOMS/ EESL / Consumers associated with that installation on a 24-hour-per-day basis. AMI Implementing Partner shall be responsible for correcting, rectifying anything that could reasonably be attributed to the meter installation.

AMI Implementing Partner shall maintain 24/7 telephone support for AMI Solution including meter installation:

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- a) Access via email, telephone, mobile, web, with request tracking system
- b) Priority levels that helpdesk system shall help distinguish the level of urgency for each call
- c) Self-service support
- d) Provide information about periodic system enhancements and updates.

## 5.3 Communication Infrastructure

### 5.3.1 General Requirements

The AMI Implementing Partner shall design a reliable, interference free & robust GPRS communication network keeping in view the site conditions. It shall be flexible in terms of providing communication in variable terrain & urban density.

During designing, suitable consideration shall be kept for future expansion as per requirement of EESL/DISCOMS. Before designing the communication network, the AMI Implementing Partner shall do the site survey. The operational testing of all the network elements has to be demonstrated by the bidder to the satisfaction of the EESL/DISCOMS.

The network solution offered by the bidder shall have disaster recovery mechanism in place. The redundancy mechanism of HES and MDMS and their disaster recovery plan shall also be described by the Bidder. The quality of installation of the various equipment & power supply wiring to all field equipment shall be as per standards/ regulations/prevaling practices of the EESL/DISCOMS. The supply of electricity needed for operation and maintenance of entire AMI system shall be the provided by the EESL/DISCOMS free of cost.

A suitable network management system (NMS) shall be provided to monitor the performance of the communication network round the clock. The NMS shall provide viewing of all the networking elements deployed at site and enable configuration & parameterization of the networking devices and the nodes.

### 5.3.2 Network Security

The Network shall have adequate cyber security measures not limited to the measures as described below. The network security would be extended to all the interfaces also.

- a) **Secure Access Controls:** The system shall include mechanisms for defining and controlling user access to the operating system environment and applications. Best practices from enterprise security including password strength, password aging, password history, reuse prevention etc. must be followed for access control.
- b) **Authorization Controls:** A least-privilege concept such that users are only allowed to use or access functions for which they have been given authorization shall be available.
- c) **Logging:** Logs must be maintained for all attempts to log on (both successful and unsuccessful), any privilege change requests (both successful and unsuccessful), user actions affecting security (such as password changes), attempts to perform actions not authorized by the authorization controls, all configuration changes etc. Additionally, the access to such logs must be controlled in accordance to the least-privilege concept mentioned above, so that entries may not be deleted, accidentally or maliciously.
- d) **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.
- e) **Malicious Software Prevention:** Implementation of anti-virus software and other malicious software prevention tools shall be supported for all applications, servers, data bases etc.
- f) **Network Security:** The network architecture of the HES must be secure with support for firewalls and encryption. The system shall also allow host-based firewalls to be configured, as an additional layer of security if the network firewall were to fail.

The bidder shall select one or more Telecommunication Service Providers (TSP) for the providing GPRS connectivity to and from smart meters. The GPRS communication network shall be capable of servicing 3G technology compliant with IPv6 operating in the frequency bands allocated by Government of India. The GPRS network between smart meters and HES shall be a VPN-based secure tunnel. The SIM cards must be capable of Short Messaging Service (SMS).

The bidder, TSP and EESL shall sign a tripartite agreement for enabling the TSP to provide telecommunication services for this project. The agreement is mentioned as Annex of this tender document. The bidder shall note that payment shall be made by EESL directly to TSP.

## 5.4 Installation and Commissioning of Head End System (HES)

The main objective of HES is to acquire meter data automatically avoiding any human intervention and monitor parameters acquired from meters.

The AMI Implementing Partner shall provide the HES suitable to support the collection and storage of data as per performance level for 5 million smart meters scalable up to 10 million smart meters. The bidder shall supply and commission one HES that shall have the capability of storing APIs from minimum 5 meter manufacturers thereby allowing data exchange with minimum 5 meter manufacturers. All meter data of 15 minute blocks shall be polled once every 24 hours. The duration to polling frequency shall be remotely configurable and can be altered as per the requirement of EESL/DISCOMS.

HES would perform all the requisite functions as per the defined functionalities of AMI and it is the responsibility of the AMI Implementing Partner to supply the requisite software and hardware to achieve the defined functionalities of AMI. HES shall ensure data integrity checks, for example, checksum, time check, pulse, overflow, etc. on all metered data.

HES shall be developed on open platform based on distributed architecture for scalability without degradation of the performance using additional hardware. HES shall support storage of raw meter data, alarms and alerts for minimum 3 days. Adequate data base and security features for storage of data at HES need to be ensured.

The suggested functions of HES shall be:

- a) Acquisition of meter data on demand & at user selectable periodicity
- b) Two way communication with meter
- c) Signals for connect & disconnect of switches present in end points like meter
- d) Audit trail and Event & Alarm Logging
- e) Encryption of data for secure communication
- f) Store raw data for defined duration
- g) Maintain time sync with meter
- h) Handling of Control signals / event messages on priority
- i) Setting of Smart meter configurable parameters
- j) Communication device status and history
- k) Network information in case more than one technology is deployed in field between the two devices
- l) Critical and non-critical reporting functionality. The suggestive critical events may be alarms and event log for meter events like tamper/power failures etc., if data is not received from Meter, if relay does not operate for connect / disconnect or there is communication link failure with Meter or network failure while non-critical events may be retry attempts on communication failure, periodic reading missing and failure to connect etc.

### Configuration

HES shall facilitate programming of following meter parameters:

- a) Load profile capture period
- b) Demand integration period
- c) Setting of parameters for time of day (TOD/TOU) billing
- d) Prepaid function
- e) Net metering
- f) Billing date
- g) Clock setting/time synchronization
- h) Load curtailment limit
- i) Event setting for connect/disconnect
- j) Number of auto reconnection attempt
- k) Time interval between auto reconnection attempt
- l) Lock out period for relay
- m) Remote firmware upgrade
- n) Password setting
- o) Push schedule
- p) Setting threshold limits for monitored parameters
- q) Provision for adding more programming features in future

(The AMI Implementing Partner may suggest more parameters as per the requirement)

### 5.4.1 Integration

HES shall preferably interface with MDMS on standard interfaces and the data exchange models and interfaces shall comply with CIM / XML / IEC 61968 or any other open standard. The solution shall be Service Oriented Architecture (SOA) enabled.

## 5.5 Installation and Commissioning of Meter Data Management System (MDMS)

The Meter Data Management System shall support storage, archiving, retrieval & analysis of meter data and various other MIS along with validation & verification algorithms. It shall act as a central data repository. MDMS shall have capability to import raw or validated data in defined formats and export the processed and validated data to various other systems sources and services in the agreed format. It shall provide validated data for upstream systems such as billing, consumer Information system, customer care, analytics, reporting, Network planning & analysis, load analysis/forecasting, Peak Load Management, Outage management etc.

MDMS shall also support the future requirement of DISCOM and shall support the integration of other smart grid functionalities like Distribution Transformer Health Monitoring system, self-healing system etc. as and when implemented by the DISCOM.

The AMI Implementing Partner shall specify and deliver an initial system that supports the collection and storage of data for meeting the performance level for the 5 million smart meters with facility of future expansion to 10 million smart meters.

The MDMS shall have the ability to selectively choose which data to be maintained and which to be purged or archived as per requirement of DISCOM (user selectable).

### 5.5.1 Functional Requirements

#### 5.5.1.1 Asset Management

- a) The MDMS shall maintain information and relationships between the current installed meter location (apartment, shop, industry/ address etc.), Consumer information (Name etc.), Consumer account no, Meter ID, Type of Meter (type of consumer, 1 phase/3phase, with or without relay, etc.), Meter configuration (Demand integration period, Load profile capture period etc.), GIS supplied information (longitude, latitude, connection with feeder/ transformer/ pole etc.) etc.
- b) The software shall support tracking the status of meters and communication equipment from the date when they are installed in the field. The history of in-service asset location is maintained throughout the device life with start and end dates associated with each in-service location reference.
- c) Ability to report and log any damage / deterioration in the meter attributable to consumer /DISCOM

#### 5.5.1.2 AMI Installation Support

- a) The MDMS shall also support device lifecycle management from device registration, installation, provisioning, operations and maintenance to decommissioning etc. The MDMS shall generate exceptions for meter or modules not delivering the correct meter data after installation.
- b) The MDMS shall provide a reconciliation report that identifies the meters that have been installed but not communicating for a designated (configurable) period. MDMS shall generate reports on the number of meters installed in comparison to the number of meters successfully communicating.

#### 5.5.1.3 Meter Data

- a) The MDMS shall accept input, process, store, and analyze Meter data from HES and meter data collected through hand held meter reading instruments and manual meter reads. In case of manual reads, provision shall be there to insert associated notes like assessed energy, etc.
- b) The MDMS shall accept input, process, store, and analyze non-billing meter data such voltage and power quality data (like under/over voltage etc.) as they are available from AMI Head End Systems. The MDMS shall also support schedule and on-demand meter reads and pinging of meter energized states by authorized users and by other DISCOM systems.
- c) The MDMS shall provide storage of all collected Meter Data, events and alarm. It shall have capacity of storing 5 years data or more via archiving.
- d) Correctly track & resolve energy usage across meter changes with no loss of individual meter data.
- e) Provide complete history and audit trail for all data collected from meters including commands sent to meters

and other devices for 30 days (configurable period)

- f) Execute on-demand read processes
- g) Handle special metering configurations like net metering/multiple meters at same premises
- h) The MDMS shall have the ability to manage at a minimum 15 minute interval data
- i) Data Integrity- AMI Implementing Agency (AIA) shall ensure data integrity checks on all metered data received from data collection systems.

#### 5.5.1.4 Data Validation, Estimation, and Editing (VEE)

- a) The validation and estimation of metered data shall be based on standard estimation methods. The MDMS shall also support and maintain following data-
  - i) Registered Read Data including register reads, daily billing cycle, as well as derived billing determinants like TOU
  - ii) Interval Data channels with variable intervals and variable units of measure
  - iii) Calculated Data that is derived or computed such as billing determinants and aggregated loads.
  - iv) Event data storage of all collected event and alarm data from meters, network equipment, and MDMS itself
- b) MDMS shall flag, alarm and trigger an estimating process including but not limited to when the following anomalies occur in the cumulative ("CUM") register reads
  - i) CUM Decrements within a billing cycle (except net-metering)
  - ii) CUM reads increments more than configurable threshold
  - iii) Future or old read dates
  - iv) Number of digits exceeds number of meter dials
- c) MDMS shall detect, flag, alarm and trigger an estimating process including but not limited to when the following anomalies occur in Time of Use (TOU) register reads
  - i) Register Decrements (except net-metering)
  - ii) Resets (to zero) (except net-metering)
  - iii) CUM reads increments more than configurable threshold
  - iv) Future or old read dates
  - v) Erratic compared to CUM read (sum of TOU reads minus CUM read)
- d) MDMS shall detect, flag, alarm and trigger an estimating process including but not limited to when the following anomalies occur in Demand register reads
  - i) Do not reset on cycle
  - ii) Do not reset coincident with customer move-out or move-in
  - iii) Reset off cycle inappropriately
  - iv) Too high
- e) All data shall be transferred to billing system after meter data validation and estimation including transformer / feeder station wise energy audit.
- f) MDMS shall estimate usage for non-metered service points such as street lights, farm lights, traffic signals, etc.
- g) The MDMS shall maintain both the original received raw data in a non-manipulated state, in addition to VEE data.
- h) Notwithstanding the latency of data collection via the AMI system, once the MDMS receives meter read data, the VEE process occurs in real-time and the post-VEE data is then immediately available to user or external systems.
- i) The MDMS shall be able to automatically flag data changes from manual edits, VEE (Validating, Editing and Estimating) rules and data source corrections and electronically generate audit trail with timestamps and user-ids

#### 5.5.1.5 Billing Determinants Calculations

The MDMS-

- a) Shall allow configuring multiple TOU/TOD options (e.g. the number and duration of TOU rate periods) by customer type, tariffs and day type (weekend, weekdays, and holidays) and by season.
- b) Shall support the processing of interval data into billing determinants to include the following at a minimum:
  - i) Total Consumption

- ii) Consumption in different time blocks for ToU billing
- iii) Maximum Demand (in kW and kVA)
- iv) Number of tamper counts
- v) Average power factor
- c) Shall process interval data and frame it into the appropriate TOU periods for consumption and demand; for example, roll up 15/30 minute data intervals into hourly data.
- d) Shall have the ability to properly account for special metering situations such as check metering, sub metering, prepaid metering and net metering when calculating billing determinants and sending them to billing and other systems.
- e) Shall have the ability to properly account for special situations including, but not limited to, curtailment requests, demand response scenarios when calculating billing determinants and sending them to billing software.

#### 5.5.1.6 Exception Management

- a) Ability to capture and log data exceptions, problems and failures and to generate management reports, provide trend analysis, automate generation of service requests and track corrective actions.
- b) Ability to group, prioritize, filter and send system generated alarms and events to predetermined email addresses, cellular text messages to phone numbers/SMS/customer care etc.
- c) Exception Generation - MDMS shall generate exceptions based on configurable business rules including but not limited to the following:
  - d) Meter tamper alerts
  - e) Communication module health alerts for Meter
  - f) If the consumption is less/more than pre-defined average consumption
  - g) Negative Consumption (not for net-metering)
  - h) Power outage indications received from the Smart meter

#### 5.5.1.7 Service Orders

- a) The MDMS shall generate service orders based on configurable rules for various events and alarms such as stop meter, tampers, problem in communication networks, AMI host server, etc.
- b) MDMS shall send service orders via SMS, email, etc. with the email addresses / phone numbers being configurable. MDMS shall receive feedback on action taken on the service order and track the status of service orders.

#### 5.5.1.8 Customer Service Support

- a) The solution shall provide customers with access to current and historical consumption and interval data, outage flags, voltage and power quality indications. The data shall be displayed in graphical and tabular form depending on user choice. The Customer may also access data through customer portal. The solution shall integrate via a user friendly graphical interface.
- b) MDMS shall support email/SMS notification of configured alarms & events to selected users.
- c) The MDMS shall support the web portal or shall have the ability to interface with the 3rd party portal/DISCOM portal to provide the consumer near real time online views of both usage and cost and helping consumers to understand electricity usage and cost information, alerts and notifications and energy savings tips with different levels of detail. The portal shall support the view for past electricity usage, last week's, yesterday's, current days or other period etc. as per selection. The portal shall provide user friendly access to consumer for their data via colorful graphs and charts and can download the data into a spreadsheet.
- d) Shall support mobile app through which consumer shall be able to log in through android/iOS/Window based mobile app to see information related to his energy consumption. App shall also provide platform for implementation of peak load management functionality by providing existing tariff & incentives rates, participation options etc.

#### 5.5.1.9 Analysis

The MDMS shall have analysis capability based on configurable business rules including but not limited to the following:

- 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, customer type, or any user specified collection of meters.
- b) Generate peak & off-peak load patterns by aggregating all loads of DT/Feeder/consumer group.
- c) Perform DT/feeder wise energy audit.
- d) Perform load analysis for different groups and categories of consumers.

- e) Ability to provide the data to load forecasting, load research or demand response applications and perform error management like: Missed reads and intermittent meter reads before taking into forecasting, load research or demand response
- f) 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.
- g) Analyzing data to identify new patterns of usage, Setting fraud alert / transformer overload alerts / demand – supply gap alert etc.
- h) Ability to receive and store outage and restoration event data from smart meters and outage systems and to log all such events for analysis.

#### 5.5.1.10 Reporting

The solution shall include a list of the standard reports that are provided with the MDMS including but not limited to following:

- a) Daily data collection report
- b) Usage exceptions
- c) VEE validation failures
- d) Missing interval Read date and times (on hourly, daily, weekly & monthly basis)
- e) Physical meter events (install, remove, connect, disconnect) & meter reset report
- f) Meter flags
- g) Meter inventory
- h) defective meters
- i) AMI performance measurements
- j) Threshold Exception

The solution shall support users modifying standard reports to better meet specific reporting requirements.

- a) The MDMS shall enable the DISCOM to deliver reports in standard digital format such as PDF, Excel, etc.
- b) Ability for GUI (Graphical User Interface) 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.
- c) All queries shall be generated through user driven drop down menu in GUI. The Bidder shall provide example queries to support internal report generation needs.
- d) Ability to provide daily & weekly interface exception reports between MDMS and other subsystems e.g. billing, outage, etc.
- e) In case more than one technology of AMI deployed in the field, the MDMS shall generate report on the performance and availability of data being delivered per AMI technology.

Through the usage of MDMS, following list of indicative reports are desired. EESL/DISCOMS reserve the right to add to the list in consultation with the AMI Implementing Partner without any additional financial liability to the DISCOMS.

**Table 9 – Report Description**

S. No.	Report Name	Report description	Frequency
1	Collection of energy flow data from metering module	Ability to collect energy flow data from the metering module. The manual entry of data shall not be allowed except in the exceptional circumstances.	Daily
2	Calculation of Bus bar and transformation losses	Ability to check energy balance between HV side and LV side of any Sub station to ensure all the meters are working properly and can calculate bus bar losses and transformation losses in the substation.	Weekly & Monthly
3	Calculation of HT losses	Ability to balance 11 KV feeder flow against consumption of HT consumers and DTs in the feeder through integration with system meter data acquisition module	Weekly & Monthly

S. No.	Report Name	Report description	Frequency
4	Calculation of DT losses	Ability to add consumptions of all the consumers connected to a particular DT and the consumptions of all the DTs in an 11 KV feeder. The necessary data for this regard will be available from the customer indexing and asset coding database and billing data base.	Monthly
5	Performance of revenue report	Ability to enable the performance of HT and LT consumers' revenue report on monthly, quarterly etc. basis.	Monthly
6	Generation of report of energy accounting and graphical	Ability to generate report of energy accounting indicating areas where high technical losses and high commercial losses are taking place. This shall able to generate graphical of losses over a period for HT and LT consumers.	Monthly
7	Bill correction/amendment	Ability to enable monitoring for bill correction/amendment manually to update/modify the customer billing database, with a reason for the same.	Daily;Monthly
8	Change of billing cycle	Ability to know the change billing cycle of a HT/LT customer.	Daily;Monthly
9	Linking consumer to appropriate tariff	Ability to identify the customer link to the tariff/rate applicable to his category.	Daily;Monthly
10	Contract demand violation	Ability to enable monitoring of customer performance based on contract demand violation. In case of customer grievance, report will use to check the load violated with respect to sanctioned load.	Daily
11	On Peak/Off Peak load violation	Ability to enable monitoring of customer performance based on peak (on/off) load violation. In case of customer grievance, report will use to check the load violation during the peak hours and off-peak days.	Daily
12	Tamper counts	Ability to enable monitoring of tampering. Report provides the log of event containing the cause of tamper and total number of tamper counts for the particular period.	Daily; Monthly
13	Monitoring of average power factor	Ability to know the health of the Feeder or DTR or HT Consumer or LT Consumer	Daily
14	Assessed readings for stopped meter cases	Ability to enable monitoring of consumption or accessed readings for stopped meter(s).	Monthly
15	Comparative for average historical consumption with actual consumption data	Ability to detect low consumption cases by comparing average historical consumption with actual consumption data.	Weekly & Monthly
16	Monitoring of Load factor	Ability to do the performance check with the help of load factor calculations for S/S or Feeder or DTR or HT Consumer	Daily; Monthly

S. No.	Report Name	Report description	Frequency
17	Monitoring of Power Factor	Ability to know the performance of the Feeder or DTR or HT Consumer or LT Consumer	Daily; Monthly
18	Monitoring of Utilization factor	Ability to monitors performance check of feeder	Daily; Monthly
19	Load duration curves	Ability to monitor various load duration curves for HT consumer or LT consumer such as voltage vs current, power vs time etc.	Daily; Monthly
20	Pre-paid vs post paid(if present)	Ability to compare consumption between pre-paid and postpaid meters for optimum usage of energy.	Weekly & Monthly
21	Remote Meter Data Reading at configurable intervals (push / pull)	Ability to provide the details of meters which requires schedule or on-demand readings for particular period.	Weekly & Monthly
22	Remote connection/disconnection at defined/on demand conditions	Ability to provide the details of remote connection/disconnection based on defined/on-demand conditions for a particular period.	Weekly & Monthly
23	Net energy metering (for accurate billing)	Ability to provide the details of net metering for HT customers, LT customers	Weekly & Monthly
24	Missing reads (interval/scalar)	Ability to provide missing reads/consumption details for HT customers, LT customers	Daily; Monthly
25	Defective meter	Ability to identify the details of defective meters.	Monthly

#### 5.5.1.11 Revenue Protection Support

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

#### 5.5.1.12 Demand Control/Demand Response Support

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

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

#### 5.5.1.13 OMS/ other smart grid functionality support

MDMS shall support Smart Grid OMS system as per the requirement of the DISCOM. MDMS shall support the interfacing with OMS software for providing AMI meter data needed for fault location identification and other requisite services like updating the data after attending the fault etc.

MDMS shall also support the interfacing of other smart grid functionalities like Distribution Transformer Health Monitoring system, self-healing system, electric vehicle etc. as and when implemented by the DISCOM.

### 5.5.1.14 Additional Features

#### a) Net-Metering

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

- i) CUM decrements of forward energy within a billing cycle
- ii) Register decrements for Time of Use (ToU) of forward energy
- iii) Power generated(exported) by any net-metering consumer more than the installed capacity of solar PV rooftop system
- iv) Energy exported(exported) in any given day by any net-metering consumer more than the programmable threshold value

#### b) Prepaid functionality

The prepaid functionality can either be availed at smart meter level or through MDMS. In case of MDMS, following shall apply

- i) The MDMS shall support pre-payment metering and capability to interface with pre-payment application.
- ii) The prepayment shall support the system that payment and connection parameters are stored centrally and the details are being updated to consumer portal/ app.
- iii) The system shall periodically monitor the energy consumption of prepaid consumer and decrease the available credit based on consumption.
- iv) The system shall send connect/disconnect command on the basis of available credit as per notified rules & regulations.
- v) The system shall send low-credit notifications to the consumer when their balance approaches a threshold.

## 5.5.2 User Interface

The Implementing Partner shall provide user interface for the following:

#### a) DISCOM

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

- i) Compare total energy costs on one rate schedule vs. one or many alternative rates.
- ii) Enable the user to see how different options within a rate affect costs.
- iii) Enable the user to see how adjusting load or consumption levels or shifting them to different time periods influences costs.
- iv) Compare multiple facilities against each other based on costs, average spend, cost per area and cost by weather.
- v) Display meter data at a user defined configurable cycle through a GUI that allows authorized users to view energy usage patterns and the data behind them for selected customers.
- vi) Allow authorized users to view metered data, initiate and view reports, modify configurations, and initiate and update service requests via a GUI.
- vii) Display via a GUI 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.
- viii) Display via a GUI the energy usage profile for a single meter or group of meters according to Time of Use (ToU) tariff.
- ix) Access to a minimum of 5 years of historical energy usage and meter reads through the GUI.
- x) GUI to clearly and visually distinguish between metered, estimated, allocated and substituted data.
- xi) 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
- xii) Configure the look, feel, and functionality of the MDMS in accordance with business needs, business processes, and business conventions. (eg. GUI, content, look and feel of screens, validation rules, exception handling, etc.).
- xiii) Ability for DISCOM through user interface to set up alarm and event notifications that can be directed to

a combination of configurable email addresses, cellular text messages or phone numbers.

- xiv) User interface for DISCOM to update the credit amount of prepaid consumers to MDMS. Such type of user interface before login shall require password & login ID for authentication. User interface after getting information like consumer ID mobile number & recharge amount etc. shall update the same to MDMS. The details of payment information shall also update to consumer through SMS, email etc.

b) Consumer:

User interface for all authorized consumers shall have ability for at least the following functionality:

- i) View metered data, initiate and view reports
- ii) View data according to Time of Use(ToU) tariff
- iii) Can make request for connection/disconnection
- iv) User can update mobile number/email
- v) Can initiate service requests for maximum demand updating, meter checking etc.
- vi) In case on net-metering consumers, user can view data for both import & export
- vii) In case of prepaid consumers, consumers can view recharge history & present balance.
- viii) Prepaid consumers shall be provided facility to recharge their account by logging on user interface. User interface shall require consumer id., mobile number & password for secure login. This user interface shall be integrated with the present online payment gateway of DISCOM.

### 5.5.3 Integration with other Systems

MDMS shall preferably interface with other systems on standard interfaces and the data exchange models and interfaces shall comply with CIM / XML / IEC 61968/IS15959/ Indian Companion Specification/ any other open standard. MDMS solution shall be Service Oriented Architecture (SOA) enabled.

MDMS integration with other systems shall include but not limited to the following:

- a) HES for data exchange from other AMI solutions
- b) DISCOM Administration
- c) Existing other Data Collection Systems
- d) IVR system, CRM, Consumer Portal
- e) Billing and collection system
- f) GIS Systems integration with CIS and with MDMS system
- g) Support of interface with HHU or manual reading system etc.

## 5.6 Database

The database shall have the following functional requirements:

**Table 10 – Requirements of Database**

S. No.	Functional Requirements
1	The proposed Database shall support Cloud deployment & support 64-bit architecture and be available and function in multiple operating systems like Linux, Unix, and Windows
2	Database must ensure inter-dependency of user concurrency and data consistency. Should provide multi version read consistency for the transaction processing.
3	Ability to service concurrent multiple read and write requests without the need of building separate replicated environments. Should have the ability to handle deadlock situations, without any application slowing.
4	Should have built-in parallelism, Backup & Recovery feature, Disaster Recovery Feature, recovery for tables, rows accidentally deleted, Queue Mechanism to transfer data across to other database.
5	The database software shall be able to scale up multiple terabytes in centralized environment.
6	Database shall have support for, active-active clustering and shall meet the objectives of availability of 24x7.
7	The Database shall support vertical & horizontal scalability with minimal downtime and without repartitioning or changes to the database objects or 3rd party transaction routing mechanisms.
8	The database shall provide concurrent access from multiple Virtual machines & servers to the single database image.
9	Should support different partitioning schemes within the database to split large volumes of data into separate pieces or partitions, which can be managed independently. The partitioning shall enhance the performance, manage huge volumes of data.

10	The database shall have option to create, use the logical partitioning of the objects (like Tables, Indexes) and use them. The option shall be able to help in creating / managing the logical components online and be independent of the application solution being deployed.
11	Database shall have Automated/manual performance analysis with detailed diagnosis of the cause of performance related issues with possible resolutions. Should be having built-in provision to Administer database / database clusters, Monitor performance, Maintain database, Backup and recovery, Disaster recovery management diagnosis, performance tuning with the SQL analysis, finding the events, advisory based tuning mechanisms with the history.
12	Database shall have option for Automated/manual identification and tuning of high load SQL Statements.

## 5.7 Performance Requirement for User Interface

The user interface performance testing shall be done as per following criteria:

**Table 11 – User Interface Requirements**

S. No.	User Interface Requirements	Response Time
1	Any real time display and application display on workstation console along with data values shall appear on screen.	Within 2 sec
2	Manual data entry of the new value appears on screen.	Within 2 sec
3	Display Update rate	2 sec for 4 displays together
4	Response time for display of Alarm and event after receipt in system	Within 1 sec of receipt in system
5	Requests for printing of displays (to be acknowledged with an indication of request is being processed).	Within 2 sec
6	Requests for generation of reports (to be acknowledged with an indication of request is being processed).	Within 2 sec

The AMI Implementing Partner has to test and demonstrate the operational performance requirement as defined in above table during the UAT. This will be part of acceptance testing. The system will be taken over by owner only after successful operational performance testing. The AMI Implementing Partner has to arrange necessary hardware / software to demonstrate the performance testing.

## 5.8 Integration of AMI System Components

- a) The AMI Implementing Partner has to design and implement an End-to-End Integrated AMI solution and interoperable architecture clearly depicting integration between Electricity Meters, Head-End System (HES), Meter Data Management System (MDMS) and other supporting applications
- b) The AMI Implementing Partner needs to carry out the integration of AMI system with existing MBC system of the utilities.
- c) The proposed architecture shall guarantee the capability of handling upto 10 million smart meters with high availability, high security and high performance in full load. The software performance shall be tested through virtual metering point simulation tools which will be provided by the AMI Implementing Partner
- d) The scope of integration with external systems shall include the existing and functional IT systems in utilities and any other system commissioned during the AMI system implementation. The integration is expected to be on-line real time or batch wherever appropriate and shall operate in an automated fashion without manual intervention.
- e) The Proposed system and overall software solution shall be SOA based integration methodology capable of integrating with external systems (BI, Reporting System, Other MDMS, existing MDAS etc.). The integrated systems shall communicate and exchange data with each other or any other external system as required by EESL and Utilities to generate the following benefits:
  - i) Data Analytics of assets and consumers
  - ii) Outage Management
  - iii) Alert and Alarm monitoring
  - iv) Customized Dashboard
  - v) BI Reports
  - vi) Any other external system

- f) The system shall support the interfacing with the future smart grid functionalities like outage management system, distribution automation including self-healing system, distribution transformer monitoring units, electric vehicle, distributed energy resources etc.
- g) The System shall accurately maintain system time synchronization across all devices to ensure accuracy of data.

## 5.9 Mobile App and Web Portal for Customer

The implementation partner(s) shall provide a website portal and a mobile application (for smartphone and tablet devices using latest and commonly available browsers and operating systems and platforms) using which customer can readily access to the features extended by AMI. This portal/app and shall be part of the complete system and therefore no additional cost shall be payable for upgradation/maintenance separately. A registration process shall be provided to assure that customer access is limited to authorized users of a given account. The portal shall provide useful data in an easily understood format, for the purposes of informing customers about actual usage.

Both the mobile app and web portal shall support all device form factors like mobile, tablet, desktop etc. through a responsive screen. It shall be Operating System and device agnostic.

Following shall be the features supported by Mobile app:

- a) It shall work on all mobile and tablet form factors by recognizing the device details automatically.
- b) It shall be OS agnostic (at least all standard OS like iOS, Android, Blackberry, and Windows)
- c) It shall work on all standard browsers like IE, Chrome, Safari, Firefox etc.
- d) Support for dial to call feature from a page.
- e) It shall support multiple languages.
- f) It shall be possible to make on-the-fly changes to the portal through a UI and immediately make these available to citizens.
- g) The user experience of the citizen on the Mobile Portal and App shall be similar in terms of look and feel, navigation, menu and access to preferences and other data.
- h) It shall have search functionality across all the pages.

Low bandwidth support - A mobile portal as well as apps shall be able to provide services at low bandwidths also. For this, the mobile app and portals shall be tuned for low bandwidths to facilitate access of services by users when bandwidth is low.

Functional requirements for Web portal/mobile app are mentioned below:

- i) The portal/app shall have a landing Home page. This page shall provide a brief description about the DISCOM, 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.
- j) The portal/app shall have the ability to display single/multiple account information of the users displaying information like account name, address, balance, due, status etc. Any status message pertaining to the account/s viz. alerts/actions shall be displayed here. Information about different customer engagement programs viz DSM etc. shall be displayed here. The portal/app shall have the ability to display consumption history of the user in graphical formats for at least 12 months. A more detailed analysis is provided in a tabular format listing the meter reading date, the reading, consumption, number of days, charges etc.
- k) The portal/app shall have the ability to provide option for registering in online/paper billing to the customer. Their 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 customer. The use shall be able to pay bill for single and multiple accounts.
- l) The portal/app shall have the ability to provide option for recording service requests/complaints lodged by the customer as new connection, disconnection, load change, name change, category change, meter shifting etc. The user can view the service request status. The user can register complaints viz. power failure, faulty meter, street light outage etc.
- m) After meter installation, customer identification no., meter ID, its hardware & software configuration, name plate details, make, type i.e. 1 Phase or 3 Phase, etc.( as per requirement of DISCOM) shall be updated in

HES/MDMS. This information would also be updated on the portal/app for providing information to consumers.

- n) The MDMS shall support the web portal or shall have the ability to interface with the 3rd party portal/DISCOM portal to provide the consumer near real time online views of both usage and cost and helping consumers to understand electricity usage and cost information, alerts and notifications and energy savings tips with different levels of detail. The portal shall support the view for past electricity usage, last week's, yesterday's, current days or other period etc. as per selection. The portal shall provide user friendly access to consumer for their data via colourful graphs and charts and can download the data into a spreadsheet.
- o) The mobile app/portal will have the ability to allow registration for prepayment customers and display connection parameters of the existing users.
- p) 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 have the ability to provide customers with interval data, flags, voltage, power quality indications etc.
- q) The portal/app shall provide customers with access to current and historical consumption and interval data, outage flags, voltage and power quality indications. The Customer may also access data through customer portal. The solution shall integrate via a user friendly graphical interface.
- r) The portal/MDMS shall support email/SMS notification of configured alarms & events to selected users.
- s) The web portal or 3rd party portal/utility portal to provide the consumer near real time online views of both usage and cost, helping consumers to understand electricity usage and cost information, alerts and notifications and energy savings tips with different levels of detail. The portal shall support the view for past electricity usage, last week's, yesterdays, current days or other period etc. as per selection. The portal shall provide user friendly access to consumer for their data via colorful graphs and charts and can download the data into a spreadsheet.
- t) Consumer mobile app through which consumer shall be able to log in through android/iOS/Window based mobile app to see information related to its energy consumption. App shall also provide platform for implementation of peak load management functionality by providing existing tariff & incentives rates, participation options etc.
- u) User interface to consumer portal to access consumer's data from MDMS for all authorized consumers shall have ability for at least the following functionality:
  - i. View metered data, initiate and view reports
  - ii. View data according to Time of Use(ToU) tariff
  - iii. Can make request for connection/disconnection
  - iv. User can update mobile number/email
  - v. Can initiate service requests for maximum demand updating, meter checking etc.
  - vi. In case on net-metering consumers, user can view data for both import & export
  - vii. In case of prepaid consumers, consumers can view recharge history & present balance.
  - viii. Prepaid consumers shall be provided facility to recharge their account by logging on user interface. User interface shall require consumer id., mobile number & password for secure login. This user interface shall be integrated with the present online payment gateway of utility.

## 5.10 Integration with DISCOMs Existing SMS Gateway

The AMI Implementing Partner will provide the facility to send transactional SMS to registered mobiles of DISCOM's consumer with accuracy (mobile number shall not be mismatched). The AMI Implementing Partner shall integrate the AMI solution with the existing SMS gateway of Haryana and Uttar Pradesh DISCOMs for sending and receiving SMSs.

## 5.11 Provisioning of Cloud Services

Implementation of AMI Solution shall consist of the following

- a) Deployment of AMI solution components on the Cloud
- b) AMI Implementing Partner shall perform the benchmark AMI Solution in cloud facilities for 5 million meter transactions as per the defined frequency of data pull and update. AMI Solution benchmarking shall be for the production deployment as per solution architecture proposed by in the Technical Proposal and agreed by EESL.
- c) Application design, development, and implementation of envisaged AMI System

- d) Cloud Provisioning and Commissioning
- e) Establishment of Network Connectivity from Cloud Service Provider's Data Centre to EEL Office
- f) Application Training to Utilities and EESL along with Capacity Building
- g) Operations and Maintenance of the AMI System for the entire project period

### 5.11.1 Provisioning and Commissioning of AMI Solution on Cloud

The AMI Implementing Partner shall be responsible for deploying the entire AMI Solution on a Cloud. AMI Implementing Partner shall propose a Cloud Service Provider (CSP) from the empaneled cloud service provider (<http://meity.gov.in/content/gi-cloud-meghraj>) by MeITY Govt. of India.

AMI Implementing Partner shall deploy the developed AMI Solution on a "Government Community Cloud" (GCC) of the Cloud Service Provider. Cloud shall offer dashboard to provide visibility into cloud service to EESL and Utilities, Dashboard shall be configurable for EESL and utilities. All the update, upgrades, tech refreshes, patch management and other operations of cloud infrastructure will be carried out by the AMI Implementing Partner. Ownership of all virtual machines, clones, and scripts/applications including application code (all versions) created for the AMI system, and all licenses purchased under this Tender during the contractual period. EESL retains will have the right to retrieve full copies of these virtual machines at any time during the project period.

### 5.11.2 Technical Requirements of Cloud

- a) There shall be both physical and logical separation (of space, servers, storage, network infrastructure and networks) to protect data, applications and servers, in the Cloud proposed by the bidder.
- b) DC-DR shall be Tier-3 or higher
- c) In case of the any disaster at DC site, 100% of the performances shall be available at DR site. DR shall be 100% mirror image of the primary site.
- d) DC and DR shall be provided by the same service provider
- e) Bidder must specify DC and DR locations with complete address of the facility in the proposal. EESL may at any point of time do physical audit of the DC and DR facilities and the service provider shall facilitate such timely physical audits as decided by EESL
- f) Cloud provider shall offer a simple pay-as-you-go pricing where EESL can pay for compute, storage and bandwidth capacity utilized.
- g) Cloud provider shall support direct leased-line connections between cloud provider and a EESL / DISCOM Offices
- h) 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 EESL/authorized representative of DISCOM.
- i) In the event of a Primary site failover or switchover, DR site will take over the active role, and all requests will be routed through that site
- j) The CSP shall not delete any data at the end of the agreement (for a maximum of 90 days beyond the expiry of the Agreement) without the express approval of EESL
- k) Cloud services shall be accessible via internet and MPLS

AMI Implementing Partner shall configure, schedule and manage backups of all the data including but not limited to files, folders, images, system state, databases and AMI applications any other application in scope of this tender. There shall be sufficient capacity (compute, network and storage capacity offered) available for near real time provisioning (as per the SLA requirement of the Contract) during any unanticipated spikes in the user load. AMI Implementing Partner will be responsible for adequately sizing the necessary compute, memory, and storage required, building the redundancy into the architecture (including storage) and load balancing to meet the service levels mentioned in the tender.

AMI Implementing Partner shall perform and store data and file backups consisting of an initial full back up with daily incremental backups for files;

- a) Perform weekly backups for the files
- b) For the databases, perform minimum twice weekly full database backup, with a three times daily backup of database log files
- c) Retain the backups for entire project period on system and thereafter on tapes which can to be restored when required.
- d) AMI Implementing Partner shall not delete any data at the end of the agreement (for a maximum of 90 days beyond the expiry of the Agreement) without the express approval of EESL.

AMI Implementing Partner ensure redundancy at each level and shall provide interoperability support with regards to available APIs, data portability etc. for EESL to utilize in case of:

- a) Change of Cloud Service Provider,
- b) Integration with Utilities backend systems,
- c) Burst to a different cloud service provider for a short duration, or
- d) Availing backup or DR services from a different service provider

AMI Implementing Partner shall provide required Support to EESL in migration of the Virtual Machines (VMs), data, content and any other assets to the new environment created by EESL to enable successful deployment and running of AMI solution on the new infrastructure

### 5.11.3 Network Connectivity

AMI Implementing Partner shall provide Internet and MPLS bandwidth (over VPN) at DC, DR of Service Provider, EESL and DISCOM Offices. Network connectivity at all three locations from two different service providers for redundancy.

### 5.11.4 Security for AMI Solution

It is critical to have a set of IT security management processes and tools to ensure complete cyber security of AMI solution. An IT security policy, framework and operational guidelines as per ISO 27001 be maintained by the AMI Implementing Partner and Cloud service provider (CSP) as an overall guideline to all forms of IT security – Physical, application, data, network and cloud. The IT systems maintained shall be audited and will be subject to IT security testing. For the AMI solution complete audit trail shall be maintained for regular audit of all data changes made to AMI solution. AMI Implementing Partner shall provide tools to mine these audit records and gather intelligence from these tools to not only alert EESL and Utilities of any breaches but also predict of any security mishaps that can occur. Latest security tools like IPS, Malware protection, Data loss protection, DB access monitoring etc. need to be in place. All the security management processes, tools and usage shall be well documented in security policy and the security best practices to be followed to maintain IT security of AMI Solution.

### 5.11.5 Functional Requirements of AMI Cloud

#### 5.11.5.1 Compute

Cloud provider shall offer instances that provide a baseline level of CPU performance with the ability to burst above the baseline.

- a) EESL/DISCOMs must be able to specify and modify server configuration (CPU, memory, storage) parameters seamlessly and without outage.
- b) Cloud service shall support local storage for compute instances to be used for temporary storage of information that changes frequently.
- c) Cloud service must offer self-service provisioning of multiple instances concurrently either through an interface (API/CLI) or through a management console.
- d) Cloud service shall be able to automatically increase the number of instances during demand spikes to maintain performance and decrease capacity during lulls to reduce costs.
- e) Cloud provider shall offer a simple pay-as-you-go pricing where customers can pay for compute capacity by the hour with no long-term commitments.

#### 5.11.5.2 Network

Cloud services shall be provided on a 10GB network connectivity between the server and Storage and Network. Cloud service shall be able to support multiple (primary and additional) network interfaces. The proposed data centres engineered for AMI Solution shall be isolated from failures in other data centres of the service provider and shall be connected to provide inexpensive, low-latency network connectivity to other data centres in India. Cloud service shall be able to support multiple (primary and additional) network interfaces.

- a) Cloud service shall be able to support multiple IP addresses per instance including hosting multiple websites on a single server and network appliances (such as load balancers) that have multiple private IP addresses for each network interface.
- b) Cloud provider shall be able to extend the data center to the cloud and enable communication with their own network over an IPsec VPN tunnel.
- c) Cloud service shall support the ability to create a network interface, attach it to an instance, detach it from an instance, and attach it to another instance.

- d) Cloud service shall support capabilities such as single root I/O virtualization for higher performance (packets per second), lower latency, and lower jitter.
- e) Cloud service shall support a VPN connection between the cloud provider and EESL / DISCOM offices.
- f) Cloud service shall support connecting two virtual networks to route traffic between them using private IP addresses.
- g) Cloud service shall support Load balancing of instances across multiple host servers.
- h) Cloud service shall support multiple routing mechanism including round-robin, failover, sticky session etc
- i) Cloud service shall support a front-end load balancer that takes requests from clients over the Internet and distributes them across the instances that are registered with the load balancer.

#### 5.11.5.3 Storage

Cloud provider shall offer block storage volumes greater than 1 TB in size. Cloud service shall support solid state drive (SSD) backed storage media with minimum latencies.

- a) Cloud service shall support the needs of I/O-intensive workloads, particularly database workloads that are sensitive to storage performance and consistency in random access I/O throughput.
- b) Cloud service shall offer SSD backed storage media and shall support High IOPS Storage (greater than 50,000 IOPS per VM).
- c) Cloud provider shall offer a simple scalable file storage service to use with compute instances in the cloud.
- d) Cloud service shall support petabyte-scale file systems and allow thousands of concurrent NFS connections.

#### 5.11.5.4 Zoning / Logical Partitioning

- a) Citizen / consumer facing services shall be deployed in a zone (DMZ) different from the application services. The Database nodes (RDBMS) shall be in a separate zone with internal firewall security layer.
- b) The application development zone, staging zone, testing zone, and the UAT on the cloud shall be separate from the production in a different VLAN than the production environment and setup such that users of the environments are in separate networks.
- c) All other application shall also be separate from the production in a different VLAN than the production environment and setup such that users of the environments are in separate networks.

#### 5.11.5.5 Configuration / Provisioning and De-Provisioning

There shall be a provision to modify VM and storage configuration (CPU, memory, storage) parameters seamlessly with minimal downtime. Cloud service must offer self-service provisioning of multiple instances concurrently either through an interface (API/CLI) apart from the management console.

- a) Monitoring tools that will enable collection and tracking metrics, collection and monitoring log files, set alarms, and automatically react to changes in the provisioned resources. The monitoring tools shall be able to monitor resources such as compute and other resources to gain system-wide visibility into resource utilization, application performance, and operational health.
- b) EESL/DISCOMs shall be able to split and host instances across different physical data centers to ensure that a single physical failure event does not take all instances offline.
- c) Cloud service shall be able to automatically increase the number of instances during demand spikes to maintain performance and decrease capacity during lulls to reduce costs.
- d) Cloud provider shall offer a service to quickly deploy and manage applications in the cloud by automatically handling the deployment, from capacity provisioning, load balancing, auto-scaling to application health monitoring.
- e) Cloud service shall support automatically launching or terminating instances based on the parameters such as CPU utilization defined by users.
- f) Cloud service shall support parameterization for specific configuration.
- g) Cloud provider shall offer support at any time, 24 hours a day, 7 days a week, and 365 days per year via phone, chat, and email.

#### 5.11.5.6 Database and Allied Services

Cloud services provider shall provide services like Database as a service (both RDBMS and No SQL), Content Delivery Network (CDN), DNS, Data warehouse, Storage, Analytics, Message queuing etc. and these services shall be manageable from a single console.

- a) Cloud provider shall offer a service with ability to take regular and scheduled backup.
- b) Cloud services shall provide a web interface with support for multi-factor authentication to access and manage the resources deployed in cloud.
- c) Provide Audit Trail of the account activity to enable security analysis, resource change tracking, and compliance auditing

### 5.11.5.7 Cloud Security

Cloud provider shall offer fine-grained access controls including, conditions like time of the day, originating IP address, use of SSL certificates, and multi-factor authentication. The policies for AMI solution shall comply with international security standards like ISO27001, ISO22301 etc.

- a) Cloud service shall support reporting a user's access and last use details.
- b) Cloud service shall have access control policies that are attached to users, groups.
- c) Cloud service shall integrate with LDAP / Active Directory. Cloud provider shall support setting up a stand-alone directory in the cloud or connecting cloud resources with LDAP / Microsoft Active Directory.
- d) Cloud service shall support features such as user and group management.
- e) Cloud service shall support audit features such as what request was made, the source IP address from which the request was made, who made the request, when it was made, and so on.
- f) Audit plans must be developed and maintained for AMI solution to address business process disruptions. Audit shall focus on reviewing the effectiveness of the implementation of cyber security. Any/all audit activities must be agreed upon prior to executing.
- g) Physical security perimeters (e.g., fences, walls, barriers, guards, gates, electronic
- h) Surveillance, physical authentication mechanisms, reception desks, and security patrols) shall be implemented to safeguard sensitive data and information systems.
- i) Policies and procedures shall be established for the secure disposal of equipment (by asset type) used outside the AMI Solution landscape. This shall include a wiping solution or destruction process that renders recovery of information impossible. The erasure shall consist of a full overwrite of the drive to ensure that the erased drive is released to inventory for reuse and deployment, or securely stored until it can be destroyed.
- j) User access policies and procedures shall be established, and supporting business processes and technical measures implemented, for ensuring appropriate identity, entitlement, and access management for all internal and utilities (tenant) users with access to data and organizationally-owned or managed (physical and virtual) application interfaces and infrastructure network and systems components.
- k) Policies and procedures shall be established to store and manage identity information about every user who accesses IT infrastructure and to determine their level of access. Policies based controlled access to network resources based on user identity.

### 5.11.5.8 Incident Response

For the proposed AMI solution AMI Implementing Partner must plan for policies and procedures to ensure timely and thorough incident management, as per established IT service management policies and procedures. They shall have proper forensic procedures defined and implemented, including chain of custody, required for the presentation of evidence to support potential legal action subject to the relevant jurisdiction after an information security incident.

Upon notification, EESL/DISCOMs impacted by a security breach shall be given the opportunity to participate as is legally permissible in the forensic investigation.

- a) Policies and procedures shall be in place for timely detection of vulnerabilities within AMI applications, IT infrastructure, network and system components.
- b) A risk-based model for prioritizing remediation of identified vulnerabilities shall be used.

### 5.11.5.9 Disaster Recovery and Business Continuity Planning

AMI solution shall be architected to run on cloud services offered from multiple data center facilities to provide business continuity with no interruptions in case of any disruptions /disaster to one of the data center facility. In case of failure, automated processes shall move customer data traffic away from the affected area. The Cloud Service Provider shall provide adequate bandwidth between the Data Centre Facilities to provide business continuity.

- a) Bidder must propose a framework for business continuity planning and the plan consistent in addressing priorities for EESL.
- b) The bidder shall plan for Business continuity drills and testing at planned intervals or upon significant organizational or environmental changes.

### 5.11.5.10 Sizing Considerations for AMI Solution

In the technical proposal Bidder(s) are required to submit the details of methodology used by them for sizing of Cloud including capacity of storage, compute, backup, and network & security components. Bidder will be responsible for adequately sizing the necessary compute, memory, and storage required, building the redundancy into the architecture (including storage) and load balancing to meet the service levels mentioned in the Tender and bidders may use the information as given in table below for sizing of cloud / AMI solution:

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Table 12 - Sizing of cloud / AMI solution

S. No.	Parameter	Description	Value
1.	Devices/Assets	Meters	<b>5 million Meters</b>
2.	Internal Users	Number of internal users EESL and Utilities	<b>Approximately 500 users at EESL + UP and Haryana</b>
3.	Network Connectivity	Network Connectivity within IT Infrastructure of Cloud Services such as Network, Server, Storage interconnectivity	Minimum 10/100 GBPS Connectivity between Network, Servers, Storage
4.	CPU Utilization Limit	Utilization upper limits of VM's	Between 60% to 70%
5.	Compliance to Standards	Cloud Compliance Standards Security	ISO 27017, ISO 27018 SOC 1 and SOC 2
6.	Storage	Read Write Volumes Media	Read 10000 IOPS Write 5000 IOPS Disc > 1 TB SSD
7.	Database Performance	Transaction	5000 IOPS
8.	Scalability		Upto <b>10 million Meters</b>

## 5.12 Specific Exclusions

If any Service Level is not achieved in accordance with the relevant performance standard specified in the relevant Service Level and such failure is directly or indirectly caused by any of the following:

- a) DISCOM's breach of agreed terms in GCC;
- b) Any action or omission from DISCOM's side or any End User;
- c) AMI Implementing Partner is not expected to address the following
  - i. Reframe or establish IT policies within DISCOM
  - ii. Train on subjects other than that relevant / AMI implementation
  - iii. Address IT organization and governance related issues
- d) Inability to install smart meter in cases of door lock and refusal by customer (validation by DISCOM on the list of such consumers provided by the AMI Implementing Partner)
- e) A Force Majeure Event;
- f) A third party supplier failure upon which AMI Implementing Partner relies to provide the Services;
- g) Inability to fulfil conditions of the contract due to breach of terms of GCC by EESL / DISCOM; or
- h) The relevant Meter(s) or Device(s) not being configured to provide the required readings and/or accept the required change (as the case may be) and/or the parameters configured in the relevant Meter(s) not being compatible with the parameters of the required reading or change (as the case may be).

Under above circumstances (a to h) for the purpose of calculating the relevant Service Level any affected Service Request(s) or RNSP Requests or Alerts and associated Notifications and/or Response(s) and/or RNSP Responses shall be disregarded, and any affected Recurring Actions and associated data shall be disregarded, and any affected Firmware upgrade or rollback shall be disregarded.

## 5.13 Training and Capacity Building Requirements

AMI Implementing Partner shall provide training sessions to officers from DISCOMs identified by EESL on the following domains (including, but not limited to):

- a) Smart meter installation and communication
- b) HES and its user interface
- c) MDMS and its user interface
- d) AMI troubleshooting
- e) Analytics software
- f) Mobile app/Web Portal

- g) Cloud administration services
- h) Cyber Security
- i) Application administration

The primary objective of the trainings is to achieve 100% user adoption through technical and behavioral competencies. Each training session mentioned above, shall be for 2 days (encompassing 8 working hours per day) and shall be conducted in English language. The AMI Implementing Partner shall provide a training plan (including training curriculum and calendar) so that there is a proper transfer of knowledge about the deployed systems to DISCOM officers. The training shall cover technical, functional aspects.

The AMI Implementing Partner is expected to complete / be involved in the following activities but not limited to:

- a) The AMI Implementing Partner shall conduct a training need analysis to identify the training requirements of the user group to identify the criteria for training, plans and responsibilities of the target stakeholders and knowledge sharing strategy.
- b) Testing scripts shall be prepared to test the business processes and scenarios of the new system. The project team members will further develop these testing scripts into training documents.
- c) The training has to be conducted at the training facilities of DISCOMs or at training facility of OEM/AMI Implementing Partner as per the Software product's proposed in the solution by the AMI Implementing Partner. The training has to be conducted by Instructors of AMI Implementing Partner and OEM. All costs related to the logistics and contents of the training shall be borne by the AMI Implementing Partner irrespective of the location of the training.
- d) The training and delivery options shall be on-line, CBTs, instructor led class rooms. The trainings shall be interactive and ensure optimum knowledge transfer hence the trainings shall mandatorily be given in pre production or live environment and not in the form of presentations etc.. Training material will be organised by functional process that will serve as the training documentation for a particular functional area.
- e) The participants of DISCOMs will be issued a certificate from OEM and AMI Implementing Partner for attending these courses.
- f) The AMI Implementing Partner shall obtain a certificate of completion after each training workshop.
- g) The AMI Implementing Partner shall provide associated documentation for all deployed systems to ensure a smooth transition from deployment to post-deployment operations and maintenance of the system.
- h) The AMI Implementing Partner shall ensure that the trainers conducting the training shall have a minimum of 5 years of experience in the domain in which he/she is conducting the training. The AMI Implementing Partner shall provide CVs of the proposed trainers.

The implementation partner shall conduct the following training for employees of DISCOM:

**Professional Training** - This is the training for the core group of implementation team of the DISCOM. The DISCOM's team will comprise of members from all the Business Functions and affected by the AMI implementation. Each member would be trained in the relevant function / module. This Training would be required to be given to at least 9-12 personnel of Owner. It is the responsibility of AMI Implementing Partner to deliver this training. Standard curriculum, designed and agreed by the DISCOM for hardware, software and network preferably from the OEM partner or OEM's certified training partner shall be arranged for each group. The DISCOM will prefer if a portion of the training is conducted on-site.

**End User Training** - The AMI Implementing Partner will provide training to an owner's team on a "Train the Trainer" basis. The Owner's team so trained will then train all of the owner's end users. It is estimated that this training will require for divisions (approximately 75 nos.), with each group comprising of around 5 to 10 persons. These training sessions will be required to be conducted at any of the sites.

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

- a) Training the DISCOMs instructors on the customized version of the application's as it would be trained to an end-user, allowing the training team to model our approach.
- b) Opportunity for knowledge sharing in the areas of leading practice, concepts, new business processes and knowledge to the DISCOMs instructors.
- 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 DISCOMs instructors to encourage student involvement and student interaction. The program includes instruction on nonverbal behavior, listening skills, questioning techniques, how to manage difficult behaviors, interpreting body language, and general presentation tips.
- e) Training shall be provided to the DISCOM instructors on the customized version of the application as it would be trained to the end user.
- f) Each workshop shall contain at least 20 people. The workshop shall be conducted in at least 2 batches

### Content Development

Development of customized, modular training materials based upon user roles and business process, and customized application. OEM consultants along with System Integrator will work together with DISCOMs resources 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) Assist the DISCOM team members in creating procedure documents for use in conjunction with the other training material. A procedure document will list all of the transactions necessary to complete a business scenario whereas a training document lists the steps to execute a transaction. Each step will be a transaction referenced in a training document. Procedures will be listed for all the online steps needed to complete a scenario. In addition to functional training document binders and procedures, the project team members will create training courses and exercises. The training courses will contain all the training documents and necessary to train an end-user in his / her role. The training exercises will list common business scenarios and input data that the user will enter to practice with the newly developed BPA software.

All the training material in hard copy soft copy including audio visual content which includes recording of the training delivered shall be handed over to the DISCOMs and considered DISCOMs' property.

Following stages shall be considered while planning training for the participants from the DISCOMs.

**Table 13 – Stages of Training to DISCOMs**

S. No.	Training	Team	Module	Stage
1.	Professional Training	Core Team Members	As per the solution proposed by the AMI Implementing Partner, the training for products from OEM	<ul style="list-style-type: none"> <li>• Before implementation</li> <li>• Continuous Training (fortnightly) during implementation</li> <li>• Handholding "Go Live" stage</li> </ul>
2.	End user Training	All user group	As per the solution proposed by the AMI Implementing Partner, the training for products from OEM	<ul style="list-style-type: none"> <li>• Before implementation</li> <li>• Continuous Training (fortnightly) during implementation</li> <li>• Handholding "Go Live" stage</li> </ul>

### 5.14 Facility Management Services (FMS)

The AMI Implementing Partner shall be required to provide the services so as to manage entire AMI system installed & commissioned by AMI Implementing Partner for the DISCOMS in order that they have maximum availability to enable DISCOMS to realize their desired business objectives.

- a) System Management Services shall be provided by AMI Implementing Partner in order that maximum uptime and performance levels of installed AMI systems is ensured. As such, Implementing Partner 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 DISCOMS and AMI Implementing Partner.

- b) The AMI Implementing Partner shall develop AMI specific helpdesk (ticketing) tool that shall be integrated with the existing helpdesk applications of the DISCOMS to be able to log and resolve tickets pertaining to the AMI solution. To achieve the desired Service Levels, the AMI Implementing Partner may need to interact, coordinate and collaborate with the other vendors of DISCOM. AMI Implementing Partner will act as the Single Point of contact for all issues relating to the Service Levels.
- c) Prime responsibility of providing desired services shall be that of AMI Implementing Partner during the warranty period. The FMS shall start immediately after the completion of user acceptance test and shall be applicable to the meters installed before user acceptance as well. The Facilities Management would, include following major areas of services.
  - i) Replacement of Faulty AMI Devices including Meters, SIM card etc. (Uninstallation of smart meter from customer/feeder/dt/boundary premise and bringing it to the warehouse and replacement of the same)
  - ii) Management AMI solution system
  - iii) Ticket logging through Help Desk Services
  - iv) Meter Management services etc.
- d) The AMI Implementing Partner 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 is mentioned in Minimum Resource requirements of this section.
- e) AMI Implementing Partner shall provide the Facility Management services for agreed duration each day coinciding with the business hours of that particular location and AMI Implementing Partner shall also make arrangement for handling of emergency calls.
- f) The AMI Implementing Partner shall submit a comprehensive FMS process, plan and deliverables for the entire AMI system including the field activities along with the proposal to the EESL for approval
- g) AMI Implementing Partner shall perform periodic health check-ups and troubleshooting of all the AMI systems and implement proactive rectification measures as required.
- h) **FMS Team:** AMI Implementing Partner shall appoint FMS Project Manager of project in the FMS phase. FMS Project Manager will be single-point-of-contact for responding to all the queries from EESL/DISCOMS or accepting its problem management requests. The AMI Implementing Partner shall deploy sufficient and qualified, skilled manpower to carry out the FMS services. It is imperative for the FMS staff to know the Tender and be able to deal with all the queries related to the AMI system. The AMI Implementing Partner shall ensure replacement in not more than 7 days of the FMS staff whose performance is not found satisfactory by the DISCOMS.

#### 5.14.1 Meter Installation Administration, Maintenance and Management Services

AMI Implementing Partner shall effectively support and maintain the AMI system provided as a part of this Tender, and will include:

- a) Installation , replacement & maintenance of the Meters.
- b) OS and firmware upgrade administration, including but not limited to meter, preventive maintenance and management of meters including updates and patches to ensure that the system is properly updated at any given time.
- c) Installation and Re-installation of the meters in the event of crash/ failures.
- d) Regular analysis of events and logs generated in all the sub-systems to identify vulnerabilities. Action shall be taken in accordance with the results of the log analysis.
- e) Adoption of policies as defined by EESL and conforming to standards wherever applicable.
- f) Provide integration and user support.

#### 5.14.2 Network Bandwidth – GPRS Services

AMI Implementing Partner shall ensure continuous operation and upkeep of the GPRS Services. The services to be provided for GPRS Network Bandwidth include:

- a) Ensuring that the network is steady and available 24x7x365 as per the prescribed SLAs
- b) Attending to and facilitate resolving of network failures and snags including dark spot
- c) Installation and Re-installation of the SIM Cards in the meters. Installation of boosters for enhancing signal strength
- d) Tuning of various parameters to optimize performance and to ensure industry standard QoS with customization is being delivered

### 5.14.3 Maintenance and Management of AMI Application Software Provided under the Scope of this tender

AMI Implementing Partner shall provide Application Development and Maintenance / Support Services on an ongoing basis, especially in response to integration, data exchange along with requests for changes in the Applications through an AMC/ATS. Support in the area of software development and maintenance shall include

- a) Maintaining usage of deployed AMI Applications so as to ensure its effective day to day operational usage. The job includes support maintenance of all the Application modules along with system software
- b) AMI Implementing Partner shall debug and fix the operational problems, perform error handling while running the Application during the project period
- c) AMI Implementing Partner shall generate additional reports and modify existing reports and queries, as per user's requirement
- d) AMI Implementing Partner shall provide hands-on assistance to the users to resolve any operational doubts as and when needed while the Application is in operation
- e) AMI Implementing Partner shall designate resource including Team Lead who will maintain and manage the deployed applications
- f) AMI Implementing Partner shall be responsible for Integration of deployed applications during the project period with other applications / systems
- g) AMI Implementing Partner shall document all the changes incorporated in the application software and also improves the documentation of existing user / system reference manuals of different modules wherever it is necessary and possible

### 5.14.4 User Management Services

The User Management services shall include Directory Services for EESL DC and DR which comprises of the following services:

- a) Domain management
- b) Group management
- c) User management
- d) Implementation of domain policies and standards etc.

Directory services are to be used within EESL DC and DR.

### 5.14.5 Cloud Infrastructure Operations and Maintenance Services

AMI Implementing Partner shall carry out the below mentioned activities

### 5.14.6 Resource Management

Adequately size, provision and maintain 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 Tender, subsequently, it is expected that the Implementing Partner, 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, 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
- b) The scaling up / scaling down (beyond the auto-scaling limits or whenever the auto-scaling limits have to be changed) has to be carried out with prior approval by EESL. IA 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

### 5.14.7 Patch and Configuration Management

Manage the instances of storage, compute instances, and GPRS network environments. This includes Agency-owned and installed operating systems and other system software.. AMI Implementing Partner is also responsible for managing specific controls relating to shared touch points within the security authorization boundary, such as

establishing customized security control solutions. 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

#### 5.14.8 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 in order 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 unauthorized activity
- e) Conducting regular vulnerability scanning and penetration testing of the systems, as mandated by their Government Agency's policies
- f) Review the audit logs to identify any unauthorized access to the government agency's systems

#### 5.14.9 Monitoring Performance and Service Levels

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 AMI Implementing Partner's boundary

#### 5.14.10 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 Government Agency
- b) Restore from the backup where required

#### 5.14.11 Business Continuity Services

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

#### 5.14.12 Support for Third Party Audits

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

#### 5.14.13 Miscellaneous

Prepare a comprehensive O&M plan for managing the cloud services and keep it updated with any changes during the course of 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.

#### 5.14.14 Storage and Backup Management

- a) The AMI Implementing Partner shall perform backup as per the requirement of the DISCOMS. This will include installation of backup software, managing the tape library, regular backup and restore operations and assuring security of the media through appropriate access control. In addition, the AMI Implementing Partner shall also manage scheduled data replication. The activities shall include:
  - o Backup of operating system, database and application shall be performed as per stipulated policies of the EESL/DISCOMS at the data center premises. The AMI Implementing Partner 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 the EESL/DISCOMS 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 fire proof cabinets (onsite and offsite).
- The AMI Implementing Partner shall ensure the physical security of the media stored in cabinets.
- The AMI Implementing Partner shall also ensure that a 24 x 7 support for file, database and volume restoration requests is available at the data centers.
- The AMI Implementing Partner shall also provide sufficient media (tape library) for daily, weekly and additional backups for the duration of the contract.

#### 5.14.15 Service Delivery Management

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

##### a. Project Management

- i) AMI Implementing Partner will assign a Project Manager who will provide the management interface facility and has the responsibility for managing the complete service delivery during the contractual arrangement between DISCOMS and the AMI Implementing Partner
- 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 Work/s (SOW) and Service Level Agreement (SLA).
  - Act as a primary interface to DISCOMS for all matters that can affect the baseline, schedule and cost of the services project.
  - Maintain project communications through DISCOMS's Project Leader.
  - Provide strategic and tactical recommendations in relation to technology related issues
  - Provide escalation to AMI Implementing Partner's /DISCOMS' /EESL'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 DISCOMS Project Leader.
  - Identify and resolve problems and issues together with DISCOMS Project Leader.
  - Responsible for preparation and delivery of all weekly/quarterly/monthly reports as well as all invoicing relating to the services being delivered

#### 5.14.16 Help Desk

Help Desk shall act as a single-point-of-contact for all service problems pertaining to hardware, software & GPRS network. The successful bidder shall create and maintain a dedicated centralized online Help Desk specific to AMI 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 DISCOMS.

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, meters, Software, configuration and any other issues that arise in the AMI 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 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:
  - 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, DISCOMS 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 Successful bidder's SLA.
- e) Helpdesk shall troubleshoot on systems, meters (hardware), applications (software), 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 meters and software components etc. Help Desk will co-ordinate and take approval from DISCOMS 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 GPRS Link 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 & management Procedure, Incident & Problem management approach etc. AMI Implementing Partner shall utilize help desk tools, which are ITIL complaint and are open for integration with other enterprise management tools like EMS/NMS system etc.

Following are the AMI Implementing Partner's Responsibilities regarding Help Desk:

#### A. 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. Search Solutions, can be used to search for and view solution records. The Solutions application includes 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. EMS/NMS shall automatically forward events to service desk. 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.

#### B. AMI solution Services

- a) Provide Level One Support for AMI solution, 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 AMI solution, 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 EESL/DISCOMS with complete and timely problem status through the problem tracking system, as requested
- j) Maintain an updated help desk personnel contact listing

#### C. Management Services

- a) Provide “ownership-to-resolution” of all help desk calls, monitor and report on the
  - 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 EESL/DISCOMS
  - e) Monitor and report to EESL/DISCOMS on maintenance performance
  - f) Provide input to EESL/DISCOMS on End User training requirements based on help desk call tracking and analysis
  - g) Update contact list of users initially provided by EESL/DISCOMS
- D. 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
- E. 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 effect a resolution either by phone or hands-on during Desk Side Support Service

#### 5.14.17 DISCOMS’s Responsibilities regarding Help Desk

- a) Help AMI Implementing Partner define help desk call prioritization guidelines
- b) Provide updated contact listing (as a one-time activity) for use by help desk personnel in contacting appropriate personnel of DISCOMS for assistance/notification,
- c) Assist AMI Implementing Partner, as requested, in the resolution of problems outside the scope of AMI Implementing Partners responsibilities or recurring problems, which are the result of End User error
- d) Provide an adequate level of system authority for AMI solution and resources for which AMI Implementing Partner has problem resolution responsibility and communications access
- e) Assist AMI Implementing Partner 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).

#### 5.14.18 Install, Moves, Adds, Changes (IMAC) Services

This Service provides for the scheduling and performance of install, move, adds, and change activities for the AMI solution components. Definitions of these components are as follows:

**Install:** Installation of smart meters, application software and GPRS network attached peripheral equipment

**Move:** Movement of smart meters, application software and GPRS network attached peripheral equipment

**Add:** Installation of additional smart meters, application software and GPRS network attached peripheral equipment after initial delivery (e.g. Additional RAM, CD ROM drive, sound card etc).

**Change:** Upgrade to or modification of existing AMI solution (e.g. Upgrade 2.4GB hard disk drive to 4.3GB). Requests for IMAC shall be prepared by AMI Implementing Partner depending on customer/ system requirements & shall be approved by EESL/DISCOMS. EESL/DISCOMS shall formulate guidelines for IMAC & communicate it to AMI Implementing Partner.

#### 5.14.19 Asset/ Inventory Management of AMI solution

- a) AMI Implementing Partner shall provide asset-tracking services for the AMI assets created for the EESL/DISCOMS AMI Implementing Partner shall create/ maintain the AMI solution asset database by recording information like configuration details, serial number, asset code, location details, warranty and AMC.
- b) The database shall be regularly updated by the AMI Implementing Partner .The updating shall be required due to new installations, upgradations of systems, change of location of systems, discarding of systems, sending of components for repairs etc.

- c) The AMI Implementing Partner at any time must be able to display to DISCOMS latest level of AMI assets & inventories.
- d) Provide asset verification at least once a year in presence of EESL/DISCOMS personnel.
- e) AMI Implementing Partner shall provide regular MIS based on above to DISCOMS regarding need of new AMI solution components considering appropriate procurement time. The procurements shall be done by EESL/DISCOMS.
- f) Prior to completion of contract period, AMI Implementing Partner shall hand over all assets along with report of all services to new AMI Implementing Partner/ DISCOMS staff.

#### 5.14.20 Vendor Management Services

As part of this activity the AMI Implementing Partner's team will:

- a) Manage the vendors for escalations on support
- b) Logging calls and co-ordination with vendors
- c) Vendor SLA tracking
- d) AMC Tracking
- e) Management of assets sent for repair
- f) Maintain database of the various vendors with details like contact person, Tel. Nos., response time and resolution time commitments. Log calls with vendors Coordinate and follow up with the vendors and get the necessary spares exchanged.
- g) Analyze the performance of the vendors periodically (Quarterly basis)
- h) Provide MIS to DISCOMS regarding tenure of completion of AMC/ATS with outside vendors for the AMI solution in order that DISCOMS may take necessary action for renewal of AMC/ATS. AMI Implementing Partner shall also provide MIS regarding performance of said vendors during existing AMC/ATS.
- i) DISCOMS shall provide AMI Implementing Partner with contact details of individual vendors.

#### 5.14.21 Anti-Virus Management

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

#### 5.14.22 Network Monitoring & Management - GPRS

This service provides for the Availability Monitoring of the GPRS network environment. Management includes proactive monitoring and management.

##### **AMI Implementing Partner's Responsibilities shall include:**

- a) Provide a single-point-of-contact for responding to DISCOMS's GPRS network management queries or accepting its problem management requests. AMI Implementing Partner's GPRS network management specialist will respond to DISCOMS's initial request within agreed service level objectives set forth.
- b) Monitor availability & Escalate to Telecom service provider and Notify DISCOMS for GPRS network Outages.
- c) Review the service levels of the Telecom service provider (as per pre-defined schedules on SLA performance) along with DISCOMS.
- d) Provide GPRS network availability incident reports severity wise to DISCOMS in a format mutually agreed.
- e) Provide SLA performance management report of the Telecom Service Provider.
- f) System performance is to be monitored independently by the AMI Implementing Partner and a monthly report mentioning Service up time etc. is to be submitted to DISCOMS. The report shall include:
  - i) GPRS Network configuration changes
  - ii) GPRS Network uptime
  - iii) SIM Card health check report
  - iv) Sim wise Latency report (both one way and round trip) times
  - v) Historical reporting for generation of on-demand and scheduled reports of GPRS network metrics with capabilities for customization of the report presentation
  - vi) 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 EESL/DISCOMS
- h) The AMI Implementing Partner shall monitor the GPRS network on a continuous basis using the NMS and submit reports on a monthly basis with instances from the NMS system.

### 5.14.23 Cloud Data center Operations

AMI Implementing Partner shall:

- a) Monitor, log & report entire equipment & module operation on 24x 7 x 365 basis
- b) Perform periodic health checkup & troubleshooting of all systems & modules installed by consortium members & implement proactive rectification measures

### 5.14.24 Server Administration/ Management

AMI Implementing Partner shall;

- 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.

AMI Implementing Partner's responsibilities shall include the below but are not limited to ;

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

### 5.14.25 Database Administration Services

AMI Implementing Partner shall:

- 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, reorganizing databases, etc.
- e) Manage database upgrade or patch upgrade as and when required with minimal Downtime

### 5.14.26 Backup/Restore Management

AMI Implementing Partner 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 DISCOMS's specified backup media storage facilities;

AMI Implementing Partner shall ensure:

- a) Backup and restore of data in accordance to defined process / procedure
- b) 24 x 7 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 onsite tapes
- 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

#### 5.14.27 Messaging System management

AMI Implementing Partner will provide management of messaging systems, including administration of messaging servers and monitoring performance.

#### 5.14.28 Incident Management

The AMI Implementing Partner 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, Implementing Partner 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: 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

### 5.14.29 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.
- b) Provide Self-Service Service Requests module to allow users to submit and view service requests.
- c) Ability to create other ticket from the service request, if resolving the service request involves creating an incident, problem, or work order.
- d) Ability to relate existing tickets to the service request.
- e) Service requests could be created automatically from sources such as email, system monitoring tools.
- f) Ability to add a classification to enable workflow processes, escalations, and service level agreements
- g) 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 information, but you can modify it; Priority, Owner or Owner Group, Service Group or Service, Classification, Vendor, and Organization.
- h) Ability to assign ownership via workflow or an escalation process
- i) Ability to select related asset by hierarchical view
- j) 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.
- k) Ability to show similar tickets to search for and relate other tickets to the current record. The purpose is for information only.
- l) Ability to automatically assign one or more SLAs via Workflow or Escalation process based on SLA's criteria

### 5.14.30 Problem Management

The Vendor 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. In order 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 an 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

### 5.14.31 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 AMI 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.

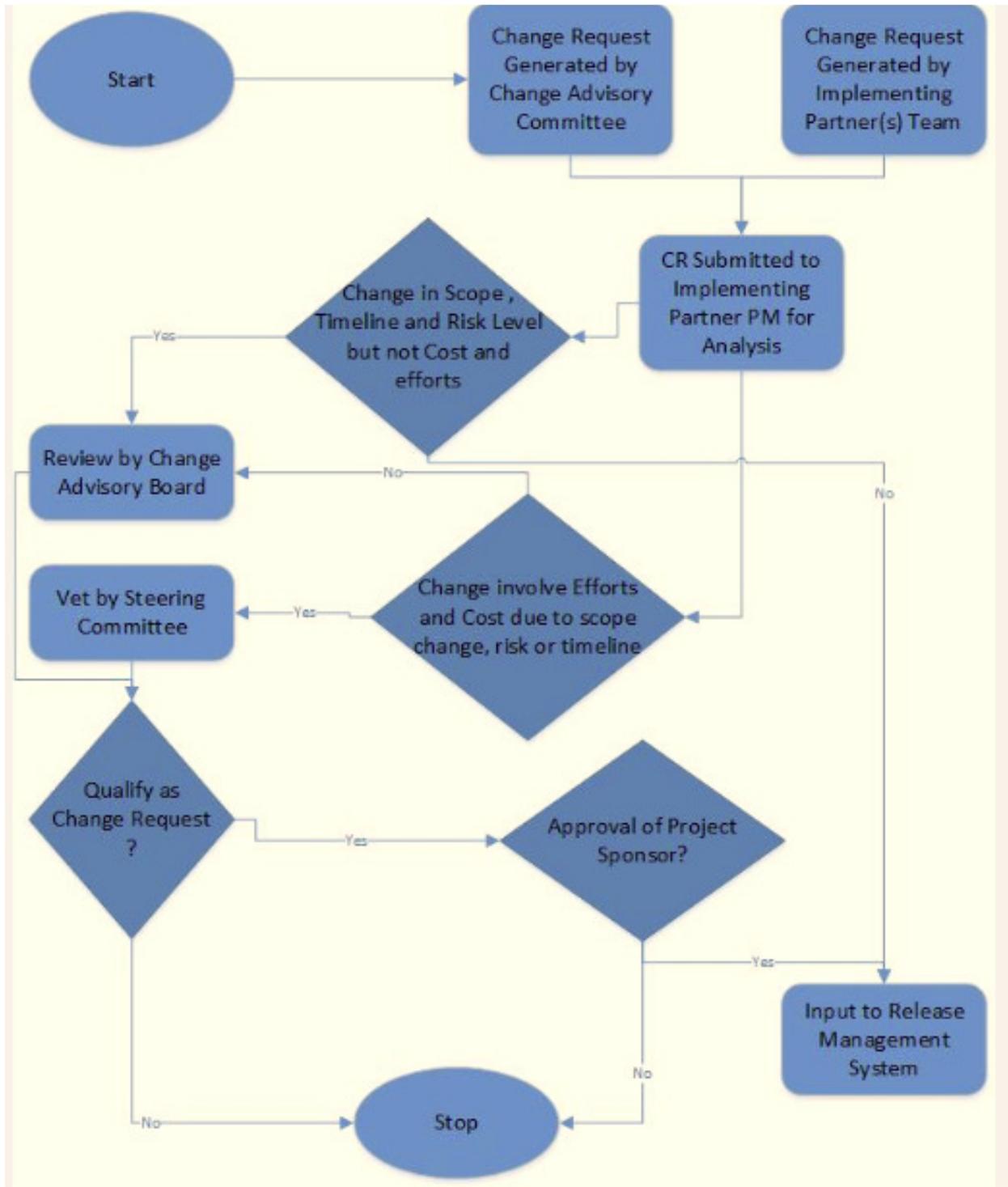
In case the DISCOMS/EESL defines additional requirement or changes in a functionality, the bidder and the EESL/DISCOMS shall mutually decide the price to be paid to the bidder for the services to be rendered. In addition, a maintenance window shall be provided to the bidder for incorporating the additional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

Indicative change management process is depicted below:

Indicative Change Management Process



**5.14.32 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 ;

- O1 – To plan and oversee successful rollout of software releases

- O2 – To communicate and manage expectations of the DISCOMS during the planning and rollout of new releases
- O3 – To ensure that software being changed is traceable, secure and that only correct, authorized and tested versions are installed.
- The policy or procedural requirements arising out of the agreements signed or agreed between the Implementing Partner and DISCOMS 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 AMI 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 AMI Implementing Partner.

This is broad level of scope of work of AMI Implementing Partner with respect to the software applications.

- Release of new software, hardware, systems and services into live environment
- Release of changes to AMI solution and services in the live environment
- Quarterly release of functionalities
- Publishing calendar for release – to be published by AMI Implementing Partner in consultation with the DISCOMS
- Decision on packaging and distribution of releases
- Implementation of changes to software, hardware, systems and services
- Building the change request.
- 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.
- DISCOMS 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 DISCOMS

Any change which is not as per the specifications mentioned in the Tender or as per the agreed design of the AMI system and not a bug fix in the system would result in commercial implication and Implementing Partner would submit the commercial proposal for the same. Development of this change would be taken up only once revised DWA approving the change is issued to the AMI Implementing Partner.

#### **5.14.33 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 AMI Implementing Partner 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 DISCOMS 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.

#### **5.14.34 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 Implementing Partner. Categories of resources to be capacity managed include but are not limited to servers & system software.

#### **5.14.35 Security Management**

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

### **5.15 Resources For Project and Service Management**

As mentioned in Minimum resource requirement section in the Tender.

#### **5.16 Preventative Maintenance Activity**

The preventive maintenance activities shall be performed by the AMI Implementing Partner to keep the system running at optimum level by diagnosis and rectification of all AMI component failures and would broadly include:

- a. Repair / replacement of defective equipment: The AMI Implementing Partner shall be responsible for repair/replacement of all the components of the AMI system.
- b) Configuration routine checking as part of a preventive maintenance which would include checking of functionality AMI system software,
- c) Monitoring of the performance of the system and doing necessary tuning for optimum performance to accommodate any changes such as addition of new components.
- d) Providing all necessary assistance to EESL/DISCOMS for addition and modification of database and user interface & consumer portal displays and Database sizing activities.
- e) Take Backup of the system at regular interval
- f) Restoration of the systems upon its failure and to restore the functioning of the various systems at the Control Centre.

## 5.17 Resources For Project and Service Management

As mentioned in Minimum resource requirement section in the Tender.

## 5.18 Preventative Maintenance Activity

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

- g) Repair / replacement of defective equipment: The Contractor shall be responsible for repair/replacement of all the hardware including consumables required for the various systems. Only replacement of printer cartridge and paper rim shall be excluded from the scope of the Contractor.
- h) Configuration of the replaced hardware and software, periodic routine checking as part of a preventive maintenance program (as described in further detail in this document) which would include checking of functionality of hardware and software,
- i) Monitoring of the performance of the system and doing necessary tuning for optimum performance to accommodate any changes such as addition of new components.
- j) Providing all necessary assistance to DISCOMS for addition and modification of database and user interface & consumer portal displays and Database sizing activities.
- k) Take Backup of the system at regular interval
- l) Restoration of the systems upon its failure and to restore the functioning of the various systems at the Control Centre.

## 5.19 Integration of new smart meters

All future services, protocol emulations and configuration support for integration of smart meters/ web services, integration with other offline applications etc. shall be the responsibility of contractor and shall be part of the maintenance charges.

## 6 CYBER SECURITY

Bidder shall provide end-to-end cyber security services to meet IT security challenges for the EESL AMI Infrastructure based on the proven frameworks and security best practices. It is vital for the EESL AMI cybersecurity that the processes and technology which shall support the Information Security function are proven and adhere to standards. It is envisaged that the cyber security operations shall be centralized, structured and coordinated and shall be responsive resulting in effective cyber threat prevention and detection helping the AMI infrastructure to be secure from attackers. The Information Security functions shall respond faster, work collaboratively, and share knowledge more effectively.

Cyber security services for AMI IT Infrastructure shall bring advanced data analysis and forensics insight and the following services are to be provided:

**Table 14 - Cyber Security Requirements**

S. No.	Cyber Security Requirement for AMI Infrastructure
1.	Security Services for Cloud DC and DR
2.	Security Services for AMI Application and Platform
3.	Web Application Firewall Services
4.	Firewall Services

S. No.	Cyber Security Requirement for AMI Infrastructure
5.	IPS Services
6.	HIPS Services
7.	Anti-APT Services
8.	DDoS Services
9.	SIEM Services
10.	Anti-Virus Services

## 6.1 Security Policy

Bidder will adopt leading information security framework (such as ISO 27001, ISO 22301) and define monitor and update the security policies including meter, network, application and website / mobile app security.

## 6.2 Incident Response

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

## 6.3 Distributed Denial Of Service (DDOS) Protection

Bidder would offer DDOS Protection to protect the AMI infrastructure and application from well-equipped attackers.

## 6.4 Log Management And Security Information and Event Management (SIEM)

Logs must be maintained for all attempts to log on (both successful and unsuccessful), any privilege change requests (both successful and unsuccessful), user actions affecting security (such as password changes), attempts to perform actions not authorized by the authorization controls, all configuration changes etc. Additionally, the access to such logs must be controlled in accordance to the least-privilege concept (such that users are only allowed to use or access functions for which they have been given authorization), so that entries may not be deleted, accidentally or maliciously.

Bidder shall offer SIEM services to act on threats instantly based on the data visibility in real time. Bidder shall identify unauthorized access attempts (such as SSH and MySQL brute force attempts) preventing the compromise of sensitive data.

## 6.5 Malware Analysis

Bidder shall conduct analysis of newly discovered malware to uncover its scope and origin.

## 6.6 User Authentication and Control

Bidder shall define and implement the highest level of access governance using multifactor authentication. Best practices from enterprise security including password strength, password aging, password history, reuse prevention etc. must be followed for access control.

## 6.7 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.

## 6.8 Vulnerability Assessment and Penetration Testing

Bidder shall have a team of security experts who shall do regular Vulnerability assessment and penetration testing and advise EESL on ways to enhance the protection of AMI Infrastructure.

## 7 PERFORMANCE CRITERIA AND SERVICE LEVEL AGREEMENT (SLA)

### 7.1 Calculation for Availability Service Levels

The availability service levels shall be calculated as per the following:

- a) HES/ MDMS / VPN connectivity will be available 24 hours a day, 7 days a week (Normal Service Hours); except for scheduled maintenance, where scheduled maintenance will be in accordance with agreed date and time.
- b) Availability SLA of HES/ MDMS / APN connectivity shall be computed on a calendar monthly basis as below:

Means  $1 - \frac{(A + B + C + D)}{E}$  rounded to two places of decimal for any calendar month.

Wherein:

**A** equals the number of whole minutes for which the Head end system (excluding GPRS network) was not available in that month,

**B** equals the sum of the time in whole minutes planned service interruptions in that month,

**C** equals the sum of the time in whole minutes of any service interruptions due to Utility or any 3rd party connected to Utility in that month,

**D** is the sum of the time in whole minutes of all service interruptions due to a Force Majeure Event.

**E** is the number of minutes in the same calendar month being calculated by multiplying the number of days in the month by 1440. (In order to calculate SLA in minutes)

For availability of all other AMI components [other than the ones mentioned in S. No b) above], bidder shall refer to S. No c) and d) mentioned below.

**c) Uptime calculation for the month:**

$\{[(\text{Actual Uptime} + \text{Scheduled Downtime}) / \text{Total No. of Hours in a Month}] \times 100\}$

"Actual Uptime" means, of the Total Hours, the aggregate number of hours in any month during which each equipment, is actually available for use. "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 AMI Implementation Partner's failure to exercise due care in performing their responsibilities.

EESL would provide a maximum of 04 hours of planned downtime for the preventive maintenance (as part of scheduled downtime) per month per equipment/service.

The downtime for scheduled maintenance (patch application, upgrades – OS, Database, etc.) would need to be mutually agreed between DISCOMS and the Bidder. To reduce this time, various maintenance activities can be clubbed together with proper planning. "Total Hours" means the total hours over the measurement period i.e. one month (24 \* number of days in the month).

**d) Downtime Calculation:**

The recording of downtime shall commence at the time of registering the call with AMI Implementing Partner for any downtime situation for the equipment.

Downtime shall end when the problem is rectified and the application/ service is available to the user.

Down time will not be considered for following:

1. Pre-scheduled preventive maintenance and health checks (Scheduled Downtime).
2. Failover time (30 minutes) in case of cluster environment. Beyond which the service would be considered to be not available and appropriate penalty shall be imposed on the Supplier.
3. Bug in any application which causes the non-availability of the service.

### 7.2 Calculation of Support Helpdesk Service Levels

Calls and e-mails shall be assigned a priority level on the following basis:

Typical Facility Management Services Availability & duration of their requirement are tabulated below for reference. DISCOMS may modify as per its own requirements.

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Table 15: Service Availability &amp; Criticality Chart

Service	Duration	Criticality
Service Desk	24 Hours	Urgent – 12x6 Rest - High
Asset Management Services	8x6	Medium
Vendor Management Services	8x6	Medium
AMC/ATS Tracking	12x6	Medium
Cloud Datacenter/Disaster Recovery Administration	24 X7	Critical
Database Administration Services	8x6	Urgent
Antivirus & Security Administration	8x6	Urgent
GPRS Network Management	24 X7	Critical
Storage Management	On Call	Medium
Backup Management	As Per Schedule	High

AMI Implementing Partner has to sign SLA prior to start of FMS contract. During initial six weeks viz. initial period of taking over by AMI Implementing Partner after completion of all installation & commissioning jobs by consortium members, AMI Implementing Partner shall provide minimum agreeable services. Formal SLA shall be enforced only after initial transition period

### 7.3 Operational Service Levels

FMS is Facility Management System provided by the AMI Implementing Partner to the Utility for support and maintenance of AMI system. The table below shows the performance criteria and service level agreements.

Table 16 – Service Level Agreements

S. No.	Service	Parameter	Service level	Validation	Penalty
1	HES specific service levels	<b>1: Offline<sup>1</sup> actions between HES and MDMS</b>  <b>2: On-demand actions carried out on High Priority<sup>2</sup></b> <b>(Subjected to maximum of 20,000 simultaneous requests)</b>  <b>3: On demand actions carried out at Low Priority<sup>3</sup></b>  <b>4: Actions carried out on predefined</b>	80% completed in 7 seconds and 99% within 30 seconds  (1) Action performed at 90% of meters within 1 Hour; (2) Action performed at 99% of meters within 2 hours; and (3) Action performed at 99.9% of meters within 6 hours.  95% completed within 24 hours and 99% within 72 hours.  90% completed within 1 hr. of scheduled date	Monthly SLA performance report  Monthly SLA performance report  Monthly SLA performance report	If 9 out of 10 HES specific SLAs achieved then no penalty will be levied, In case, same SLA is breaching for any consecutive month or only 6-8 SLAs are achieved in a given month penalty will be 10% of monthly FMS charges.  In case 4-5 SLAs are achieved in a given month 15% of monthly FMS charges will be levied as penalty. 15% of monthly FMS charges will be levied as penalty.  In case less than or 3 SLAs are achieved 40% of monthly FMS charges will be levied as penalty.

S. No.	Service	Parameter	Service level	Validation	Penalty
		<b>Schedule<sup>4</sup> date and time</b>	and time and 99.9% within 24 hrs. of scheduled date and time	Monthly SLA performance report	
		<b>5: Recurring data delivery actions</b>	95% completed within 8 hours after midnight and 99.9 % within 24 hrs. after midnight.	Monthly SLA performance report	
		<b>6: Alerts and notifications</b>	95% submitted to HES in 5 minutes of occurrence and 99.9% within 24 hours	Monthly SLA performance report	
		<b>7: Actions for UTRN* generation and transmission (for Prepaid vending and other engineering UTRNs)</b>	80% completed in 7 seconds (for returning UTRN code back to HES).	Monthly SLA performance report	
			SLA for UTRN transmission to the meter is as defined in Online – High		
			99% within 30 seconds (for returning UTRN code back to HES).		
			SLA for UTRN transmission to the meter is as defined in Online – High		

S. No.	Service	Parameter	Service level	Validation	Penalty
		<b>8A: Actions related to Firmware<sup>5</sup> upgrade or rollback activity for asset population &lt; 10,000</b>	95% of individual assets to be modified (updated or rollback) within 3 working days of scheduled date (update) or requested date (rollback) and 99% of individual assets to be (updated or rollback) within 5 working days of scheduled date (update) or requested date (rollback)	Monthly SLA performance report	
		<b>8B: Actions related to Firmware<sup>5</sup> upgrade or rollback activity for asset population &gt; 10,000 and &lt;50,000</b>	95% of individual assets to be modified (updated or rollback) within 10 working days of scheduled date (update) or requested date (rollback) and 99% of individual assets to be (updated or rollback) within 15 working days of scheduled date (update) or requested date (rollback)	Monthly SLA performance report	
		<b>8C: Actions related to Firmware<sup>5</sup> upgrade or rollback activity for asset population &gt; 50,000</b>	95% of individual assets to be modified (updated or rollback) within 30 working days of scheduled date (update) or requested date (rollback) and 99% of	Monthly SLA performance report	

S. No.	Service	Parameter	Service level	Validation	Penalty
			individual assets to be (updated or rollback) within 90 working days of scheduled date (update) or requested date (rollback)		
		<b>9. Performance level for remote load control commands for selected consumers,</b>	(1) Action performed at 95% of meters within 5 minutes;	Monthly SLA performance report	
			(2) Action performed at 99% of meters within 10 Minutes		
		<b>10. Performance level for remote connect/disc connect for selected consumers,</b>	(1) Action performed at 90% of meters within 10 minutes;	Monthly SLA performance report	
			(2) Action performed at 99% of meters within 1 hour; and		
			(3) Action performed 99.9% of meters within 2hours.		
2	MDMS Specific service levels	<b>Update of individual consumer data on portal/ app after receiving the data in MDMS</b>	90% within 1 hr. after receiving data in MDMS and 99.5% within 6 hrs. after receiving data in MDMS	Monthly report	1% of monthly FMS charge for every breach of data display period.
		<b>Data retention in MDMS system</b>	100% data to be retained in the system for 5 years, previous data to be archive in a recoverable format with recovery time 30 minutes	Monthly Database health and MIS report	1% of monthly FMS charge in case reports are not submitted in first 5 days of the month or any discrepancy in observed in data retention and archival policy.
3	Back-end Applications uptime	Uptime of applications such as HES, MDMS,	>99.5% of the time	Monthly report	2% of monthly FMS charges will be deducted for every 0.5% decrease

S. No.	Service	Parameter	Service level	Validation	Penalty
		Consumer Portal etc.			
4	Integration Services uptime	Web Services for integrating Oracle, GIS, OMS, MDMS, Consumer Portal etc.;	>99.5% of the time	Monthly report	2% of monthly FMS charges will be deducted for every 0.5% decrease
5	Database administration services	MIS report of database scheme, disk space, storage and user role	99%	DB Report	2% of monthly FMS charges if the report is not submitted within first 5 days of the month.
6	Asset / Inventory Management (assets specific to AMI system implementation such as meter, meter box, software applications etc.)	Provide monthly MIS Asset Inventory	95%	Monthly Report	0.2% of monthly services Invoice in case the report is not produced.
		Conduct Annual Physical Asset Verification including installed, repairs, replaced and scrapped assets.	100%	Management approval of Physical Asset Verification Annual report	0.5% of annual FMS charges in case the report is not produced or management highlights critical gap in inventory figures
7	Meter Installation Performance	Maintenance of Successful Meter installation rate with a target of total meters installed per month	98% installed meters to be appeared on the MDMS system within 24hrs. of meter Installation.  100% within 48 hrs. of meter Installation	Daily Successful Installation report from MDMS system.	1% of monthly FMS charge if less than 98% of cumulative installed meters in a given month takes more than 24 hrs. to appear on MDMS system.  1% of monthly FMS charge if less than 100 % of cumulative installed meters in a given month takes more than 48 hrs. to appear on MDMS system.  1% of monthly FMS charge if total no. of successful meter installation for a given month are less than the agreed number given in the meter installation schedule.
8	SIM information availability	Update of SIM information in the Head End System	100% information available in HES before Meter Installation	Zero Installation issues due to unavailability of SIM information	INR 20000/- per day
9	Management of DISCOM's EMS	Daily MIS of servers health check-up	100%	Reports generated	0.5% of monthly FMS charges

S. No.	Service	Parameter	Service level	Validation	Penalty
		(utilization, disk space, memory etc.)		from EMS system	
10	Meter information availability	Update of meter key files provided by the meter manufacturer in the Head End System	100% information available in HES before Meter Installation	Zero Installation issues due to unavailability of Asset files or Key files	INR 20000/- per day
11	Project Management	Submission of Monthly Project Status reports and Conducting Status meetings	100%	Minutes of Meetings Approval of Status reports by Engineer-in-Charge	2% of monthly FMS charges in case the Monthly meeting is not conducted due to Implementing Partner's default or in case the report is not produced within first 5 days of the month
12	AMI Helpdesk	Resolution of ticket logged as per the Service Availability & Criticality Chart	99%	Reports Generated from ticket logging system	Greater than 99% calls resolved in a given month then no penalty. If 95%-99% calls shall be resolved in the given month then 2% penalty on the monthly FMS charges. If 90% - 95% calls resolved in the given month: 5% penalty on the monthly FMS charges. In case of below 90% calls resolved then 20% penalty on the monthly FMS charges.
13	Deployment	As per timeline	100%	Monthly report	0.5% of installation for every month of delay in committed implementation
14	Incident Management	Resolution of ticket logged in helpdesk	99%	Reports generated from Ticket logging System	0.5% of monthly FMS charges if incidents are not closed and incident report is not submitted.
15	Problem Management	AMI Implementing Partner shall analyse all the incidents and provide a root cause report every month if there are more than 10 incidents of the same type.	100% timely submission covering all incidents logged in that month	Root cause Report. Incident Report stating problems faced by the users. Report detailing corrective and preventive actions	5% penalty on the Monthly FMS charges if the Supplier does not submit a problem report for that month. 5% penalty on the monthly FMS charges, if the Supplier does not perform the corrective action for more than one calendar month.

S. No.	Service	Parameter	Service level	Validation	Penalty
16	Change Management	Resolution of Change Management ticket	99%	Quarterly Reports	2% of monthly FMS charges if agreed date for requested change is not adhered
17	Release management	Release and UAT of approved software version	100%	Release on agreed date	5% of annual FMS charges if agreed software development date for final production deployment is not adhered
18	Adherence to Security policy	Bidder shall adhere to the Security policy developed in consultation with EESL.	Quarterly	100% Compliance.	No Penalty
				Non Compliance.	0.5% of the quarterly Operations & Maintenance Cost for every day's delay on an incremental basis.
19	Implementation of Audit Recommendations	Implementation of audit recommendations by EESL or its auditor which have been agreed by bidder to be implemented.	100%	Quarterly Reports	0.2% of the quarterly FMS Cost for every non compliance
20	Report Dashboard and	Periodic reports to be provided to EESL in the prescribed format as required.	100%	Daily Reports: Critical reports shall be submitted by 10 PM every day.	Delay in reporting for daily report for more than 2 hours shall incur a penalty of 1% of Operations Cost for the Month per instance.
				Weekly Reports: Critical reports shall be submitted every Monday by 10 AM	Delay in reporting by more than 1 day for weekly reports shall incur a penalty of 2% of Operations Cost for the Month.
				Monthly Reports: Critical reports shall be submitted 5th of each month	Delay in reporting by more than 3 days for monthly reports shall incur a penalty of 5% of Operations Cost for the Month.
				Quarterly reports: Continual Improvement Reports: Bidder is expected to improve the operations on an on-going basis. Bidder is	Delay in providing quarterly reports shall lead to 2% of the monthly operation charges.

S. No.	Service	Parameter	Service level	Validation	Penalty
				<p>expected to provide a quarterly report of the new improvements suggested, action plans, and the status of these improvements to NIC. Improvement areas could include: process changes/ training resulting in efficiency/ SLA improvement, new correlation rules to identify threat patterns etc.</p> <p>Quarterly reports need to be provided by the 5th day of each quarter beginning.</p>	
				<p>Daily Report: Provide security dashboard which shall give an online view of the all the security devices monitored online and their status.</p>	<p>Delay/inability in providing quarterly reports shall lead to 2% of the monthly operation charges.</p>
				<p>Security Dashboard shall give the details of critical/medium events reported by security tools and status on their mitigation.</p>	<p>Delay/inability in providing quarterly reports shall lead to 2% of the monthly operation charges.</p>

S. No.	Service	Parameter	Service level	Validation	Penalty
21	Resource Management	Number of shift days for which resource present at the designated location/total number of shift days	98% averaged over overall resources designated for AMI Implementing Partner services calculated on monthly basis	<ul style="list-style-type: none"> <li>Experience certificates of FMS personnel submitted by the AMI Implementing Partner to the DISCOMS</li> </ul>	Rs.10,00,000 per resource
		Resource provided not as per specified certification/experience	100% of the resources given		

Wherein RNSP\* is Retail Network Service Provider and UTRN is Unique Transaction Reference Number.

The maximum penalty in a month (excluding the service levels for HES, MDMS and Resource Management) shall be 10% of FMS charges for that month. For HES, MDMS and Resource Management, penalty shall be applicable as mentioned above.

If the total penalty reaches the penalty cap more than three instances per year (for the entire duration of the contract) starting from the date of contract, the same shall be deemed as non-performance and unsatisfactory services. However, EESL reserves the right to condone any such act of non-performance and unsatisfactory services considering various circumstances at that point in time.

Penalties shall not exceed 50% of the periodic /monthly payments including all FMS charges. If the penalties exceed more than 50% of the total periodic payment, it will result in a material breach. In case of a material breach, the operator will be given a cure period of one month to rectify the breach failing which a notice to terminate may be issued by EESL.

Further description of terms used in SLAs are given in table below:

**Table 17 - Description of terms used in SLAs**

Type	Description
<b>Definition of Offline<sup>1</sup> request type</b>	Head end system shall process this request and respond (with the data) without any communication session with the devices, e.g. Get Site Information returns the list of devices installed along with detail information at the site. These calls are processed by the head end system by querying its internal data store.
<b>Definition of requests to be carried out on High Priority<sup>2</sup></b>	Head end system shall process the request at the highest priority level; involving a communication session with the devices to process the request, e.g. Get Snapshot service request returns device account information, tariff, consumption and other parameters. This request initiates an immediate communication session with the devices to fetch data from the devices as quickly as possible.
<b>Definition of requests to be carried out on Low Priority<sup>3</sup></b>	Head end system shall queue the request and process it at the next possible communication session with the devices, e.g. Get Snapshot service request returns device account information, tariff, consumption and other parameters. This request does not initiate an immediate communication session with the devices. Head end system waits for the next possible communication session

	to be established to fetch data from the devices. (used for network cost optimization)
<b>Definition of actions to be carried out on Scheduled<sup>4</sup> Date and time</b>	Head end system shall process or activate the request at the scheduled date and time, e.g. Update tariff request has an activation date and time as to when the new prices will be applicable. The devices act upon the request at the activation date and time return the response subsequent to processing the request to the head end system.
<b>Definition of Firmware<sup>5</sup> Upgrade requests</b>	Head end system shall process a firmware modification request (update or rollback) at the scheduled or requested date and time. The devices act upon the request at the activation or requested date and time return the response subsequent to processing the request to the head end system.

**Table 18 - Service Levels for Cloud Service Provider**

S. No.	Service Level Objective	Parameter	Service Level	Validation	Penalty
1.	Availability/Uptime of cloud services Resources for Production environment (VMs, Storage, OS, VLB, Security Components,)	Availability (as per the definition in the SLA) will be measured for each of the underlying components (e.g., VM, Storage, OS, VLB, Security Components) provisioned in the cloud. Measured with the help of SLA reports provided by Cloud Service Provider	Availability for each of the provisioned resources: $\geq 99.5\%$	Monthly Report	Default on any one or more of the provisioned resource will attract penalty as indicated below. $< 99.5\%$ & $\geq 99\%$ ( 10% of the Monthly Payment) $< 99\%$ (30% of the Monthly Payment )
2.	Availability of Critical Services (e.g., Register Support Request or Incident; Provisioning / De-Provisioning; User Activation / De-Activation; User Profile Management; Access Utilization Monitoring Reports) over User / Admin Portal and APIs (where applicable)	Availability (as per the definition in the SLA) will be measured for each of the critical services over both the User / Admin Portal and APIs (where applicable)	Availability for each of the critical services over both the User / Admin Portal and APIs (where applicable) $\geq 99.5\%$	Monthly Report	Default on any one or more of the services on either of the portal or APIs will attract penalty as indicated below. $< 99.5\%$ and $\geq 99\%$ ( 10% of the Monthly Payment ) $< 99\%$ ( 20% of the Monthly Payment)
3.	Availability of the network links at DC and DR (links at DC / DRC, DC-DRC link )		15 working days from the end of the quarter. If STQC issues a certificate based on the audit then this SLA is not required.	Monthly Report	5% of Monthly Payment

**The following SLAs apply both for Cloud Service Provider and AMI Implementing Agency. While the Cloud Service Provider will be responsible for maintaining the SLAs pertaining to the cloud infrastructure, network, controls etc., AMI Implementing Agency will be responsible for the SLAs related**

S. No.	Service Level Objective	Parameter	Service Level	Validation	Penalty
<b>to managing and monitoring the cloud services.</b>					
4.	Response Time	Average Time taken to acknowledge and respond, once a ticket/incident is logged through one of the agreed channels. This is calculated for all tickets/incidents reported within the reporting month.	95% within 15minutes	Monthly Report	<95% & >=90% ( 5% of the Monthly Payment)  < 90% & >= 85% ( 7% of the Monthly Payment )  < 85% & >= 80% ( 9% of the Monthly Payment )
5.	Time to Resolve - Severity 1	Time taken to resolve the reported ticket/incident from the time of logging.	For Severity 1, 98% of the incidents shall be resolved within 30 minutes of problem reporting		<98% & >=90% ( 5% of the Monthly Payment)  < 90% & >= 85% ( 10% of the Monthly Payment)  < 85% & >= 80% ( 20% of the Monthly Payment)
6.	Time to Resolve - Severity 2,3	Time taken to resolve the reported ticket/incident from the time of logging.	95% of Severity 2 within 4 hours of problem reporting AND 95% of Severity 3 within 16 hours of problem reporting	Monthly Report	<95% & >=90% ( 2% of the Monthly Payment ) < 90% & >= 85% ( 4% of the Monthly Payment ) < 85% & >= 80% ( 6% of the Monthly Payment )
<b>Security Incident and Management Reporting</b>					
7.	Percentage of timely incident report	Measured as a percentage by the number of defined incidents reported within a predefined time (1 hour) limit after discovery, over the total number of defined incidents to the cloud service which are reported within a predefined period (i.e. month). Incident Response - CSP shall assess and acknowledge the defined incidents within 1 hour after discovery.	95% within 1 hour	Monthly Report	<95% & >=90% ( 5% of the Monthly Payment ) < 90% & >= 85% (10% of the Monthly Payment ) < 85% & >= 80% ( 15% of the Monthly Payment)
8.	Percentage of timely incident resolutions	Measured as a percentage of defined incidents against the cloud service that are resolved within a predefined time limit	95% to be resolved within 1 hour	Monthly Report	<95% & >=90% ( 5% of the <<Periodic Payment>> ) < 90% & >= 85% (10% of the

S. No.	Service Level Objective	Parameter	Service Level	Validation	Penalty
		(month) over the total number of defined incidents to the cloud service within a predefined period. (Month). Measured from Incident Reports			Monthly Payment ) < 85% & >= 80% ( 15% of the Monthly Payment)
<b>Vulnerability Management</b>					
9.	Percentage of timely vulnerability corrections	The number of vulnerability corrections performed by the cloud service provider - Measured as a percentage by the number of vulnerability corrections performed within a predefined time limit, over the total number of vulnerability corrections to the cloud service which are reported within a predefined period (i.e. month, week, year, etc.). • High Severity Vulnerabilities – 30 days - Maintain 99.95% service level • Medium Severity Vulnerabilities – 90 days - Maintain 99.95% service level	99.95%	Monthly Report	>=99% to <99.95% [ 10% of Monthly Payment]  >=98% to <99% [ 20% of Monthly Payment  <98% [ 30% of Monthly Payment
10.	Percentage of timely vulnerability reports	Any incident where in system compromised or any case wherein data theft occurs (including internal incidents)	No breach	Monthly Report	For each breach/data theft, penalty will be levied as per following criteria. Any security incident detected INR 5 Lakhs. This penalty is applicable per incident. These penalties will not be part of overall SLA penalties cap per month. In case of serious breach of security wherein the data is stolen or corrupted, EESL reserves the right to terminate the contract.
11.	Availability of SLA reports covering		7 working days from the end of	Monthly Report	5% of Monthly Payment

S. No.	Service Level Objective	Parameter	Service Level	Validation	Penalty
	all parameters required for SLA monitoring within the defined time		the month)		
<b>Service levels for AMI Implementing Partner</b>					
12.	Recovery Time Objective (RTO) (Applicable when taking Disaster Recovery as a Service from the Service Provider)	Measured during the regular planned or unplanned (outage) changeover from DC to DR or vice versa.	RTO <= 4 hours	Monthly Report	10% of Monthly Payment per every additional 4 (four) hours of downtime
13.	RPO (Applicable when taking Disaster Recovery as a Service from the Service Provider)	Measured during the regular planned or unplanned (outage) changeover from DC to DR or vice versa.	RPO <= 2 hours	Monthly Report	10% of Monthly Payment per every additional 2 (two) hours of downtime
14.	Availability of Root Cause Analysis (RCA) reports for Severity 1 & 2		Average within 5 Working days	Monthly Report	5% of Monthly Payment

Table 19 - Severity Levels for Cloud

Severity Level	Description	Illustrations
Severity 1	Environment is down or major malfunction resulting in an inoperative condition or disrupts critical business functions and requires immediate attention. A significant number of end users (includes public users) are unable to reasonably perform their normal activities as essential functions and critical programs are either not working or are not available	<ul style="list-style-type: none"> <li>Non-availability of VM.</li> <li>No access to Storage, software or application</li> </ul>
Severity 2	Loss of performance resulting in users (includes public users) being unable to perform their normal activities as essential functions and critical programs are partially available or severely restricted. Inconvenient workaround or no workaround exists. The environment is usable but severely limited.	<ul style="list-style-type: none"> <li>Intermittent network connectivity</li> </ul>
Severity 3	Moderate loss of performance resulting in multiple users (includes public users) impacted in their normal functions.	

### Change of Service Levels

- EESL/ DISCOMs may inform the AMI Implementing Partner at least one month prior to making a change in the Service Levels.
- EESL/ DISCOMs reserves the right to change the criticality, service availability duration, service levels and service level measurements with prior information.
- EESL/ DISCOMs may introduce a new Service Level that needs to be monitored – but will include the basic aspects like Expected Service Levels, Minimum Service Levels etc.

AMI Implementing Partner to mention percentage change in quoted value for first quarter in case of change in service levels.

The bidder shall note the following:

- a) EESL/DISCOMs reserves the right, at its sole discretion to waive any penalty being imposed on the AMI Implementing Partner due to failure to meet service level agreement. Waiver shall be granted as exception by EESL / Utility Officials.
- b) Penalty related to delivery of services may be waived by EESL/DISCOMs if cause of such delay is not in AMI Implementing Partner control or the delay is due to EESL/DISCOM's written request. Penalty shall be adjusted in case EESL/DISCOMs approves such waiver. The penalty recovered shall be adjusted in the subsequent AMC/ATS payment and no interest shall be paid on this amount.
- c) Meter management shall be the responsibility of the AMI Implementing Partner and the ownership of Meter after picking from the warehouse to successful Installation would be the responsibility of the AMI Implementing Partner. Any physical damages including fire and theft and damages not covered by OEM shall be the responsibility of AMI Implementing Partner Cost of same shall be recovered from AMI Implementing Partner's payment. AMI Implementing Partner shall be given an opportunity to inspect the warehouse and meter package before it is being handed over to the AMI Implementing Partner

## 8 ANALYTICS AND REPORTING

AMI Implementing Partner shall provide Analytics to DISCOMS for strategic, tactical and operational decision making which must be data driven through various models such as predictive, prescriptive and forensic analytics of data. Analytics will serve as one of the critical success factors in ensuring the successful implementation of the AMI system at the DISCOMS. The primary objective is to ensure that the huge volumes of data generated by the smart meters installed at DISCOMs render unambiguous and insightful results that become an action point for the DISCOMS either in 'Day in Life' or future scenarios, aimed at driving decisions to take corrective actions thereby improving performance and bringing value to both customers and operations. For example, the DISCOMS would be obtaining energy consumption data from the smart meter. Using analytics, It shall be possible to derive trends of regular usage as per the season and to single out cases for investigations in cases where usage is abnormal.

Billing efficiency improvement and theft reduction are two major concerns of DISCOMS. The Implementing Partner shall ensure that the insights produced by analytics are effectively consumed by the DISCOMS to enhance their billing efficiency and reduce theft/losses through expeditious measures viz: prompt action for reconnection and disconnection, reduction of outage rate thereby increasing supply, prompt detection of theft and tamper through events and alarms etc.

The DISCOMS shall be able to reap tangible benefits through the deployment of analytics which would be integrated with other enterprise applications of DISCOMS to ensure;

- Plotting of PQ parameters in correlation with other device status information
- Loss and theft reduction
- Optimum customer experience by performing analytics on events like last gasp and power restore to identify field outages and take proactive action even before consumer calls.
- Consumer analytics to determine consumer usage pattern, payment behavior etc.
- Revenue analysis and insights for example pre and post audit of meter reading
- Benefit Analysis for AMI Deployment(pre and post)
- Device/area wise power quality related information
- Reporting of KPIs based on smart meter data example (peak load, billing efficiency, reliability indices, transformer failure rate etc.)
- Static and dynamic reporting based on flexible rules/algorithm
- Operations and distribution network optimization analytics,
- Analytics of historical and real time data for fault analysis to take corrective measures

The analytics software deployed by the Implementing Partner shall be shall have analysis capability based on configurable business rules including but not limited to the following:

- Generate peak & off-peak load patterns by aggregating all loads of consumer group/consumer type/DT/Feeder over configurable period/day type.
- Ability to display consumption trends, identify unusual patterns, and load analysis to understand which assets are being over utilized.

- Ability to analyze data to identify new patterns of usage, fraud alert / transformer overload alerts / demand – supply gap alert etc.
- Reliability indices calculation and display( SAIDI,SAIFI,CAIFI,MAIFI,CAIDI etc.)
- Identify & visualize poor performing assets like feeder/DT on multiple criteria like energy losses, outage duration etc. through appropriate colour coding depending on severity thresholds.
- Analyze data of net-metering and TOU(if present) consumers to identify patterns of energy export to grid on hourly/weekly/monthly/yearly basis.

Table below shows indicates business benefits that are foreseeable through the usage of analytics in the AMI implementation. The list is indicative and not exhaustive. More scenarios can be added as per the requirement of ESSL and DISCOMS.

**Table 20 - Indicative Analytics Use Cases for AMI**

S. No.	Analytics Application	Business Objective	Sample Scenarios	Input Data (External / internal)	Expected Output	Business Benefits
1	Behavior analysis	Value added services for consumer	Benchmarking of power consumption relative to neighbours Power saving recommendations	Smart meter consumption data at consumer level	Dashboard with benchmarking analysis per consumer.	Increased non-tariff revenue opportunities
2	Usage Pattern Analysis	Peak load optimization	Tariff design for ToU based variable charging.	Consumption pattern, Tariff per timeslot by different consumers	Tariff structure design for ToU charges	Reduce cost on purchase of peak power
3	Usage Pattern Analysis	Loss and theft detection	Compare usage with past 12 month average and club them into sub-sections, compare monthly usage to see variances in high change categories	Usage data of consumers over past 12 months	Identification of areas / high risk consumers to determine vigilance follow-up	Improved revenue collection, decreased working capital requirements
4	Usage Pattern Analysis	Payment follow up	Provide categories of consumers for additional follow up depending on payment cycle. Regular payers are categorized as low risk and given lesser alerts, high risk categories are given regular alerts	Payment information of consumers for past 1 year	Determine groups to send additional alerts based on payment pattern	Improved collection predictability leading to reduced working capital requirements

5	Load Forecasting	Improve demand supply matching at feeder level	Short term forecast (e.g. 7 days out at 15 min intervals). Medium term forecasting	Weather forecasts. Historical demand at feeder level and weather data Grid map. Outage data.	Dashboard with : Forecast graphing with confidence ranges Error analysis. Important factor analysis.	Lower power purchase costs due to ability to forecast demand more accurately. Reduced load-shedding.
6	Load Forecasting	Optimization in power procurement cost considering 24x7 power supply	Long term optimised power procurement	Weather data Historic data (at least 3 years) of electricity consumption, power deficit Power purchase cost for last 3 years	Demand forecast on short, medium and long term	Understand of the load demand and available capacities Design of optimal Power procurement plan
7	Green button data	Customer complaint reduction	Self-aware on energy	Metering	15 min consumption	Reduce complaints
8	CVR	Optimization in delivery voltage	Improve the efficiency in billing	AMI 15 mins Voltage data	Voltage reduction	Billing optimization
8	Customer Profiling	To identify categories	Improve in selling value services	CRM, CIS	Clustering output	Better customer service
9	Customer engagement	Improve active participation	Engagement in DSM programs	CRM, Billing	Next best options	Customer service improvement
10	High bill alerts	Reduce call volumes	Customer complaint for high bills	Billing, CIS	High bill prospects	Reduction in call volumes
11	Revenue forecasting	Under cash flows	Predicting the cash in flow	Billing, Metering	Revenue forecasts	Better planning, cash flows
12	Gamification	Engage with young gen	Games for energy services	CRM, CIS, Billing	More enrollment in new services	More informed customer

Indicative use list that shall add value through Analytics and Reporting are mentioned below. In addition, the Implementing Partner shall ensure that best industry practices are adopted to achieve the best outputs from deployment of analytics.

## 9 GO-LIVE CRITERIA AND QUALITY CONTROL / INSPECTION BY EESL

“Go Live” of a particular project area shall be considered only after all the scope of work for that project area is completed. Subsequently, Enterprise wide GO LIVE shall be considered when all the scope of work for all the project areas are completed and accepted by the DISCOM.

In case go-live of any project area is delayed, the entire cost and/or time over run shall be the responsibility of the AMI Implementing Partner(s) and shall be borne by him only.

The AMI Implementing Partner shall maintain a Quality Assurance/Quality Control (QA/QC) program that provides hardware, software and services under this specification whether manufactured, designed or performed within the organization of bidder or at any sub-Agency source shall be controlled at all points necessary to assure conformance to contractual requirements. The program shall provide for prevention and ready detection of discrepancies and for timely and positive corrective action.

The AMI Implementing Partner shall make objective evidence of quality conformance readily available to EESL or DISCOM. Instructions and records for quality assurance shall be controlled and maintained at the system levels. The bidder shall describe their QA/QC program in the Technical Proposal, (along with samples from his QA/QC manual) and shall submit his QA/QC Manual for review and acceptance by the EESL.

Such QA/QC program shall be outlined by the bidder and shall be finally accepted by EESL after discussions before the award of Contract. A Quality Assurance Program of the bidder shall generally cover but not be limited to the following:

- a) The organization structure for the management and implementation of the proposed Quality Assurance Program
- b) Documentation control system  
Qualification data for key personnel
- c) The procedure for purchase of materials, parts/components and selection of outsourced services including service provider analysis, source inspection, incoming raw material inspection, verification of material purchases, etc.
- d) System for shop manufacturing including process controls
- e) Control of non-conforming items and system for corrective action
- f) Control of calibration and testing of measuring and testing equipment
- g) Inspection and test procedure for development, implementation and configuration of system
- h) System for indication and appraisal of inspection status
- i) System for quality audits
- j) System for authorizing release of developed and configured system to EESL
- k) System for maintenance of records
- l) System for handling, storage and delivery
- m) A Quality Plan detailing out the specific quality control procedure adopted for controlling the quality characteristics of the product

The Quality Plan shall be mutually discussed and approved by EESL after incorporating necessary corrections by the bidder as may be required. Neither the enforcement of QA/QC procedures nor the correction of work mandated by those procedures shall be cause for an excusable delay. An effective Quality Assurance and Quality Control procedure shall be maintained by the bidder for at least the duration of this Contract. The personnel performing QA/QC functions shall have well-defined responsibility, authority and organizational freedom to identify and evaluate quality problems and to initiate, recommend or provide solutions during all phases of the Contract. The bidder shall be required to submit all the Quality Assurance Documents as stipulated in the Quality Plan at the time of EESL's inspection of equipment/materials.

## 9.1 Go Live Criteria

EESL AMI Solution shall be considered Go-live upon achievement of the following:

- a) Supply, deployment, and commissioning of complete AMI Solution in Cloud Data Center conforming to tender requirements
- b) Successful deployment, commissioning, and UAT of the AMI solution (including all the applications and system software) in production environment in the cloud. The deployment of application including database of Head End System and MDMS system
- c) Integration of Head end system with Smart Meters including asset and Key management and two way communication with Smart Meters
- d) Successful completion of all tests as mentioned in the Tender
- e) Supply, deployment and commissioning of the GPRS based Network connectivity (including SIM card installation into meters) with the installed meters, the number of meter to be considered for go live shall be mutually agreed between EESL and Successful bidder. The established network shall include APNs, VPNs

- and other configurations and adhere to the agreed Service Levels specified in the Tender
- f) Successful Data migration of Utilities into AMI system for building data warehouse to ensuring AMI Solution analytics. AMI Analytics shall generate agreed reports as agreed in the Tender. These include reports from the MDMS such as energy audit, tamper analysis, other MIS reporting on DISCOM portal and mobile app (as the case may be)
  - g) Integration of AMI Solution (through API framework) with Utilities legacy application. Integration must demonstrate API and SoA based data exchange
  - h) Training and Certification of all the trainees, trained on the AMI application
  - i) Successful application and cyber security Audit of AMI solution from STQC / CERT-IN Empaneled auditor, the audit recommendation and critical bug fixes (if any) must be closed
  - j) Demonstration of achievement of the Service Levels as expected during the project for at least 4 weeks.
  - k) Acceptance / Sign off from EESL / DISCOMS or its constituted committees or representatives

## 9.2 Role of EESL and Power Distribution Utilities in Inspection and Testing

EESL, Utilities or their duly authorized representative reserves the right to carry out Quality Audit and Quality Surveillance of the systems and procedures of the bidder or their service provider's Quality Management and Control Activities.

The scope of the duties of EESL and Utilities, pursuant to the Contract, will include but not be limited to the following:

- a) Review of all the bidder's system development plan, associated data etc.
- b) Witness or authorize his representative to witness process, tests at the bidder's development, implementation and configuration work, or at any place where work is performed under the scope
- c) Inspect, accept or reject any system component, reports and work under the scope in accordance with the specifications and with proper justification
- d) Issue certificate of acceptance testing
- e) Review and suggest modification and improvement in completion schedules from time to time
- f) Monitor the Quality Assurance program implementation at all stages of the program

## 9.3 Inspection and Testing

Any inspections or tests indicate that specific hardware, software or documentation does not meet the Specification requirements, the appropriate items shall be replaced, upgraded, or added by the bidder as necessary to correct the noted deficiencies. After correction of a deficiency, all necessary retests shall be performed to verify the effectiveness of the corrective action.

The test shall be considered complete when (a) all variances have been resolved and all variance report submitted (b) all the test records have been submitted (c) EESL acknowledges in writing the successful completion of the test.

## 9.4 Inspection

Access to the bidders facilities at the time of development and testing, and to any facility where hardware/software is being produced for EESL, shall be available to

EESL representatives. The bidder shall provide to EESL representatives sufficient facilities, equipment, and documentation necessary to complete all inspections and to verify that the system is being developed and maintained in accordance with the scope of work.

Inspections will be performed by EESL or their authorized agency, which will include visual examination of hardware, enclosure cable dressings, and equipment and cable labeling. Bidder documentation will also be examined to verify that it adequately identifies and describes all wiring, hardware and spare parts. Access to inspect the bidder's hardware quality assurance standards, procedures, and records that are applicable to the facilities shall be provided to EESL.

## 9.5 Testing

The AMI Implementing Partner shall use their own infrastructure and material for testing or other purposes. AMI Implementing Partner shall demonstrate stress testing for using appropriate tools for simulating loads. In addition, the AMI Implementing Partner shall demonstrate all the features of latest version of software.

The AMI Implementing Partner shall be responsible for the testing processes such as planning (includes preparing test plans and defining roles and their responsibilities), preparation (consists of preparing test specification, test environment and test data) and execution (includes testing at various levels like unit level, integration level, system level and production etc).

- a) Test Plans shall contain the following
  - i. Roles and responsibilities of the test team
  - ii. Approach to testing
  - iii. Function testing
  - iv. Security testing
  - v. User Interface and reports testing
  - vi. Concurrency testing
  - vii. Performance and Load testing
- b) Test Scenarios along with entry and exit criteria
- c) Test specifications
- d) Suspension and resumption criteria

### 9.5.1 Test Scenarios

Test scenarios include the following

- a) Test Specification - During the test specification phase, the test cases are specified. It consists of description of the input, process to be executed and a prediction of output results.
- b) Test Environment - Component developer does unit testing and integration testing. Integration testing can be delegated to a specialized testing group. Each of the members in the testing group is provided with testing environment according to his/her role and responsibilities. Following is sample testing environment for testing:
  - i. A workstation
  - ii. A set of tools and applications required on workstation like access to user interface, browser etc.
  - iii. Access to centralized document database (where all the project related documents are maintained)
  - iv. Access to testing tools and defect logging tools
  - v. Access to the central database or repository for development and unit testing (this database contains sample test data)
  - vi. Access to deployed components

During the test scenarios definition, for each of the business scenario, an acceptance criterion is defined. Acceptance criteria include expected behavior of the s/w component and the expected results (data). Expected results form a part of the Exit Criteria. In addition to expected result and behaviors, some conditions are also specified in the exit criteria. They can be:

- a) Number of bugs to be discovered for a functional module. This depends on size of the functionality and is an indicator of amount of testing done.
- b) If any medium or low-priority errors are outstanding - the implementation risk must be signed off as acceptable by DISCOM and AMI Implementing Partner
- c) All High Priority errors from System Test must be fixed and tested

### 9.5.2 Test Data

Test data is prepared for testing at each stage. The test data shall be prepared in such a way that it covers basic path and every alternate path of the code. The basic path and alternate paths are prioritized to capture relevant data. Tools can also be used to generate test data.

AMI Implementing Partner shall note that DISCOM can appoint a third party agency for conducting any part of above testing procedures (in addition to the testing carried out by the AMI Implementing Partner).

The AMI Implementing Partner shall ensure that the AMI system undergoes all software testing phases

- a) Unit testing – Testing of an individual unit or group of related units to verify if the unit produced is not producing any unexpected results.
- b) Integration testing – Testing in which a group of components are combined to produce output. The interaction between software and hardware shall be tested to identify the software and hardware components relation.
- c) Incremental Integration Testing - Continuous testing of an application as new functionality is added.

- d) Functional testing – Testing to ensure that the specified functionality required in the system requirements works.
- e) System testing – System testing is performed when all the components are delivered to central repository prior to the release of the software. The testing is done on priority basis of business processes. All the defects are logged and assigned to respective component owners. The component and unit testing is performed after the correction of code. However, it may depend on size and type of individual test specifications. Impact analysis is useful to narrow down testing efforts by identifying critical test cases affected due to code change.
- f) Stress testing – Testing to evaluate how system behaves under unfavorable conditions.
- g) Performance testing – Although performance testing is described as a part of system testing, it can be regarded as a distinct level of testing. Performance testing will verify the load, volume, and response times as defined by requirements.
- h) Load Testing - Testing an application under heavy loads, such as the testing of a web site under a range of loads to determine at what point the systems response time degrades or fails.
- i) Usability testing – Testing is performed to the perspective of the client, to evaluate how the GUI is user-friendly? How easily can the client learn? After learning how to use, how proficiently can the client perform? How pleasing is it to use its design?
- j) Regression testing – The objective of regression testing is to ensure software remains intact. A baseline set of data and scripts will be maintained and executed to verify changes introduced during the release have not “undone” any previous code. Expected results from the baseline are compared to results of the software being regression tested. All discrepancies will be highlighted and accounted for, before testing proceeds to the next level.

### 9.5.3 User Acceptance Testing

User Acceptance testing is the last phase of software testing process before final installation of AMI system software at DISCOMs and when following prerequisites are met;

- a) Business Requirements must be available
- b) Application Code shall be fully developed
- c) Unit Testing, Integration Testing & System Testing shall be completed
- d) No Show stoppers, or High or Medium defects in the System Integration Test Phase
- e) Only Cosmetic errors are acceptable before UAT
- f) Regression Testing shall be completed with no major defects
- g) All the reported defects shall be fixed and tested
- h) Traceability matrix for all testing shall be completed
- i) UAT Environment must be ready
- j) During the test scenarios definition, for each of the business scenario, an acceptance criterion is defined. Acceptance criteria include expected behavior of the s/w component and the expected results (data). Expected results form a part of the Exit Criteria. In addition to expected result and behaviors, some conditions are also specified in the exit criteria. They can be:
  - i. Number of bugs to be discovered for a functional module. This depends on size of the functionality and is an indicator of amount of testing done.
  - ii. If any medium or low-priority errors are outstanding - the implementation risk must be signed off as acceptable by DISCOM and AMI Implementing Partner
  - iii. All High Priority errors from System Test must be fixed and tested
- k) Installation Testing - Testing full, partial, or upgrade install/uninstall processes. The installation test for a release will be conducted with the objective of demonstrating production readiness. This test is conducted after the application has been migrated to the client’s site. It will encompass the inventory of configuration items (performed by the application’s System Administration) and evaluation of data readiness, as well as dynamic tests focused on basic system functionality. When necessary, a sanity test will be performed following the installation testing. After installation, if any bug is reported or there is non-compliance to requirements then a proper procedure shall be followed. End-user shall report (“Change Request”) to his/her supervisor about the bug that will in turn get forwarded to Project Manager (PM). PM will forward the List of change request to AMI Implementing Partner After the bug is fixed, it shall be reflected in the production copy after testing it.
- l) Security/Penetration Testing - How well the system protects against unauthorized internal or external access, willful damage, etc. This type of testing may require sophisticated testing techniques as per NCIIPC, Cert-IN, STQC Guidelines
- m) Recovery/Error Testing - Testing how well a system recovers from crashes, hardware failures, or other catastrophic problems.

## 9.6 Field Installation Test

The bidder shall perform field installation test as per functional performance test to confirm operation of basic functions such as data acquisition, user interface and the support and DISCOM functions. All hardware shall be tested by running diagnostics. The exact content of the field installation test shall be determined jointly by the bidder and EESL.

All variances found during this field performance test shall be fixed/resolved by the bidder to EESL satisfaction prior to the start of the availability test.

## 9.7 Downtime

Downtime occurs whenever the criteria for successful operation defined in Section "Criteria for successful operation" are not satisfied. Downtime shall be measured from the start of diagnostic procedures until full service is restored. In the event of multiple failures, the total elapsed time for repair of all problems (regardless of the number of maintenance personnel available) shall be counted as downtime. For onsite response the delay in response time (more than four hours) shall be added to downtime.

## 9.8 Hold-Time

During the availability test, certain contingencies may occur that are beyond the control of either EESL or the bidder. These contingencies may prevent successful operation of the system, but are not necessarily valid for the purpose of measuring system availability. Such periods of unsuccessful operation may be declared "hold-time" by mutual agreement of EESL and the Bidder. Specific instances of hold-time contingencies are:

- a) Scheduled Shutdown: During scheduled shutdowns, or if an equipment failure occurs while its backup device is scheduled out-of-service, the resulting system outage shall be hold-time, provided that service can be restored according to bidder specified procedures within 30 minutes.
- b) Power Interruption and Environmental Excursion: Loss of power or manual shutdown in the event of loss of environmental control shall be considered hold-time. If the system is operated during periods of power or environmental conditions beyond those specified, any resultant downtime shall also be considered hold-time.
- c) Intermittent Failure: Periods during which an intermittent, recurring software or hardware failure is experienced will be considered hold-time, provided that the bidder is engaged in all possible remedial action and normal functions can be restored by bidder-defined procedures whenever the failure occurs. Instead of accounting for the actual intermittent downtime, one hour of downtime shall be counted for each 120 hours of otherwise successful operation while the problem persists.
- d) Failure of DISCOM's existing or internal software: Time during which the system is down due to failure of software provided by DISCOM. If any, shall be considered hold-time. If a failure in such software cannot be overcome by bidder- defined procedures, execution of the failed program will be suspended. Programs developed by EESL personnel under bidder supervision are specifically excluded from this provision.
- e) Service Response Time: A maximum four (4) hours of hold time will be allowed for the bidder to respond to each call for maintenance support. The time between detection of a failure and the start of diagnostic procedures shall also be considered hold-time when performed by EESL personnel.
- f) Corrected Design Defect: Hold-time may be declared by mutual agreement to ensure against similar future occurrences if a failure occurs due to a defect in system design for which the bidder defines and implements corrective measures. In such a case, hold-time shall be allowed in increments of 120 hours to allow verification of the corrective action.

## 9.9 Inspection Certificate

Bidder shall give EESL at least two weeks in case of configuration and installation of readily available systems and reports and six weeks in case of fresh development of any system being ready for testing to ensure unit testing at bidder's end is complete. EESL, unless witnessing of the tests is waived, will attend such tests on the scheduled date for which EESL has been so notified or on a mutually agreed alternative date.

EESL will, within fourteen (14) days from the date of inspection as defined herein, give notice in writing to the bidder for any objection to any system development, reporting and all or any hardware and workmanship which in EESL opinion is not in accordance with the scope of work.

Bidder shall give due consideration to such objections and shall make the modifications that may be necessary to

meet said objections. When the system and hardware tests have been completed successfully at the workplace of bidder or Sub-Agency, EESL shall issue a certificate to this effect within fourteen (14) days after completion of tests. The completion of these tests or the issue of the Certificates shall not bind the EESL to accept the hardware, software or workmanship shall it, on further tests after erection, be found not to comply with the scope of work.

In cases where the system level testing is required, whether at the premises or works of the bidder or of any Sub-Agency, the bidder except where otherwise specified shall provide free of charge items such as resources, materials, electricity, fuel, water stores, apparatus and instruments, as may be reasonably demanded by the EESL or their authorized representative to carry out effectively such tests of the equipment in accordance with the scope of work and shall provide facilities to the EESL or their authorized representative to accomplish testing.

The inspection by EESL and issue of Inspection Certificate thereon, shall in no way limit the liabilities and responsibilities of the bidder in respect of the agreed Quality Assurance Program forming a part of the scope of work.

Bidder shall keep EESL informed in advance of the time of starting of the progress of development, implementation and configuration in its various stages so that arrangements can be made for inspection.

Record of routine test reports shall be maintained by the bidder at their location for periodic inspection by the EESL representatives.

Certificates of system user acceptance tests shall be maintained by the bidder and produced for verification as and when desired by the EESL. No software or hardware shall be deployed on the live environment until it has been satisfactorily inspected and tested. Testing shall always be carried out while the inspection may be waived off by the EESL in writing only.

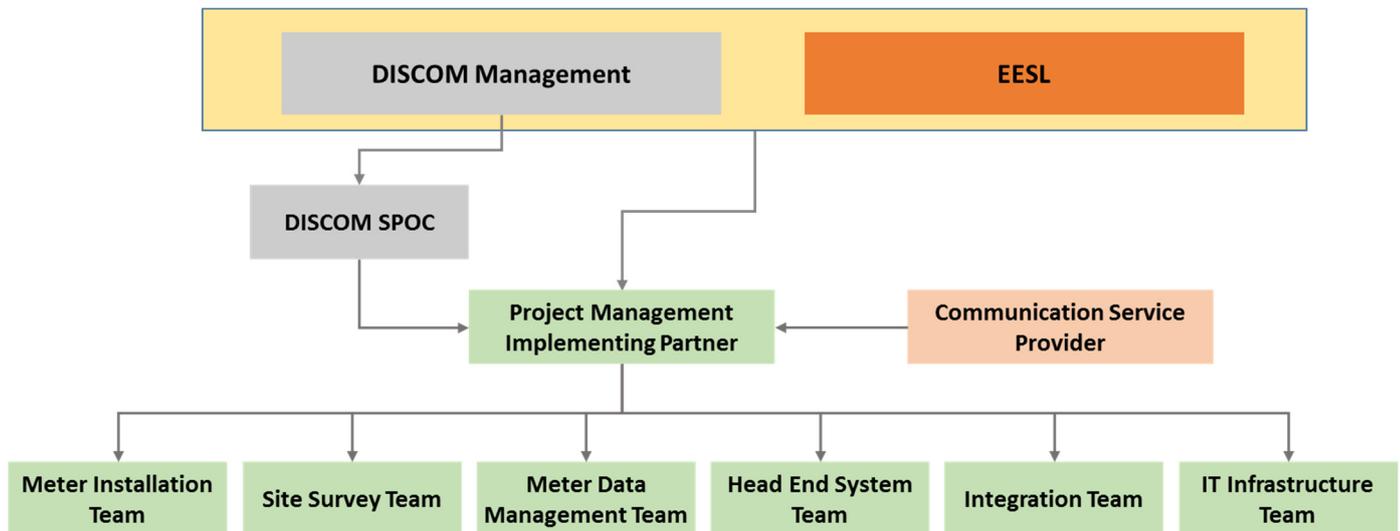
However, such inspection by the EESL representative(s) shall not relieve the bidder from the responsibility for furnishing reports, software and equipment to conform to the requirements of the scope of work.

## 10 PROJECT GOVERNANCE STRUCTURE

AMI Implementing Partner shall assemble an experienced team with significant Power & Utilities knowledge, IT strategy capabilities, and practical experience serving the DISCOM industry in the areas of AMI, IT Implementation, DISCOM Business process and Overall project management. The overall project implementation will be monitored by the Project governance team which includes stakeholders from EESL, identified DISCOM and AMI Implementing Partner

- a) AMI Implementing Partner shall outline their proposed governance structure and designate a Project Manager to coordinate with their activities and provide a focal point of contact to whom DISCOM can refer on any matter concerning the service.
- b) Reporting lines and decision making powers within the AMI Implementing Partner's organization must be explained.
- c) Reporting formats and templates that would be followed by the implementation partner(s) shall be explained.
- d) Escalation matrix in case when issues arise shall be explained.

## Project Governance Structure



## 11 ROLES AND RESPONSIBILITIES OF STAKEHOLDERS

The success of the AMI solution would require synergistic action from all key stakeholders. While EESL and DISCOMs shall have a set of binding Service Level Agreements (SLAs) commitments to adhere to, there would be additional expected roles and responsibilities of key entities involved as mentioned below inter-alia.

### 11.1 Power Distribution Utilities

- a) DISCOM shall provide database of consumers and assets as well as periodic updation information
- b) DISCOM will cooperate with the AMI Implementing Partner during data validation
- c) DISCOM shall participate in the periodic review meetings as per the project governance structure, and shall support with the required interventions requested. DISCOM shall assign competent manpower to the Project Team. DISCOM shall cooperate with bidder(s) for the timely implementation of the AMI; and for its successful operation during the project period.
- d) Shall Support EESL to execute a successful consumer awareness campaign in the project area.
- e) Since EESL will build and operate the AMI system, which will require EESL to risk a significant amount of its own capital and incur expenses, DISCOMs agrees to provide financial security for the monthly payments to EESL for Services
- f) DISCOMs will assign required manpower to the Project Team and empower them with required authority to function for success. DISCOMs shall also designate an authorized "DISCOM Representative" who shall have the express authority to represent DISCOMs with respect to all matters of the AMI requiring DISCOMs' decision, approval or authorization.
- g) DISCOMs shall arrange/provide all the statutory clearance/ entry permit, work permit, regulatory support/changes as required to carry out this project.
- h) DISCOMs shall conduct joint pre-audit with EESL of the data available with DISCOMs to assess AMI implementation.
- i) DISCOM shall provide infrastructure and facilities such as office space, communication facilities, internet bandwidth and amenities for EESL/ AMI Implementing Partner personnel and its sub-contractor(s) working at the project site and control office during the Concession Period. EESL/AMI Implementing Partner personnel shall comply with all applicable rules, regulations and requirements relating to visitors on the premises of DISCOMs.
- j) DISCOM shall ensure the timely and safe accessibility to all installations where the AMI and supporting equipment shall be installed. The appropriate personnel from DISCOM shall accompany EESL personnel as and when necessary to ensure the prompt and safe shutdown of, and restoration of line and power equipment, etc. affected.
- k) DISCOM shall ensure that all Input Points are installed with Main Meters in line with the specifications as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time-to-time, prior to the Effective Date.
- l) Undertake necessary installations for new connections / Replacement of defective Meters to ensure that

supply of electricity is provided to the owner or occupier of any premises upon the receipt of application requiring such supply in accordance with the Electricity Supply Code, 2004 as in force from time to time.

- m) DISCOMs shall participate in and approval of Type Test, factory and site acceptance tests.
- n) Forward consumer complaints

## 11.2 EESL (ESCO)

- a) EESL shall initially open/provide a warehousing facility for each project location so that the meters can be stored in that warehouse till contract award to SI. EESL shall handover the warehouse to SI.
- b) During the implementation of the project, EESL shall establish a governance mechanism to ensure that the execution progress is as planned.
- c) To report the potential theft of electricity cases to DISCOMs for necessary action to prevent the unauthorized use or drawl of electricity, diversion of electricity, theft of lines and materials etc.
- d) DISCOMs and EESL shall conduct joint pre-audit of the data available with DISCOMs to assess AMI implementation. EESL shall identify the single point of contact and ensure readiness of facilities in time bound manner for the project.
- e) EESL shall make payment to AMI Implementing Partner as per agreed terms of Payment.

AMI Implementing Partner shall carry out all the required works as specified in the scope of work of this Tender and shall adhere to the quality of services and material which meet the standards stated in this Tender.

- a) AMI Implementing Partner shall maintain the inventory of all the meters in EESL designated warehouse, maintenance and security including full responsibility for protection from theft and fire
- b) AMI Implementing Partner shall appoint its single point of contact (Project Manager) who will be the primary coordination and control point for all EESL activities and make its related personnel available to meet with or consult with EESL's personnel on matters pertaining to timely successful execution of AMI implementation.
- c) AMI Implementing Partner shall be responsible for development of detailed project implementation plan.
- d) AMI Implementing Partner shall conduct consumer indexing and asset mapping of the legacy data provided by DISCOMs.
- e) AMI Implementing Partner shall provide the solution architecture which meets the requirement of AMI implementation.
- f) AMI Implementing Partner shall be responsible for installation of field devices, hardware and software and communication system.
- g) AMI Implementing Partner shall be responsible for overall integration of equipment/subsystem, integration of existing/legacy and new meters in entire project area.
- h) AMI Implementing Partner shall undertake Operation and Maintenance of AMI solution till the concession period.
- i) AMI Implementing Partner shall undertake replacement of all the faulty meters at the consumer premises.
- j) AMI Implementing Partner shall arrange its own tools, testing equipment and accessories required installation of meters.
- k) AMI Implementing Partner shall provide training of the DISCOMs' personnel
- l) AMI Implementing Partner shall provide 24\*7 support to comply with SLA.
- m) AMI Implementing Partner shall adhere to the SLA

## 11.3 DISCOM Consumers

- a) The consumer shall allow access to AMI Implementing Partner to install Smart meter at his/her premises/ pre-defined place.
- b) The consumer shall lodge its complaint to the consumer grievance cell of DISCOMs and DISCOMs will forward all complaints to EESL related to AMI.

## 11.4 Representatives Of AMI Implementing Partners(s)

- a) The representatives of AMI Implementing Partner shall be responsible for interacting with EESL and identified utilities for coordinating in case of meter replacement, issue handling etc.
- b) The Project Manger shall be based out of EESL office (location shall be intimated later) and shall be the single point of contact for the identified utilities and EESL
- c) The Project Managers shall be based out of DISCOM office (location shall be intimated later)

- d) The field persons shall be based out of DISCOM office (location shall be intimated later)
- e) These officers are responsible for smooth coordination of the entire project. These officers shall be required to travel to field locations as and when required.
- f) These officers shall liaison with other stakeholders such as system integrators, telecommunication service providers etc. to ensure seamless implementation of the project.

## 12 PROJECT DOCUMENTATION REQUIREMENTS

**12.1** AMI Implementing Partner shall ensure that AMI Solution and applications are fully compliant with the requirements and specifications provided in the tender such as functional, non-functional and technical requirements. For ensuring this, the AMI Implementing Partner shall prepare a Requirements Traceability Matrix. AMI Implementing Partner shall create and maintain all project documents that shall be passed on to the EESL / DISCOMs as deliverables as per the agreed project timelines. The documents created by the AMI Implementing Partner shall be reviewed and approved by EESL and DISCOMs. Project documents include but are not limited to the following

- a) Detailed Project Plan
- b) Technical Architecture Document (Application, Network, and Security)
- c) Functional Requirement Specifications (FRS)
- d) Software Requirement Specifications Document (SRS)
- e) Data Base documents: ER diagrams and other data modelling documents with Logical and physical database design. Data dictionary and master data document
- f) AMI Application architecture documents: Application component design including component deployment views, control flows, LLD documents along with Application flows and logic. GUI design (screen design, navigation, etc.) and all test plans
- g) Cloud sizing based on application stack
- h) Testing plans and procedures
- i) Requirements Traceability Matrix
- j) Release Management and Change Management Policies
- k) SLA and Performance Monitoring Plan
- l) Software Requirement Specifications Document (SRS)
- m) System Design Document (SDD) consisting of the following:
  - i. Software Development Document which will contain documentation pertaining to the development of each unit or module, including the code / software, approvals, etc.
  - ii. Security (ISMS ) Plan
  - iii. Software operations and maintenance plan
- n) Business continuity / Disaster Recovery Plan
- o) Training Plan and manuals
- p) Third party / Legacy Application integration plans
- q) Standard Operating Procedures for events and exceptions handling
- r) Completion Report
- s) Risk Management and Contingency Plan document containing emergency response procedures; backup arrangements, procedures, and responsibilities; and post-disaster recovery plans, procedures and responsibilities
- t) Exit Management Plan
- u) Training and Knowledge Transfer Plans

**12.2** AMI Implementing Partner shall also prepare and maintain of end-user documents including but not limited to user manuals. The manuals and documents etc. shall be in English and in soft and/or hard copy and equal to the number of the deliverables. Some of the user manuals are:

- a) Operations Manual providing instructions for installing the application, troubleshooting, interpreting message logs, and FAQs (Frequently Asked Questions).
- b) Maintenance Manuals
- c) Administration Manual
- d) Security Manual
- e) Applications and Web Portal Training Manual for EESL / DISCOM users
- f) Installation and maintenance manual for application on the cloud infrastructure
- g) Trouble Shooting Guide/ Handbook for helpdesk which describes the various trouble shooting methods

**12.3** AMI Implementing Partner shall conduct integration test/ dry run with all utilities before 'roll-out' of services. AMI Implementing Partner is required to prepare detailed plan for the same. Bidder shall coordinate with EESL

to resolve any problems encountered during and after rollout. All post implementation issues shall be documented and the necessary fixes / resolutions shall be implemented by bidder. AMI Implementing Partner shall ensure necessary support is provided to resolve defects. Bidder shall document the defects / bugs encountered during this phase as well as document the resolution of the same. Bidder shall also prepare and maintain a database of Consolidated List of Common Errors and their Resolution.

**12.4** AMI Implementing Partner shall submit a list of deliverables that they shall submit based on the methodology they propose. The AMI Implementing Partner shall prepare the formats/templates for each of the deliverables upfront based upon industry standards and the same will be approved by EESL / Utilities prior to its use for deliverables.

**12.5** AMI Implementing Partner must ensure that the AMI Solution modules being developed are thoroughly documented with comprehensive manuals and adhere to standard methodologies in software development as per ISO and/or CMM models. The documents including but not limited to are:

- a) Quality Assurance / Testing Plan documenting containing information on the software test environment to be used for independent testing, the test cases to be performed, and the overall testing schedule to ensure that the software developed will conform to the functional and technical requirements with traceability to those requirements. This includes methodology, schedule, resources, tools, procedures, environment definition, test cases, and software test results.
- b) Interface control document documenting the interface characteristics of one or more systems and documents agreements between interface owners. It contains information on both the physical and data element requirements that are necessary to make the transfer of information between systems feasible.

All project documents are to be kept up-to-date during the course of the project. The AMI Implementing Partner shall maintain a log of the internal review of all the deliverables submitted. Soft copy of logs shall be submitted to EESL on regular basis.

## 13 RISK MITIGATION

AMI Implementing Partner is expected to work with EESL / DISCOM project manager to plan and monitor risks. They shall regularly update the EESL/ DISCOM of the expected risks and propose risk mitigation strategies. The AMI Implementing Partner shall state, in the proposal, the risk mitigation strategies for both stated and unstated risks. Some key risks which AMI Implementing Partner shall consider are:

- a) Improper coordination between meter supplier, AMI Implementing Partner and the relevant implementation parties/service providers
- b) Incorrect installation of meters after taking it from warehouse
- c) Low quality of installation leading to lose connection, wear & tear of connecting cable, theft of communication module etc.
- d) Unavailability of APIs from meter manufacturer
- e) Incorrect meter readings and non-updation at the DISCOM's end
- f) Lack of data acquisition or inability to acquire data from meter and data transfer to Head End System
- g) Meter data acquisition issues including but not limited to missing data, incomplete data, garbage data, data format issues etc.
- h) Delay in integration of Head End System, MDMS system, web portal, mobile app etc.
- i) Delay in integration of utilities legacy systems, billing, CRM etc.
- j) Issues related to non-interoperability of each system
- k) Inadequate network bandwidth and blackout zones, hanging/freezing of metering system due to poor GPRS connectivity
- l) Inadequate availability/uptime of GPRS connectivity
- m) Non-compliance of agreed data retention period, archival practices and timely recovery
- n) Issues related to performance, quality and integrity of meter data processing and display quality below agreed standards on MDMS and other legacy backed end systems
- o) Integration related issues including but not limited to improper managing data from different metering protocols, managing meter security keys
- p) Inability to provide GPRS Network availability, performance, last mile connectivity, installation of boosters to reach out to meters to provide good signal strength etc.
- q) Unavailability of internal and external resources including communication network provider, meter manufacturer

- r) Inadequate cyber security measures/configuration and/or leakage of consumer information
- s) Obsolescence of communication technology/ SIM cards
- t) Poor management of SIM cards
- u) Challenge of integration due non-standard interfaces/technology such as integration of MDMS with future smart grid applications like outage management system, distribution automation, distribution transformer monitoring unit, electric vehicle, distributed energy resources etc.

Implementing agency shall maintain record of risks, mitigation plan and actual outcome and closure of highlighted risks.

## 14 KEY PERSONNEL

The bidder shall propose personal with relevant experience for this project. The minimum qualification and experience of the resources is mentioned below:

**Table 21 – Minimum Qualification and Experience of Resources**

S. No.	Resource	Qualification & Experience
1	Project Manager	The Project Manager will serve as SPOC and will be responsible for the overall coordination to ensure the satisfactory fulfilment of the requirements of the Scope of work. He shall act as the AMI Implementing Partner's representative on all matters relating to the work. He shall keep close contact with EESL and will be responsible for the timely submission/ deliverables as per define project plan. Project Manager shall have at least 10 years of experience in managing IT projects in the utility space. He shall possess a MBA along with B.E./B.Tech degree in Electrical/Electronics Engineering or its relevant equivalent. Certification of PMP /Prince 2 is more preferable.
2	Associate Project Managers for Meter Deployment	The Associates Project Manager will serve as Team Leader and will be responsible for the overall coordination to ensure the installation of smart meters and change management process. He shall ensure the availability of meter data for all installed meters. He shall keep close contact with DISCOMs for installation of meters as per project plan and will be responsible for the timely submission of consumer details to upload in the system. He shall have at least 7 years of experience in power distribution sector. He shall possess a MBA along with B.E./B.Tech degree in Electrical/Electronics Engineering or its relevant equivalent.
3	Site Engineers for Meter Deployment	The Site Engineer will be responsible for the installation of smart meter as per DISCOM regulatory guidelines and coordination with the respective SDOs to ensure the installation of smart meters and accessories. He shall take the acceptance from the respective EESL officials for the proper meter installation and consumer indexing details. He shall have at least 3 years of experience in power distribution sector. He shall possess a minimum B.E./B.Tech degree in Electrical/Electronics Engineering.

S. No.	Resource	Qualification & Experience
4	Communication/HES Expert	The Communication/HES Expert shall possess at least a degree of MCA/B.Tech/B.E. and have at least 7 years of relevant work experience in automatic meter data collection in utility space with strong knowledge in various communication technology.
5	Metering Expert	The Metering Expert shall have good knowledge of Smart Metering, AMI and AMR system. He/she shall be participated in Requirements and Design Workshop. He/she shall have hands on experience on AMR/AMI system and depth knowledge on DISCOM business processes. He shall possess a minimum Bachelor of Electrical/Electronics Engineering degree with not less than seven years of relevant work experience.
6	Database Expert	The Database Expert shall have experience in planning, designing, maintenance, management of technical solutions like Core DC - servers, storage, virtualization, VDI etc. He/She shall have experience of supporting installation and integration of various different technologies. He shall possess a minimum MCA/B.Tech degree or its relevant equivalent with not less than seven years of relevant work experience in the field of Information Technology. Technical certification in Data Base Administration Quoted Database is preferable.
7	Application Expert	The Application Expert shall have at least a degree in B.Tech/MCA or equivalent. He/ She shall have experience in successful design/and or implementation of Meter Data Management System (MDMS) and billing software solutions for power distribution utilities. He/ She shall have lead for technical evaluations of software solutions and resolving technical issues, He/she shall have minimum of seven years of experience as software solutions architect.
8	Cloud Administrator System	The cloud system administrator shall have experience in planning, designing, installation, maintenance, management of technical solutions on the cloud storage. He/ She shall have experience of supporting installation and integration of various different technologies. He shall possess a minimum MCA/B.Tech degree or its relevant equivalent with not less than seven years of relevant work experience in the field of Information Technology. Technical certifications on Microsoft/Unix/ other OS/ products etc. are must for cloud system administrator.
9	Cyber Security Expert	The Cyber Security Expert shall have experience in planning, designing, maintenance, management of technical solutions with consideration of cyber security. He/She shall have experience for implementation of cyber security for secure the network from cyber threads. He/She shall possess a minimum MCA/B.Tech degree or its relevant equivalent with not less than seven years of relevant work experience in the field of Information Technology. Technical certification like CCNA etc is preferable.

S. No.	Resource	Qualification & Experience
10	Help Desk Coordinator	The Helpdesk coordinator shall be responsible for resolution of the customer queries on time as per define SLA. He/She shall possess a minimum Bachelor degree or its relevant equivalent with not less than two years of relevant work experience. Communication skills of Helpdesk coordinator shall be good.
11	Field Team	The Field Team will be responsible for interaction with the consumers for installation and replacement of smart meter and ensure the quality of work. Field Team shall have at least 2 years of experience in field activities in power sector. He shall possess a minimum Engineering Diploma in Electrical Engineering.
12	IT Support Staff	The IT support staff shall be responsible for resolution of the queries received from the helpdesk team and assistance for other IT related activities. IT support staff shall possess a minimum Bachelor degree or its relevant equivalent with not less than two years of relevant work experience in the IT sector.

#### Initial Composition, Full Time Obligation; Continuity of Personnel

- (a) AMI Implementing Partner shall ensure that each member of the Key Personnel devotes substantial working time to perform the services to which that person has been assigned as per the proposal.
- (b) AMI Implementing Partner shall not make any changes to the composition of the Key Personnel and not require or request any member of the Key Personnel 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 **EESL** 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 EESL's prior written consent. The clauses of non-disclosure agreement shall always operate in any such case.

#### Replacement

- (a) In case the resource has resigned, then the bidder has to inform **EESL** within one week of such resignation.
- (b) AMI Implementing Partner shall promptly initiate a search for a replacement and use commercially reasonable efforts (including the expenditure of reasonable sums, such as to engage the services of a recruiting firm) to ensure that the role of any member of the Key Personnel is not vacant for any longer than 30 days, subject to reasonable extensions requested by AMI Implementing Partner of **EESL**.
- (c) Before assigning any replacement member of the Key Personnel to the provision of the Services, AMI Implementing Partner shall provide EESL with:
  - ▶ A resume, curriculum vitae and any other information about the candidate that is reasonably requested by EESL; and
  - ▶ An opportunity to interview the candidate.
- (d) The bidder has to provide replacement resource, who scores at least the same marks as the resource proposed originally on the same evaluation parameters defined in this Tender document. Once this confirmation is received, **EESL** may request for an interview of the candidate and notify AMI Implementing Partner within mutually agreed timelines. If **EESL** does not request an interview within mutually agreed timelines then it would be deemed as accepted.
- (e) If **EESL** does object to the appointment, AMI Implementing Partner shall not assign the individual to that position and shall seek an alternative candidate in accordance with this Section.
- (f) The bidder has to ensure at least 4 weeks of overlap period in such replacements.

## High Attrition

If in the first 6 month period from the Contract Effective Date or in any rolling 12 months period during the Term, 15 percent or more of the members of the Key Personnel cease or reduce their involvement in the Services for any reason other than with EESL's prior written consent, AMI Implementing Partner shall:

- (a) provide **EESL** with a reasonably detailed explanation as to the reasons for such change, including, where applicable and permitted, notes from any exit interviews conducted by MSP with any departing member of the Key Personnel; and
- (b) if such change to Key Personnel has or is likely to have any material adverse impact on the provision of the Services or any substantial part thereof, undertake, at its own costs, such remediation acts as are reasonably necessary in order to improve the retention of the Key Personnel including making reasonable changes to the human resources policies and procedures applicable to the Key Personnel (including those related to compensation, benefits and other conditions so that they are competitive with the market) as may be necessary to ensure that such policies and procedures comply with Best Industry Practice.

### 14.1 Minimum Resource Requirement

AMI Implementing Partner must provide the minimum number of resources at the specified locations of EESL. However, the numbers and locations provided below are only indicative, the AMI Implementing Partner shall carry out an assessment and propose actual number required to meet all Service Level requirements with appropriate approval from EESL.

#### 14.1.1 Before AMI System Go – Live

The resource requirement before Go-Live is mentioned in table below.

**Table 22 – Resources required before Go-Live**

S. No.	Resource	Min No. of Staff Required (Before Go- Live)
1	Project Manager	AMI Implementing Partner shall provide the resources in compliance to the project timelines and implementation requirement to make AMI system Go-live
2	Team Leader for Meter Deployment	
3	Site Engineers for Meter Deployment	
4	Communication/HES Expert	
5	Metering Expert	
6	Database Expert	
7	Application/Billing Expert	
8	System Administrator	
9	Cyber Security Expert	
10	Help Desk Coordinator	
11	Facilities Management Field Team	
12	IT Support Staff	

#### 14.1.2 Post AMI System Go-Live

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

Table 23 – Resources required post Go-Live

S. No.	Resource	Min No. of Staff Required (After Go- Live)			
		For Cloud	EESL Office	Haryana	UP
1	Project Manager		1		
2	Associate Project Managers			1	1
3	Site Engineers for Meter Management			4	12
4	Communication/HES Expert		1		
5	Metering Expert		1		
6	Database Expert	2			
7	Application Expert	2			
8	Cloud System Administrator	2			
9	Cyber Security Expert	1			
10	Help Desk Coordinator			4	12
11	Field Team			8	24
12	IT Support Staff	2			

## 15 EXIT MANAGEMENT & KNOWLEDGE TRANSFER

At the end of the Contract period, AMI Implementing Partner will be required to provide necessary handholding and transition support to designated staff or any other agency that is selected for maintaining the system post the Contract with the AMI Implementing Partner. The handholding support will include but not be limited to, conducting detailed walkthrough and demonstrations for the AMI Solution, handing over all relevant documentation, addressing the queries/clarifications of the new agency with respect to the working / performance levels of the infrastructure, conducting training sessions etc.

Knowledge Transfer is an integral part of the scope of work of the AMI Implementing Partner. This will have to be done even in case the Contract with the AMI Implementing Partner ends or is terminated before the planned timelines.

Please note that this is only an indicative list. Any other activity, over and above these, as may be deemed necessary by the AMI Implementing Partner to meet the service levels and Requirements Specified In This Contract are Also required to Be performed by the AMI Implementing Partner at no additional cost.

In the case of closure or termination of the Project Operations and Management, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

### Transfer of Assets / AMI Solution

- (a) EESL shall be entitled to serve notice in writing on the AMI Implementing Partner at any time during the exit management period requiring the AMI Implementing Partner and/or its sub-contractors to provide the EESL with a complete and up to date list of the Assets within 30 days of such notice. EESL shall also be entitled to serve notice in writing on the AMI Implementing Partner at any time prior to the end of the exit management period requiring the AmI Implementing Partner to transfer to EESL or its nominated agencies.
- (b) In case of contract being terminated prematurely by EESL, EESL reserves the right to ask AMI Implementing Partner to continue running the project operations for a period of 3 months after termination orders are issued. In case In case of contract being terminated by AMI Implementing Partner, EESL reserves the right to ask selected AMI Implementing Partner to continue running the project operations for a period of 6 months after termination notice is served by AMI Implementing Partner.
- (c) Upon service of a notice under this Article, the following provisions shall apply:
  - (i) All title to the Assets shall be transferred to EESL, on or before the last day of the exit management period.
  - (ii) Payment to the outgoing AMI Implementing Partner shall be made to the tune of last set of completed services / deliverables, subject to SLA requirements

## Cooperation and provision of information

During the exit management period:

- (a) AMI Implementing Partner will allow the EESL 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 EESL to assess the existing services being delivered;
- (b) Promptly on reasonable request by the EESL, the AMI Implementing Partner shall provide access to and copies of all information held or controlled by them which they have prepared or maintained in accordance with this agreement relating to any material aspect of the services (whether provided by the AMI Implementing Partner or sub-contractors appointed by the AMI Implementing Partner). The EESL shall be entitled to copy of all such information. Such information shall include details pertaining to the services rendered and other performance data. AMI Implementing Partner shall permit the EESL 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 AMI Implementing Partner and to assist appropriate knowledge transfer.

## Confidential information, security and data

AMI Implementing Partner will promptly on the commencement of the exit management period supply to the EESL or its nominated agency the following:

- (a) information relating to the current services rendered and customer 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 EESL or its nominated agencies transitioning the services to its Replacement AMI Implementing Partner 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 EESL or its nominated agencies, or its Replacement AMI Implementing Partner to carry out due diligence in order to transition the provision of the Services to EESL or its nominated agencies, or its Replacement AMI Implementing Partner (as the case may be).

## Transfer of certain agreements

On request by the EESL or its nominated agency the AMI Implementing Partner shall effect such assignments, transfers, licences and sub-licences as EESL may require in favour of the EESL or its Replacement Implementation Agency in relation to any equipment lease, maintenance or service provision agreement between selected AMI Implementing Partner 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 EESL or its nominated agency or its Replacement AMI Implementing Partner.

## General obligations of the AMI Implementing Partner

- (a) The AMI Implementing Partner shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to the EESL or its nominated agency or its Replacement AMI Implementing Partner and which the AMI Implementing Partner 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 AMI Implementing Partner or associated entity, or sub-contractor is deemed to be in the possession or control of the AMI Implementing Partner.
- (c) The AMI Implementing Partner shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

## Exit management plan

The AMI Implementing Partner shall prepare an Exit Management Plan for transfer of operations to a new AMI Implementing Partner, in the event of termination or expiry of the contract with the EESL, without affecting services to stakeholders adversely. AMI Implementing shall get this process approved by EESL. The 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 AMI Implementing Partner 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 AMI Implementing Partner's sub-contractors, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on the EESL's project operations as a result of undertaking the transfer;
- (c) Plans for provision of contingent support to Nodal Agency, and Replacement AMI Implementing Partner for a reasonable period after transfer as specified in clause 6 of Volume I of the Tender document.
- (d) The AMI Implementing Partner 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 the AMI Implementing Partner to and approved by the EESL or its nominated agencies.
- (f) The terms of payment as stated in the Payment Schedule at Schedule VI shall include the costs of the AMI Implementing Partner complying with its obligations under this Schedule.
- (g) During the exit management period, the AMI Implementing Partner shall use its best efforts to deliver the services.
- (h) Payments during the Exit Management period shall be made in accordance with the Payment Schedule as specified in the Tender.
- (i) The Exit Management plan shall be furnished in writing to the EESL or its nominated agencies within 90 days from date of signing the contract.

## 16 BILL OF QUANTITY

The bill of quantity is mentioned in Table below. Bidder shall note that line items mentioned in table below are common for Haryana and UP DISCOMs.

Table 24 – Bill of Quantity

Line Item No	Description of Goods/Services	Proposed Quantity	Unit of Measurement
1	GRPS SIM cards (compatible with smart meters)	50,00,000	(Nos.)
2	Head End System software	1	(Lot)
3	Meter Data Management System (MDMS) software	1	(Lot)
4	BI/ Analytics Software	1	(Lot)
5	Integration & Testing (HES, MDMS and other systems)	1	(Lot)
6	SMS Gateway	1	(Lot)
7	Database Software (licence)	1	(Lot)
8	Mobile App/ Web Portal App	1	(Lot)
9	Consumer Indexing in the project area	1	(Lot)
10	AMC and ATS Charges (Each Item / Component wise AMC / ATS Charges shall also be provided separately by the bidder)	1	(Lot)
11	Manpower and FMS Charges (Yearly)	1	(Lot)
12	Cloud Hosting Charges (Yearly)	1	(Lot)

Line Item No	Description of Goods/Services	Proposed Quantity	Unit of Measurement
13	GPRS Connectivity Charges (Yearly)	1	(Lot)
14	Meter Installation Charges for Single Phase Meter	1	(Lot)
15	Meter Installation Charges for Three Phase Whole Current Meter	1	(Lot)
16	Meter Installation Charges for Three Phase LT CT Meters in Consumer Premises	1	(Lot)
17	Meter Installation Charges for Three Phase LT CT Meters on Distribution Transformers	1	(Lot)
18	SIM Installation In Supplied Meters	1	(Lot)
19	Training Charges (one time)	1	(Lot)
20	Third Party Audit Charges/ Certification/ Testing and Go live of the AMI system	1	(Lot)
21	Data migration/data digitization charges	1	(Lot)
22	Any other equipment/software required for successful deployment of project	1	(Lot)

The BOQ for cloud infrastructure is mentioned in the table below:

**Table 25 – Bill of Quantity for Cloud Infrastructure**

Quantity	Server	vCPUs	RAM	Storage	
				Block (GB)	File (GB)
[x]	[Linux] Server	[x]	[x]	[x]	[x]
[x]	[Windows] Server	[x]	[x]	[x]	[x]
<b>System Software</b>					
Quantity	Description				
[x]	[OS] Linux	[x]	[x]	[x]	[x]
[x]	[OS] Windows	[x]	[x]	[x]	[x]
<b>Storage</b>					
Quantity	Description	Initial Storage (TB)	Final Storage (TB)		
[x]	Block Storage (in TB) Incremental	[x]	[x]	[x]	[x]
[x]					
[x]	Business Continuity – Disaster Recovery Services	[x]	[x]	[x]	[x]
[x]	Security Services - Detailed Below	[x]	[x]	[x]	[x]
[x]	VPN	[x]	[x]	[x]	[x]
[x]	Server Load balancing	[x]	[x]	[x]	[x]
[x]	Identity and Access Management (IAM)	[x]	[x]	[x]	[x]
[x]	DDoS Protection	[x]	[x]	[x]	[x]

[x]	Anti-Virus for VM's	[x]	[x]	[x]	[x]
[x]	Host Intrusion Prevention System	[x]	[x]	[x]	[x]
[x]	Web Application Firewall	[x]	[x]	[x]	[x]
[x]	SIEM to monitor the security incidents	[x]	[x]	[x]	[x]
<b>Backup Services</b>					
[x]	Online Full disk Backup Services	[x]	[x]	[x]	[x]
<b>Network</b>					
[x]	Minimum 2 Ports per VM - all 10 Gig Connections	[x]	[x]	[x]	[x]
<b>Firewall</b>					
[x]	Two Zone	[x]	[x]	[x]	[x]

**UNRESTRICTED LICENSE**

All System Software licenses offered in the Tender shall be Enterprise wide full use without any restriction on access/usage of any kind of functionality during the warranty / FMS period. Bidders need to quote all the user licenses without any restrictions or limitations for usage within India. AMI solution must not restrict EESL / utilities such as number of users or number of meters etc. The solution shall have *unrestricted licence and* in no way restrict EESL in utilising the functionality to the max.

Bidder(s) shall refer to the Clause 11 of Special Conditions of Contract (SCC) for details on quantity variation.



## **PART-C: SPECIAL CONDITIONS OF CONTRACT**

### **1. SECURITY DEPOSIT / CONTRACT PERFORMANCE GUARANTEE**

Within twenty-eight (28) days of the receipt of the Notification/Letter of Award (LOA) of Contract from EESL, the bidder(s) shall furnish Security Deposit (SD)/Contract Performance Guarantee (CPG) in the form of a Bank Guarantee (BG) of value equaling 10 % of the total Contract value. The SD/CPG Bank Guarantee must be valid to cover the installation duration (3 years) + warranty and O&M/FMS duration (i.e., 5 years) + three (3) months' claim period + 3 months' mobilization/testing phase. Thus, the total SD/CPG Bank Guarantee period shall be 8 years and 6 months.

Any delay in submission of SD/CPG shall be deemed as accruing of financial benefit to the bidder(s) and EESL may take necessary interest penalty recovery action (interest @ State Bank of India's MCLR + 2 %) from the payments due to the bidder(s) for the period of delay. However, this provision does not bind EESL in any way from proceeding against the bidder(s) (including forfeiture of EMD, cancellation of the LOA, etc.) for non-compliance towards non-submission of the SD/CPG.

The BG shall be from any Nationalized Bank/other scheduled Private Banks/International Banks, to be from among the list of banks given at Annexure I of Section-6. In case of international bidder(s), the CPG BG could be from any such International bank having a branch in India or a Nationalized Indian bank having a branch in the country of origin of the international bidder(s) mentioned in Annexure I. The International Bidders are also required to enclose with their CPG BG a letter of BG confirmation from a corresponding Indian bank. EESL shall at its discretion have recourse to the said Bank Guarantee for the recovery of any or all amount due from the bidder(s) in connection with the contract including of replacement warranty obligations.

Failure of the bidder(s) to comply with the requirements of IFB/Tender/NIT/LOA shall constitute sufficient grounds for the annulment of the award and forfeiture of the SD/CPG.

### **2. TERMS OF PAYMENT**

- i) The payments for different cost heads/components shall be released to the AMI Implementing Partner(s) (in favour of the Lead Consortium Member) as tabulated below, within 30 days of receipt and acceptance of the AMI Implementing Partner(s) Tax invoice at EESL office with all the requisite respective documents signed and stamped by EESL's EIC/authorized representative at designated delivery location. Each invoice shall have the Tax, etc. registration document's photocopy annexed to it.
- ii) AMI Implementing Partner(s) needs to ensure completion of all works as per project plan before submitting the invoice. This includes supply of required software/licenses and services as per define scope of work and acceptance from the concerned officer.
- iii) In case of delay in project, the entire cost and/or time over-run shall be the responsibility of the AMI Implementing Partner(s) and shall be borne by him only.
- iv) Power to withhold: Notwithstanding anything contained in the payment schedule mentioned above, if in the opinion of the EESL, any work done or supply made or service rendered by AMI Implementing Partner(s) is deficient in any manner in comparison to the prescribed standards, EESL shall be at liberty to withhold a reasonable portion of the payments due to the AMI Implementing Partner(s), till such work/ supply/ service is made conforming to the prescribed standards. These powers to withhold payments shall be without prejudice to any other power/ right of the EESL under this contract.
- v) AMI Implementing Partner(s) shall obtain completion certificate for each milestone from the EESL and raise an invoice against the same.
- vi) The release of payments shall be progressive and performance/ output-based as per the given Payment Schedule, where the payments shall be made for measured deliverables and outputs on acceptance by EESL.
- vii) If any excess payment has been made by EESL due to difference in quoted price in proposal and AMI Implementing Partner(s) invoice, EESL may without prejudice to its rights recover such amounts by other means after notifying the AMI Implementing Partner(s) or deduct such excess payment from any payment subsequently falling due to the AMI Implementing Partner(s).
- viii) The currency in which payment shall be made to the AMI Implementing Partner(s) under this contract is Indian Rupees (INR)/US Dollars.
- ix) No invoice for extra work/change order on account of change order will be submitted by the Supplier unless the said extra work /change order has been authorized/approved by the EESL/DISCOMs in writing

- x) EESL reserves the right, at its sole discretion to waive any penalty being imposed on the bidder(s) in case the bidder(s) fails to meet milestones / agreed service level due to a valid reason beyond the control of bidder or upon EESL's request. Waiver shall be granted on merit and only as an exception by EESL / Utility Officials. Any Delay on account of meter supplier (meter supplier selected though other RFP) not making the systems available and failure to install the meters would not be attributable to the bidder(s) and would not lead to imposing penalty on bidder(s), EESL may waive the penalty in such a scenario.
- xi) EESL reserves the right, at its sole discretion to stagger the implementation of AMI solution. Any such action will be discussed with bidder(s). Bidder(s) shall be informed of the same in writing. Penalty related to delivery of meter may be waived by EESL if cause of such delay is not in bidder's control or the delay is due to EESL request for staggered delivery. Penalty shall be adjusted in case EESL approves such waiver. The penalty recovered shall be adjusted in the subsequent payment and no interest shall be paid on this amount.

At the time of payment of bills, the income tax, if any, shall be deducted at source as per Government rules and guidelines as may be prevailing at the time of payment. Further, for availing the benefit of lower income tax rates supplied from outside India, AMI Implementing Partner shall provide Income Tax Clearance Certificate (ITCC)/ Tax Residency Certificate from concerned tax authorities for claiming lower tax deduction, if any.

If some of the expenditures for the Related Services are to be incurred in India, such expenditures shall be expressed in the Bid and shall be payable in INR.

The payment schedule for this project is mentioned in table on the next page.

S.No.	Activity	Payment Schedule	Milestones
1	I. LOA II. Site Office III. Team Mobilization	10% against performance bank guarantee of equivalent amount	On issuance of; <ul style="list-style-type: none"> <li>Unconditional Acceptance of LOA</li> <li>Submission of PBG of equivalent amount</li> <li>Setup of project office at EESL head office and state locations;</li> <li>Team mobilization by AMI Implementing Partner</li> </ul>
2	I. AS IS study II. Implementation roadmap & plan III. Technical architecture and detailed design report	5%	On submission of AS IS study and EESL and Discom sign off of; <ul style="list-style-type: none"> <li>AS IS study</li> <li>Implementation roadmap &amp; plan</li> <li>Technical architecture and detailed design report</li> </ul>
3	I. Site survey of 5 lakh consumers (as per the mutually agreed plan between EESL, Discoms and AMI Implementing Partner) II. Consumer indexing of 5 lakh consumers (as per the mutually agreed plan between EESL, Discoms and AMI Implementing Partner) III. Successful Installation and configuration of 5 lakh meters (as per the mutually agreed plan between EESL, Discoms and AMI Implementing Partner)	5%	On successful <ul style="list-style-type: none"> <li>completion of site survey of 5 lakh consumers</li> <li>sign off of consumers indexing of 5 lakh by DISCOMs and</li> <li>installation and configuration of 5 lakh meters</li> </ul>
4	I. User Acceptance Testing of entire AMI system	5%	<ul style="list-style-type: none"> <li>On DISCOM management sign off of user acceptance testing</li> <li>On EESL sign off of user acceptance testing</li> </ul>
5	I. Site survey of remaining 45 lakh consumers (as per the mutually agreed plan between EESL, Discoms and AMI Implementing Partner) II. Consumer indexing of remaining 45 lakh consumers (as per the mutually agreed plan between EESL, Discoms and AMI Implementing Partner) III. Successful Installation and commissioning of remaining 45 lakh meters (as per the mutually agreed plan	45%( 5% payable at successful completion of this milestone for every 5 lakhs consumers)	<ul style="list-style-type: none"> <li>Post management approval of UAT and successful installation configuration and customization of 45 lakh meter population</li> <li>On EESL sign off of user acceptance testing</li> </ul>

	between EESL, Discoms and AMI Implementing Partner)		
6	I. Commissioning and Go live	10%	<ul style="list-style-type: none"> <li>Post management approval of UAT, successful completion of site survey, consumer indexing, installation &amp; commissioning of 50 lakhs consumers and meters. On successful 'Go Live' of all project areas</li> </ul>
7	I. Updation of consumer indexing and Town/Feeder/DT wise energy accounting	10%	<ul style="list-style-type: none"> <li>2% payable yearly for 5 years on confirmation of acceptable energy accounting of Towns/Feeders /Distribution transformers post successful achievement of above milestones.</li> </ul>
8	Yearly charges for the system developed and implemented	10%	<ul style="list-style-type: none"> <li>2% payable yearly for 5 years from Go-Live date post successful achievement of above milestones.</li> <li>On EESL sign off</li> </ul>
9	I. FMS/Operation and Maintenance (O&M) charges	100% of yearly FMS/O&M cost for 5 years Payable quarterly	<ul style="list-style-type: none"> <li>After successful certification of SLA by competent authority.</li> <li>On EESL sign off</li> </ul>
10	I. Cloud hosting charges	100% of yearly cloud hosting charges for 5 years Payable quarterly	<ul style="list-style-type: none"> <li>After successful certification of SLA by competent authority.</li> <li>On EESL sign off</li> </ul>
11	I. GPRS communication charges	100% of yearly GPRS communication charges for 8 years Payable quarterly	<ul style="list-style-type: none"> <li>After successful certification of SLA and availability report acceptance by competent authority.</li> <li>On EESL sign off</li> </ul>
12	I. AMC/ ATS Charges	100% from year 2 to year 8	<ul style="list-style-type: none"> <li>After successful certification of SLA by competent authority.</li> <li>On EESL sign off</li> </ul>

#### Explanation of terminologies

- User acceptance testing** – User Acceptance testing is the phase of software testing process before final installation of AMI system software at DISCOMs and when following prerequisites are met;
  - Business Requirements must be available
  - Application Code shall be fully developed
  - Unit Testing, Integration Testing & System Testing shall be completed
  - No Show stoppers, or High or Medium defects in the System Integration Test Phase
  - Regression Testing shall be completed with no major defects
  - All the reported defects shall be fixed and tested
  - Traceability matrix for all testing shall be completed
  - UAT Environment must be ready
  - Sign off mail or communication from System Testing Team that the system is ready for UAT execution
  - During the test scenarios definition, for each of the business scenario, an acceptance criterion is defined. Acceptance criteria include expected behavior of the s/w component and the expected results (data). Expected results form a part of the Exit Criteria. In addition to expected result and behaviors, some conditions are also specified in the exit criteria. They can be:
    - Number of bugs to be discovered for a functional module. This depends on size of the functionality and is an indicator of amount of testing done.
    - If any medium or low-priority errors are outstanding - the implementation risk must be signed off as acceptable by DISCOM and AMI Implementing Partner
    - All High Priority errors from System Test must be fixed and tested

**Installation and configuration:** The DISCOMs are able to view the basic functionalities of the AMI system viz. communication establishment with smart meters and data availability in HES etc.

**Installation and commissioning:** All AMI systems and related components are successfully installed, configured, integrated and successfully deployed in Cloud by the AMI Implementing Partner with all features and functionalities

Note: Payments for Milestones mentioned from S. No.1 to S. No. 8 are excluding the O&M charges, AMC/ATS charges, GPRS communication charges and Cloud hosting charges.

Payment shall be released within 30 days after receipt of original invoice (duly approved by concerned departments of EESL and/or Discoms) at EESL with receipt acknowledged, signed and stamped by EESL authorized representative at designated project location.

The AMI Implementing Partner(s) shall note the following:

1. The AMI Implementing Partner(s) shall provide the following documents at the time of invoicing:
  - i. Delivery Challan.
  - ii. Goods Receipt Note (GRN).
  - iii. Octroi Duty/Entry Tax paid receipt.
  - iv. Batch Inspection Report.
  - v. Copy of AMC Agreement Copy between the AMI Implementing Partner(s) and End User.
2. All documents to be duly certified by the EIC/representative, and by the End User/Customer Representative.
3. The payment shall be processed only after receipt of following:-
  - i. Acceptance of LOA and signing of Contract Agreement.
  - ii. Submission of Contract Performance Guarantee (CPG).
4. Interest shall not be paid on the bank guarantee submitted by AMI Implementing Partner(s).
5. Payment terms shall be within 30 days from receipt of invoice supported by EESL certification of completion of milestone

### 3. LIQUIDATED DAMAGES

**For Delay in Installations and subsequent integration:** In case of any delay by the AMI Implementing Partner(s) beyond the stipulated schedule given at ANNEX-B, including any extension permitted in writing, EESL reserves the right to recover from the bidder(s) a sum equivalent to 0.5 % of the value of the installation and subsequent integration services for delay per week or part thereof, subject to a maximum of 5 % of the total value of the contract.

Notwithstanding the above, in case of regular and repeated complaints against the AMI Implementing Partner(s) and its failure in providing satisfactory after-installation/integration maintenance services, EESL reserves the right to forfeit the SD/CPG submitted against the LOA towards non-performance of the contract.

Alternatively, EESL reserves the right to subcontract the work from elsewhere at the sole risk at the cost of bidder(s) and to recover all such extra costs incurred by EESL, in installation and integration, from resources available including EMD/Bid Security/encashment of Bank Guarantee or any other sources, etc. Further, if any extra cost is incurred by EESL due to delay in work completion by the AMI Implementing Partner(s) beyond the completion time as per PO, the same shall also be recovered from bidder's invoice/EMD/BGs, etc.

Alternatively, EESL may cancel the order completely or partly without prejudice to its right under the alternatives mentioned above.

### 4. PRICE BASIS

The prices/ rates are inclusive of complete cost of installation and commissioning of overall AMI, which includes the following:

- a) Cost of communications commissioning (insertion of SIM card in smart meter)
- b) Transportation charges and transit insurance charges covering transportation of smart meters from EESL designated warehouse to consumer premises and old DISCOM meter back to those warehouses
- c) Cost of removal of the existing electricity meters and installation charges of the smart meters at the consumer premises

- d) Cost of installation and commissioning of HES, MDMS and the other AMI system components viz. database, customer portal, mobile app, integration, user interface and other related systems, software and components
- e) Cost of running the system for 12 years
- f) All applicable duties and taxes except GST (ISGT, CGST, SGST and UGST)

Prices once quoted shall remain firm, and not be subject to any escalation, till completion/execution of the contractual assignments/work and till the contract's validity's extension, if any.

For related services whenever such are specified in the Schedule of Installation, the foreign currency cost component of each item comprising the Related Services, inclusive of all customs duties, sales and other similar taxes applicable in India, payable on the Related Services, if the Contract is awarded to the Bidder.

The currency of the Bid shall be either in Indian Rupees (INR) or US Dollars (\$). The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: Indian Rupees. The source of the selling exchange rate shall be Reserve Bank of India. The date for the selling exchange rate shall be the day of the deadline for bid submission. This currency exchange rate would be used for payments in future during the entire contract duration.

## 5. EVALUATION CRITERION

- a) The offers/bids received against the Tender shall be first evaluated as per the eligibility criteria and techno-commercial Qualifying Requirements listed elsewhere in the Tender, and in accordance with the extant Procurement Policy of EESL. Price bids of only those bidder shall be opened who qualify against these techno-commercial requirements.
- b) It is mandatory to quote for all the items/services requisitioned in the Price Bid Sheet format. Non-compliant bids shall be liable for outright rejection.
- c) The format and notes for price bid shall be referred
- d) The selection method is Quality cum Cost Based Selection (QCBS). Bidders, whose bids are score at least 70 (Seventy) marks from the technical evaluation criteria would be considered technically qualified.

**Table 26 - Criteria, sub-criteria, and point system for the evaluation of Proposal**

S. No.	Description	Requirement	Criteria	Score
<b>1</b>	<b>Experience</b>			<b>60</b>
1a	Experience of IT Projects implementation in last 5 years as on the date of Tender.	Projects having IT Project implementation experience covering H/w, S/w and Network Components and covering at-least 100 users in each project and each project value is of at-least INR 100 Cr. (USD 15 Million)	>=6 projects >=3 and <6 projects >1 and <3 projects	10 6 3
1b	Experience of carrying out field activity/ meter installation for any power utility	Projects involving meter installation for 1,00,000 consumers.	>3 projects >1 and <=3 projects 1 project	20 12 6
1c.	Installation base of proposed OEM vendor for MDMS Product / software	MDMS implementation in last 5 years in terms of number of cumulative consumers in any of the utility sector (power, gas and water)	>5 million nodes >3.5 million and upto 5 million nodes >=2.5 million and upto 3.5 million nodes	10 6 4
1d	Installation base of proposed OEM vendor for HES	Head End system implementation in last 5 years in terms of number of	>2.5 million nodes	10

S. No.	Description	Requirement	Criteria	Score
	Product / software	cumulative consumers in any of the utility sector (power, gas and water)	>1 million and upto 2.5 million nodes	6
			>=1 million nodes	4
1e	Experience of large Project Management	Management of large projects for national / international clients. These project value should be at least 500 Cr each (At least 16 Million)	>5 projects	10
			>=2 and <5 projects	6
			>=1 and >2 projects	4
<b>2</b>	<b>CV / Quality of Manpower</b>			<b>25</b>
2a	Project Manager	Relevant experience of working in large IT projects in power sector	See Note 1 Below	6
2b	Associate Project Managers for Meter Deployment	Relevant experience of working in power sector for field activity and meter installation	See Note 1 Below	5
2c	Site Engineers for Meter Deployment	Relevant experience of working in Meter installation projects in India	See Note 1 Below	2
2d	Communication/HES Expert	Relevant experience of working in communication projects in Indian government sector	See Note 1 Below	2
2e	Metering Expert	Relevant experience of working in Meter installation projects in Indian power sector	See Note 1 Below	2
2f	Database Expert	Relevant experience of working in IT projects in Indian Government sector	See Note 1 Below	2
2g	Application Expert	Relevant experience of working in IT projects in Indian government sector	See Note 1 Below	2
2h	Cloud System Administrator	Relevant experience of working in Cloud hosting projects in Indian government sector	See Note 1 Below	2
2i	Cyber Security Expert	Relevant experience of working in cybersecurity projects in India	See Note 1 Below	2
<b>3</b>	<b>Turnover and quality compliance of the company</b>			<b>15</b>
3a	Average Annual Turnover for the last 3 years	Bidder average turnover for last 3 years financial years ending March 2017 (Dec 2016 for international company). This turnover necessarily needs to be from IT integration and / or power sector project experience. Any other component / other internal services will not be considered for this purpose.	>1500 Cr. (USD 230 Million)	10
			>800 Cr. (USD 123 Million) and <=1500 Cr. (USD 230 Million)	6
			>=520 Cr. (USD 80 Million) and <=800 Cr (USD 123 Million)	3
3b	Quality Compliance	CMMi Level Certification of Bidder	CMMi Level 5	5
			CMMi Level 4	3
			CMMi Level 3	2

Note 1: For more than 6 projects, score will be 100% of the total score in that particular CV category. For more than 3 and less than projects, score will be 50% of the total score in that particular CV category. For more than 2 projects, score will be 25% % of the total score in that particular CV category.

(b) Determination of Technical Scores

The evaluation of bids will be graded according to the point scale.

Marking will be done based on the documentary evidence provided by the bidder (Please provide the Document name, Reference number and page number of attached document).

c) For comparison of the combined Technical & Price score of all responsive bids, following formula shall be used:  
The ratio of weightage of technical score to commercial score will be 50:50.

$$\text{Total Score} = (\text{Technical Score} \times 0.50) + (\text{LP/FP} \times 1000) \times 0.50$$

Where LP is lowest price offer and FP is the price offered by the firm being evaluated.

d) The bids of only those bidders who fulfil all the eligibility criteria will be evaluated. Bidders whose bids are responsive should score minimum score of at least 70 (Seventy) in the Technical Criteria mentioned in the Section 4 Part C to qualify for technical & commercial evaluation. Bids scoring less than 70 shall not be considered for evaluation.

### Key Personnel

AMI Implementing Partner is expected to provide technical and operational support for the AMI project for the agreed duration of Operation and maintenance phase. AMI Implementing Partner is required to provide minimum resource persons as mentioned in the Tender. All the personnel shall be fulltime in the project and will not be changed except for separation from employer or any valid medical reason or if specifically asked by EESL.

An indicative list of activities to be performed by deployed resources for existing system support is:

- (a) Project Manager shall be the SPoC to the EESL for the implementation of the project.
- (b) The team deployed by AMI Implementing Partner shall function based on the scope of work of the Tender and contract signed between AMI Implementing Partner & EESL.
- (c) The qualification and experience requirements of these resource persons are mentioned in the Tender.
- (d) AMI Implementing Partner will ensure that all the resources deployed at any location are easily approachable over mobile phones. AMI Implementing Partner will provide the contact details of the manpower at the time of commencement of operations. MSP will also ensure that the proposed resources will not be changed during project implementation without explicit approval of the EESL.
- (e) EESL reserves the right to evaluate the performance of the resource persons deployed on the project by AMI Implementing Partner and ask for a suitable replacement in case of unsatisfactory performance by any of the resource persons deployed to support the project.

**For Indian Bidder:** The Indian Bidder has to submit online bids only in the Price Schedule titled, "**Price Schedule for Goods and Services to Be Offered from Within India**".

- a) **For International Bidder:** The International Bidder has to submit online bids only in the Price Schedules titled, "**Price Schedule for Goods and Services to Be Offered from Outside India**" and "**Price Schedule for Related Services to be offered from Inside India**".
- b) EESL reserves the right to terminate the contract of the implementation partner at their risk and cost, if the implementation partner does not perform as per the LOA's terms and conditions.
- c) Bidder has to indicate the quoted quantity in the separate price bid declaration format.

## 6. ADJUDICATOR

Adjudicator under the contract shall be appointed by the Appointing Authority i.e. MD (EESL). If the bidder(s) does not accept the Adjudicator proposed by EESL, it should so state in its bid form and make a counter proposal of an adjudicator. If on the day the contract agreement is signed, the EESL and contractor have not agreed on the appointment of adjudicator, the adjudicator shall be appointed, at the request of either party, by the appointing authority specified.

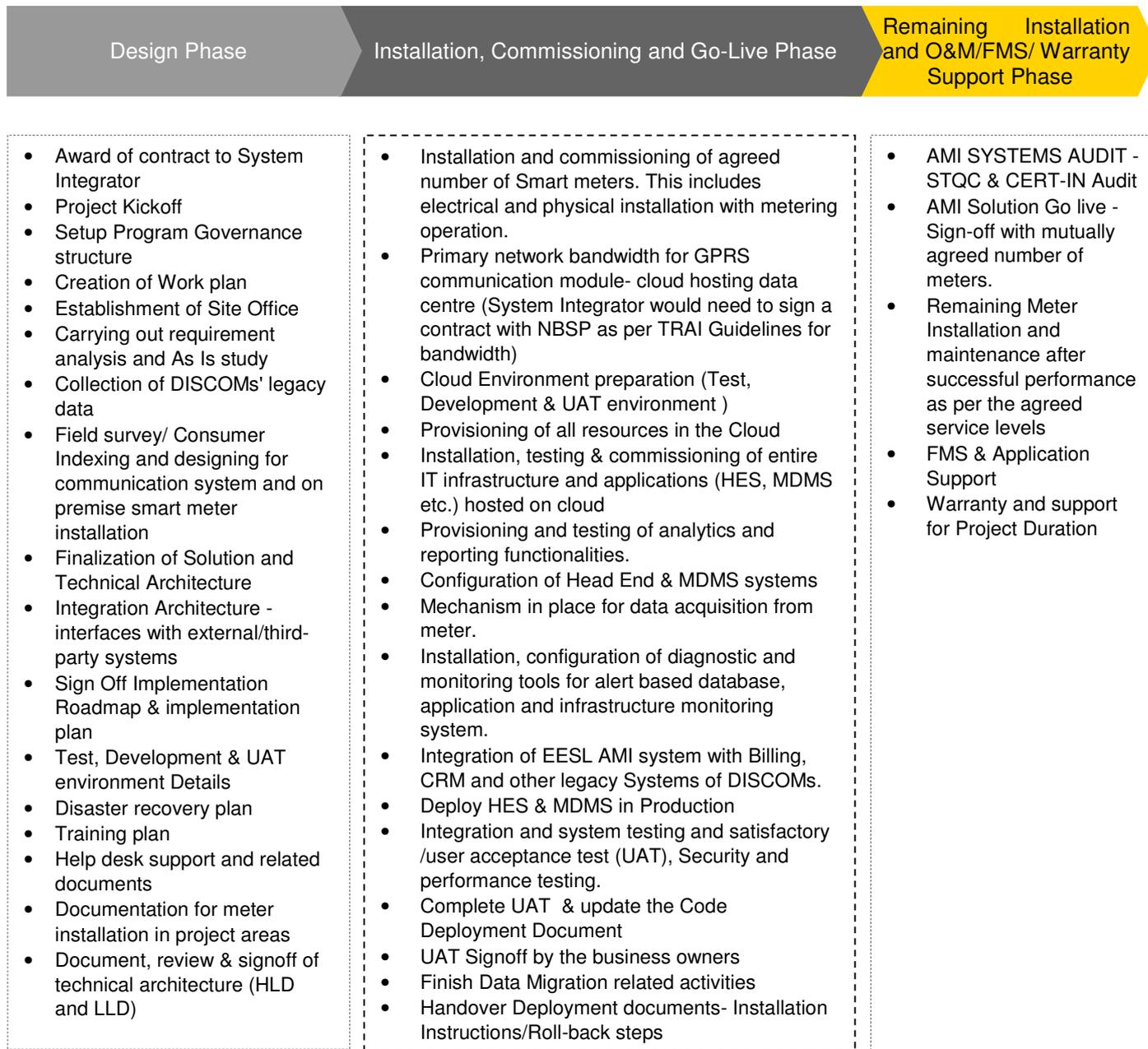
## 7. ARBITRATION

Arbitration shall be carried out as per Arbitration Act 1996 and its subsequent amendment. The Contract shall be governed by and interpreted in accordance with the laws in force in India. The courts of DELHI shall have exclusive jurisdiction in all matters arising under the contract.

## 8. IMPLEMENTATION PLAN AND SCHEDULE

Advance Metering Infrastructure (AMI) system will be completed in three phases viz. Design phase, Installation phase and Go Live and Support Phase as mentioned below figures.

### Indicative Phases of the project



### 8.1. Project Design Phase:

This phase will include resource mobilization and establishment of site offices at Haryana & UP along with contract finalization with the System Integrator.

During this phase, the AMI Implementing Partner shall accomplish the site survey for identification of network design (equipment locations etc.), consumer indexing for identification of customer metering locations and detailing out the SRS, SDD & AMI solution along with submission of project inception report.

The AMI Implementing Partner shall carry out the task of overall system design, establishing / commissioning of the GPRS network platform that can support EESL AMI applications. To achieve this, bidder need to accomplish activities

including but not limited to establishment of VPNs with NBSP and allocation of private APN for GPRS enabled SIMs and SIM management portal to monitor and manage subscriptions for 5 million SIM cards.

In this phase the solution and technical Architecture, integration architecture including interfaces with external/third-party systems shall be finalized and a sign off on implementation roadmap & plan be taken. The details on disaster recovery plan, training plan will be created. Also, documentation related to smart meter installation in project areas, its review and subsequent signoff of technical architecture will be completed.

During this phase, the AMI Implementing Partner shall carry out the activity of high level and low level design of AMI system and submit the detailed AMI system design report to the EESL for approval. The bidder shall get all the documents review and signoff of technical architecture from the concerned DISCOMs/EESL.

## 8.2. Installation & Commissioning Phase

The smart meters will be installed physically with electrical metering function only at the start of this phase. Installation of meter shall be carried out by the certified meter installer with the consent of EESL only. Meter installers shall require to have a prior knowledge of the low voltage network topology in order to be able to carry out the installation process. In parallel, the cloud environment preparation and provisioning of all IT based resources in the cloud. It will include the design, supply, installation, testing, and commissioning of MDMS, HES and AMI systems. Further data migration and integration with existing systems of DISCOM would be done in this phase.

Meter Data acquired via the System will be used by DISCOM for billing purposes in some roll out areas at this stage and the functionality test such as load energy balance, contractual load shedding - incentive scheme, outage - event handling etc. shall be tested in this stage.

Post this the System is in production, Meter Data acquired via the System shall be used for business operation including but not limited to billing, energy auditing and tamper analysis for all roll out meters.

AMI Implementing Partner will be responsible for physical installation of 5 Million smart meters in a span of three years as per the schedule defined in this Tender. The AMI Implementing Partner shall be responsible for correct integration and communication of the installed smart meters with the Head End System.

At the time of meter replacement (applicable for both phase A and phase B), the meter installer shall record the consumer details along with existing meters like consumer name, address, account number, meter serial number, last meter reading parameters required for billing etc. in the prescribed format. Installation of the new smart meter shall be carried out as per EESL guidelines / international standards (Inside/Outside, height of meter etc.) and it must be ensured to record the last reading of old meter and initial reading of new installed meter precisely with consumer acknowledgement. After the completion of smart meter installation and related activities, meter and box shall be sealed by the concerned person and the sealing details shall be recorded.

As and when the meters are installed, installer will check for GPRS network and connectivity between Head end system hosting Data center, communication module and smart meters. Checks and monitoring of the network communications shall be performed for all the meters installed in the field. The meter cover box shall be simply replaced with the new ones delivered in this phase.

Meter installation shall submit the record of replaced meters in prescribed format and the old meter to the store. The Bidder shall take custody of all dismantled meter/meter boxes from site and shall remain responsible for the same till the material is returned to EESL / Discom warehouse. The Bidder shall also maintain record of all such dismantled material removed from the sites and returned to stores. Record of replaced meters shall be updated in the system precisely and information of consumer updates/meter updates shall be synchronized with the integrated solution.

This phase will also include the Quality assurance of the supplied material and equipment through Quality Assurance (QA) testing and Factory Acceptance Test (FAT) in compliance to the Tender requirements and certificate issuance from EESL.

## 8.3. Project Go Live, Remaining Installation And Support Phase

This phase shall be initiated after the AMI systems initial installation phase, with mutually agreed upon number of smart meters installed, the sites/cluster Go-Live in compliance to the Tender Go-Live requirements and overall

system acceptance by the owners. During this phase the AMI Implementing Partner will carry out the capacity building exercise for DISCOM and will impart training to the DISCOM personnel.

As such, the AMI Implementing Partner 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 DISCOM and Bidder.

Bidder need to ensure information security by acquiring (if currently not acquired) ISO27001: 2013 or higher certification for their business and internal operations.

Once the overall AMI system is operational and Go-live criteria of project are achieved, the FMS for communication between all points in the AMI system shall begin. The AMI Implementing Partner will in parallel, carry out the installation of the remaining smart meters and subsequent integration with the overall AMI system during the project period and & 5 Years of O&M/FMS in compliance to the SLA defined in the system. Bidder need to deliver the service level achievement report (including system SLA, support SLA and availability SLA) within 5 days of each month.

The Bidder shall provide Operations & Maintenance(O&M) / Facility Management Service (FMS) for managing the AMI system including hardware, software, networks installed and commissioned by Bidder for the DISCOM to meet the availability requirement and SLAs as specified in the Tender document.

An indicative project plan with timelines of activities to be performed is mentioned in the table on the next page.

### Indicative Project Implementation Time Line

S. No	Activity Name	M1	M2	M3	M4	M5	M6	M7	M8	M9	Remaining Meter installation upto 3 years	5 years AMC/ATS/FMS and O&M post Go Live
1	Award of contract to System Integrator											
2	Project Kickoff											
3	Setup Program Governance (Steering Committee & Operations Committee)											
4	Creation of Work plan											
5	Establishment of Site Office											
6	Carrying out requirement analysis											
7	Collection of DISCOMs' legacy data											
8	Field survey/ Consumer Indexing and designing for communication system and on premise smart meter installation											
9	Finalization of Solution and Technical Architecture											
10	Integration Architecture - interfaces with external/third-party systems											
11	Sign Off Implementation Roadmap & implementation plan											
12	Test, Development & UAT environment Details											
13	Disaster recovery plan											
14	Training plan											
15	Help desk support and related documents											
16	Documentation for meter installation in project areas											
17	Document, review & signoff of technical architecture											
18	Installation and commissioning of first lot of Smart meters. This includes electrical physical installation metering operation.											
19	Primary network bandwidth for GPRS communication module- cloud hosting data centre (System Integrator would need to sign a contract with NBSP as per TRAI Guidelines for bandwidth)											
20	Implementation of GPS time synchronization system.											
21	Cloud Environment preparation (Test, Development & UAT environment )											
22	Provisioning of all resources in the Cloud											
23	Provisioning and testing of analytics and reporting functionalities.											
24	Installation, testing & commissioning of entire IT infrastructure and applications (HES, MDMS etc.) hosted on cloud											
25	Configuration of Head End & MDM systems											
26	Mechanism in place for data acquisition from meter.											
27	Installation, configuration of diagnostic and monitoring tools for alert based database, application and infrastructure monitoring system.											
28	Integration of EESL AMI system with Billing, CRM and other legacy Systems of Utility.											
29	Deploy HES & MDMS in Production											
30	Complete commissioning of installed smart meters and initiation of data acquisition and reporting.											
31	Integration and system testing and satisfactory /user acceptance test (UAT), Security and performance testing.											
32	Complete UAT & update the Code Deployment Document											
33	UAT Signoff by the business owners											
34	Finish Data Migration related activities											
35	Handover Deployment documents- Installation Instructions/Roll-back steps											
36	Provide access to all business users for UAT of full solution Integration testing by business users using complete test data sets											
37	Training of Utility staff by the system Integrator.											
38	Certification & Audit - Certin / STQC etc											
39	Go live of EESL AMI system.											
40	Remaining Meter Installation and maintenance of success performance as per the agreed service levels											
41	FMS implementation and support											

## 9. PRE-BID CONFERENCE

9.1 The official representative of the bidder may attend the Pre-bid Conference as mentioned in Section-1.

*(Bidders are requested to send their queries at [asharma1@eesl.co.in](mailto:asharma1@eesl.co.in), [mchaukhande@eesl.co.in](mailto:mchaukhande@eesl.co.in), [bkanojiya@eesl.co.in](mailto:bkanojiya@eesl.co.in), and [eproc@eesl.co.in](mailto:eproc@eesl.co.in) only in a spreadsheet file as per the prescribed format at Attachment-12 of Section-6 Forms and Procedures, at least 5 days before the schedule date of Pre-bid meeting)*

9.2 The purpose of the meeting shall be to clarify any issues regarding the bid process.

9.3 Record notes of the meeting including the text of the questions raised and responses given shall be transmitted to all the bidders who were present at the meeting. Based on that, amendment can be issued in the tender documents. The clarifications that could not be furnished during pre-bid conference shall be separately communicated to all the bidders.

9.4 Non-attendance at the pre-bid meeting shall not be a cause for rejection of a Bidder(s).

9.5 Based on the discussion in pre bid meeting, EESL reserves the right for modification/change in tender

## 10. DISCLAIMER CLAUSE REGARDING BIDDER TO UNDERSTAND/EXAMINE BID DOCUMENT

10.0 The Bidder(s) shall be deemed to have examined the Bid document, to have obtained its own information in all matters whatsoever that might affect carrying out the Works in line with the Technical specifications and Scope of Work specified in the document at the offered rates and to have satisfied himself to the sufficiency of its Bid. The bidder(s) shall be deemed to know the scope, nature and magnitude of the work and requirement of materials, equipment, tools and labor involved, wage structures and as to what all works he has to complete in accordance with the Bid documents irrespective of any defects, omissions or errors that may be found in the Bid documents.

## 11. QUANTITY VARIATION

EESL reserves the right for variation of number of installations and commissioning of AMI up to +/-20% to. Further, EESL reserves the right to place a repeat order in case of urgency for part quantity in the Letter of Award for similar work on same prices, terms and conditions. Also, EESL reserve the right to ask the implementation partner(s) to deliver the part quantity placed on them anywhere in territory of India on same prices, terms and conditions. However, any such quantity variation/placement of Repeat Order shall need to be authorized through prior amendment of the LOA/issuance of fresh LOA to that effect.

## 12. INSURANCE

The Goods taken for installation at the Site under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to acquisition of smart meters, transportation, storage and delivery. For delivery of goods at site, the insurance shall be obtained by the Contractor, for an amount not less than the Contract Price of the goods from "warehouse to warehouse" (final destinations) on "All Risks" basis including War risks and strikes.

## 13. TRANSPORTATION, DEMURRAGE WHARFAGE, ETC.

AMI Implementing Partner(s) is required under the Contract to transport the Goods to place of destination defined as Site. Transport to such place of destination in India including insurance, as shall be specified in the Contract, shall be arranged by the AMI Implementing Partner(s), and the related cost shall be included in the Contract Price.

AMI Implementing Partner(s), on whom letter of award is placed, is to ensure all safety guidelines, rules and regulations, labour laws etc. Implementation partner(s) indemnify EESL for any accident, injury met by its labour, employee or any other person working for him. Any compensation sought by its labour, employee or any other person working for him shall be paid by implementation partner(s) as per settlement solely. EESL has no role to play in this matter.

## 14. INTERCHANGEABILITY OF PRODUCT

Implementation partner(s) is to submit interchangeability certificate for its product/components supplied for replacement during warranty and maintenance period and even when it is purchased from open market. In case due to change in technology, the supplied product is not available during warranty/ maintenance period, then the improved version of product can be used in warranty/maintenance period with same or improved technical parameters or the combination thereof after written communication of Engineer in Charge at same cost and terms and conditions.

## 15. Warranty, Annual Technical Support (ATS) and Annual Maintenance Contract (AMC)

The AMI Implementing Partner shall warrant that all the components of the AMI system are new, unused, and of the most recent or current versions, and that they incorporate all recent improvements in the design, unless provided otherwise in the Contract Agreement. The AMI Implementing Partner further warrants that AMI components shall be free from product defects arising from any act or omission by the AMI Implementing Partner or arising from design constraints.

The DISCOMs shall give Notice to the AMI Implementing Partner stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The DISCOMs shall afford all reasonable opportunities for the AMI Implementing Partner to inspect such defects. Upon receipt of such Notice, the AMI Implementing Partner shall expeditiously repair or replace the defective components of the AMI system thereof, at no cost to the DISCOMs within 30 days. If having been notified, the AMI Implementing Partner fails to remedy the defect within the period specified in this tender, the DISCOM may proceed to take within a reasonable period such remedial action as may be necessary at the AMI Implementing Partner's risk and expense and without prejudice to any other right which the DISCOMs may have against the AMI Implementing Partner.

The AMI Implementing Partner shall provide warranty that shall include AMC and ATS from the date of completion of commissioning / successful UAT and shall continue till Go-Live. Subsequently, the AMI Implementing Partner shall provide the AMC/ATS for the pending duration of the project.

Under AMC/ATS, the AMI Implementing Partner shall provide the below mentioned services including but not limited to:

- Free patches/ hotfixes/ updates/ upgrades/ notes etc. for Operating Systems, Databases or any security upgrade of the products to EESL/DISCOM as and when released by OEM
- SLA Based Support through telephone/Fax/E-mail/ personal visit

## 16. ADHERENCE TO SPECIFICATIONS

Subsequent to an order being placed against your quotation, received in response to this 'enquiry', if it is found that the services provided are not of the right quality or not in accordance with our specifications (required by us) or leads to damage/ loss of smart meter after being taken into the custody of the AMI Implementing Partner, owing to any reason of which we shall be the sole judge, we shall be entitled to reject the services, cancel the contract and buy our requirement from the open market / other sources and recover the loss, if any, from the bidder(s) reserving to ourselves the right to forfeit the security deposit, furnished by the bidder(s) against the contract. The bidder(s) shall make its own arrangements to remove the rejected material within a fortnight of instruction to do so.

Thereafter installation shall lie entirely at the bidder's risk and responsibility and storage charges, along with any other charges applicable, shall be recoverable from the bidder(s).

17. We reserve the right to accept or reject any quotation in full or in part without assigning any reason thereof. We also reserve the right to split and place order on more than one bidder.
18. The bidder(s) should not have been black-listed by Central/ State Government or Public Sector Undertakings. If at any stage of tendering process or during the currency of the contract, any suppression / falsification of such information is brought to the knowledge, EESL shall have the right to reject the proposal or terminate the contract, as the case may be, without any compensation to the tenderer and forfeiture of bid security/EMD/CPG.

## 19. COST OF Tender/BIDDING DOCUMENTS / Tender FEE

Interested bidder(s) may view the tender documents at <https://eesl.eproc.in> or could be viewed after following the link of 'e-Tendering' on EESL home page, i.e. <http://eeslindia.org> from where the registered vendors [registration process is explained at EESL home page in "E-tendering" section] with EESL will be able to download the tender documents and submit their bids online.

The cost of tender documents is mentioned in Section-1 – (Non-refundable and Non Adjustable) which shall be payable in the form of DD/Pay order or Banker's Cheque in favour of Energy Efficiency Services Limited issued by any scheduled/nationalized bank payable in NOIDA/New Delhi (under this option the details of DD No. and Date, amount, bankers name etc has to be submitted in relevant field/column of online module). Tenders without this cost are liable to be rejected. It should be ensured by the vendor that the original DD is received by EESL before opening time of techno-commercial bids for verification of the details of DD given online by the vendors.

The tender submission, tender closing and opening will be done electronically and online.

EESL shall not be responsible for any delay, loss or non-receipt of Tender Document Cost sent by post/courier. The instrument should reach in original to EESL office before the Bid Opening date. Bids not accompanied with the requisite tender document cost may not be opened.

## 20. BID SECURITY/EARNEST MONEY DEPOSIT (EMD)

Amount and other details of Bid Security/EMD: As mentioned in Section-1. The details of EMD instrument has to be submitted in relevant field/column of online module. Tenders without Earnest Money Deposit is liable to be rejected. It should be ensured by the vendor that the original BG is received by EESL before opening time of techno-commercial bids for verification of the details of BG given online by the vendors. The tender submission, tender closing and opening will be done electronically and online.

EESL shall not be responsible for any delay, loss or non-receipt of Tender Document Cost sent by post/courier. The instrument should reach in original to EESL office before the Bid Opening date. Bids not accompanied with the requisite tender document cost may not be opened. The bid securities of unsuccessful bidder(s) will be returned as promptly as possible after the award is made.

The bid security of the implementation partner(s) will be returned when it has signed the contract agreement, and has furnished the required performance security.

The bid security may be forfeited if:

- a) If the bidder(s) withdraws its bid during the period of bid validity as specified in the bid.
- b) If the bidder(s) does not accept computational/arithmetical error correction made by EESL and as explained in "Financial Evaluation" section of the Bid/ Tender document.
- c) If the bidder(s) does not accept assumptions, estimations etc. used for evaluation of bids as specified by EESL in tender documents and revision of its bid accordingly, in case other assumptions are used. If the bidder(s) does not accept the sharing as specified in the bid.
- d) If the Bidder(s) refuses to withdraw, without any cost to the EESL, any deviation not listed in Attachment-5 but found elsewhere in the bid; or
- e) In the case of implementation partner(s) fails to sign the contract agreement within 28 days of placement of Lol/Award letter and to furnish the required contract performance guarantee, in accordance with the tender document.

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## ELIGIBILITY & QUALIFYING REQUIREMENTS

**Notes:**

- i) Apart from the criteria given below, past performance of bidder(s) with EESL, i.e., related to quality, supply, performance, etc. shall be taken into consideration by EESL during bid evaluation.
- ii) EESL reserves the right to independently verify the authenticity of the documents submitted/claims made by the bidder(s), and may also ask for presenting the original copy of the submitted document(s) at any stage. Further, on such verification, if it is found that the bidder(s) has made false claims, submitted forged documents, etc., the bid shall be liable for outright rejection, notwithstanding other rights available under the tendered Terms and Conditions for taking actions against the bidder(s), as deemed fit by EESL.

The eligibility criteria are mentioned in table below.

<b>S No.</b>	<b>Eligibility Criteria</b>	<b>Documents to be submitted and Annexed as given below</b>	<b>Details of the Documents submitted by Bidder(s) in brief</b>
<b>(A)</b>	<b>(B)</b>	<b>(C)</b>	<b>(D)</b>
1	<p>(a) Bidder(s) is allowed to form consortium while submitting its proposal. "Consortium" means firms severally bound to the EESL for the fulfillment of the provisions of the Contract and such firms shall designate one of such firms to act as a leader with authority to bind the consortium. The composition or constitution of the consortium shall not be altered without the prior consent of the Client. The consortium of bidders should not exceed four (04) inclusive of the Lead Bidder(s) itself.</p> <p>(b) Lead bidder of this consortium needs to be mandatorily a system integrator and should meet "Technical Qualification criterion for System Integrator". Rest all the qualifying requirements can be met either by lead bidder or the consortium in totality.</p> <p>(c) In case of consortium, bidder(s) shall</p> <ol style="list-style-type: none"> <li>i) Provide clarity on the roles and responsibility of each consortium member</li> <li>ii) Ensure that a particular company can be a member of only one consortium (either as lead or as a consortium member) except for GPRS Communication Provider &amp; Cloud Infrastructure Provider.</li> <li>iii) Enforce that all the members are part of the contractual arrangement amongst themselves before submitting the bid</li> </ol>	<p>(a) Declaration from the bidder(s), whether quoting as a stand-alone firm, or as part of an Consortium, name(s) and number of partners of the Consortium and details of their authorized executives, offices and manufacturing facility addresses, and other details. <i>(To be annexed as IA)</i></p> <p>(b) Consortium Agreement (where applicable) to be submitted, clearly delineating the bifurcation of activities/responsibilities/sourcing between/among the Lead Partner and the other Subordinate Partner(s). <i>(To be annexed as IA)</i></p>	<p>Declaration letter ref. no. _____, and date _____.</p> <p>Consortium Agreement Ref. No. _____, and Date _____.</p>

	<p>iv) Submit jointly signed agreement as per attached</p> <p><b>NOTES:</b></p> <p>i) In case of Consortium, the bid is to be submitted and all documentation is to be completed by the Lead Partner on behalf of the Consortium.</p> <p>ii) In case of a Consortium, the Lead Partner shall be sole point of contact for EESL for the tendering and operation of the Contract.</p> <p>iii) In case of a Consortium, the LOA may be issued <i>only</i> in the name of the Lead Partner, and all payments shall be made to the Lead Partner, for administrative convenience.</p>		
2	<p>The bidder(s) should be a firm registered/incorporated under Companies Act, 1956 or Companies Act, 2013, and further amendment (s).</p> <p>For an international company, it should be in existence in its parent country for last 3 years</p>	<p>Certificate of Incorporation issued under Indian Companies Act, 1956 from Registrar of Companies to be submitted.</p>	<p>Company Incorporation Certificate No. _____</p> <p>Date : _____</p> <p>Country of origin of goods _____</p>
3	<p><b><u>Applicable only for International Bidder Participating Through an Agent:</u></b></p> <p>In this Tender, either the Indian agent on behalf of the Principals/ Bidder or Principals/ Bidder itself can bid but both cannot bid simultaneously for the same item/product in the same tender.</p> <p>If an agent submits bid on behalf of the Principals/ Bidder, the same agent shall not submit a bid on behalf of another Principals/ Bidder in this Tender for the same item/product.</p>	<p>Agreement between bidder and local agent for this tender.</p>	
4	<p>The Bidder(s) should not be under a declaration of ineligibility / banned / blacklisted for any statutory and/or performance reasons, as on last date of submission of the Bid.</p> <p>Bidder(s) or its promoters or its sister concerns or its group companies should not be involved in any prosecution for financial fraud / irregularities.</p>	<p>Self-certification at the time of bid submission.</p> <p>For international company, bidder(s) shall declare with reference to the federal / state province in parent country. The bidder(s) shall also self-certify if the international company has been banned /blacklisted by any government organization in India.</p>	<p>Self-Certification</p>

6	<p>Bidder(s) is not involved in any legal case that may affect the solvency / existence of the firm or in any other way affect Bidder's capability to provide / continue the services to EESL.</p> <p>Bidder should: -</p> <p>a) not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons;</p> <p>b) not have, and their directors and officers not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;</p>	<p>Self-certification at the time of bid submission.</p> <p>For international company, bidder(s) shall declare with reference to the federal / state province in parent country. The bidder(s) shall also self-certify if the international company has been banned /blacklisted by any government organization in India.</p>	Self Certification
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**Note:** All the required documents must be properly annexed and submitted as mentioned above with necessary details in brief in column D.

The qualifying requirements (including Financial and Technical criteria) are mentioned in table below.

**Qualification Criteria:**

S. No.	Parameter	Applicable for Indian company	Applicable for International company	Document to be provided
<b>Financial Qualification Criteria</b>				
F1	Annual turnover for each of the last three financial years ending 31 <sup>st</sup> March 2017 (for Indian bidder) or 31 <sup>st</sup> December 2016 (for International bidder, if and as applicable). In case of consortium bids, combined turnover of all the consortium partners shall be considered, subject to the lead bidder(s) and the other consortium members having a turnover of minimum	INR 520 Cr	USD 80 Mn	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business. <i>(To be annexed as F1,F2 F3 respectively for each year)</i>

S. No.	Parameter	Applicable for Indian company	Applicable for International company	Document to be provided
	40% and minimum 25% respectively of this requirement).			
F2	Net worth in each of last 3 financial years.  (To be satisfied by each member in case of consortium.)	Net worth of bidder and or its holding company / Consortium, as on the last day of preceding Financial / accounting year, should be 100% of paid-up share capital. However, individually their net worth shall not be less than 75% of their respective paid-up share capital.	Net worth of bidder and or its holding company / Consortium, as on the last day of preceding Financial / accounting year, should be 100% of paid-up share capital. However, individually their net worth shall not be less than 75% of their respective paid-up share capital.	Audited Balance Sheet.
F3	Profitability in each of these 3 years ending 31 <sup>st</sup> March 2017 or 31 <sup>st</sup> December 2016 (as applicable) (To be satisfied by each member in case of consortium.)	Positive in atleast two of past three years. Mandatory for the last financial year.	Positive in atleast two of past three years. Mandatory for the last financial year	Income Statement from Chartered Accountant
<b>Technical Qualification Criteria for System Integrator</b>				
SI-T1	Bidder(s) have experience of IT / Software services covering IT applications	For at least 3 years as on tender date.	For at least 3 years as on tender date.	Documentary evidence of Purchase orders / Framework agreements for this duration that prove this aspect.
SI-T2	Bidder(s) should have experience of implementing at least three (03) AMI / AMR projects for any of the electricity / water / gas utilities.  AMI projects should have covered following components of AMI Projects (Similar to the requirements as laid down in this tender):	Successfully executed minimum 3 projects (involving cumulative of 10,00,000 electricity / water / gas meters) in past 7 years with 1 project in operation in the past 3 years ending on the date of tender	Successfully executed minimum 3 projects (involving cumulative of 10,00,000 electricity / water / gas meters) in past 7 years with 1 project in operation in the past 3 years ending on the date of tender	Purchase order from client. Client Certificate (with contact details) for supplies and successful operation of the Head End System & MDM System. EESL reserves the right to contact / visit such client during evaluation of this tender response.  <ul style="list-style-type: none"> <li>• Signed agreements/ MoUs for integration of NIC module</li> <li>• Certificate of successful integration</li> </ul>

S. No.	Parameter	Applicable for Indian company	Applicable for International company	Document to be provided
	<p>a) Smart Meters with GPRS compatible NIC card</p> <p>b) Communication infrastructure</p> <p>c) Head End System (HES)</p> <p>d) Meter Data Management System (MDM)</p> <p>e) integration of meter with head-end system with MDMS on standard interfaces and data exchange models along with Integration with Legacy system such as MBC, OMS etc</p> <p>f) Analytics</p> <p>g) successfully integrated HES with meters of at least 3 manufacturers</p> <p>AMR projects should have covered following components of AMR Projects (Similar to the requirements as laid down in this tender):</p> <p>a) Meters / Modem</p> <p>b) GPRS / CDMA Network</p> <p>c) Meter Data Acquisition System(MDAS) / Meter Data Management System (MDM)</p> <p>d) integration of MDAS / MDMS with Integration with Legacy system such as MBC, OMS etc</p>			

S. No.	Parameter	Applicable for Indian company	Applicable for International company	Document to be provided
SI-T3	Bidder(s) should have quality certifications for its manufacturing and services function.	ISO 9001, ISO 20000-1:2011, 27001:2013 and CMMI Level 3 or higher	ISO 9001, ISO 20000-1:2011, 27001:2013 and CMMI Level 3 or higher	Valid Certificate copy.
SI-T4	Bidder(s) should have experience of Cloud Implementation / Deployment	The Bidder(s) should have managed or deployed IT Solution / Applications comprising of Application Hosting on Cloud services to at least 3 clients during last three Financial Years. Value of each of such project be atleast INR 1 Cr annually.	The Bidder(s) should have managed or deployed IT Solution / Applications comprising of Application Hosting on Cloud services to at least 3 clients during last three Financial Years. Value of each of such project be atleast USD 156250 annually	Copy of Client certificate, work order, completion certificate or extract from the contract mentioning the scope of work
SI-T5	GPRS Communications  The bidder should have implemented project(s) with at least 1,00,000 communication module/endpoints (installation, integration, maintenance & management)	The bidder should have implemented project(s) with at least 1,00,000 communication module/endpoints (installation, integration, maintenance & management) involving GPRS/3G/4G communication technology or combination of these technologies during the last 3 years in India/ Globally.	The bidder should have implemented project(s) with at least 1,00,000 communication module / endpoints (installation, integration, maintenance & management) involving GPRS/3G/4G communication technology or combination of these technologies during the last 3 years in India/ Globally.	<ul style="list-style-type: none"> <li>References along with requisite contract/ PO/ WO. The references should indicate client name, scope of work, project start date and date of completion of installation.</li> <li>Certificate from the client on successful installation of the project</li> </ul>
SI-T6	Manpower Requirement	Bidder(s) should have at least 500 Professionals (B. tech /B.E / M.Tech / M.E. /MCAs) on its own roll atleast 100 of them	Bidder(s) should have at least 500 Professionals (B. tech /B.E / M.Tech / M.E. /MCAs) on its own roll atleast 100 of them	Undertaking declaring the number of Professionals (B. tech /B.E / M.Tech /M.E. / MCAs) (including category wise numbers) from the head of the HRD of Bidder.

S. No.	Parameter	Applicable for Indian company	Applicable for International company	Document to be provided
		working on AMI solutions as on 31st March 2017. The roles and responsibilities of the personnel should include system integration of IT applications or software or Cloud or Network.	working on AMI solutions as on 31st March 2017. The roles and responsibilities of the personnel should include system integration of IT applications or software or Cloud or Network.	
SI-T7	Authorization for Head End System & MDM System each	Bidder(s) should submit Authorization letter for both MDMS & HES confirming the following: 1. Authorization for bidder with reference to direct purchase and support agreement. 2. Confirm that the products quoted are not "end of Support" during the Project Period.	Bidder(s) should submit Authorization letter for both MDMS & HES confirming the following: 1. Authorization for bidder with reference to direct purchase and support agreement. 2. Confirm that the products quoted are not "end of Support" during the Project Period.	Authorization letter from respective OEM's.

Note:

- i) For startup firms, gazette notification dated 17 Feb 2016, G.S.R. 180(E), and the subsequently issued guidelines may be considered for waiving off respective qualifying requirements.
- ii) In case a bidder does not satisfy the financial criteria, stipulated at Sr. no F1, F2, F3 on its own, the holding company would be required to meet the stipulated respective criteria, provided that the net worth of such holding company as on the last day of preceding financial year is at least equal to or more than the paid-up share capital of the holding company. In such an event, the bidder would be required to furnish along with its bid, a letter of undertaking from the holding company, supported by board resolution, as per the format enclosed in the bid documents, pleading unconditional & irrevocable financial support for the execution of the contract by the bidder in case of award.

<b>Technical Qualification Criteria for Product OEM</b>			
<b>S. No.</b>	<b>Parameter</b>	<b>Requirement</b>	<b>Document to be provided</b>
PR-T1	HES Product Vendor Experience	Successful Operations of proposed Head End System in three (03) National / International Utilities. The Head End System should have cumulative installed base of minimum 10,00,000 (1 million) electricity/water/gas meters in past 7 years	Purchase order / Completion/ Go-Live certificates from client. Client Certificate (with contact details) for supplies and successful operation of the Head End System. EESL reserves the right to contact / visit such client during evaluation of this tender response
PR-T2	MDMS Product Vendor Experience	MDMS should be a COTS Product having successful Operations of proposed MDMS in three (03) National / International Utilities. The MDM System should have cumulative installed base of minimum 25,00,000 (2.5 Million) electricity/water/gas meters in past 7 years	Purchase order / Completion/ Go-Live certificates from client. Client Certificate (with contact details) for supplies and successful operation of the MDM System. EESL reserves the right to contact / visit such client during evaluation of this tender response

<b>Technical Qualification Criteria for Telecom Service Provider (TSP)</b>			
<b>S. No.</b>	<b>Parameter</b>	<b>Requirement</b>	<b>Document to be provided</b>
TSP-T1	Experience of providing GPRS (3G/4G) services	GSM/GPRS service provider should have valid license given by Department of Telecommunications (DoT), Government of India, for providing 3G/4G services.	Purchase order/LOI/Contract/Certification on client letterhead/Performance certificate as proof of services provided for the last 3 financial years
TSP-T2	Experience of network installation / maintenance services	TSP should have presence in all the telecom circles in Uttar Pradesh and Haryana states of India	Incorporation Certificate along with Memorandum & Articles of Association
TSP-F1	Annual turnover from WAN projects (installation, integration, maintenance & management experience) for each of the last three financial years ending 31 <sup>st</sup> March 2017 (for Indian bidder) or 31 <sup>st</sup> December 2016 (for International bidder, if and as applicable).	INR 30 Cr	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business.

<b>Technical Qualification Criteria for Meter Installation</b>			
<b>S. No.</b>	<b>Parameter</b>	<b>Requirement</b>	<b>Document to be provided</b>
CI-T1	Meter Installation Experience	Bidder should have successfully installed 1,00,000 meters during the last three financial years.	Purchase order/LOI/Contract/Certification on client letterhead/ Performance certificate as proof of services provided for the last 3 financial years
CI-F1	Annual turnover from Meter Installation projects for each of the last three financial years ending 31 <sup>st</sup> March 2017 (for Indian bidder) or 31 <sup>st</sup> December 2016 (for International bidder, if and as applicable).	INR 3 Cr	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business.

<b>Technical Qualification Criteria for Cloud Service Provider (CSP)</b>				
<b>S. No.</b>	<b>Parameter</b>	<b>Applicable for Indian company</b>	<b>Applicable for International company</b>	<b>Document to be provided</b>
CS-T1	Compliance	Cloud Service Provider (CSP) from the empaneled cloud service provider ( <a href="http://meity.gov.in/content/gi-cloud-meghraj">http://meity.gov.in/content/gi-cloud-meghraj</a> ) by MeITY Govt. of India.	Cloud Service Provider (CSP) from the empaneled cloud service provider ( <a href="http://meity.gov.in/content/gi-cloud-meghraj">http://meity.gov.in/content/gi-cloud-meghraj</a> ) by MeITY Govt. of India.	Cloud Service Provider should provide a self-signed certificate on their letter head from authorized signatory

<b>Technical Qualification Criteria for Cloud Service Provider (CSP)</b>				
<b>S. No.</b>	<b>Parameter</b>	<b>Applicable for Indian company</b>	<b>Applicable for International company</b>	<b>Document to be provided</b>
CS-T2	Certification	Compliance process to the defined international standards and security guidelines such as Tier III Certificate for Data Centre Conform to at least Tier III standard, certified under TIA 942 or Uptime Institute certifications by a 3rd party, Cloud Hosting Provider should be ISO 27001, ISO 20000:1 certified	Compliance process to the defined international standards and security guidelines such as Tier III Certificate for Data Centre Conform to at least Tier III standard, certified under TIA 942 or Uptime Institute certifications by a 3rd party, Cloud Hosting Provider should be ISO 27001, ISO 20000:1 certified	Copy of certificates
CS-T3	Projects Experience	Cloud Service Provider must have experience of provisioning Infrastructure as a Service (IaaS) on their Cloud for atleast 3 clients form Private/PSU/Central Govt/State Govt. or any other Organisation or agencies in India.	Cloud Service Provider must have experience of provisioning Infrastructure as a Service (IaaS) on their Cloud for atleast 3 clients form Private/PSU/Central Govt/State Govt. or any other Organisation or agencies in India.	Copy of Client certificate, work order, completion certificate or extract from the contract mentioning the scope of work
CS-T4	Technical Capability	The Data Center Facility (or each of the facilities where the cloud service offerings are proposed to be offered) must meet the following criteria: a) The Data Center Facility must be within India, should be currently operational and have with minimum capacity of 100 Racks. The DC and the DR should be in different	The Data Center Facility (or each of the facilities where the cloud service offerings are proposed to be offered) must meet the following criteria: a) The Data Center Facility must be within India, should be currently operational and have with minimum capacity of 100	Cloud Service Provider should provide a self-signed certificate on their letter head from authorized signatory

<b>Technical Qualification Criteria for Cloud Service Provider (CSP)</b>				
<b>S. No.</b>	<b>Parameter</b>	<b>Applicable for Indian company</b>	<b>Applicable for International company</b>	<b>Document to be provided</b>
		seismic zones.	Racks. The DC and the DR should be in different seismic zones.	



ANNEX-A to SECTION-4

PRICE BID FORMAT

**A1: Price Schedule for Goods  
to Be Offered from Within India**

(Produced here for illustration purpose; to be filled-up ONLINE only)

Name of the Bidder: \_\_\_\_\_

Item Name	Proposed Quantity	Unit of Measurement	Base price per unit (in. Rs.)	GST (IGST/CGST/S GST/UGST) applicable in %	Unit rate inclusive of GST(IGST/C GST/SGST/U GST) (inRs.) (in figure)	Total inclusive of GST(IGST/CG ST/SGST/UGS T) (inRs.) on F.O.R. destination basis (in figure)	Total inclusive of GST(IGST/C GST/SGST/ UGST) (inRs.) on F.O.R. destination basis (in words)
(1)	(2)	(3)	(4)	(5)	(6)=4+(4*5)	(7)=(2*6)	(8)
<b>Part-A:</b> Head End System software	1	Lot					
<b>Part-B:</b> Meter Data Management System (MDMS) software	1	Lot					
<b>Part-C:</b> BI/ Analytics Software	1	Lot					
<b>Part-D:</b> Database Software	1	Lot					
<b>Part-E:</b> Design & development of Web portal, Mobile App /Helpdesk etc.	1	Lot					
<b>Part F:</b> Integration & Testing (HES, MDMS, with all necessary component and legacy system)	1	Lot					
<b>Part G:</b> AMC / ATS Charges for Year 1	1	Lot					



<b>Part H:</b> AMC / ATS Charges for Year 2	1	Lot					
<b>Part I:</b> AMC / ATS Charges for Year 3	1	Lot					
<b>Part J:</b> AMC / ATS Charges for Year 4	1	Lot					
<b>Part K:</b> AMC / ATS Charges for Year 5	1	Lot					
<b>Part L:</b> AMC / ATS Charges for Year 6	1	Lot					
<b>Part M:</b> AMC / ATS Charges for Year 7	1	Lot					
<b>Part N:</b> AMC / ATS Charges for Year 8	1	Lot					
<b>Part O:</b> Cloud Hosting Charges Year 1	1	Lot					
<b>Part P:</b> Cloud Hosting Charges Year 2	1	Lot					
<b>Part Q:</b> Cloud Hosting Charges Year 3	1	Lot					
<b>Part R:</b> Cloud Hosting Charges Year 4	1	Lot					
<b>Part S:</b> Cloud Hosting Charges Year 5	1	Lot					
<b>Part T:</b> Cloud Hosting Charges Year 6	1	Lot					
<b>Part U:</b> Cloud Hosting Charges Year 7	1	Lot					
<b>Part V:</b> Cloud Hosting Charges Year 8	1	Lot					
<b>Part W:</b> GPRS Connectivity Charges Year 1	1	Lot					



<b>Part X:</b> GPRS Connectivity Charges Year 2	1	Lot					
<b>Part Y:</b> GPRS Connectivity Charges Year 3	1	Lot					
<b>Part Z:</b> GPRS Connectivity Charges Year 4	1	Lot					
<b>Part AA:</b> GPRS Connectivity Charges Year 5	1	Lot					
<b>Part AB:</b> GPRS Connectivity Charges Year 6	1	Lot					
<b>Part AC:</b> GPRS Connectivity Charges Year 7	1	Lot					
<b>Part AD:</b> GPRS Connectivity Charges Year 8	1	Lot					
<b>Part AE:</b> Installation and commissioning of Single Phase Whole Current Smart Meters with meter box with necessary accessories /Hardware for fixing (including transportation of smart meters to installation site and insertion of GPRS SIM cards) (One Time)* for 45,00,000 units of Meter + Box Cost	45,00,000	Lot					
<b>Part AF:</b> Installation and commissioning of Three Phase Whole Current Smart Meters with meter box with necessary accessories /Hardware for fixing (including transportation of smart meters to installation site and insertion of GPRS SIM cards)	4,50,000	Lot					



(One Time)* for 4,50,000 units of Meter + Box Cost							
<b>Part AG:</b> Installation and commissioning of LT-CT Three Phase Smart Meters with meter box with necessary accessories /Hardware for fixing (including transportation of smart meters to installation site and insertion of GPRS SIM cards) (One Time)* for 50,000 units of Meter + Box Cost	50,000	Lot					
<b>Part AH:</b> Consumer Indexing in the project area	50,00,000	Nos.					
<b>Part AI:</b> Training Charges (one time)	1	Lot					
<b>Part AJ:</b> Facility Management Services/ Operation & Maintenance Charges Year 1	1	Lot					
<b>Part AK:</b> Facility Management Services/ Operation & Maintenance Charges Year 2	1	Lot					
<b>Part AL:</b> Facility Management Services/ Operation & Maintenance Charges Year 3	1	Lot					
<b>Part AM:</b> Facility Management Services/ Operation & Maintenance Charges Year 4	1	Lot					



<b>Part AN:</b> Facility Management Services/ Operation & Maintenance Charges Year 5	1	Lot					
<b>Part AO:</b> Facility Management Services/ Operation & Maintenance Charges Year 6	1	Lot					
<b>Part AP:</b> Facility Management Services/ Operation & Maintenance Charges Year 7	1	Lot					
<b>Part AQ:</b> Facility Management Services/ Operation & Maintenance Charges Year 8	1	Lot					
<b>Part AR:</b> Any other equipment/ software required for successful deployment of project		As required					
<b>Total (AS) = (Part-A + Part-B + Part-C + Part-D + Part-E + Part-F + Part G + Part H + Part I + Part J + Part K + Part L + Part M + Part N + Part O + Part P + Part Q + Part R + Part S + Part T + Part U + Part V + Part W + Part X + Part Y + Part Z + Part-AA + Part-AB + Part-AC + Part-AD + Part-AE + Part-AF + Part-AG + Part-AH + Part-AI + Part-AJ + Part-AK + Part-AL + Part-AM + Part-AN + Part-AO + Part-AP + Part-AQ + Part-AR )</b>						<b>Grand Total (AS)</b>	



## A2: Price Schedule for Goods to Be Offered from Outside India

Name of the Bidder: \_\_\_\_\_

S. No.	Description	Quantity	Unit of Measurement	Country of Origin	Currency (USD/ INR)	Unit Price* CIF (...) or CIP (...)	Unit Price FOB (...) or FCA (...)	Total Price CIF or CIP	Total Price CIF or CIP (in Words)	Total Price FOB or FCA	Total Price FOB or FCA (in Words)	
1	2	3	4	5	6	7	8	9= 7 x 3	10	11 = 8 x 3	12	
<b>A</b>	Head End System software	1	Lot				N/A (Bidder to quote zero here in the online Price Bid Form)			N/A (Bidder to quote zero here in the online Price Bid Form)		
<b>B</b>	Meter Data Management System (MDMS) software	1	Lot									
<b>C</b>	BI/ Analytics Software	1	Lot									
<b>D</b>	Database Software	1	Lot									
<b>E</b>	AMC / ATS Charges for Year 1	1	Lot									
<b>F</b>	AMC / ATS Charges for Year 2	1	Lot									
<b>G</b>	AMC / ATS Charges for Year 3	1	Lot									
<b>H</b>	AMC / ATS Charges for Year 4	1	Lot									
<b>I</b>	AMC / ATS Charges for Year 5	1	Lot									



<b>J</b>	AMC / ATS Charges for Year 6	1	Lot								
<b>K</b>	AMC / ATS Charges for Year 7	1	Lot								
<b>L</b>	AMC / ATS Charges for Year 8	1	Lot								
<b>M</b>	Training Charges (one time)	1	Lot								
<b>Total (X) = A+B+C+D+E+F+G+H+I+J+K+L+M</b>											

### A3: Price Schedule for Related Services to be Offered from Inside India

S. No.	Description	Quantity	Unit of Measurement	Country of Origin	Unit Price		Total Price per Item	
					(a)	(b)	(a)	(b)
					Foreign Currency	Local Currency	Foreign Currency	Local Currency
1	2	3	4	5	6(a)	6(b)	7(a) = 3 x 6(a)	7(b) = 3 x 6(b)
<b>A</b>	Design & development of Web portal, Mobile App /Helpdesk etc.	1	Lot					
<b>B</b>	Integration & Testing (HES, MDMS, with all necessary component and legacy system)	1	Lot					
<b>C</b>	Cloud Hosting Charges Year 1	1	Lot					
<b>D</b>	Cloud Hosting Charges Year 2	1	Lot					
<b>E</b>	Cloud Hosting Charges Year 3	1	Lot					
<b>F</b>	Cloud Hosting Charges Year 4	1	Lot					
<b>G</b>	Cloud Hosting Charges Year 5	1	Lot					
<b>H</b>	Cloud Hosting Charges Year 6	1	Lot					
<b>I</b>	Cloud Hosting Charges Year 7	1	Lot					
<b>J</b>	Cloud Hosting Charges Year 8	1	Lot					
<b>K</b>	GPRS Connectivity Charges Year 1	1	Lot					
<b>L</b>	GPRS Connectivity Charges Year 2	1	Lot					
<b>M</b>	GPRS Connectivity Charges Year 3	1	Lot					
<b>N</b>	GPRS Connectivity Charges Year 4	1	Lot					
<b>O</b>	GPRS Connectivity Charges Year 5	1	Lot					
<b>P</b>	GPRS Connectivity Charges Year 6	1	Lot					
<b>Q</b>	GPRS Connectivity Charges Year 7	1	Lot					
<b>R</b>	GPRS Connectivity Charges Year 8	1	Lot					



<b>S</b>	Installation and commissioning of Single Phase Whole Current Smart Meters with meter box with necessary accessories /Hardware for fixing (including transportation of smart meters to installation site and insertion of GPRS SIM cards) (One Time)* for 45,00,000 units of Meter + Box Cost	45,00,000	Nos.					
<b>T</b>	Installation and commissioning of Three Phase Whole Current Smart Meters with meter box with necessary accessories /Hardware for fixing (including transportation of smart meters to installation site and insertion of GPRS SIM cards) (One Time)* for 4,50,000 units of Meter + Box Cost	4,50,000	Nos.					
<b>U</b>	Installation and commissioning of LT-CT Three Phase Smart Meters with meter box with necessary accessories /Hardware for fixing (including transportation of smart meters to installation site and insertion of GPRS SIM cards) (One Time)* for 50,000 units of Meter + Box Cost	50,000	Nos.					
<b>V</b>	Consumer Indexing in the project area	50,00,000	Nos.					
<b>W</b>	Facility Management Services/ Operation & Maintenance Charges Year 1	1	Lot					
<b>X</b>	Facility Management Services/ Operation & Maintenance Charges Year 2	1	Lot					



<b>Y</b>	Facility Management Services/ Operation & Maintenance Charges Year 3	1	Lot					
<b>Z</b>	Facility Management Services/ Operation & Maintenance Charges Year 4	1	Lot					
<b>AA</b>	Facility Management Services/ Operation & Maintenance Charges Year 5	1	Lot					
<b>AB</b>	Facility Management Services/ Operation & Maintenance Charges Year 6	1	Lot					
<b>AC</b>	Facility Management Services/ Operation & Maintenance Charges Year 7	1	Lot					
<b>AD</b>	Facility Management Services/ Operation & Maintenance Charges Year 8	1	Lot					
<b>AE</b>	Any other equipment/ software required for successful deployment of project	1 AU (Activity Unit)	As required (Lumpsum)					

**Notes:**

Column 6: Only to be used if EESL wishes to reserve transportation and insurance to domestic companies or other designated sources. Identification of the lowest evaluated bid must be on the basis of the CIF or CIP price, but EESL may sign the contract on FOB or FCA terms and make its own arrangement for transportation and/or insurance.

Column 5 and 6 Currency as per Clause 4 (Price Basis) of SCC

**Notes applicable to Tables A1, A2 and A3 above:**

1. The bidder(s) has to mandatorily quote for all the line items/services/jobs enlisted in the Price Bid Sheet format. Else, the bid shall be liable for outright rejection.
2. All functionalities covered by the individual software mentioned in this BOQ is mandatorily to deliver. However, the System Integrator may quote any additional software (s) that integrates the functionalities of one or more line items of software(s) mentioned in this BOQ.



3. If there is a discrepancy between the individual unit rates and the total amount, the unit rates will prevail.
4. Bid with variable price(s) will not be accepted.
5. Prices once quoted shall remain firm, and subject not be subject to any escalation, till completion/execution of the contractual assignments/work and till the contract's validity's extension, if any.
6. The contractor shall need to be mandatorily registered with the relevant Tax Authority(ies) for the LOA items (services, where applicable), and furnish photocopy of their tax registration certificate(s) and PAN along with each Tax invoice.
7. Deposit of all statutory taxes, duties, levies, etc. to government authorities shall be the sole responsibility of the contractor and the contractor shall indemnify EESL for any tax claims/problems, etc. with the statutory authority/Government or State authorities.
8. Income tax, TDS, etc. will be deducted at source by EESL as per government policies.
9. Benefit of any reduction in taxes & duties during the execution of contract shall be passed on to EESL by the implementing partner(s).
10. Applicable taxes, duties, cess, etc. shall be paid on actuals as applicable in the state where the products are delivered, provided that the bidder(s) is registered with the relevant tax authorities.
11. The bidder(s) shall comply with all the statutory compliances, specifically pertaining to The Legal Metrology Act 2009.
12. EESL shall provide necessary further information pertaining to the Maximum Retail Price (MRP) to be imprinted on the packaged commodity. The bidder(s) shall pay the Excise Duty (ED) on the applicable price. The difference in the ED amount, if any, shall be adjusted by EESL to the price of the bidder(s).
13. The applicable/chargeable taxes, duties, etc. and the current rate shall be declared by the bidder(s) in the Blanked-price Bid Sheet format as per Attachment-11 in Section-6. It is mandatory to declare these taxes/duties.
14. Further, the bidder(s) must make sure that any compliances, to be ensured by EESL are communicated to EESL by the bidder(s) and if required, EESL may take assistance from the bidder(s) to execute such compliance(s) and the bidder(s) shall be reimbursed the statutory fee only, for performing compliance(s) on behalf of EESL applicable on EESL.
15. The payment towards the additional items (as at Part-G above) consumed/utilized shall be directly made by the end-customer to the bidder(s), based on the individual requirement.
16. EESL have the rights to accept or reject any bid or part without assigning any reason.
17. Maximum quantity is mentioned here for illustration purpose for determination of L-1 only. Bidder(s) shall mention the appropriate quantity as per its capacity.
18. Minimum quantity against each item mentioned in above table is 50% of the maximum quantity.
19. Prices shall be quoted in Indian Rupees (INR) and shall remain firm for the entire project duration.
20. Bidder(s) shall refer to Clause 11 of SCC for details on quantity variation.
21. All System Software licenses offered in the RFP should be Enterprise wide full use without any restriction on access/usage of any kind of functionality during the warranty / FMS period. Bidders need to quote all the user licenses without any restrictions or limitations for usage within India. AMI solution



must not restrict EESL / utilities such as number of users or number of meters etc. The solution should have unrestricted license and in no way restrict EESL in utilizing the functionality to the max.

I/We have read all the terms and conditions of the Tender/IFB/NIT and the Annexure(s) thereto and agree to accept and abide by the same in total. The above quotation has been prepared after taking into account all the terms and conditions of the Tender/IFB/NIT.

*(SEAL)*

Name \_\_\_\_\_

In the capacity of \_\_\_\_\_

Signed \_\_\_\_\_

Duly authorized to sign the Bid for and on behalf of \_\_\_\_\_

Date \_\_\_\_\_

## AGREEMENT

This Agreement is entered on among **Energy Efficiency Services Limited (EESL)**, a company incorporated under the Companies Act \1956 and having its registered office **4<sup>th</sup> Floor, Sewa Bhawan, R.K Puram, New Delhi-110 066 and corporate office at 4<sup>th</sup> & 5<sup>th</sup> Floor, A-13, IWAI Building, Sector-1, NOIDA–201301 (U.P.)** (hereinafter called the“Purchaser/Owner”), of the one part

AND

M/s ..... (Insert name of bidder), a company incorporated under the Companies Act 1956 and having its corporate office at ..... (Insert address of bidder), **Bidder** for ..... (Insert name of project) (hereinafter referred to as “Project”) i.e., Party engaged by EESL vide Letter of Intent (LOI) No: ..... (Insert LOI no.) Dated ..... (insert date of LOI) and detailed Contract order no. (Insert contract order no.) Dated.....(Insert date of contract) (herein referred to as the “Purchase Order”) for site survey, planning, design, engineering, supply, manufacturing, transportation and insurance, delivery at site, unloading, handling, storage, installation, integration, configuration, testing, commissioning, integration, demonstration for acceptance, training, maintenance and documentation incidental thereto as specified in the Scope of Work at Section 4 of the said Purchase Order (hereinafter referred to as “Bidder PO”) which expression shall unless excluded by or repugnant to the meaning or context thereof be deemed to include its successors and assigns) of the Second Part.

AND

M/s ..... (Insert name of TSP), a company incorporated under the Companies Act 1956 and having its corporate office at ..... (Insert address of TSP), being a preferred **TELECOM SERVICE PROVIDER (TSP)** for the referred (Insert name of project) engaged for providing GPRS SIM cards capable of servicing 3G technology compliant with IPv6 operating in the frequency bands allocated by Government of India incidental thereto as specified in the Scope of Work in the agreement between Bidder and EESL (hereinafter referred to as “TSP” which expression shall unless excluded by or repugnant to the meaning or context thereof be deemed to include its successors and assigns) of the Third Part.

“EESL“, “BIDDER” and “TSP” are individually referred as “Party” and collectively as “Parties”.

WHEREAS EESL, the party of the first part has contracted M/s ..... (Insert name of Bidder), the second party, for.....(Insert name of project) vide its RFP No.....(Insert RFP reference no.) Dt..... (Insert RFP published date).

WHEREAS as per the requirements of the Project and in accordance with the relevant part of the Purchase Order, EESL requires GPRS SIM cards capable of servicing 3G technology compliant with IPv6 operating in the frequency bands allocated by Government of India as more particularly detailed in Annexure A (“Services”) for successful implementation of the project.

WHEREAS TSP has Category ‘A/B/C’ ..... (Name of license) having its network spread across India.

Now these presents witness and it is hereby agreed by and between the parties hereto as follows:

## 1. APPLICATION

This Agreement details the general terms and conditions for the provision of the Services to be rendered by **TSP** and by **BIDDER** [as per RFP No.....(Insert RFP reference no.) Dt..... (Insert RFP published date). Upon signing the scope, duration and other services to be so rendered under this Agreement the parties agree to accept and be bound by these terms and conditions.

## 2. PROVISION OF SERVICE

- I. The provision of the Services is subject to these terms and conditions stated in this Agreement. Where TSP shall accept the Order form from EESL, TSP shall provide the Services required by EESL, and by BIDDER on behalf of EESL, within a timeframe, quality, security and reliability level agreed with between EESL, TSP and BIDDER. BIDDER shall verify and certify the TT details, uptime and downtime reports provided by TSP.
- II. The network links (Meter to Head End System through GPRS (3G technology compliant with IPv6) will be provided by TSP. BIDDER shall manage and monitor the network links and the TSP shall extend full cooperation and provide authorization for BIDDER to monitor the network links.
- III. The TSP shall not use the establishments, equipment and services installed under this agreement for organizations other than EESL.

## 3. SERVICE TERM

The term of the Services is for the project duration specified in the RFP, and if required, thereafter, shall be extended from time to time by written consent of the parties.

## 4. TERMINATION OF SERVICE

The Termination of this Agreement and Services shall be as per provisions of Termination clause as appearing in RFP and subsequent amendments/clarifications issued thereon.

## 5. RESPONSIBILITIES OF THE PARTIES

The Responsibility Matrix for each party is given in the table below:

Responsibility of EESL	Responsibility of BIDDER	Responsibility of TSP
To monitor the project progress against time frame & quality and performance with quality, security and reliability levels of required services as per agreement with BIDDER and TSP.	To verify and certify the TT details, uptime and downtime reports provided by TSP  To manage and monitor the network links and report any problems on behalf of TSP.	To provide network links (Meter to Head End System) through GPRS (3Gtechnology compliant of IPv6) incidental thereto as specified in the Scope of Work as per RFP.

Responsibility of EESL	Responsibility of BIDDER	Responsibility of TSP
<p>To disburse the payment to the TSP upon achievement of the SLA on the basis of performance reports/ SLA reports.</p> <p>To provide safe access conditions to BIDDER and TSP's employees or appointed personnel whilst in the premises.</p>	<p>To ensure compliance by the TSP of Indian Telecom regulation &amp; statutory requirements while performing the works/services under this agreement.</p>	<p>To provide the Services (as per SLA) required by EESL and by BIDDER on behalf of EESL, within the timeframe, quality, security and reliability level agreed with between EESL, TSP and BIDDER.</p> <p>Not to use the establishments and services installed under this agreement for organizations other than EESL.</p> <p>To raise direct invoices against the works/services performed, as per the terms proposed by BIDDER.</p> <p>To ensure compliance of Indian Telecom regulation &amp; statutory requirements while performing the works/services under this agreement.</p> <p>To obtain and arrange for the maintenance in full force and effect of all government approvals, consents, licenses, authorizations, declarations, filings, and registrations as may be necessary and advisable for the performance of all of the terms and conditions of this Agreement.</p>

## 6. INVOICE AND PAYMENT

TSP shall raise direct invoices against the Requisite Services so rendered and EESL shall directly make the payment to TSP based on the SLA report and confirmation made by BIDDER.

## 7. DISPUTES WITH REGARDS TO INCORRECT INVOICING

Disputes with regard to incorrect invoicing shall be governed by RFP and subsequent amendments/clarifications issued thereon.

## 8. ACCESS TO PREMISES

**EESL** shall obtain the required permission to enable employees or authorized personnel, appointed distributors, agents or subcontractors of **TSP** and **BIDDER**, to enter at all times during the normal working hours of **EESL** into the premises where the Services are provided for periodical inspection with seven (7) days prior notice, installing, maintaining, replacing and removing equipment

hardware and/or software prior to, during and after the provision of the Services, as well as to inspect the network and/or to the CPE or any other equipment used in or in connection with the Services. The **EESL** shall render all assistance in this regard and shall provide safe access and conditions for employees or appointed personnel of **TSP** and **BIDDER** whilst in the premises. Employees or appointed personnel of **TSP** and **BIDDER**, shall comply with security and confidentiality policies and procedures while on the **EESL's** premises.

## 9. NOTICES

Any party may deliver notices to the other by personal delivery or by postal delivery at -

### **Energy Efficiency Services Limited (EESL)**

**Registered office:** 4th Floor, Sewa Bhawan, R.K Puram, New Delhi-110 066

**Corporate office:** 4th & 5th Floor, A-13, IWAI Building, Sector-1, NOIDA-201301 (U.P.)

**M/s..... (Insert name of Bidder)**

Address of AIA.....

**M/s..... (Insert name of TSP)**

Address of TSP.....

Notices shall be deemed delivered on the date of actual receipt.

## 10. ENTIRE UNDERSTANDING

This Agreement constitutes the entire understanding of the parties related to the subject matter hereof. The agreement may be amended only in writing when it is signed by **TSP**, **BIDDER** and **EESL**.

## 11. MISCELLANEOUS

- a. The terms of this Agreement shall not be construed to constitute a partnership, joint venture or employer/employee relationship between the parties. This Agreement along with any other relevant document constitutes the whole of the agreement and understanding between the parties about the subject matter.
- b. In the event of any provision of this Agreement being held or becoming invalid, unenforceable or illegal for any reason, this Agreement shall remain otherwise in full force apart from the said provision which will be deemed deleted. The parties shall however attempt to replace the deleted provision with a legally valid provision that reflects the same purpose of the deleted provision to the greatest extent possible.
- c. Headings used in this Agreement are for the convenience and ease of reference only, and shall not be relevant to or affect the meaning or interpretation of this Agreement.
- d. No forbearance, relaxation or inaction by any party at any time to require the performance of any provision of this Agreement shall in any way affect, diminish, or prejudice the right of such party to require the performance of that or any other provision of this Agreement or be considered

to be a waiver of any right, unless specifically agreed in writing.

- e. Each Party shall obtain and arrange for the maintenance in full force and effect of all government approvals, consents, licenses, authorizations, declarations, filings, and registrations as may be necessary and advisable for the performance of all of the terms and conditions of this Agreement.
- f. The **TSP** shall ensure compliance of Indian Telecom Regulation & all other statutory requirements while performing the works/services under this agreement.
- g. All other terms and conditions are applicable as per RFP No. ....(Insert RFP reference no.) Dt..... (Insert RFP published date).

**12. APPLICABLE LAW**

The Agreement shall be governed by and construed in accordance with Indian Law. Subject to arbitration provision stated hereinafter the Courts at Bangalore shall have the jurisdiction.

**13. ARBITRATION**

Any disputes which may arise out of this Agreement, and which cannot be settled in discussions or negotiations between the Parties, shall be referred to the appropriate management or higher authorities of the respective parties to resolve such dispute in good faith. In case no settlement is reached the parties shall refer it to a sole arbitrator appointed and selected by parties. Arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 or any other subsequent modifications or enactments thereof. The venue for Arbitration proceedings shall be Bangalore. The Arbitration shall be conducted in English Language and the award shall be binding upon all Parties.

**14. LIMITATION OF LIABILITY**

Limitation & liability shall be governed by the RFP and subsequent amendments/clarifications issued thereon.

IN WITNESS WHEREOF the parties hereto have executed these presents the day and year first above written.

<p><b>SIGNED AND DELIVERED BY (on behalf of EESL)</b></p> <p>Signature .....</p> <p>Name &amp; Designation .....</p> <p>Address .....</p> <p>.....</p>	<p>In the presence of .....</p> <p>Signature .....</p> <p>Name &amp; Designation .....</p> <p>Address .....</p> <p>.....</p>
<p><b>SIGNED AND DELIVERED BY (on behalf of BIDDER .....)</b></p> <p>Signature .....</p> <p>Name &amp; Designation .....</p> <p>Address .....</p>	<p>In the presence of .....</p> <p>Signature .....</p> <p>Name &amp; Designation .....</p> <p>Address .....</p> <p>.....</p>

.....	
<b>SIGNED AND DELIVERED BY (on behalf of TSP.....)</b> Signature ..... Name & Designation ..... Address ..... .....	In the presence of ..... Signature ..... Name & Designation ..... Address ..... .....

## ANNEXURE A

### SLA for providing the services

#### The SLAs broadly would cover the following services:

- GPRS communication capable of 3G Technology compliant with IPv6

The SLA for the GPRS communication mentioned above shall be 98% uptime.

#### Duration of SLA:

This Service level agreement would be valid for entire period of contract. This SLA may be reviewed and revised according to the procedures detailed below under section "SLA Change Control".

#### SLA parameters:

- Working days: Seven days a week (Monday to Sunday).
- Networking Availability Requirements: 24 hours for all locations.
- Uptime and Penalty: Refer Table 1
- The percentage uptime shall be calculated on monthly basis as follows:
- Uptime (or Availability) (in %) =  $(\text{Total no of Hours in month} - \text{Total Outage Hours in month}) \times 100\% / (\text{Total No of Hours in month})$
- Helpdesk (with preferably toll free number): 24 hours

**Table 1**

The following penalties will be applied in case of non-performance of GPRS communication:

S. No.	GPRS Communication Performance	Penalty
1.	If GPRS communication uptime is more than 98 %	No penalty
2.	If GPRS communication uptime is more than 95% but less than 98%	2% of monthly invoice for GPRS data
3.	If GPRS communication uptime is more than 85% but less than 95%	5% of monthly invoice for GPRS data
4.	If GPRS communication uptime is less than 85%	Invoice to be raised only if 85% communication uptime is achieved otherwise the Invoice would be rejected.

Note:

1. EESL has the Right to Short Close the contract and to black list the selected firm for breach of SLA for a continuous period of 3 months.

#### Downtime details:

Downtime/outage is the period of unavailable time, which begins when one of the following situations arises.

- The link is down at the physical layer itself. Service Provider shall be able to monitor the physical layer of the link proactively from the NOC through its Network Management System (NMS). The downtime will start from the moment event is recorded by the NOC or after EESL logs a complaint at Bidder's Helpdesk, whichever is earlier. The downtime will be measured from the NMS reports.
- Down time due to the following situations will not be considered for the purpose of penalty calculation for GPRS communication downtime:
  - a. Communication link down due to power failure at the respective meter locations.
  - b. Scheduled maintenance by the Bidder, with prior intimation to EESL.

**Non submission of monthly SLA report:**

1. The service should submit the monthly SLA reports before 10<sup>th</sup> of every subsequent month. EESL will charge a penalty of Rs. 1000 per day on monthly payment in case of delay in submission of monthly SLA report.



## SECTION-5

1. Measurement and Verification (M&V)

NA for this tender.

# **Section- 6**

## **Forms and Procedures**

## List of Forms and Procedures

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### Bid Document Checklist

S. No.	Document	Documents Required	Uploaded/ Attached? (Yes/ No)	Remarks
<b>A. Bid Documents &amp; EMD</b>				
1.	Bid document cost drawn in favour of “Energy Efficiency Services Limited”, payable at NOIDA	Banker’s Cheque/ Demand Draft/ Pay Order		
2.	Bid Security/Earnest Money Deposit in the form of Banker’s Cheque/Demand Draft/Pay order favour of “Energy Efficiency Services Limited” or in the form of Bank Guarantee as per prescribed format at Attachment-2 of Section-6.	As per Attachment- 2		
<b>B. General Documents</b>				
	Mode of Participation in the tender	<ul style="list-style-type: none"> <li>Declaration from the bidder(s), whether quoting as a stand-alone firm, or as part of an Consortium</li> <li>Consortium Agreement clearly delineating the bifurcation of activities/ responsibilities/ sourcing between/among the Lead Partner and the other Subordinate Partner(s)</li> </ul>		
3.	<p>The bidder(s) should be a firm registered/incorporated under Companies Act, 1956 or Companies Act, 2013, and further amendment (s).</p> <p>For an international company, it should be in existence in its parent country for last 3 years and should be ready to register (within 60 days after award of contract) in India in case of being shortlisted for the award of contract</p>	<ul style="list-style-type: none"> <li>Certificate of Incorporation issued under Indian Companies Act, 1956 from Registrar of Companies to be submitted.</li> <li>GST number and PAN card for Indian company.</li> <li>For international firms, an Affidavit regarding declaration of incorporation of office in India.</li> </ul>		
4.	International Bidder Participating in the tender through an Agent	Agreement between bidder and local agent for this tender.		

S. No.	Document	Documents Required	Uploaded/ Attached? (Yes/ No)	Remarks
5.	Declaration from bidder regarding ineligibility / banned / blacklisted for any statutory and/or performance reasons, as on last date of submission of the Bid.	<ul style="list-style-type: none"> <li>Self-certification at the time of bid submission</li> <li>For international company, declaration with reference to the federal / state province in parent country.</li> <li>Also self-certify if the international company has been banned /blacklisted by any government organization in India.</li> </ul>		
	Declaration regarding not involved in any legal case that may affect the solvency / existence of the firm or in any other way affect Bidder's capability to provide / continue the services to EESL.	<ul style="list-style-type: none"> <li>Self-certification at the time of bid submission</li> <li>For international company, declaration with reference to the federal / state province in parent country.</li> <li>Also self-certify if the international company has been banned /blacklisted by any government organization in India.</li> </ul>		

### C. Forms & Procedures

6.	Bid Form: <b>Attachment-1</b>	<b>Attachment 1 to Attachment 22</b>		
7.	Power of Attorney: <b>Attachment-3</b>			
8.	Certificate Regarding Acceptance of Important Conditions: <b>Attachment-4</b>			
9.	Deviations Statement: <b>Attachment-5</b>			
10.	Form of Acceptance of Fraud Prevention Policy: <b>Attachment-7</b>			
11.	Proforma of Letter of Undertaking: <b>Attachment-10</b>			
12.	Certificate For Compliance: <b>Attachment-11</b>			
13.	Format Real Time Gross Settlement (RTGS)/ National Electronic Fund Transfer (NEFT): <b>Attachment-13</b>			
14.	Undertaking Regarding Blacklisting / Non – Debarment: <b>Attachment-14</b>			
15.	Declaration Regarding JV partner/subcontractors proposed by the bidder: <b>Attachment-15</b>			

S. No.	Document	Documents Required	Uploaded/ Attached? (Yes/ No)	Remarks
16.	Undertaking Regarding Eligibility & Conformity of the Facilities: <b>Attachment-16</b>			
17.	Summary of Audited Financial Statements: <b>Attachment-17</b>			
18.	Undertaking on Total Responsibility: <b>Attachment-18</b>			
19.	Undertaking on Compliance and Sizing of Infrastructure: <b>Attachment-19</b>			
20.	Details of Manpower Resources: <b>Attachment-20</b>			
21.	Manufacturer Authorization Form: <b>Attachment-21</b>			
22.	Details Experience of Similar Work: <b>Attachment-22</b>			
23.	Technical proposal containing project documents detailing complete AMI solution	a) Detailed Project Plan b) Technical Architecture Document (Application, Network, and Security) c) Hardware Sizing based on Application Stack, d) Security (ISMS ) Plan e) Training Plan and manuals f) Risk Management and Contingency Plan document containing emergency response procedures; backup arrangements, procedures, and responsibilities; and post-disaster recovery plans, procedures and responsibilities g) Training and Knowledge Transfer Plans		
	Deployment Schedule & Timelines	As per Annexure-D		
<b>D. Documents demonstrating Financial Qualification Criterion</b>				
24.	Audited Balance Sheet of the last three financial years and certificate from Chartered Accountant stating turnover as specified in QR from each relevant line of business.			
25.	Audited Balance Sheet showing net worth of last 3 financial years			
26.	Income Statement from Chartered Accountant showing profitability in each of these 3 years			
<b>E. Technical Qualification Documents for System Integrator</b>				

S. No.	Document	Documents Required	Uploaded/ Attached? (Yes/ No)	Remarks
27.	Experience of IT / Software services covering IT applications	Documentary evidence of Purchase orders / Framework agreements		
28.	Experience of implementing at least three (03) AMI / AMR projects for any of the electricity / water / gas utilities.	<ol style="list-style-type: none"> <li>1. Purchase order from client.</li> <li>2. Client Certificate (with contact details) for supplies and successful operation of the Head End System &amp; MDM System. <ul style="list-style-type: none"> <li>• Signed agreements/ MoUs for integration of NIC module</li> <li>• Certificate of successful integration</li> </ul> </li> </ol>		
29.	Quality certifications for its manufacturing and services function	Copy of Quality certification (CMMi and ISO)		
30.	Experience of Cloud Implementation / Deployment	Copy of Client certificate, work order, completion certificate or extract from the contract mentioning the scope of work		
31.	Experience in GPRS Communications	<ul style="list-style-type: none"> <li>• References along with requisite contract/ PO/ WO.</li> <li>• Certificate from the client on successful installation of the project</li> </ul>		
32.	Manpower Requirement	Undertaking declaring the number of Professionals from the head of the HRD of Bidder.		
33.	Authorization for Head End System & MDM System each	Authorization letter from respective OEM's.		
<b>F. Technical Qualification Documents for Product OEM</b>				
34.	HES Product Vendor Experience	Purchase order / Completion/ Go-Live certificates from client.		
35.	MDMS Product Vendor Experience	Purchase order / Completion/ Go-Live certificates from client.		
<b>G. Qualification Documents for Telecom Service Provider (TSP)</b>				

S. No.	Document	Documents Required	Uploaded/ Attached? (Yes/ No)	Remarks
36.	Experience of providing GPRS (3G/4G) services	Purchase order/LOI/ Contract/ Certification on client letterhead/ Performance certificate as proof of services provided for the last 3 financial years		
37.	Experience of network installation / maintenance services	Incorporation Certificate along with Memorandum & Articles of Association		
38.	Annual turnover from WAN projects (installation, integration, maintenance & management experience) for each of the last three financial years ending 31st March 2017 (for Indian bidder) or 31st December 2016 (for International bidder, if and as applicable).	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business.		
<b>Qualification Documents for Meter Installation / Consumer Indexing</b>				
39.	Consumer indexing experience or Meter Installation Experience	Purchase order / LOI / Contract / Certification on client letterhead / Performance certificate as proof of services provided for the last 3 financial years		
40.	Annual turnover from Meter Installation / consumer indexing projects for each of the last three financial years ending 31st March 2017 (for Indian bidder) or 31st December 2016 (for International bidder, if and as applicable).	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business.		
<b>H. Technical Qualification documents for Cloud Service Provider (CSP)</b>				
	Compliance & Certification	Copy of certificates		
41.	Projects	Copy of Client certificate, work order, completion certificate or extract from the contract mentioning the scope of work		
42.	Technical Capability	Self-certification on letter head from authorized signatory		
<b>I. Manpower Required</b>				
a.	Project Manager	CV as per Annexure to Attachment 20		
b.	Associate Project Managers			
c.	Site Engineers for Meter Management			
d.	Communication/HES Expert			
e.	Metering Expert			
f.	Database Expert			

S. No.	Document	Documents Required	Uploaded/ Attached? (Yes/ No)	Remarks
g.	Application Expert			
h.	Cloud System Administrator			
i.	Cyber Security Expert			
j.	Help Desk Coordinator			
k.	Field Team			
l.	IT Support Staff			



**BID FORM**

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Sub:-IFB/RfP No. /Package No..... Due for opening on .....

Dear Sir,

With Reference to your subject IFB/RfP, we are pleased to submit our bid for “..... (Name of package) ” in a sealed cover as detailed below:

Envelope I: Bid document fee/cost of tender documents [wherever applicable], Bid Security fees/Earnest Money Deposit, Bid Form, Power of Attorney, Certificate regarding acceptance of important terms and conditions, Form of acceptance of EESL fraud prevention policy, affidavit in case of non-compliance.

Envelope II: Deviation statement, Techno-Commercial bid, Signed copy of RfP & subsequent amendments, if any and other attachments.

Envelope III: Price Bid

We confirm that we have quoted as per instructions and terms and conditions of tender documents. We have submitted all the attachments as stated in bidding documents.

We confirm that except as otherwise specifically provided, our bid prices include all applicable taxes including service tax/GST, entry tax(if any) , duties , levies , charges as may be assessed on us.

We further declare that additional conditions, variations, deviations, if any, found in the proposal other than those listed in Attachment-5 save those pertaining to any rebates offered, shall not be given effect to.

We undertake, if our bid is accepted, we shall commence the work immediately upon your Letter of Intent /Letter of Award to us, to achieve completion of work within the time specified in the bidding documents.

If our bid is accepted, we undertake to provide contract performance securities and securities for Deed(s) of Joint Undertaking (as applicable) in the form and amounts and within the times specified in the bidding documents.

We agree to abide by this bid for a period 180 days from the date of opening of bids as stipulated in the bidding documents and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period. Further, the prices of recommended spares, if asked for; contained in our bid shall re-main valid for the entire project period after placement of Letter of Intent/Letter of Award.

Until a formal contract is prepared and executed between us, this bid, together with your written acceptance thereof in the form of your Letter of Intent/ Letter of Award shall constitute a binding contract between us.

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

We, hereby, declare that only the persons or firms interested in this proposal as principals are named here and that no other persons or firms other than those mentioned herein have any interest in this proposal or in the contract to be entered into, if the award is made on us, that this proposal is made without any connection with



any other person, firm or party likewise submitting a proposal, is in all respects for and in good faith, without collusion or fraud.

Dated:

Authorized Signatories

Name of Bidder :

Address of Bidder:

Mobile No. :

Land Line No. :

**Our correspondence details are:**

1	Name of the bidder	
2	Address of the bidder	
3	Name of the contact person to whom all references shall be made regarding this tender	
4	Designation of the person to whom all references shall be made regarding this tender	
5	Address of the person to whom all references shall be made regarding this tender	
6	Telephone (with STD code)	
7	E-Mail of the contact person	
8	Fax No. (with STD code)	



**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)*

Bank Guarantee No.....  
Date.....

To:

**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWA Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Dear Sir(s),

In accordance with invitation for bids under your bidding document/package no.....dated.....M/s..... having its registered/head office at..... (Here in after called "Bidder") wish to participate in the said bid for..... (Name of package).

We, the ..... (Name and address of the bank), having our head office at .....guarantee and undertake to pay immediately on demand by Energy Efficiency services Limited, the amount of .....without any reservation, protest, recourse. Any such demand made by the employer shall be conclusive and binding on us irrespective of any dispute or difference raised by the bidder.

The Guarantee shall be irrevocable and shall remain valid up to ..... If any further extension of guarantee is required, the same shall be extended to such period (not exceeding one year) on receiving instructions from.....(Bidder's Name)....., on whose behalf guarantee is issued.

In witness whereof the bank, through its authorized officer, has set its hand and stamp on this.....day of .....20.....at.....

Witness:

Signature:  
Name:  
Official address:

Signature:  
Name:  
Designation with Bank Stamp:  
Authorized vide Power of Attorney no.  
Date

NOTE:

- Bid Security amount shall be as specified in the IFB/ITB.  
Complete mailing address of the Head Office of the Bank to be given. The bank guarantee validity date shall be forty five (45) days after the last date for which the bid is valid.

- The Stamp Paper of appropriate value shall be purchased in the name of guarantee issuing Bank. The Bank Guarantee shall be issued on a stamp paper of value as applicable in the State of the issuing bank in India or the State of Delhi in India or the State of India from where the BG shall be operated, whichever is higher.
- While getting the Bank Guarantee issued, Bidders are required to ensure compliance to the Bank Guarantee Verification Check List. Further, Bidders are required to fill up this Form 16 and enclose the same with the Bank Guarantee.

### **BANK GUARANTEE CHECK LIST**

1	Bank Guarantee No.	
2	Issuing Bank	
3	Nature of BG & No. of Pages	
4	Validity of BG	
5	Package Description	
6	Party & Contracts ref.	Name, Address, Tel, Fax, E—mail
7	Bank Reference	

### **CHECK LIST**

Sl. No.	Details of Checks	YES / NO
a)	Is the BG on non-judicial Stamp Paper of appropriate value, as per Stamp Act?	
b)	Whether date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of Stamp paper under the Signature of Stamp vendor? (The date of purchase of stamp paper should be not later than the date of execution of BG and the stamp paper should be purchased either in the name of the executing Bank or the party on whose behalf the BG has been issued. Also the Stamp Paper should not be older than six months from the date of execution of BG)	
c)	In case the BG has been executed on Letter Head of the Bank, whether adhesive Stamp of appropriate value has been affixed thereon?	
d)	Has the executing Officer of BG indicated the name, designation and Power of Attorney No./ Signing Power no. etc., on the B?	
e)	Is each page of BG duly signed / initiated by executants and whether stamp of Bank is affixed thereon? Whether the last page is signed with full particulars including two witnesses under seal of Bank as required in the prescribed proforma?	
f)	Does the Bank Guarantees compare verbatim with the proforma prescribed in the bid documents?	
g)	In case of any changes in contents of text, whether changes are of minor/clerical nature (which in no way limits the right of EESL in any manner)?	
h)	In case of deviations in text of BG, which materially affect the right of EESL, whether the changes have been agreed based on the opinion by Legal Department or BG I considered acceptable on the basis of opinion of law Department already available on the similar issue.	
i)	Are the factual details such as Bid Document No. NOA/LOA/Contact No., Contract Price, Percentage of Advance, Amount of BG and Validity of BG correctly mentioned in the BG ?	
j)	Whether overwriting / cutting if any on the BG have been properly authenticated under signature and seal of executant?	
k)	Whether the BG has been issued by a Bank in line with the provisions of Bid /Contract documents?	

I)	In case BG has been issued by a Bank other than those specified of Bid / Contract Documents, is the BG confirmed by a Bank in India acceptable as per Bid / Contract documents?	
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**ANNEXURE to ATTACHMENT 2**

**LIST OF BANKS ACCEPTABLE FOR SUBMISSION OF BANK GUARANTEE FOR BID SECURITY**

**SCHEDULED COMMERCIAL BANKS**

• **SBI AND ASSOCIATES**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
1.	State Bank of India	5.	State Bank of Mysore
2.	State Bank of Bikaner and Jaipur	6.	State Bank of Patiala
3.	State Bank of Hyderabad	7.	State Bank of Saurashtra
4.	State Bank of Indore	8.	State Bank of Travancore

• **NATIONALISED BANKS**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
9.	Allahabad Bank	13.	Canara Bank
10.	Andhra Bank	14.	Central Bank of India
11.	Bank of India	15.	Corporation Bank
12.	Bank of Maharashtra	16.	Dena Bank
17.	Indian Bank	18.	Indian Overseas Bank
19.	Oriental Bank of Commerce	20.	Punjab National Bank
21.	Punjab & Sind Bank	22.	Syndicate Bank
23.	Union Bank of India	24.	United Bank of India
25.	UCO Bank	26.	Vijaya Bank
27.	Bank of Baroda		

• **SCHEDULED PRIVATE BANKS (INDIAN BANKS)**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
27.	Bank of Rajasthan	41.	Sangli Bank Ltd.
28.	Bharat Overseas Bank Ltd.	42.	South Indian Bank Ltd.
29.	Catholic Syrian Bank	43.	Tamilnad Mercantile Bank Ltd.
30.	City Union Bank	44.	United Western Bank Ltd.
31.	Dhanalakshmi Bank	45.	ING Vysya Bank Ltd.
32.	Federal Bank Ltd.	46.	UTI Bank Ltd.
33.	Jammu & Kashmir Bank Ltd.	47.	S.B.I. Commercial & International Bank Ltd.
34.	Karnataka Bank Ltd.	48.	Ganesh Bank of Kurundwad Ltd.
35.	KarurVysya Bank Ltd.	49.	INDUSIND Bank Ltd.
36.	Lakshmi Vilas Bank Ltd.	50.	ICICI Bank Ltd.
37.	Lord Krishna Bank Ltd.	51.	HDFC Bank Ltd.

38.	Nainital Bank Ltd.	52.	Centurion Bank of Punjab Limited
39.	Kotak Mahindra Bank	53.	Development Credit Bank Ltd.
40.	Ratnakar Bank Ltd.	54.	Yes Bank
		55.	IDFC Bank

**(D) SCHEDULED PRIVATE BANKS (FOREIGN BANKS)**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
55.	Abu Dhabi Commercial Bank Ltd.	71.	Sonali Bank
56.	ABN Amro Bank Ltd.	72.	Standard Chartered Bank
57.	American Express Bank Ltd.	73.	J.P Morgan Chase Bank
58.	Bank of America NA	74.	State Bank of Mauritius
59.	Bank of Behrain& Kuwait	75.	Development Bank of Singapore
60.	Mashreq Bank	76.	Bank of Ceylon
61.	Bank of Nova Scotia	77.	Bank International Indonesia
62.	The Bank of Tokyo-Mitsubishi UFJ Limited.	78.	Arab Bangladesh Bank
63.	Calyon Bank	79.	Cho Hung Bank
64.	BNP Paribas	80.	China Trust Bank
65.	Barclays Bank	81.	Mizuho Corporate Bank Ltd.
66.	Citi Bank	82.	Krung Thai Bank
67.	Deutsche Bank	83.	Antwerp Diamond Bank N.V. Belgium
68.	The Hong Kong and Shanghai Banking Corporation Ltd.	84.	Internationale Netherlanden Bank N.V. (ING Bank)
69.	Oman International Bank	85.	Bank of China Ltd.
70.	Societe Generale		

**(E) PUBLIC SECTOR BANK**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
86.	IDBI Ltd.		



IFB/RfP No. /Package No.:

Dated:

Name of Package:

**POWER OF ATTORNEY**

**BIDDER TO ATTACH THE POWER OF ATTORNEY IN THEIR OWN FORMAT**



**CERTIFICATE REGARDING ACCEPTANCE OF IMPORTANT CONDITIONS**

IFB/RfP No. /Package No.:

Dated:

Bidder's Name & Address:

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)

A-13, IWAI Building, 4th & 5th Floors

Sector-1, NOIDA - 201 301

Sub: .....

1.0 With reference to our bid proposal no.....dated.....for ...../Package no..... Dated ....., we hereby confirm that we have read the following provisions of the following clauses and further confirm that notwithstanding anything stated elsewhere to the contrary, the stipulation of these clauses are acceptable to us and we have not taken any deviation to these clauses.

- Governing Laws - Clause 5 of GCC
- Settlement of Disputes - Clause 6 of GCC
- Terms of payment - Clause 12 of GCC
- Performance Security - Clause 13 of GCC
- Taxes and Duties - Clause 14 of GCC
- Completion Time Guarantee - Clause 26 of GCC
- Defects Liability - Clause 27 of GCC
- Functional Guarantee - Clause 28 of GCC
- Patent Indemnity - Clause 29 of GCC
- Limitations of Liability - Clause 30 of GCC
  
- Project information, Estimation, conditions for Evaluation - As per Tables in price bid Assumptions and

We further confirm that any deviation to the above clauses found anywhere in our bid proposal, implicit or explicit, shall stand unconditionally withdrawn, without any implication to EESL.

Date:

Authorized Signatories

Place:

Name of Bidder:

Designation:

Common Seal

**Note: In the absence of this certificate, the bid shall be rejected and shall be returned unopened. Bidder can take a print out of it and sign.**



DEVIATIONS STATEMENT

Bidder's Name and Address:

To,
Energy Efficiency Services Limited
(A JV of PSUs of Ministry of Power, Govt. of India)
A-13, IWAI Building, 4th & 5th Floors
Sector-1, NOIDA - 201 301

Subject: Deviation statement wrt RFP for ..... (Name of package)

Dear Sir,

The following are the deviations and variations from and exceptions to the terms, conditions and specification of the bidding documents for IFB/RfP No./Package no..... These deviations and variations are exhaustive. We are furnishing below the cost of withdrawal for the deviations and variations stated in this Attachment. We shall withdraw the deviations proposed by us in this Attachment at the cost of withdrawal indicated herein, failing which our bid may be rejected and bid security may be forfeited. We confirm that except for these deviations and variations, the entire work shall be performed as per your specifications and conditions of bidding documents. Further, we agree that additional conditions, variations, deviations if any, found in the proposal documents other than those stated in this Attachment, save those pertaining to any rebates offered, shall not be given effect to:

Table with 6 columns: S. No., Section/ Part/ Chapter, Clause No., Page No., Statement of Deviations/ Variations, Cost of withdrawal. It is divided into two sections: A. Commercial Deviations and B. Technical Deviations.

Date : (Authorized Signatories):
Place : (Name of Bidder):
(Designation):
(Common Seal).....

Note: Continuations sheets of like size and format may be used as per Bidder's requirement.



**PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE**

(On Non – Judicial Stamp Paper of appropriate value and purchased in the name of executing Bank)

Ref.: .....  
Bank Guarantee No.....  
Date.....

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Dear Sir,

In consideration of the EESL, (hereinafter referred to as the 'Owner,' which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s.....with its Registered / Head Office at .....( hereinafter referred to as the 'Contractor', which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns ), a Contract by issue of Owner's Letter of Award No.....dated .....and the same having been unequivocally accepted by the Contractor and the contractor ( Scope of Contract ) having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to \* ..... % (percent) of the said value of the Contract to the Owner.

We .....(Name & address ) having its Head Office at .....(hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors administrators, executors and assigns ) do hereby guarantee and undertake to pay the Owner, on demand any all money payable by the Contractor to the extent of .....as aforesaid at any time up to .....(days/months/year) without any demur, reservation, contest, recourse or protest and / or without any reference to the Contractor. Any such demand made by the Owner on the Bank shall be conclusive and binding notwithstanding any difference between the Owner and the Contractor or any dispute pending before any court, tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Owner and further agrees that the guarantee herein contained shall continue to be enforceable till the owner discharges this guarantee.

The owner shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee from time to time to extent the time for performance of the Contract by the Contractor. The owner shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the owner and Contractor or any other course of or remedy or security available to the owner. The Bank shall not be released of its obligations under these presents by any exercise by the owner of its liberty with reference to the matters aforesaid on any of other indulgence shown by the owner or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the Bank.

The Bank also agree that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a Principal debtor, in the first instance without proceeding against the Contractor and not withstanding any security or other guarantee that the owner may have in relation to the Contractor's liabilities.



Notwithstanding anything contained herein above our liability under this guarantee is restricted to.....and it shall remain in force up to and including\*\*.....and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/s.....on whose behalf this guarantee has been given.

Witness

Dated this .....day of.....at.....

Witness:

Signature:

Name:

Official Address:

Signature

Bank's Rubber Stamp

Name

Designation with Bank Stamp

Attorney as per power of Attorney

No.....dated.....

**Note: \*\* Validity of Bank Guarantee should be 90 days in excess of the period for which it is required.**

**BANK GUARANTEE CHECK LIST**

1	Bank Guarantee No.	
2	Issuing Bank	
3	Nature of BG & No. of Pages	
4	Validity of BG	
5	Package Description	
6	Party & Contracts ref.	Name, Address, Tel, Fax, E—mail
7	Bank Reference	

**CHECK LIST**

S. No.	Details of Checks	YES / NO
a)	Is the BG on non-judicial Stamp Paper of appropriate value, as per Stamp Act?	
b)	Whether date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of Stamp paper under the Signature of Stamp vendor? (The date of purchase of stamp paper should be not later than the date of execution of BG and the stamp paper should be purchased either in the name of the executing Bank or the party on whose behalf the BG has been issued. Also the Stamp Paper should not be older than six months from the date of execution of BG)	
c)	In case the BG has been executed on Letter Head of the Bank, whether adhesive Stamp of appropriate value has been affixed thereon?	
d)	Has the executing Officer of BG indicated the name, designation and Power of Attorney No./ Signing Power no. etc., on the BG?	
e)	Is each page of BG duly signed / initiated by executants and whether stamp of Bank is affixed thereon? Whether the last page is signed with full particulars including two witnesses under seal of Bank as required in the prescribed proforma?	
f)	Does the Bank Guarantees compare verbatim with the Proforma prescribed in the Bid Documents?	
g)	In case of any changes in contents of text, whether changes are of minor / clerical nature (which in no way limits the right of EESL in any manner)?	
h)	In case of deviations in text of BG, which materially affect the right of EESL, whether the changes have been agreed based on the opinion by Legal Department or BG I	

	considered acceptable on the basis of opinion of law Department already available on the similar issue.	
i)	Are the factual details such as Bid Document No. NOA/LOA / Contact No., Contract Price, Percentage of Advance, Amount of BG and Validity of BG correctly mentioned in the BG?	
j)	Whether overwriting / cutting if any on the BG have been properly authenticated under signature and seal of executant?	
k)	Whether the BG has been issued by a Bank in line with the provisions of Bid /Contract documents?	
l)	In case BG has been issued by a Bank other than those specified of Bid / Contract Documents, is the BG confirmed by a Bank in India acceptable as per Bid / Contract documents?	

**LIST OF BANKS ACCEPTABLE FOR SUBMISSION OF BANK GUARANTEES FOR ADVANCE PAYMENTS, PERFORMANCE SECURITIES AND SECURITIES FOR DEED OF JOINT UNDERTAKING**

**SCHEDULED COMMERCIAL BANKS**

- **SBI and Associates**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
1.	State Bank of India	5.	State Bank of Mysore
2.	State Bank of Bikaner and Jaipur	6.	State Bank of Patiala
3.	State Bank of Hyderabad	7.	State Bank of Saurashtra
4.	State Bank of Indore	8.	State Bank of Travancore

- **Nationalised Banks**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
9.	Allahabad Bank	18.	Indian Overseas Bank
10.	Bank of India	19.	Oriental Bank of Commerce
11.	Bank of Maharashtra	20.	Punjab National Bank
12.	Canara Bank	21.	Punjab & Sind Bank
13.	Central Bank of India	22.	Syndicate Bank
14.	Corporation Bank	23.	Union Bank of India
15.	Dena Bank	24.	United Bank of India
16.	Indian Bank	25.	UCO Bank
17.	Vijaya Bank	26.	Bank of Baroda

**C. Foreign Banks**

Sl. No.	Name of Banks	Sl. No.	Name of Banks
27.	Bank of America NA	34.	Standard Chartered Bank
28.	The Bank of Tokyo-Mitsubishi UFJ Limited.	35.	SocieteGenerale
29.	BNP Paribas	36.	Barclays Bank
30.	Calyon Bank	37.	ABN Amro Bank N. V.
31.	Citi Bank N.A.	38.	Bank of Nova Scotia

<b>32.</b>	Deutsche Bank A. G.	<b>39.</b>	Development Bank of Singapore
<b>33.</b>	The Hong Kong and Shanghai Banking Corporation Ltd.		

**D. SCHEDULED PRIVATE BANKS**

<b>Sl. No.</b>	<b>Name of Banks</b>	<b>Sl. No.</b>	<b>Name of Banks</b>
<b>40.</b>	ING Vysya Bank Ltd.	<b>43.</b>	UTI Bank Ltd.
<b>41.</b>	ICICI Bank Ltd.	<b>44.</b>	YES Bank
<b>42.</b>	HDFC Bank Ltd.	<b>45.</b>	IDFC Bank.

**E. Other Public Sector Banks**

<b>Sl. No.</b>	<b>Name of Banks</b>	<b>Sl. No.</b>	<b>Name of Banks</b>
<b>45.</b>	IDBI Ltd.		



**FORM OF ACCEPTANCE OF FRAUD PREVENTION POLICY**  
(On the letter head)

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Sub: Letter of Acceptance of EESL Fraud Policy  
Ref: NIT/Bid Document No.....

Dear Sir,

We have read the contents of the Fraud Prevention Policy of EESL and undertake that we along with our associate / collaborator /sub-contractors / sub-vendors / bidders/ service providers (if applicable) shall strictly abide by the provisions of the Fraud Prevention Policy of EESL.

Thanking You,

Yours faithfully,

Authorized

Signatories.....

Name of Bidder.....

Designation.....

Common Seal.....

Date:

Place:

**FOR DETAILED POLICY, PLEASE VISIT OUR WEBSITE [www.eeslindia.org](http://www.eeslindia.org)**



**PROFORMA OF BANK GUARANTEE FOR ADVANCE PAYMENT**

(To be stamped in accordance with Stamp Act If any, of the Country of the issuing Bank)

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1,NOIDA - 201 301.

Dear Sir,

In consideration of ..... (Employer's Name).... (here in after referred to as the 'Employer', which expression shall, unless repugnant to the context of meaning thereof include its successors, administrators and assigns) having awarded to M/s.....(Contractor's Name)....with its Registered /Head Office at.....(hereinafter referred to as the 'Contractor' which expression in shall unless repugnant to the context or meaning thereof , include its successors, administrators, executors and assigns), a Contract, by issue of Employer's Letter of Award No.....dated.....and the same having been unequivocally accepted by the Contractor, resulting into a Contract bearing No.....dated.....valued ..... at .....for..... (Name of Contract).....(hereinafter called the 'Contract') and the Employer having agreed to make an advance ('said Advance') to the Contractor amounting to ..... (in words and figures).....in terms of the said Contract for performance of the above Contract against Bank Guarantee to be furnished by the Contractor.

We.....(Name and address of the Bank).....having its Head Office at ..... (hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer, immediately on demand any or, all monies payable by the Contractor to the extent of .....(advance amount).....as aforesaid at any time up to.....(#).....without any demur, reservation, contest, recourse or protest and/ or without any reference to the Contractor. Any such demand made by the Employer on the Bank shall be conclusive and binding as to the amount claimed by the Employer under this guarantee notwithstanding any difference between the Employer and the contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the employer and further agrees that the guarantee herein contained shall be enforceable till ninety (90) days after expiry of its validity.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time to vary the advance or to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, in the Contract between the Employer and the contractor or any other course or remedy or security available to the Employer. The Bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank.



The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

Notwithstanding anything contained hereinabove our liability under this guarantee is limited to .....(advance amount)..... and it shall remain in force up to and including.....(#)  
 ..... and shall be extended from time to time for such period (not exceeding one year).  
 As may be desired by M/s..... (Contractor's Name)..... on whose behalf this guarantee has been given.

Dated this .....day of .....20.....  
 at.....

**WITNESS:**

(Name).....

(Signature).....

(Name).....

(Signature)

(Designation with Bank

Stamp)

Attorney as per Power Of Attorney No.....

Dated.....

**Notes:**

1. (#) this date shall be ninety (90) days beyond the date of Completion of the Facilities.
2. The stamp papers of appropriate value shall be purchased in the name of guarantee issuing Bank.

**NOTE:**

Complete mailing address of the Head Office of the Bank to be given.  
 The bank guarantee validity date shall be forty five (45) days after the last date for which the bid is valid.  
 The Stamp Paper of appropriate value shall be purchased in the name of guarantee issuing Bank.  
 The Bank Guarantee shall be issued on a stamp paper of value as applicable in the State of the issuing bank in India or the State of Delhi in India or the State of India from where the BG shall be operated, whichever is higher.

While getting the Bank Guarantee issued, Bidders are required to ensure compliance to the Bank Guarantee Verification Check List.



**FORMAT FOR EXTENSION OF BANK GUARANTEE**

Name of package:

**Bank Guarantee No:** .....  
**Guarantee Amount:** .....  
**Guarantee Cover from** ..... **to** .....

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Dear Sir,

Extension of Bank Guarantee No .....for.....favoring yourselves, expiring on  
.....on account of M/s.....in respect of Contract  
No.....dated.....(hereinafter called original Bank Guarantee).

At the request of M/ s....., we.....Bank, Branch Office  
at.....and having its Head Office at .....do hereby extend our liability under the  
above mentioned Guarantee No..... Dated.....for a further period  
of.....Years/Months from .....to expire on..... Except as provided above, all other  
Terms and Conditions of the original Bank Guarantee No.....dated  
.....shall remain unaltered and binding.

Please treat this as an integral part of the Original Bank Guarantee to which it would be attached.

Yours faithfully,  
For.....  
Manager/Agent/Accountant  
Power of Attorney.....  
Dated.....

SEAL OF BANK



**PROFORMA OF LETTER OF UNDERTAKING**

(To Be Furnished on Non-Judicial Stamp Paper of Appropriate Value)

[To be executed by the Holding Company Supported by Board Resolution and submitted by the Bidder along with the Bid, in case financial support is being extended by the Holding Company to the Bidder for meeting the stipulated Financial Qualifying]

IFB/RfP No. /Package No.:

Our Reference No.....

Date: .....

Bidder's Name and Address:

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Dear Sir,

- 1.0 We, M/s..... (Name of the Holding Company) declare that we are the holding company of M/s..... (Name of the Bidder) and have controlling interest therein. M/s..... (Name of the Bidder) proposes to submit the bid for the package..... (Name of package) for..... (Name of the Project) under bid reference no..... dated ..... and have sought financial strength and support from us for meeting the stipulated Financial Qualifying Requirement as per Clause Section 3 and its subsequent amendment.
- 2.0 We hereby undertake that we hereby pledge our unconditional & irrevocable financial support for the execution of the said package to M/s..... (Name of the Bidder), for the execution of the Contract, in case they are awarded the Contract for the said package at the end of the bidding process. We further agree that this undertaking shall be without prejudice to the various liabilities that M/s..... (Name of Bidder) would be required to undertake in terms of the Contract including the Performance Security as well as other obligations of M/s..... (Name of the Bidder).
- 3.0 This undertaking is irrevocable and unconditional, and shall remain in force till the successful execution and performance of the entire contract and/or till it is discharged by EESL.
- 4.0 We are herewith enclosing a copy of the Board Resolution in support of this undertaking.

**Witness:**

**Yours faithfully,**

(1).....

(Signature of Authorized Signatory)  
on behalf of the Holding Company

(2).....

Name & Designation.....  
Name of the Holding Company.....  
(Seal of Holding Company)



**CERTIFICATE FOR COMPLIANCE**

(To Be Furnished on Non-Judicial Stamp Paper of Appropriate Value)

IFB/RfP No. /Package No.:

Our Reference No.....

Date: .....

Bidder's Name and Address:

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Dear Sir,

1. With reference to our proposal submitted against the tender, we hereby confirm that we comply with all terms, conditions and specifications of the Bidding Documents read in conjunction with Amendment(s) / Clarification(s) / Addenda/Errata (if any) issued by the EESL prior to opening of Techno-Commercial Bids and the same has been taken into consideration while making our Techno-Commercial Bid & Price Bid and we declare that we have not taken any deviation in this regard.
2. We understand that in case the Products and/or Services offered do not meet the Technical requirements, then our bid shall be rejected as technically non-responsive.

We also confirm that in case we refuse to withdraw additional conditions/deviations/ variations/exception, implicit or explicit, found anywhere in the techno-commercial bid, our bid shall be rejected as technically non-responsive.

Yours faithfully,

Authorized Signatories.....  
Name of Bidder .....  
Designation.....

Common Seal.....

Date:

Place:



## FORMAT FOR QUERIES OF BIDDERS FOR PRE-BID CONFERENCE

Name of Tender :  
IFB/RfP No. /Package No.: :  
Tender ID (in case of e-tender) :  
Bid Opening Date :  
Bidder's Name :  
Contact person from Bidder with :  
address, e-mail and Contact No. :

S. No.	Section No.	Page No.	Para No/ Clause No.	Description as Per RFP	Queries/ Clarification of the bidder	Remarks, if any
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						

Note: Bidders are requested to share the pre-bid queries in Excel format 5 days prior to Prebid meeting to the contact points mentioned in section 1 of RFP. Prebid queries in jpg, pdf etc. will not be entertained.

Date:

Authorized Signatories

Name of Bidder

Address of Bidder:

**REAL TIME GROSS SETTLEMENT (RTGS)/ NATIONAL ELECTRONIC FUND TRANSFER (NEFT)**

Bidder's Name and Address:

Sub: RTGS/NEFT Payments

We have agreed to accept admissible payments through electronic mode viz. RTGS/NEFT. For this, we are providing the requisite information herein below. The RTGS/NEFT charges for the above facility may be deducted/Recovered from our admissible payment.

Name of City	
Bank Code No.	
Branch Code No.	
Bank's Name	
Branch Address	
Branch Telephone/ Fax No.	
Supplier Account No.	
Type of Account	
IFSC Code for NEFT	
IFSC Code for RTGS	
Supplier's name as per Account	
Telephone No. of Supplier	
Supplier's E-mail ID	

A cancelled cheque against above bank account number is also being enclosed.

Encl.: As above:-

Confirmed by Banker  
With Seal

Signature of Bidder  
With stamp & Address



**UNDERTAKING REGARDING BLACKLISTING / NON – DEBARMENT**

IFB/RfP No. /Package No.:

Name of Package:

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)

A-13, IWAI Building, 4th & 5th Floors,

Sector-1, NOIDA - 201 301

Dear Sir,

We hereby confirm and declare that we, M/s ....., is not blacklisted/ debarred by any Government Department/ Public Sector Undertaking/ / or any other agency for which we have Executed/ Undertaken the works/ Services during the last 5 years.

For (Name of Bidder)

Authorized Signatory

Address of Bidder

Date:

**DECLARATION REGARDING JV PARTNER/SUBCONTRACTORS PROPOSED BY THE BIDDER**

IFB/RfP No. /Package No.:

Name of Package:

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)

A-13, IWAI Building, 4th &amp; 5th Floors,

Sector-1, NOIDA - 201 301

Dear Sir,

We hereby confirm and declare that we, the following, are submitting our proposal in consortium.

<b>Bidder</b>	<b>Name</b>	<b>Contacts</b>	<b>Coordinates</b>
<b>Lead Bidder</b>			
<b>Partner 1</b>			
<b>Partner 2</b>			
<b>Partner 3</b>			
<b>Subcontractor</b>			

Yours faithfully,

1. Authorized Signatories with seal  
Name of Lead Bidder  
Address of Lead Bidder
2. Authorized Signatories with seal  
Name of Consortium Partner-1  
Address of Consortium Partner-1
3. Authorized Signatories with seal  
Name of Consortium Partner-2  
Address of Consortium Partner-2
4. Authorized Signatories with seal  
Name of Sub-Contractor  
Address of Sub-Contractor

**UNDERTAKING REGARDING ELIGIBILITY & CONFORMITY OF THE FACILITIES**

To,

**Energy Efficiency Services Limited.**

(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors, Sector-1,  
NOIDA - 201 301.

Dear Sir,

We hereby confirm and declare that we, M/s -----, is eligible to participate and comply with the conformity of the facilities as per requirements of bidding documents.

S. No	Parameter	Documents required as per Bid Documents	Documents Provided by Bidder	Remarks
<b>Financial Qualification Criterion</b>				
F1	Annual turnover from supply of IT / Software services for each of the last three financial years ending 31 <sup>st</sup> March 2017 (for Indian bidder) or 31 <sup>st</sup> December 2016 (for International bidder, if and as applicable). In case of consortium bids, combined turnover of all the consortium partners shall be considered, subject to the lead bidder(s) and the other consortium members having a turnover of minimum 40% and minimum 25% respectively of this requirement).	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business.		
F2	Net worth in each of last 3 financial years.  (To be satisfied by each member in case of consortium.)	Audited Balance Sheet		
F3	Profitability in each of these 3 years ending 31 <sup>st</sup> March 2017 or 31 <sup>st</sup> December 2016 (as applicable)  (To be satisfied by each member in case of consortium.)	Income Statement from Chartered Accountant		
<b>Technical Qualification Criteria for System Integrator</b>				
SI-T1	Bidder(s) should be in the business of IT / Software services covering IT applications	Documentary evidence of Purchase orders / Framework agreements for this duration that prove this aspect.		

SI-T2	<p>Bidder(s) should have experience of implementing at least three (03) AMI / AMR projects for any of the electricity / water / gas utilities.</p> <p>AMI projects should have covered following components of AMI Projects (Similar to the requirements as laid down in this tender):</p> <ol style="list-style-type: none"> <li>Smart Meters with GPRS compatible NIC card</li> <li>Communication infrastructure</li> <li>Head End System (HES)</li> <li>Meter Data Management System (MDM)</li> <li>integration of meter with head-end system with MDMS on standard interfaces and data exchange models along with Integration with Legacy system such as MBC, OMS etc</li> <li>Analytics</li> <li>successfully integrated HES with meters of at least 3 manufacturers</li> </ol> <p>AMR projects should have covered following components of AMR Projects (Similar to the requirements as laid down in this tender):</p> <ol style="list-style-type: none"> <li>Meters / Modem</li> <li>GPRS / CDMA Network</li> <li>Meter Data Acquisition System(MDAS) / Meter Data Management System (MDM)</li> <li>Integration of MDAS / MDMS with Integration with Legacy system such as MBC, OMS etc.</li> </ol>	<p>Purchase order from client.</p> <p>Client Certificate (with contact details) for supplies and successful operation of the Head End System&amp; MDM System. EESL reserves the right to contact / visit such client during evaluation of this tender response.</p> <ul style="list-style-type: none"> <li>Signed agreements/ MoUs for integration of NIC module</li> <li>Certificate of successful integration</li> </ul>		
SI-T3	<p>Bidder(s) should have quality certifications for its manufacturing and services function</p>	<p>Valid Certificate copy.</p>		
SI-T4	<p>Bidder(s) should have experience of Cloud Implementation / Deployment</p>	<p>Copy of Client certificate, work order, completion certificate or extract from the contract mentioning the scope of work</p>		

SI-T5	GPRS Communications	<ul style="list-style-type: none"> <li>References along with requisite contract/ PO/ WO. The references should indicate client name, scope of work, project start date and date of completion of installation.</li> <li>Certificate from the client on successful installation of the project</li> </ul>		
SI-T6	Manpower Requirement	Undertaking declaring the number of Professionals (B. tech / B.E / M.Tech / M.E. / MCAs) (including category wise numbers) from the head of the HRD of Bidder.		
SI-T7	Authorization for Head End System & MDM System each	Authorization letter from respective OEM's.		
<b>Technical Qualification Criteria for Product OEM</b>				
PR-T1	HES Product Vendor Experience	Purchase order / Completion/ Go-Live certificates from client. Client Certificate (with contact details) for supplies and successful operation of the Head End System. EESL reserves the right to contact / visit such client during evaluation of this tender response		
PR-T2	MDMS Product Vendor Experience	Purchase order / Completion/ Go-Live certificates from client. Client Certificate (with contact details) for supplies and successful operation of the MDM System. EESL reserves the right to contact / visit such client during evaluation of this tender response		
<b>Qualification Criteria for Telecom Service Provider (TSP)</b>				
TSP-T1	Experience of providing GPRS (3G/4G) services	Purchase order/LOI/Contract/Certification on client letterhead/Performance certificate as proof of services provided for the last 3 financial years		

TSP-T2	Experience of network installation / maintenance services	Incorporation Certificate along with Memorandum & Articles of Association		
TSP-F1	Annual turnover from WAN projects (installation, integration, maintenance & management experience) for each of the last three financial years ending 31 <sup>st</sup> March 2017 (for Indian bidder) or 31 <sup>st</sup> December 2016 (for International bidder, if and as applicable).	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business.		
<b>Qualification Criteria for Meter Installation / Consumer Indexing</b>				
CI-T1	Consumer indexing experience  Or  Meter Installation Experience	Purchase order / LOI / Contract / Certification on client letterhead / Performance certificate as proof of services provided for the last 3 financial years		
CI-F1	Annual turnover from Meter Installation / consumer indexing projects for each of the last three financial years ending 31 <sup>st</sup> March 2017 (for Indian bidder) or 31 <sup>st</sup> December 2016 (for International bidder, if and as applicable).	Audited Balance Sheet and certificate from Chartered Accountant stating turnover from each relevant line of business.		
<b>Technical Qualification Criteria for Cloud Service Provider (CSP)</b>				
CS-T1	Compliance & Certification	Copy of certificates		
CS-T2	Projects	Copy of Client certificate, work order, completion certificate or extract from the contract mentioning the scope of work		
CS-T3	Technical Capability	Cloud Service Provider should provide a self-signed certificate on their letter head from authorized signatory		

**Authorized Signatories**

Name of Bidder: \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Phone No: \_\_\_\_\_

Fax no.: \_\_\_\_\_

E-Mail: \_\_\_\_\_

**FORMAT OF SUMMARY OF AUDITED FINANCIAL STATEMENTS**

[On the Official Letterhead of the Chartered Account.]

IFB/RfP No. /Package No.:

Name of Package:

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)

A-13, IWAI Building, 4th &amp; 5th Floors

Sector-1, NOIDA - 201 301

Sub: Audited Financial Statement for.....

Dear Sir,

Financial Statement of the last three years.\*\*

S. No	Particular	2016-17	2015-16	2014-15
i.	Annual turnover from Services			
ii.	Total Assets			
iii.	Current Assets			
iv.	Liquid Assets (not earlier than 31.03.2017)			
v.	Net Worth (not earlier than 31.03.2017)			

\*\*Note: Bidders are requested to submit Audited Balance Sheet / Auditor Certificate of last three financial years (2017-2016, 2016-2015 and 2015-2014) and statements to be shared by all the consortium members separately, if applicable

Authorized Signatories

Name of Bidder \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Phone No: \_\_\_\_\_

E-Mail: \_\_\_\_\_



**FORMAT FOR UNDERTAKING ON TOTAL RESPONSIBILITY**

IFB/RfP No. /Package No.:  
Name of Package:

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Sub: Undertaking on Total Responsibility

Dear Sir,

This is to certify that we..... undertake total responsibility for the successful and defect free operation of the proposed AMI solution, as per the requirements provided in the tender document along with service levels mentioned for the AMI Solution.

Authorized Signatories

Name of Bidder \_\_\_\_\_  
Address of Bidder: \_\_\_\_\_  
Phone No: \_\_\_\_\_  
E-Mail: \_\_\_\_\_



**UNDERTAKING ON COMPLIANCE AND SIZING OF AMI SOLUTION**

IFB/RfP No. /Package No.:  
Name of Package:

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Sub: Undertaking on Compliance and Sizing of AMI Solution

Dear Sir,

1. I/We as lead bidder do hereby undertake that we have proposed and sized the AMI Solution along with all cloud Infrastructure & system software (including licenses) based on information provided by EESL in its tender document and in accordance with the Service Level requirements and assure EESL that the sizing is for all the functionality envisaged in the RFP document.
2. Any augmentation of the proposed solution or sizing of any of the proposed solutions (software, Cloud,.....) in order to meet the minimum tender requirements and/or the requisite Service Level requirements given by EESL will be carried out at no additional cost to EESL.

Authorized Signatories

Name of Bidder \_\_\_\_\_  
Address of Bidder: \_\_\_\_\_  
Phone No: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

**DETAILS OF MANPOWER RESOURCE**

IFB/RfP No. /Package No.:

Name of Package:

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)

A-13, IWAI Building, 4th &amp; 5th Floors

Sector-1, NOIDA - 201 301

Sub: Details of Manpower Resource

Dear Sir,

For all the roles defined in the Evaluation Criteria of this RFP, it is mandatory to provide name of proposed resource along with details desired as per format given below. In case the proposed resource has to be replaced, an equivalent or better replacement should be deployed after taking approval from EESL/ DISCOMs.

S. No.	Name	Current Position in the Firm	Name of the Firm	Proposed Position	Age	Professional Years of experience in years	Relevant Experience in years	Location for which proposed	Qualification
1.									
2.									
3.									
4.									
5.									

For each of the resources listed above, CVs should be provided in the format as per Annexure to Attachment-20 provided in the following page.

Authorized Signatories

Name of Bidder \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Phone No: \_\_\_\_\_

E-Mail: \_\_\_\_\_

**FORMAT FOR CURRICULUM VITAE (CV)**

<b>1. Proposed Position</b>			
<b>2. Name of Staff</b>			
<b>3. Name of Firm</b>			
<b>4. Position held in Firm</b>			
<b>5. Date of Birth</b>		<b>Nationality:</b>	
<b>6. Education</b>			
<b>School, college and/or University Attended</b>	<b>Degree/certificate or other specialized education obtained</b>	<b>Year of Passing</b>	
<b>7. Membership of Professional Associations</b>			
<b>8. Other Relevant Training</b>			
<b>9. Countries of Work Experience</b>			
<b>10. Languages</b>			
<b>Language</b>	<b>Speaking</b>	<b>Reading</b>	<b>Writing</b>
<b>11. Employment Record</b>			
<b>From</b>	<b>To</b>	<b>Employer</b>	<b>Positions Held</b>
<b>12. Detailed Tasks Assigned</b>		<b>13. Work Undertaken that best illustrates capability to handle the tasks assigned</b>	
		<b>Name of Assignment:</b> <b>Year:</b> <b>Location:</b> <b>Client:</b> <b>Main project features:</b> <b>Positions held:</b> <b>Activities Performed:</b>	
<b>14. Certification</b>			
<p>I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, my experience and my committed man-months for this project. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.</p>			
<b>Signature of the Staff</b>		<b>Date: DD/MM/YYYY</b>	
<b>Full name of Authorised Representative:</b>			



**FORMAT FOR MANUFACTURER AUTHORIZATION FORM (MAF)**

IFB/RfP No. /Package No.:  
Name of Package:

To,  
**Energy Efficiency Services Limited**  
(A JV of PSUs of Ministry of Power, Govt. of India)  
A-13, IWAI Building, 4th & 5th Floors  
Sector-1, NOIDA - 201 301

Sub: Manufacturer Authorization Form (MAF)

Dear Sir,

WHEREAS..... who are official manufacturers of.....having factories at..... do hereby authorize.....to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us.....and to subsequently negotiate and sign the Contract.

We hereby extend our full warranty in accordance with warranty clauses mentioned in the RFP, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.

Note: This form needs to be filled by all OEMs.

Authorized Signatories

Name of Bidder \_\_\_\_\_  
Address of Bidder: \_\_\_\_\_  
Phone No: \_\_\_\_\_  
E-Mail: \_\_\_\_\_



## FORMAT OF EXPERIENCE OF SIMILAR WORK

IFB/RfP No. /Package No.:

Name of Package:

To,

**Energy Efficiency Services Limited**

(A JV of PSUs of Ministry of Power, Govt. of India)

A-13, IWAI Building, 4th &amp; 5th Floors

Sector-1, NOIDA - 201 301

Sub: Experience in Similar Work

Dear Sir,

This is to confirm that M/s..... (Name of bidder) has undertaken/undertaking the following experience

S. No.	Name of Client	Date of Letter of Award/ Work Order	Expected Date of Completion of Work (as per work order)	Actual Date of Completion of Work (attach completion certificate from Client)	No. of Consumers	Brief Description of work undertaken	Work Order Value (in INR)	Work order Attached (Yes/No)	Confirm attachment of satisfactory work completion certificate from Client	Contact Person, designation, email and mobile from Client Organization
1.										
2.										
3.										

Note: Each Consortium Member (if applicable) shall attach an individual sheet listing out the Clients' experience.

Authorized Signatories

Name of Bidder \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Phone No: \_\_\_\_\_

E-Mail: \_\_\_\_\_