 

# Notice Inviting Tender

**for**

**Integrated Work for Replacement of Existing Streetlight Metering Units by Whole Current Smart Metering Units**

**at CESC Limited, Kolkata**

**TENDER NO. PUR:51998 DATED 30.04.2025**

**Last Date for Submission of Technical Bid (along with Pre-Qualification Documents): 16.05.2025 Last Date for Submission of Price Bid: 26.05.2025**

CESC Limited (CESC), a power utility in private sector and a flagship company under RP- Sanjiv Goenka Group, is engaged in generation and distribution of electricity in and around Kolkata & Howrah to a consumer base of 34 lakh spread over an area of 567 sq km.

CESC invites Technical and Commercial Bids from interested bidders for Integrated Work for Replacement of Existing Streetlight Metering Units by Whole Current Smart Metering Units.

### Scope of Work

**Job Description**: Replacement of Existing Streetlight Metering Units by Whole Current Smart Metering Units. The brief scope of works covered under the integrated model of tender package shall comprise of:

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| --- | --- |
| **Sl. No.** | **Description** |
| A | Brief description of the project |
| B | Scope of Supply of materials (Exclusion and Inclusion) |
| C | Scope of Service Activity |
| D | Storage Facility of Materials |
| E | Testing and wiring of SSLMS unit |
| F | Safety Compliance |
| G | Procedure of job Execution |
| H | Maintenance of Necessary Infrastructure |
| I | Support for defective Meters |
| J | Warranty |
| K | Penalty |

## Brief description of the project:

Installation of Smart Street Light Management System (SSLMS) units with 10500 nos. 5-60 Amps 1Phase and 1500 nos. of 10-100 Amps 3Phase 4G Cellular P2P IPV6 Smart whole current meters along with in-built O/L and Dawn Dusk Controller (O/L & DDC) throughout CESC Licensee area.

The overall period of the contract shall be for a period of Three years with a target of 4000 nos. of replacement of SSLMS units per year.

## Scope of Supply of Materials:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No** | **Material** | **CESC** | **Vendor** | **Remark** |
| 1 | 1Ph / 3Ph Whole Current Meter |  |  |  |
| 2 | 100 Amps MCCB along with base plate and fixing screws |  |  |  |
| 3 | 1.1 KV -25 sq. mm 3.5-core PVC AL power cable |  |  |  |
| 4 | New type RY bracket for fixing the SSLMS unit |  |  |  |
| 5 | Porcelain base kit-kat |  |  |  |
| 6 | Meter Box |  |  |  |
| 7 | Wiring Materials |  |  |  |
| 8 | Materials for field installation |  |  |  |

Please refer Annexure-1 for the wiring materials of 1-ph and 3-ph metering unit which are also under the scope of vendor.

Materials for field installation is mentioned in clause 5 under section G (Procedure of Job Execution), which are also under the scope of vendor.

## Scope of Service Activity:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No** | **Material** | **CESC** | **Vendor** | **Remark** |
| 1 | Shifting from CESC Store to vendor’s warehouse / execution site (MCCB, Cable and other items) |  |  |  |
| 2 | Assembly, wiring, testing of SSLMS unit |  |  |  |
| 3 | Installation of SSLMS unit at site |  |  |  |
| 4 | Return of dismantling items to designated store/site (Old Metering Box, Meters, Cable etc.) |  |  |  |
| 5 | Monthly reconciliation of new and removed meter to be completed by bidder by 7th of every month for last month |  |  |  |
| 6 | Daily Installation Report by 11 am next working day |  |  |  |

* + 1. CESC reserves the right to split the order quantity wise/Line item wise among two numbers of Bidders.
    2. The overall period of the contract shall be for a period of Three years. The contract shall however initially be placed for a period of one year only. CESC reserves the right to extend the contract for the subsequent year as per the agreed (pre-Finalized) rates based on the performance of the bidder.

## Storage Facility:

* + 1. Bidder shall setup & maintain a local warehouse in Kolkata with adequate storage space at his own cost so that materials and wired SSLMS can be stored.
    2. The bidder must store meters and MCCBs in a clean, dry & covered place.
    3. The store room should have proper ventilation, illumination, and should be free from water seepage, dust, vermin and corrosive gases.
    4. The meters shall be stored in raised racks and should be serially arranged for easy identification & retrieval.
    5. These raised racks should be easily accessible & approachable by the users.
    6. The storage of meters shall ensure protection against humidity, dust, grease and safeguard the meter performance & functionalities until its installation.
    7. Temperature of storage area should not exceed 45 deg C.
    8. CESC shall carry out periodic audits at the warehouse. Bidder shall extend necessary support/co-operation during the audit. Bidder shall take necessary corrective actions against the observations of CESC, if any, raised during the periodic audit.

## Testing and Wiring of SSLMS Unit:

* + 1. Bidder should Assemble all the materials and make the necessary wiring connection of all SSLMS units at their Own warehouse. (refer GA Drawing for assembly of SSLMS Units)
    2. Wiring has to be carried out at the bidder warehouse premises.
    3. All SSLMS units need to be tested after wiring and prior to sending at site for replacement purpose.
       - 3-Ø supply to be given at the bottom of MCCB irrespective of whether the meter is 1-Ø or 3-Ø. MCCB top to be checked to ensure 3-pole continuity of the MCCB.
       - Meter push button to be pressed for 6 seconds to check availability of supply at the outgoing terminal during day time to ensure proper functionality of the smart meter for street light application.

## Safety Compliance:

Bidder needs to strictly adhere the following safety compliance:

* + 1. All workmen including supervisors at site must be equipped with proper PPEs (Personal Protective Equipment) including helmets, fluorescent jackets, leg wears etc. All PPEs should be in good working condition.
    2. The work site must be kept barricaded with barricading tape and caution boards (at least two in no.) should be prominently displayed.
    3. Requisite PPEs must be used during execution of work by each and every member of the team.
    4. Penal action, which will be at the sole discretion of CESC, will be taken for repetitive violation of safety protocol, which may include temporary or permanent stoppage of work.
    5. The vendor should ensure that no damage is inflicted to other utilities including those of CESC. In case of violation of requisite formalities and negligence, penal action will be taken at the sole discretion of CESC.
    6. For CESC Pole - SSLMS will be installed above man height i.e. minimum 6’ to 6.5’ above from ground level.
    7. Bidder should follow Annexure: 2 for working on Public Body kiosk & Annexure: 3 for working on CESC poles.
    8. It will be necessary for the bidder to ensure that proper safety measures are followed and implemented and relevant SWP (Safe Work Procedure) is complied with by its workmen and supervisors during execution of the job to avoid accident/damage/loss of life and property.
    9. It will be necessary to keep one First-Aid Box at every site.
    10. Absence of these PPEs, if found will incur penal charges.

## Procedure of Job Execution:

* + 1. CESC will provide list of field meters along with necessary location details for replacement as and when required (preferably weekly basis).
    2. Target of Installation:
* There are 4000 old metering units needs to be replaced annually.
* Normally One team can install 3 nos. of unit in a single day.
  + 1. Manpower Deployment:
* Bidder must deploy number of team to meet the Monthly target.
* One Team consists of 1 supervisor, 1 skilled, 1 semi-skilled and 1 unskilled (welder) person. (refer table-1 for detail qualification and experience of individual category)

**Table-1**:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl**  **No** | **Category** | **No /**  **team** | **Min. Qualification** | **Min. Year of Experience** |
| 1 | Supervisor | 1 | Diploma Holder in Electrical Engineering | One year of experience in maintenance of LT / HT Distribution network /  metering activities. |
| 2 | Skilled (Line Man) | 1 | ITI – Electrical or  Electrical License holder | 3 years relevant  experience |
| 3 | Semi-skilled (Meter Installer) | 1 | ------ | ------ |
| 4 | Unskilled person (Welder cum helper) | 1 |  |  |

* + 1. Vehicle Deployment:
* Bidder has to deploy suitable vehicle for transportation of material from CESC store to local warehouse and thereafter to execution site for installation.
* The 4wheeler vehicles should be suitable to carry execution team, wired units including installation materials, Tools and Tackles.
* One vehicle must be allotted to one team for smooth execution and completion of job on time bound manner.
* Bidder to ensure all Statutory Requirements for operating these vehicles during all working hours in CESC. (valid documents & commercial road permit from MV Department)
* Bidder shall ensure seamless transportation and replacement to various sites, on a daily basis, as per need, without any disruption, caused due to unavailability / inadequacy of transport or man-power.
  + 1. Below listed materials are required for replacement of one-meter Box. All these materials will be arranged/supplied by the bidder.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No** | **Materials** | **Required Quantity** | |
| **SSLMS in Kiosk** | **SSLMS in CESC Pole** |
| 1 | 25 sq.mm. P.G Gland | 2 | 1 |
| 2 | 5'' X 5/8'' MS Nut & Bolt | 4 | 0 |
| 3 | 6'' X 5/8'' MS Nut & Bolt | 2 |
| 4 | 7'' X 5/8'' MS Nut & Bolt | 2 |
| 5 | 8'' X 5/8'' MS Nut & Bolt | 2 |
| 6 | 25 sq.mm. Al Thimble | 6 | 3 |
| 7 | 16 sq.mm. Al Thimble | 8 | 6 |
| 8 | 35 sq.mm. Al Thimble | 0 | 2 |
| 9 | 16 sq.mm S/C Al RC | 2 MTR | 2 MTR |
| 10 | 5/8'' G.I. Washer | 0 | 10 |
| 11 | 1'' PVC Adhesive & Non- Adhesive (R-Y-B) | As per requirement | |

* + 1. In case the old meter outgoing found 24 hrs enabled then bidder needs to call CESC Officers for configuration of the same in new smart meter from field.
    2. For replacement of old metering units installed in Public Body kiosk, if the incoming SVC cable is not in suitable condition, then bidder needs to inform CESC for taking necessary corrective action before replacement of the unit. Vendor needs to replace the outgoing SVC cable if it is not reusable.
    3. For replacement of old metering units installed in CESC poles, if the incoming/outgoing SVC cable is not in suitable condition, then bidder needs to inform CESC for taking necessary corrective action before replacement of the unit. The unit to be installed at suitable height and door should open fully for ease of operation and should not create hindrance to pedestrian.
    4. SSLMS units’ alignment should be checked with spirit level in both type of installations.
    5. After successfully commission of the SSLMS unit, bidder needs to call CESC representative for checking communication status against every replacement. SSLMS unit doors needs to be properly welded as per usual practice after communication found ok prior to leaving the site. Bidder also needs to submit commissioning details such as old meter details, new meter details etc. on daily basis as per prescribed format.
    6. Bidder needs to return of old metering box removed from site with all component including wires to the CESC’s designated store/ godown/ location on daily basis.
    7. Vendor also needs to submit materials reconciliation report as prescribed by CESC as and when asked by CESC Ltd.
    8. Billing shall take place at the end of the month against successfully replaced and commissioned unit quantity.

#### Maintenance of Necessary Infrastructure:

* + 1. CESC shall carry out inspections & checking of meters/wired units (both physical and electrical checks to verify various functionalities) at the local warehouse. Bidder shall arrange & maintain all the required resources at his end.
    2. Bidder shall arrange adequate resources, including provision of checking multiple meters/wired units simultaneously, at the warehouse so that delivery of wired SSLMS unit to field is not affected due to inadequate checking/testing infrastructure.

#### Support for Defective Meters:

In case any meter found defective during testing by Bidder at their premises before field installation, Bidder shall return the defective new meters to CESC designated location from his warehouse

#### Guarantee/ Warranty:

Bidder must ensure a guarantee period of 12 months from the date of commissioning of SSLMS units on the materials which are being supplied by the bidder along with the entire workmanship.

#### Penalty:

* + 1. ***Penalty for inadequate execution***:

1. Penalty of Rs. 50/- per day per case will be imposed in each of the following categories

* Delay in the scheduled of installation of activity per week basis.
* Delay in Submission of Protocol beyond two working days after completion of job.
* Return of removed meters / material at scrap store beyond one week.

1. If meter gets burnt due to poor workmanship, penalty equal to cost of meter will be recovered.
2. In case of false reporting (like wrong picture, wrong details, and wrong return remarks) for return case by bidder, a penalty @ 2 times the rate of execution of the concerned case shall be levied.

#### Penalty for non-compliance of Tools, Vehicle & Safety:

1. Non availability of tools/ non-availability of vehicle, at the time of surprise inspection. Penalty @ Rs 2000/ - per such occurrence will be imposed.
2. Non adherence of safety protocol and Reporting of any unsafe practice, penalty @ Rs 1000/- per instances, will be imposed on the monthly bill.

#### Penalty for Non reconciliation of material:

1. Monthly reconciliation of new and removed meter & all free issue items from CESC to be completed by bidder by 7th of every month for last month. Processing of bill for the month will be done only after submission of re-conciliation report from EIC. Upon reconciliation, if any material (Free Issue items from CESC) is found missing, 1.5 times the cost of such missing material will be recovered.
2. Loss of any CESC free Issue items (FIR lodged with police station and informing CESC within 3 working days) Rs 5000/- per single phase meter, Rs 12000/- per three phase whole current meter and Rs 5000/- per MCCB will be imposed

**Note**:

* + Engineer in Charge is the final authority to waive off any penalty based on site conditions / circumstances beyond the control of BA.
  + No penalty will be imposed in first 2 months of execution on target-based performance parameters.

### Submission of Bid

1. Technical Bid shall be submitted over email to [**ushnish.basu@rpsg.in**](mailto:ushnish.basu@rpsg.in), [**pradipta.hati@rpsg.in**](mailto:pradipta.hati@rpsg.in)within 16.05.2025.
2. Price Bid to be submitted through password protected PDF / Excel File over email to [**ushnish.basu@rpsg.in**.](mailto:ushnish.basu@rpsg.in) Password to be submitted on request from CESC Limited and to be emailed to [**tender.cesc@rpsg.in**](mailto:tender.cesc@rpsg.in)within 26.05.2025.

Price Bid Format is enclosed.

Technical Bid should consist of following documents pertaining to Pre-qualification Criteria:

|  |  |  |
| --- | --- | --- |
| **Sl. No** | **Pre-qualification Criteria** | **Documents to be Submitted** |
| **Technical Qualification Criteria** | | |
| 1 | Bidder must have **minimum of 5 years** of experience in Meter Installation / replacement activity of 1P or 3P LTCT Meter/WC Meter/Smart Meter/ Energy Meter in any State Power Utilities or Private Power Discoms at PAN India | Bidder must have to submit self- undertaking in this regard. |
| 2 | Bidder shall submit order copy of Meter Installation / replacement activity of 1P or 3P LTCT Meter/WC Meter/Smart Meter/ Energy Meter having an order value of minimum **Rs 2Cr.** (Cumulative) during **last 4 years**. | Order copy/copies shall be submitted in this regard.  (Last day of previous month prior to date of bid submission shall be counted for purpose of years calculation.) |
| 3 | Bidder shall submit at least **one Performance Certificate** for Meter Installation / replacement activity issued by any reputed power distribution utility of India issued **within last 4 years**. | Performance certificate and contact details of client needs to be submitted.  (Last day of previous month prior to date of bid submission shall be counted for purpose of years calculation.) |
| 4 | Bidder should have **valid Electrical Contractor License to work in West Bengal**. | Copy of valid Electrical Contractor License issued by competent Authority, shall be submitted by bidder. In case bidder is not having this License, Bidder shall submit an undertaking that in case they are the successful bidder, same shall be obtained by them and shall be submitted to CESC within 20 days of order/LOI award |

|  |  |  |
| --- | --- | --- |
| **Sl. No** | **Pre-qualification Criteria** | **Documents to be Submitted** |
| **Commercial Qualification Criteria** | | |
| 5 | Bidder should have average annual turnover of **Rs.2 Cr.** in any of the **last three**  **years** out of FY 20-21, FY 21-22, FY 22-23 and FY 23-24. | Audited balance sheet, profit and loss account and auditors report from the statutory auditors of the company required. |
| 6 | Bidder must have valid **GST registration, valid PAN Card** & must complied to other statutory compliances. | Copy of GST Certificate, PAN Card, MSME Certificate (if applicable) & undertaking of compliance of all statutory requirement to be submitted in this regard. |
| 7 | Bidder has **not been blacklisted/debarred** by any central/state government Organization/Electricity utilities and there are no pending proceedings against the bidder under the Insolvency and  Bankruptcy Code, 2016 (“IBC”). | Undertaking for both the points as mentioned above need to be submitted in this regard. |
| 8 | Bidder shall submit an undertaking that “**No Litigation**” is pending with the CESC or any RPSG Group Companies. | Undertaking to be submitted in this regard. |

**Note:** “Bidder should visit field for job assessment of replacing old metering units by new metering units in both type of UG and O/H network. CESC will assist interested bidders for visit”.

**In addition, technical bid should consist acceptance of Terms & Condition of the Tender along with deviation sheet if any**

For commercial clarification please contact with the following representative:

**Mr. Ushnish Basu**

**Sr. Manager (Materials) Mob: 9830913143**

**Mr. Pradipta Hati**

**Asst. Manager (Materials) Mob: 9163863172**

For technical clarification please contact with the following representative:

**Mr. Sujoy Kanti Pal**

**Dy. General Manager (Solar) Mob: 9903037416**

### Contract Period

1. The contract will be valid for a period of three years.
2. The contract can be extended further after mutual discussion. Management decision will be firm and will be adhered to. The discretion of CESC shall prevail upon such decision.
3. Contract means the contract to be executed with the successful bidder at the discretion of the CESC.

### Payment Terms

Ninety (90) days credit from submission of bill, duly certified by user department.

### Instruction to Bidders:

1. Owner may at his discretion, extend deadline for submission.
2. Bidders are advised to study the bid document carefully. Submission of bids against the tender notice shall be deemed to have been done after careful study and examination of the procedure, terms and conditions stipulated in the bid documents with full understanding of its implications.
3. The Owner reserves the right to cancel any or all the bids without assigning any reason thereof.
4. This is a Rate Contract which shall be valid for 36 (Thirty-Six) months. Quantity may vary up to any extent.
5. Before submission of the Bid, the Bidders are requested to make themselves fully conversant with all the Terms and Conditions of this Bid Document, and also acquaint themselves fully with the existing site conditions, so that no ambiguity may arise in these respects subsequent to the submission of the Bid.
6. Any inconsistency or ambiguity in the offers made by the Bidder shall be interpreted to the maximum advantage of the CESC and disadvantage to the Bidder. The Bidder shall have no right to question the interpretation of the CESC in all such cases and the same shall be binding on the Bidder.
7. The Bid shall be prepared and submitted strictly in accordance with the instruction contained in these specifications and shall be complete in all respects. The interpolations, insertion, striking out and corrections made in the Bid offers should be duly initialled by the Bidder.
8. CESC Limited reserves the right to issue the Rate Contract to multiple bidders.

### Statutory Obligation:

1. You shall be responsible to ensure compliance with all statutory obligations, inter alia, under The Contract Labour (Regulation & Abolition) Act, 1970, The Payment of Wages Act, 1936, The Workmen's Compensation Act, 1923. The Payment of Gratuity Act, 1972, The Employees Provident Fund and Miscellaneous Provisions Act, 1952, The Minimum Wages Act, 1948, The Payment of Bonus Act, 1965 and all other Acts and rules/regulations framed there under, as applicable from time to time. Failure to comply with such obligations and any penal provision arising out of such non- compliance will be the sole responsibility of the Bidder.
2. The Contractor shall comply with all applicable laws in force. The laws will include all local, state, national or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the CESC 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 its personnel, including the Subcontractors and their personnel.

1. Bidder shall submit Electrical Contractor’s License and Electrical Supervisory Competency Certificate for carrying out the job.
2. Bidder shall submit all the statutory documents such as PF, ESI, GST, PAN etc. registered in the name of your organization/employees

### Mobilisation:

The Bidder should mobilize his team fully within 7 days from the date of issue of the work order.

### Offloading of Job:

In case it is observed during the tenure of contract that the vendor is not capable or in a position to complete the job, CESC reserves the right to offload the same and get it done through other agencies at the cost and risk of the Contractor. The Contractor shall remain responsible to the extent of offloaded job.

### Subletting of Job:

Subletting of job will be allowed subject to prior approval from CESC and at the risk and responsibility of Contractor.

### Other Obligations

1. CESC Limited will be at liberty to impose any other condition that it may deem fit to become applicable in accordance with any statutory provisions or otherwise, not covered under this Agreement, at any point of time for effective accomplishment of the job or ensuring compliance with Law of the Land that may become enforceable at a later stage. As and when imposed such condition shall be deemed to be a part of this Agreement.
2. Contractor shall be responsible for disbursement/payment of wages and salary to its employees as per statute.
3. No job can be sub contracted out without our specific written permission.
4. Issuing proper notices to other utilities e.g. posts & Telegraphs Department, Municipal Authorities etc. prior to taking up the work, taking suitable precautions in accordance with law to avoid damages to their installation and informing them about damages whenever they occur.
5. The Contractor shall have contingency backup of manpower and equipment as per exigencies.
6. Besides conditions as mentioned above, the Contractor shall undertake to appoint a nodal person for monitoring activities related to quality, safety and time adherence of jobs. He would work as the co-coordinating person with CESC.
7. The Contractor shall maintain proper documentation as required in the Job scope and further advised by CESC.
8. The contractor shall comply with all applicable labor Laws/ model standing orders and other statutory provisions as applicable and fully observe all safety Rules and Regulations. It shall be their responsibility to ensure all related safety measures.
9. The Contractor shall strictly adhere to all applicable environmental norms and avoid any violation of the same.
10. The Contractor will also keep CESC indemnified against all claims and disputes arising out of death or injury to its workmen and staff.
11. The Contractor shall keep CESC indemnified from all liabilities resulting out of the contract and act of you/your workmen.
12. The Contractor shall employ competent, skilled and well experienced persons for the job. However, CESC shall have the liberty to object/remove any person employed by the Contractor in case his knowledge/work/conduct found to be not satisfactory.

### Local Issues

Contractor should maintain good rapport with the local people during the work, so that the job can be completed smoothly. All the incidental expenses on account of any local issues are to be borne by the Contractor.

### Dispute Redressal & Arbitration

The Contract shall be governed by and construed in accordance with the laws of India. In the event of any dispute or difference between the Parties arising out of the Contract including the interpretation of the terms thereof, the Parties shall attempt to resolve the dispute in good faith through senior level negotiations. In case any such dispute or difference is not amicably resolved within forty-five days of such referral, it shall be referred for arbitration to an arbitral tribunal comprising of a sole Arbitrator in accordance with the provisions of the Arbitration and Conciliation Act 1996 or any statutory amendment, modification or re-enactment thereof as may be in force at the material point of time of reference of the disputes. The sole Arbitrator shall adopt a fast-track procedure mandated under the provisions of the Act. The Arbitrator shall give a reasoned award which shall be binding upon the Parties. The place of arbitration shall be Kolkata, West Bengal and the language of the arbitration shall be English.

During settlement of disputes and pendency of the arbitration proceedings, both Parties shall be obliged to carry out their respective obligations under the Contract.

### Termination of Contract

1. CESC reserves the right to terminate the Contract by giving 30 (thirty) days’ prior written notice to the Service Provider, even without assigning any reason whatsoever, and the Contract shall be terminated on expiry of the said notice period.
2. Upon the occurrence of any of the Event of Service Provider’s Default, as defined hereunder, CESC shall be at liberty to serve 30 (thirty) days’ prior written notice specifying them Event(s) of Service Provider’s Default and if such Event(s) of

Default is/are not rectified /remedied to the full satisfaction of the CESC, the Contract shall be terminated on expiry of the notice period.

Event of Contractor’s Default - Each of the following Events shall constitute an Event of Contractor’s Default:

* 1. The failure by the Contractor to perform any obligation under the Contract.
  2. Any Bankruptcy or insolvency of the Contractor

1. This Contract may be terminated by either Party with the consent of the other Party at any point of time during subsistence of the Contract by serving 30 (thirty) days’ prior written notice
2. Each Party shall fulfill its obligation and duties, that are stated to survive termination or are to be carried out after termination or owed by a Party at the time of or as a result of such termination.

### Stoppage of Work

If at any time, CESC decides to abandon or reduce the scope of work for any reason whatsoever the payment shall be made according to the reduced scope of work and the contractor shall not be eligible for any claim regarding payment of compensation.

### Suspension of Works

1. CESC reserves the right to suspend and reinstate execution of the whole or any part of the Works without invalidating the provisions of the Contract. Orders for suspension or reinstatement of the Works will be issued to the Contractor in writing.
2. CESC may, at any time, withdraw the suspension of performance of the Works as to all or part of the suspended Works by written notice to Contractor and Contractor shall resume diligent performance of the Works for which the suspension is withdrawn on the specified effective date of withdrawal.
3. Contractor shall not be entitled to any prospective profits or any damages because of such suspensions or withdrawals of suspension.
4. If suspension continues for more than 180 (One Hundred Eighty) days, unless such suspension is
   1. By reason(s) of the default or failure on the part of the Contractor or
   2. is necessary for the proper execution of the Works or
   3. Is for reason(s) of whether affecting the safety or quality of the work(s) (the reasons for the suspension stated by CESC in any notice of suspension as aforesaid shall be final and binding upon the Contractor), the Parties shall review and decide on further course of action for the Contract.

### Insurance and Indemnification

1. Contractor’s Insurance(s)

Contractor shall take all required insurance including comprehensive general liability insurance, motor vehicle insurance etc. For material and men deployed for work at his

/ her own cost. This shall cover workmen compensation as well.

It will be the responsibility of the Bidder to maintain all necessary insurance coverage to the extent both in time and amount to take care of all its liabilities either direct or indirect, in pursuance of the Work Order.

1. Indemnification

Bidder shall indemnify, defend and hold harmless CESC and all of their directors, officers, employees, agents and representatives, from and against any claim, demand, cause of action, liability, loss or expense arising:

* 1. By reason of Bidder’s and/or its Sub-Bidder’s (or their Directors, employees etc.) failure to comply with any law, ordinance, regulation, rule or order, or with the Work Order. This includes, but is not limited to, fines or penalties by government authorities and claims arising from Bidder’s /Sub-Bidder’s failure to pay taxes, wages and alike.
  2. CESC shall be entitled to retain from payments otherwise due to Bidder such amounts as shall reasonably be considered necessary to satisfy any claims, suits or liens for damages that fall within Bidder's indemnity obligations under this Clause, until such claims suits or liens have been settled and satisfactory evidence to that effect has been furnished to CESC.

### Representations & Warranties

1. The Contractor shall represent and warrant CESC that it possesses all licenses, permits, clearances, approvals registrations to operate and maintain the system as per scope.
2. The Contractor shall represent and warrant CESC that is has complied with all the eligibility criteria and conditions and further undertakes to comply and fulfill the resource requirements from time to time.
3. The Contractor shall further undertake and assure CESC that it shall utilize its complete skills, capacity and expertise towards successful job execution adhering to safety norms and environmental measures, to the complete satisfaction of CESC.

### Confidentiality & Non-Disclosure

1. In the event of a Contract with CESC, the Contractor shall agree (unless otherwise required by law) that it shall not disclose to any other person information classified as proprietary, sensitive or confidential in nature.
2. The obligations of confidentiality undertaken during the Contract shall continue for the term of the Contract and for a period of 9 (Nine) month after the termination of the Contract.

### Waiver

The failure of either Party (CESC/ Contractor is herein referred as "Party in singular or "Parties" to denote both CESC & Contractor) to enforce at any time any of the provisions of this Contract, or to require at any time performance by the other Party of any of the provisions hereof, shall in no way be construed to be a waiver of such provisions, nor in any way to affect the validity of this Contract or any part hereof, or the right of either Party thereafter to enforce each and every provision.

Waiver by either Party of any default, breach or non-performance hereunder shall not constitute nor be construed as a waiver of any succeeding default, breach or non-performance, whether of the same type or kind as before or not.

### Liquidated Damage for Non-Performance

If Contractor's performance is not satisfactory then a suitable deduction may be made by CESC. Decision of CESC shall be final and binding on the Contractor.

### Deductions from Contract Price

All costs, damages or expenses which the CESC may have paid, for which under the contract the Contractor is liable, may be deducted by the CESC from any money due or becoming due to the Contractor under the Contract, or may be recovered by action of law or otherwise from the Contractor.

If the event of recovery to the necessary extent becoming impossible owing to insufficiency of the withheld amounts, the balance due to the CESC, may be recovered in any way the Purchaser may deem fit.

### Grafts and Commissions

Any graft, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner, agent, officers, director, employee or servant or any one on his or their behalf in relation to the obtaining or to the execution of this or any other Contract with the CESC, shall in addition to any criminal liability with it may incur subject the Contractor to the cancellation of this and all other Contracts and also to payment of any loss or damage to the CESC resulting from any cancellation. The CESC shall then be entitled to deduct the amount so payable from any monies otherwise due to Contractor under the Contract.

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| **Price Bid Format** | | | | | | | |
| **Installation of Smart Street Light Management System - 1st Year** | | | | | | | |
| **Sl No** | **Activity Details** | **UoM** | **Qty** | **Unit Rate (Rs)** | **GST (@18%)**  **(Rs)** | **All Inclusive Unit Cost**  **(Rs)** | **Total All Inclusive (Rs)** |
| 1 | Storing and Handling Charges of Whole Current meter Includes   1. shifting of Materials from CESC store to vendor Store/Site 2. Shifting of Vendor’s store to   execution site   1. Returning of excess new materials/ dismantling materials/Damage Materials to CESC Store/site - As per Scope of   Work | EA | 4,000 |  |  |  |  |
| 2 | Assembling and wiring 1Ph WC Meter | EA | 3,500 |  |  |  |  |
| 3 | Assembling and wiring 3Ph WC  Meter | EA | 500 |  |  |  |  |
| 4 | Installation of 1Ph/3Ph WC Meter with New Box | EA | 4,000 |  |  |  |  |
|  | **Sub-Total All Inclusive of BoQ for 1st Year (Rs) - Part - A** | | | | | |  |
|  | | | | | | | |
| **Installation of Smart Street Light Management System - 2nd Year** | | | | | | | |
| **Sl No** | **Activity Details** | **UoM** | **Qty** | **Unit Rate (Rs)** | **GST (@18%)**  **(Rs)** | **All Inclusive Unit Cost**  **(Rs)** | **Total All Inclusive (Rs)** |
| 1 | Storing and Handling Charges of Whole Current meter Includes   1. shifting of Materials from CESC store to vendor Store/Site 2. Shifting of Vendor’s store to   execution site   1. Returning of excess new materials/ dismantling materials/Damage Materials to CESC Store/site - As per Scope of Work | EA | 4,000 |  |  |  |  |
| 2 | Assembling and wiring 1Ph WC Meter | EA | 3,500 |  |  |  |  |
| 3 | Assembling and wiring 3Ph WC Meter | EA | 500 |  |  |  |  |
| 4 | Installation of 1Ph/3Ph WC Meter with New Box | EA | 4,000 |  |  |  |  |
|  | **Sub - Total All Inclusive of BoQ for 2nd Year (Rs) - Part - B** | | | | | |  |
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| **Installation of Smart Street Light Management System - 3rd Year** | | | | | | | |
| **Sl No** | **Activity Details** | **UoM** | **Qty** | **Unit Rate (Rs)** | **GST (@18%)**  **(Rs)** | **All Inclusive Unit Cost**  **(Rs)** | **Total All Inclusive (Rs)** |
| 1 | Storing and Handling Charges of Whole Current meter Includes   1. shifting of Materials from CESC store to vendor Store/Site 2. Shifting of Vendor’s store to   execution site   1. Returning of excess new materials/ dismantling materials/Damage Materials to CESC Store/site - As per Scope of   Work | EA | 4,000 |  |  |  |  |
| 2 | Assembling and wiring 1Ph WC Meter | EA | 3,500 |  |  |  |  |
| 3 | Assembling and wiring 3Ph WC Meter | EA | 500 |  |  |  |  |
| 4 | Installation of 1Ph/3Ph WC Meter with New Box | EA | 4,000 |  |  |  |  |
|  | **Sub - Total All Inclusive of BoQ for 3rd Year (Rs) - Part - C** | | | | | |  |
|  | | | | | | | |
| Total All Inclusive of BoQ for complete 3 years ( **Part-A**+ **Part-B**+ **Part-C**) | | | | | | |  |

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|  | **Notes:** |
| 1 | The bids will be evaluated commercially on overall lowest cost (Total All Inclusive) for  complete 3 years as calculated in Schedule of Items. |
| 2 | The bidder shall quote prices strictly in the above format. Failing to do so, bids are liable to  be rejected. |
| 3 | The bidder must fill each and every column of the above format. Mentioning  “extra/inclusive” in any of the column may lead for rejection of the price bid. |
| 4 | No cutting/ overwriting in the prices is permissible. |

# Annexure - I

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Annexure-1 (Wiring materials)** | | | | |
|  | | | | |
| **Supply of material for Wiring of 1-ph SSLMS unit with whole current smart meter** | | | | |
| **SL.NO** | **DESCRIPTION** | **QNTY** | **UNIT** | **Make** |
| **1** | **16Sq.mm Flexible Cable** | **1.20** | **Mtr.** | **Standard as approved by Material devision** |
| **2** | **16Sq.mm Ring Socket(E-6)** | **4** | **Nos.** |
| **3** | **16Sq.mm Bottle Socket** | **4** | **Nos.** |
| **4** | **D type Terminal Channel** | **130** | **mm** |
| **5** | **CBT 110 Terminal Block** | **3** | **Nos.** |
| **6** | **CBT 110 Gurd/ Separator** | **2** | **Nos.** |
| **7** | **6x25mm S.S Nut, Bolt, Double GI Washer** | **6** | **Nos.** |
| **8** | **Other Hard Ware**  **Meter fixing screw(6/13)=03 nos.**  **D-channel fixing screw(4mm)=02 nos. Mccb fixing screw=02 nos. pvc tape** | **1** | **Lot** |
| **Supply of material for Wiring of 3-ph SSLMS unit with whole current smart meter** | | | | |
| **SL.NO** | **DESCRIPTION** | **QNTY** | **UNIT** | **Make** |
| **1** | **16Sq.mm Flexible Cable** | **2** | **Mtr.** | **Standard as approved by Material devision** |
| **2** | **16Sq.mm Ring Socket(E-6)** | **8** | **Nos.** |
| **3** | **16Sq.mm Bottle Socket** | **8** | **Nos.** |
| **4** | **D type Terminal Channel** | **180** | **mm** |
| **5** | **CBT 110 Terminal Block** | **5** | **Nos.** |
| **6** | **CBT 110 Gurd/ Separator** | **4** | **Nos.** |
| **7** | **6x25mm S.S Nut, Bolt, Double GI Washer** | **6** | **Nos.** |
| **8** | **Other Hardware & PVC Tape Meter fixing screw(6/13)=03 nos.**  **D-channel fixing screw(4mm)=02 nos.**  **Mccb fixing screw=02 nos.** | **1** | **Lot** |

**Annexure – II**

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| **Sl.**  **No.** | **Activity** | **Description** | **Hazard** | **Impact** | **Recommended Control Measures** |
| **1** | **Tool Box meeting** | Tool box meeting to be done before starting of job. During tool box meeting physical and mental condition of all employees to be known | Physical or mental illness | Fatal | Proper tool box meeting with all the workmen & supervisor |
| All relevant safety equipment and tools to be checked | Improper safety equipment and tools | Fatal |
| Responsibility of job profile to be distributed among the present employee and skill employee should do the skill job | Accident may occurred due to unskilled worker doing the skilled job | Fatal |
| Clear knowledge of today's job location,isolation and hazards. | Installation at wrong address,repetition of same work, Not using all the manpower | Delay in execution |
| Condition of vehicle. | Accident may occurred due to condition of vehicle (break, tyre,etc) | Fatal | Proper checking of vehicle & authentication from the driver as well as the car owner about the health of the vehicle. |
| **2** | **Pre-replacement checks at site** | Whether kiosk is live or not to be checked with Line Tester | Public body Kiosk may be in live condition | Electrical shock due to improper handling. | Kiosk live condition to be checked with Line Tester |
| Condition of the Public Body kiosk to be checked. If damaged, to be informed to Public body for  rectification. |
| Condition of the Public Body outgoing wires & Kit-kat arrangement to be checked. If damaged, to be repaired to the extent possible and to be informed to Public Body |
| Cable gland is above plinth level or not is to be checked | Return from job without execution | Time loss/Loss of labour /  reputation |
| Checking for earth continuity in the Incoming SVC cable with 400V test lamp is a must. In case of no earth continuity of the incoming SVC cable, inform to CESC Officers | Cable & cut-out is in live condition. | Electrical shock due to improper handling. | Earthing to be checked with 400V Test Lamp with use of safety helmet, FR gloves, safety shoes, rubber mat, eye guard |
| **3** | **Replacement of the SSLMS unit** | Old metering unit to be removed from the Public Body kiosk in incoming SVC cable de-energized condition and outgoing kit-kat disconnected condition. SSLMS unit to be fixed inside the Kiosk with the help of wooden planks and rods. 3 workmen are needed to install this unit. 2 persons for holding the SSLMS unit ,1 person to carry out welding with proper safety measures. Supervisor will supervise the job | In case of improper handling the unit may fall on the feet/hand of any of the workers. | Physical injury . | Check the condition of the wooden planks, rod before using. Safety shoes , safety helmet, Material Handling gloves to be used |
| 1. High intensity light from welding 2. Hot welding rod | 1. Damage to the eyes permanently 2. Physical injury | Material Handling gloves, Welding visor |
| 3) Power Supply connection to welding transformer | 3)Electrical shock which may be fatal | Take Supply from extension board fitted with RCCB. Use of FR hand gloves, eye guard |
| **4** | **De-energization of main Distributor cable in case of T- joint SVC** | Checking of distributor isolation, consult with other members of the team,checking of possible sources of back feeding and to take necessary precaution, checking sinage written at pillar box,to inform affected consumers and concerned regional depot; (AS DETAILED BELOW)  \*\*\* In Terms of CEA ( Measures Relating To Safety and Electric Supply ) Regulation 2010: Ch. III Under Section :19 | Consumers commotion, generation of infructuous calls, wrong isolation, improper writing and back feeding and inadverten fuse insertion by other department. | Electrical and mechanical accident may occur : Reputation and revenue loss | During Fuse Removal and fuse insertion FR hand gloves, eye guard/face shield, safety shoes, helmet and rubber mat must be used. Use unit guard separator before applying shorting clip at both circuit side of the units (1st earth then Neutral then phases. While shorting the phases again check each phase with 400 volt test lamp just before applying shorting clip). Ensure Consumer Grip Fuse and SSLMS unit MCCB is kept OFF. Place danger board at both side of the de-energized distributor. |
| To check sinage written in pillar box |  |  |
| To inform relevant regional depot | For information and un -necessary  other depot vehicle movement | Loss of labour |
| Fuse removal at pillar box for isolation checking | Burn injury | Fatal |
| Re-confirm the Source by insertion of fuse unit | Electrical shock | May be fatal |
| Fuse removal at pillar box for job execution | Burn injury | Fatal |
| Back feeding from neutral | Electrical shock | May be fatal |
| Back feeding from Public Body Network | Electrical shock | May be fatal |
| Back feeding from generator/inverter | Electrical shock | May be fatal |
| Back feeding from wrong fuse insertion | Electrical shock | May be fatal |
| Fuse insertion at pillar box. | Burn injury | Fatal |

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|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl.**  **No.** | **Activity** | **Description** | **Hazard** | **Impact** | **Recommended Control Measures** |
| **5** | **De-energization of Piller Box busbar in case of direct SVC from Busbar** | Checking of distributor isolation, consult with other members of the team,checking of possible sources of back feeding and to take necessary precaution, checking of writing at pillar box,to inform affected consumers and concerned regional depot; (AS DETAILED BELOW)  \*\*\* In Terms of CEA ( Measures Relating To Safety and Electric Supply ) Regulation 2010: Ch. III Under Section :19 | Consumers commotion, generation of infructuous calls, wrong isolation, improper writing and back feeding and inadverten fuse insertion by other department. | Electrical and mechanical accident may occur : Reputation and revenue loss | During Fuse Removal and fuse insertion FR hand gloves, eye guard/face shield, safety shoes, helmet and rubber mat must be used. Ensure Consumer Grip Fuse and SSLMS unit MCCB is kept OFF. HRC fuse from fuse carriers to be removed for all units except NI units. Apply 5Way shorting clips to the righ hand side of the bus bar in case of any direct SVC from busbar(1st earth then Neutral then phases. While shorting the phases again check each phase with 400 volt test lamp just before applying shorting clip) |
| To check sinage written in pillar box |  |  |
| To inform relevant regional depot | For information and un -necessary  other depot vehicle movement | Loss of labour |
| Fuse removal at pillar box for isolation checking | Burn injury | Fatal |
| Re-confirm the Source by insertion of fuse unit | Electrical shock | May be fatal |
| Fuse removal at pillar box for job execution | Burn injury | Fatal |
| Back feeding from neutral | Electrical shock | May be fatal |
| Back feeding from Public Body Network | Electrical shock | May be fatal |
| Back feeding from generator/inverter | Electrical shock | May be fatal |
| Back feeding from wrong fuse insertion | Electrical shock | May be fatal |
| Fuse insertion at pillar box. | Burn injury | Fatal |
| **6** | **Glanding & Crimping** | Existing cable gland to be used to the extent possible otherwise new glanding to be done following CESC standard practice. Existing cable thimble to be cut for removing the old box. Appropriate thimble(socket) to be crimped by proper crimping machine and proper size of die to used. Dowell's Compound to be used in appropriate quantity. | Cutting injury may occur from the sharp edge of knife during core insulation cutting before crimping | First Aid | Use of hand gloves |
| Supply flickering due to improper crimping. | Low voltage, fluctuation and even supply off | Check the crimper and the dice (s) before crimping |
| **7** | **Cable Termination in SSLMS unit** | After de-energization of incoming cable and fixing of the SSLMS unit, incoming & outgoing power cables are to be terminated | Proper care has to be taken during the cable termination because of the sharp instruments like knives, edges of armour etc. | Physical injury | Use of Material Handling gloves, safety shoes and helmet |
| For power cable termination at SSLMS end , 25 sq. mm or 70 sqmm 3 ½ core PVC/XLPE coated Al cable is used. | Use of Material Handling gloves, safety shoes |
| The phases of the incoming cable are terminated at SSLMS unit below the MCCB. The outgoing cable to be re-used if it is in working condition otherwise one length of the outgoing cable is terminated at the terminal blocks and the other end at Porcelain grip fuse of the Public Body. Cable terminations to be carried out in de-energized condition after intimating the Regional Call Centre. | Use of Safety Belt, Helmet , shoes and electrically insulated safety gloves. |
| **8** | **Cable Termination at Public Body Kit- Kat arrangement/MCB** | The consumer Kit-Kat arrangement/MCB is kept off to prevent any back feeding. Additionally the MCCB of SSLMS is also kept in OFF position. | SSLMS unit outgoing cable may become live if the meter is 24 hr setting/malfunction and if Supply return from public body network | Electrical Shock | Ensure the MCCB/ Consumer Grip Fuse is kept OFF |
| After preparation of the outgoing power cable (same way as above) termination is done. | Proper care has to be taken during the cable termination because of the sharp instruments like knives, edges of armour etc. | Physical injury | Use of Material Handling gloves |
| **9** | **Earthing procedure** | All types of earthing is done using 16 sq. mm s/c RC. At SSLMS end Body is earthed with PG gland using 2 Nos. 16 sq. mm s/c RC. | Proper care has to be taken during the cable termination because of the sharp instruments like knives, edges of armour etc. | Physical injury | Use of mechanical hand gloves |
| **10** | **Energizing the newly installed SSLMS Unit** | Ensure removal of shorting clip | Electrical Accident during energizing the distributor cable | Might be fatal | Perform flash test in all three phases and insert fuse in one phase. Check phase to phase short condition in other phases and insert fuses accordingly. |
| Check healthiness of the distributor cable before inserting fuses |
| **11** | **Commissioning of the SSLMS unit** | SSLMS is then commissioned by energizing the meter and checking necessary functionalities which includes push button operation and communication checks. | Electrical shock while checking necessary functionalities & changing any component if required | Electrical Shock | Switch off the MCCB before changing any component |
| **12** | **Securing the SSLMS unit** | Welding of SSLMS unit is carried out after carrying out communication check for securing the unit and permanent fixing inside the kiosk | 1. High intensity light from welding 2. Hot welding rod | 1. Damage to the eyes permanently 2. Physical injury | Material Handling gloves, Welding visor |
| 3) Power Supply connection to welding transformer | 3)Electrical shock which may be fatal | Take Supply from extension board fitted with RCCB. Extension board supply to be taken from socket of nearby piller box/SVC. Use FR hand gloves, eye guard |

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# Annexure - III

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| **Sl.**  **No.** | **Activity** | **Description** | **Hazard** | **Impact** | **Recommended Control Meassures** |
| **1** | **Tool Box meeting** | Tool box meeting to be done before starting of job. During tool box meeting physical and mental condition  of all employees to be known | Physical or mental illness | Fatal | Proper tool box meeting with all the workmen & supervisor |
| All relevant safety equipment and tools to be checked | Improper safety equipment and tools | Fatal |
| Responsibility of job profile to be distributed among the present employee and skill employee should do  the skill job | Accident may occurred due to unskilled worker  doing the skilled job | Fatal |
| Clear knowledge of today's job location,isolation and hazards. | Installation at wrong address,repetition of same  work, Not using all the manpower | Delay in execution |
| Condition of vehicle. | Accident may occurred due to condition of  vehicle (break, tyre,etc) | Fatal | Proper checking of vehicle & authentication from the driver as well as the car  owner about the health of the vehicle. |
| **2** | **Pre-replacement checks at site** | Whether pole is live or not to be checked with Line Tester | If the pole isn't properly earth, danger of electrocution may arise later on if the cable earthing fails | Electrical shock due to improper handling. | Earthing to be checked with 400V Test Lamp with use of safety helmet, FR gloves, safety shoes, rubber mat, eye guard |
| Checking for earth continuity in the Incoming SVC cable with 400V test lamp is a must. In case of no earth continuity of the incoming SVC cable, inform to PLAC. |
| Condition of the CESC pole to be checked. If damaged or earthing not found, to be informed to CESC for rectification. | Return from job without execution | Time loss/Loss of labour  / reputation | Inform CESC in case of anomaly |
| Condition of the incoming & outgoing cable to be checked. If damaged, to be informed to CESC for rectification. |
| St Ltg Mains condition to be checked. If sagging found, to be informed to CESC for rectification. |
| **3** | **De-energization of the O/H Mains** | Checking of distributor isolation, consult with other members of the team,checking of possible sources of back feeding and to take necessary precaution, checking sinage written at pillar box,to inform affected consumers and concerned regional depot; (AS DETAILED BELOW)  \*\*\* In Terms of CEA ( Measures Relating To Safety and Electric Supply ) Regulation 2010: Ch. III Under Section :19 | Consumers commotion, generation of infructuous calls, wrong isolation, improper writing and back feeding and inadverten fuse insertion by other department. | Electrical and mechanical accident may occur : Reputation and  revenue loss | Checking of isolation in conformity with the writing on Pillar Box, placing of Danger Board at appropriate place, use of appropriate PPE such as FR hand gloves, eye guard/face shield, safety shoes, helmet and rubber mat. Isolation written in Pillar Box to be checked and rechecked by other team member |
| To check sinage written in pillar box |  |  | During Fuse Removal and fuse insertion FR hand gloves, eye guard/face shield, safety shoes, helmet and rubber mat must be used. For O/H bare conductor shorting of N, E, St. Ltg. Mains and phases to be done in previous and next poles with 6 way shorting clip. For AB Cable shorting to be done at ACPB end at both the side of the line by 5 way shorting clip. Place danger board at both side of the de-energized distributor. Use unit guard separator before applying shorting clip at both ACPBs (1st earth then Neutral then phases. While shorting the phases again check each phase with 440 volt test lamp just before applying shorting clip). Ensure SSLMS unit MCCB is kept OFF |
| To inform relevant regional depot | For information and un -necessary other depot vehicle movement | Loss of labour |
| Fuse removal at pillar box for isolation checking | Burn injury | Fatal |
| Re-confirm the Source by insertion of fuse unit | Electrical shock | May be fatal |
| Fuse removal at pillar box for job execution | Burn injury | Fatal |
| Back feeding from neutral | Electrical shock | May be fatal |
| Back feeding from Public Body Network | Electrical shock | May be fatal |
| Back feeding from generator/inverter | Electrical shock | May be fatal |
| Back feeding from wrong fuse insertion | Electrical shock | May be fatal |
| Fuse insertion at pillar box. | Burn injury | Fatal |

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| --- | --- | --- | --- | --- | --- |
| **Sl.**  **No.** | **Activity** | **Description** | **Hazard** | **Impact** | **Recommended Control Meassures** |
| **4** | **Replacement of the SSLMS unit onto OH pole** | 1. Old metering unit to be removed from the pole in de-energized condition of the O/H network. 2. 3 workmen are to be involved in fixing the SSLMS unit on the pole . 3. Bottom angle on which the SSLMS unit will rest and fixing brackets to be re-used if found ok. A small ladder or tool which is used for this purpose should be securely fixed before climbing/standing on it. One person should hold the tool/small ladder when one workmen is standing on it. 4. Two workmen will hold the SSLMS unit and secure the nut & bolts to keep the unit in position while the thrid would hold the tool/small ladder. The nut and bolts should be properly tightened before proceeding to cable termination. 5. Supervisor will supervise the job. | 1. In case of improper handling the unit may fall on the feet/hand of any of the workers 2. If tool / small ladder is improperly fixed workmen may fall over. | Physical injury | Check condition of small ladder/ tool and the prop on which it is to be fixed  .One person should hold the small ladder and the ladder should be secured properly. Use of safety helmet, safety shoes, material hadling gloves is a must. |
| **5** | **Glanding & Crimping** | Existing cable gland to be used to the extent possible otherwise new glanding to be done following CESC standard practice. Existing cable with thimble to be used to the extent possible. If the thimble of the existing cable is required to cut then according to the cable size appropriate thimble(socket) to be crimped by proper crimping machine and proper size of die to used. Dowell's Compound to be used in appropriate quantity. | Cutting injury may occur from the sharp edge of knife during core insulation cutting before crimping | First Aid | Use of hand gloves |
| Supply flickering due to improper crimping. | Low voltage, fluctuation and even supply off | Check the crimper and the dice (s) before crimping |
| **6** | **Termination of Incoming & Outgoing cables** | After de-energization of O/h network and fixing of the SSLMS unit, incoming & outgoing power cables are to be terminated | Proper care has to be taken during the cable termination because of the sharp instruments like knives, edges of armour etc. | Physical injury | Use of Material Handling gloves, safety shoes and helmet |
| For incoming cable termination at SSLMS end , 25 sq. mm 3 ½ core PVC/XLPE coated Al cable is used. | Use of Material Handling gloves, safety shoes |
| The phases of the incoming cable are terminated at SSLMS unit below the MCCB. Outgoing 4Core, 16 sq mm catenary cable or 16 sq mm RC is to be terminated at the Street Ltg Mains at Pole end & on the terminal block inside SSLMS unit. Cable terminations to be carried out in de-energized condition with MCCB in off position after intimating the Regional Call Centre. | Use of Safety Belt, Helmet , shoes and electrically insulated safety gloves. |
| **7** | **Earthing procedure** | All types of earthing is done using 16 sq. mm s/c RC. At SSLMS end Body is earthed with PG gland using 2 Nos. 16 sq. mm s/c RC. | Proper care has to be taken during the cable termination because of the sharp instruments like knives, edges of armour etc. | Physical injury | Use of mechanical hand gloves |
| **8** | **Energizing the newly installed SSLMS Unit** | Ensure removal of shorting clip | Electrical Accident during energizing the distributor cable | Might be fatal | Perform flash test in all three phases and insert fuse in one phase. Check phase to phase short condition in other phases and insert fuses accordingly. |
| Check healthiness of the distributor cable before inserting fuses |
| **9** | **Commissioning of the SSLMS unit** | SSLMS is then commissioned by energizing the meter and checking necessary functionalities which includes push button operation and communication checks. | Electrical shock while checking necessary  functionalities & changing any component if required | Electrical Shock | Switch off the MCCB before changing any component |
| **10** | **Securing the SSLMS unit** | Welding of SSLMS unit is carried out after carrying out communication check for securing the unit and permanent fixing inside the kiosk | 1. High intensity light from welding 2. Hot welding rod | 1. Damage to the eyes permanently 2. Physical injury | Material Handling gloves, Welding visor |
| 3) Power Supply connection to welding transformer | 3)Electrical shock which may be fatal | Take Supply from extension board fitted with RCCB. Extension board supply to be taken from socket of nearby piller box/SVC. Use FR hand gloves, eye guard |

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**Drawing**









