

# Municipal Corporation S.A.S. Nagar

Tel No. 0172-5044909  
Fax No. 0172-5044913  
E.mail: [mcsasnagar@gmail.com](mailto:mcsasnagar@gmail.com)

No. 4336 dt. 3/11/2016

## NOTICE INVITING E-TENDER

E tenders on two bid system (Technical and Financial bid ) are invited from a LED Lamp manufacturer or energy service company or an association of firms with LED lamp manufacturer or energy services company as one of the partner for **WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION & MAINTENANCE**. For participating in the e-tendering process, the bidder shall have to get themselves registered with [etender.punjabgovt.gov.in](http://etender.punjabgovt.gov.in) and get user ID and password. Class-3 digital signature in mandatory to participate in the e-tendering . For any clarification /difficulty e-tendering process flow, please contact in ITI limited 0172-3934667,92572-09340,80546-28821 and office of M.C. SAS Nagar .Interested bidder can purchase the tender document online from website [etender.punjabgovt.gov.in](http://etender.punjabgovt.gov.in). NIT and Terms & Conditions are being uploaded at the website ([etender.punjabgovt.gov.in](http://etender.punjabgovt.gov.in) ) only for viewing . Tender form fee Rs. 10,000 /- ( which cannot be refundable ) and EMD fee Rs. 24.00 lacs ( Rupees Twenty Four Lacs ) and processing fees 5750/- should be submitted online . Ten samples of each wattage of luminaries will be submitted by bidder in the office of Municipal Corporation S.A.S. Nagar (Mohali ) on 24-11-2016 til 4.00 PM. In case of bidder failed to submit the tender will be rejected .

Sr. No.	Online sale of bidding documents	Pre-bid meeting in the office of M.C	Last date of online submission of bidding document	Date and time opening of tender	
				Technical bid	Financial bid
1	From 04-11-2016	Dated 17-11-2016 at 12.00 Noon	Dated 24-11-2016 , upto 4:00PM	Dated 25-11-2016 at 12.00 Noon	Will be informed to technically qualified bidders online

### **List of work**

SR. No.	Name of work	Estimated Cost(in lacs)	Earnest money	Tender document fee	Processing fees	Period of completion
1	WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION & MAINTENANCE	1200 Lacs	24 lacs (Twenty Four lacs )	10,000 (Rs. Ten thousand )	5750/-	4 months

1. Bidder shall attached scanned copies of all the papers i.e. scanned copies of certificate /Documents as required in terms and condition
2. Corrigendum/Addendum/ Corrections, if any will be posted in the website.
3. Agencies should note that online tenders will be only submitted at the aforesaid website [etender.punjabgovt.gov.in](http://etender.punjabgovt.gov.in) as per details / instructions uploaded therein.
4. If a the time of submission of E-Tenders, any error occurs due to technical reasons of the website Municipal Corporation S.A.S. Nagar will not be responsible.

Following Details may also be seen on official website ( [www.mcsasangarmohali.org](http://www.mcsasangarmohali.org) ) or in the office of MC SAS Nagar on any working day from 9am to 5pm:-

**\*Municipal Corporation, SAS Nagar reserves the right to accept or reject any Proposal and to annul the process at any time, without any liability and assigning any reason thereof. The last bidding process shall be considered as null and void.**

Sd/-  
Corporation Engineer  
on the behalf of Commissioner  
Municipal Corporation SAS Nagar  
Sector-68, Mohali

**MOHALI MUNICIPAL CORPORATION**  
**NOTICE INVITING ON-LINE TENDER**

The Municipal Corporation Mohali invites on-line tender for the **WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION & MAINTENANCE** in the city of Mohali from competent agencies who have experience and proven track record of similar nature of work as described below.

<b>(A) Details of Work</b>					
<b>Sr. No</b>	<b>Name of Work</b>	<b>Estimated Tender Value in Rs.</b>	<b>EMD in Rs.</b>	<b>Tender Fee in Rs.</b>	<b>Period of Completion of Work</b>
<b>1</b>	<b>WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION &amp; MAINTENANCE</b>	<b>1200 Lacs</b>	<b>24Lacs</b>	<b>10,000</b>	<b>4 months</b>
<b>(B) Schedule for tendering is fixed as under</b>					
I	Tender documents downloading start date	From Dated 04-11-2016			
II	Tender documents downloading end date	Upto dated 24-11-2016			
II	Date of Pre Bid Meeting in MC Office	Dated 17-11-2016 at 12 Noon			
III	On-line submission of Price Bid	Dated 24-11-2016 upto 04 :00 PM			
IV	Submission of EMD, Tender Fee & Other documents	Dated 24-11-2016 upto 04 :00 PM			
V	Technical Bid opening	Dated 25-11-2016 on 12 :00 Noon			
VI	On-Line opening of Price Bid	Will be informed to technically qualified bidders online.			

The Municipal Corporation, Mohali reserves the right, without assigning any reasons whatsoever to:

- 1) Amend the scope and value of any work to be tendered.
- 2) Reject or accept any tender at its discretion.
- 3) Cancel the entire tendering process and reject all bids.
- 4) Request for extension of time or date for submissions of tenders shall not be entertained beyond the stipulated date and time.
- 5) The Municipal Corporation, Mohali shall not be liable for any such action nor be under any obligation to inform any of the applicants of the grounds for its action and decisions.

Commissioner  
Mohali Municipal Corporation

### **General Terms and Conditions:-**

- Bidders can download the Tender Documents free of cost from the website.
- Bidders have to submit Price Bid in Electronic format only on n-procure website till the Last Date & time for submission.
- Price Bid in physical form will not be accepted in any case.

### **Other details:-**

Further details of this tender are as under:

<b>1.0</b>	<b>Particulars</b>
<b>2.0</b>	<b>Downloading tender document:</b>
<b>2.1</b>	Bid documents will be available on web site <a href="http://www.etender.punjabgovt.gov.in">www.etender.punjabgovt.gov.in</a>
<b>2.2</b>	Bidders wishes to participate in this tender will have to register on web site <a href="http://www.etender.punjabgovt.gov.in">www.etender.punjabgovt.gov.in</a>
<b>3.0</b>	<b>Digital Certificate</b>
<b>3.1</b>	Bidders who wish to participate in on-line tenders will have to procure / should have legally valid digital Certificate (Class - III) as per Information Technology Act-2000 using which they can sign their Electronics bids. Bidders can procure the same from any of the licensed certifying Authority of India or can contact (n) code solutions.
<b>3.2</b>	All Bids should be Digitally Signed, for details regarding digital signature certificate and related training involved the below mentioned address should be contacted:
	<b>(n) code Solutions</b> <b>( e bidding agency details)</b> Tel: 0172-5044909 Fax: 0172-5044913 E-mail: <a href="mailto:mcsasnagar@gmail.com">mcsasnagar@gmail.com</a> Mobile: 9988925209 ( Tejinder singh, JE, MC S.A.S. Nagar)
<b>3.3</b>	Bidders who already have a valid Digital certificate need not procure a new digital certificate.
<b>4.0</b>	<b>Clarifications on tender</b>
<b>4.1</b>	The prospective bidders may submit their queries through post addressed to tender inviting authority or through email to <a href="mailto:mcsasnagar@gmail.com">mcsasnagar@gmail.com</a> before one week before the submission date.

<b>5.0</b>	<b>On line submission of Price-bid</b>
<b>5.1</b>	Bidders can prepare & edit their offers number of times before tender submission date & time. After tender submission date & time, Bidders cannot edit their submitted offer in any case. No written or online request in this regard shall be granted.
<b>5.2</b>	The Bidder shall submit their offer i.e. Price bid in Electronic format on above mentioned website & Date shown above after Digitally signing the same.
<b>5.3</b>	Price Bids submitted online only which are not digitally signed, will not be accepted.
<b>5.4</b>	Technical Price Bids in physical form will not be accepted in any case.
<b>6.0</b>	<b>Submission of Tender Fees, Bid security and other Documents:</b>
<b>6.1</b>	Tender fee: Rs. 10,000/- (Rupees Ten Thousand only) deposit online in MC account.
<b>6.2</b>	Bid security i.e. EMD for Rs. 24, 00,000 (Rupees twenty four Lacs only) deposit online in MC account.
<b>6.3</b>	<b>Other documents required to be submitted:</b> Bidders have to submit documents in support of the Bidder's qualification on minimum eligibility criteria.
<b>6.4</b>	Bidders shall have to submit Tender Fee and EMD and other documents as mentioned above in online before last date of submission of tender. Tender Fee, EMD and other documents received later than the time specified will not be accepted in any case and the bid of that Bidder shall be considered non-responsive.
<b>6.5</b>	Bidder shall have to submit unconditional offer without differing from any of the tender condition.
<b>7</b>	Bidders shall have to submit ten samples of each Wattage of LED Lumanaries in office of Municipal Corporation SAS Nagar before last date of submission of tender, Samples received later than the time specified will not be accepted in any case and the bid of that Bidder shall be considered non-responsive.
<b>8</b>	<b>Opening of tender</b>
<b>8.1</b>	Opening of bid documents will held on Date & Time shown above in the office of Municipal Corporation, Mohali.
<b>8.2</b>	Intending Bidders or their representative who wish to remain present at Municipal Corporation, Mohali Premises at the time of tender opening can do so.

**FORM B-1**

**MUNICIPAL CORPORATION MOHALI**

**Name of work: WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION & MAINTENANCE**

**Division – Municipal Corporation, Mohali**

**Issued to -** .....  
.....  
.....

**OPENED BY** ..... **ON DATE** .....

CORPORATION ENGINEER  
Municipal Corporation Mohali

# **TENDER**

To,  
The Municipal Commissioner,  
Mohali Municipal Corporation,  
Mohali,

Dear Sir,

We hereby offer to execute the proposed **WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION & MAINTENANCE**

We have visited the site and have read the terms and conditions of work, special conditions and specifications.

We agree to finish the entire work within 4 months from the date of order for commencement of work.

We are depositing, as earnest money, a sum of Rs. 24,00,000 (Rupees Twenty four Lacs Only) with you, which amount is not to bear any interest and we do hereby agree that this sum shall be forfeited by you if we fail to execute the contract when called upon to do so, in the event of your accepting our tender.

Yours Faithfully,

Signature of authorized signatory

Name in authorized signatory capital letters: .....

Name of firm : .....

Contact details & address:

.....

.....

# DECLARATION FORM

1. I/We hereby declare that I/We have visited the site and fully acquainted myself/ourselves with the local situations pertaining to the work before submitting this tender.
2. I/We hereby declare that I/We have carefully studied the conditions of contract; specifications and other documents of this work and agree to execute the same accordingly.
3. I/We hereby declare that my/our near relative are not working in Mohali Municipal Corporation, in any post.

**Seal & signature of Bidder**

**Date:**

# **MUNICIPAL CORPORATION MOHALI**

**Sector 68 , Mohali-361001**

**Ph.:0172-5044910, Fax: 0172-5044913**

**E mail: mcsasnagar@gmail.com**

## **E-Tender**

**NAME OF WORK: WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION & MAINTENANCE**

**ESTIMATED COST : INR 1200 Lacs**

**PERIOD OF COMPLETION : 4 months**

**EARNEST MONEY DEPOSIT : INR 24, 00,000 (Rs. Twenty four Lacs only)**

**TENDER FEE (Non-refundable) : INR10, 000 (Rs. Ten Thousand only)**

**PERFORMANCE GUARANTEE : 5 % of the project cost.**

**TENDER DOCUMENT : From 04-11-2016**

**AVAILABLE FOR DOWNLOAD**

**PRICE BID SUBMISSION : Dated 24-11-2016 upto 04:00 PM**

**EMD OR OTHER**

**DOCUMENT SUBMISSION : Dated 24-11-2016 upto 04:00PM**

**TENDER OPENING DATE : Dated 25-11-2016 at 12:00 Noon**

**(TECHNICAL BID ONLY)**

**PRICE BID OPENING DATE : Will be informed to technically qualified bidders online**

**TENDER VALIDITY PERIOD : 120 Days**



To,

THE CORPORATION ENGINEER  
ELECTRICAL BRANCH

Details regarding my/our/partners Directors of our Company (in the case of limited company) names address (es) Telephone number(s), Income - Tax office etc. are asunder:

S. No.	Name(s) of person	Company	Full address of the place of business with pin code	Telephone No. (s)Office	Residential address(es)	Telephone No. (s) Residence	Full address of income tax office / ward where income tax returns are filed
1	2	3	4	5	6	7	8

I/We hereby agree to intimate to you about changes, if any, in the abovementioned address (es) and Telephone Nos. (s) within fifteen days of its occurrence till my/our deposit for the said work paid by me/us is not refunded to me/us.

Signature of Contractor

Name of Authorized Signatory

With Stamp

Place:

Date:

## **ELIGIBILITY CRITERIA FOR THE BIDDER**

The Bidders must read carefully the minimum conditions of eligibility provided herein. Only bids of Bidders who satisfy the conditions of eligibility will be considered for price bid opening.

To be eligible for evaluation of its bid, the Bidder shall fulfill the following minimum eligibility criteria:

### **Technical parameters**

1. The Bidder must be a LED lamp manufacturer or Energy Service Company or an association of firms with LED lamp manufacturer or Energy Service Company as one of the partner. However, the MMC will liaison only with the lead partner.
2. The Bidder must have previously executed and commissioned similar projects on energy efficient street lighting (at least 10,000 fixtures) on Performance Contracting basis in any city, nationally or internationally during the last 5 years. The experience must be supported through work order & Work status or completion certificate issued by the approving authority
3. The Bidder must have been engaged in Operation & Maintenance of street lights (at least 10,000 fixtures) in any city, nationally or internationally during the last 5 years. The experience must be supported through work order or completion certificate issued by the approving authority.
4. The Bidder which have give minimum guaranteed Energy Saving 62% of the existing Street Light load will be eligible for participate a tender .

### **Financial parameters**

5. The Bidder should have an average annual turnover or ESCO Contract Value of at least INR 10 Crores in last 3 years. The Balance sheet and profit & loss statement of last 3 years certified by the Chartered Accountant should be submitted as proof.
6. The Bidder must have been profitable for at least two of the last three financial years. The Balance sheet and profit & loss statement of last 3 years certified by the Chartered Accountant should be submitted as proof.
7. The Bidder must have minimum net-worth of INR 10 crores in any one of last 3 years. A certificate on the same from Chartered Accountant must be submitted as proof.

### **Other parameters**

8. The Bidder must have valid Electric Contractor license & EPF, ESI Registration.
9. The Bidder must submit a power of attorney of the signatory of the tender to commit the tender.

10. The Bidder has to submit sales tax/service tax, Provident Fund Clearance certificate of last year duly attested and Certificate as per labour act shall be submitted.
11. The Bidder must attach documents along with tender with regard to organization setup and technical staff detail.
12. Bidder must provide declaration that it is not black-listed by any Central / State Government / Public Sector Undertaking in India.

Documents in support of the Bidder's qualification on the above criteria should be enclosed with the Tender.

# **GENERAL INFORMATION OF TENDER**

## **CHECKLIST**

The tenders as submitted shall consist of the following documents:

- Complete set of Tender documents as sold / downloaded duly filled in and signed & stamped on each page by the Bidder and as prescribed in different clauses of the tender documents.
- Tender fee & EMD Submitted only Online.
- Earnest Money Deposit amounting to Rs. 24, 00,000 (Rupees Twenty four Lacs Only) send in the manner specified.
- Power of Attorney or a True copy thereof duly attested by a Gazette Officer in case as authorized representative has signed the tender.
- CA certified audited Balance sheet and profit & loss statement for last three years
- CA certified net-worth certificate
- Sales tax/service tax, Provident Fund Clearance certificate of last year duly attested
- Certificate as per Labour Act
- Work orders or completion certificates of previous work issued/ completed by the approving authority.
- The full name and address of the Bidder shall be written on the bottom left hand corner of the sealed cover.
- Other documents as mentioned in eligibility criteria
- Details of experience

## **ALL PAGES TO BE INITIALED**

All signature in tender documents shall be dated as well as all pages of all section of Tender documents shall be initialed at the lower right hand corner or signed wherever required in the Tender papers by the Bidder or by person holding power of attorney authorizing him to sign on behalf of the Bidder before submission of Tender.

## **RATES TO BE FIGURES AND IN WORDS**

The Bidder shall quote the rates in INR in English in both figures as well as in words in the Schedule-B of price bid tendered by him.

#### **CORRECTIONS AND ERASURES**

All corrections and Alterations in the entire of Tender papers will be signed in fully by the Bidder with date. Over writings is not permissible.

#### **SIGNATURE OF BIDDER**

The Tender shall contain the name, residence and place of business of person or persons making the Tender and shall be signed by the Bidder with his usual signature. Partnership firms shall furnish the full names of all partners in the Tender. It should be signed in the Partnership's name by all partners or, by duly authorized representative followed by the name and designation of the person signing Tender by a Corporation shall be signed by an authorized representative and a Power of Attorney in the behalf shall accompany, the Tender copy of the constitution of the firm with names of all partners shall be furnished when a Bidder signs a tender in a language other than English, the total amount tendered should in addition, be written in the same language, the signature should be attested by the least one witness.

#### **WITNESS**

Witness and sureties shall be persons of status and property and their names, occupation and address shall be stated below their signature.

#### **DETAILS OF EXPERIENCE**

The Bidder should enclose documents to show that he has previous experience in having successfully completed, in the recent past, work of this nature. This should be substantiated by submission of work order/ completion certificate issued by the approving authority & performance security issued by the competent authority.

#### **TRANSFER OF TENDER DOCUMENTS**

Transfer of Tender documents is not permissible.

#### **EARNEST MONEY DEPOSIT**

The Bidder must pay earnest money as given in the notice inviting Tenders and attached the official receipt, if paid in cash with technical bid Tender.

The earnest money can be paid online in Municipal Corporation bank account.EMD receipt shall be attached with Technical Bid.

**Note:** No interest shall be paid on the earnest money deposit. The earnest money of then successful Bidder will be refunded within reasonable period without any interest.

The earnest money deposited by successful Bidder will be retained towards the Security Deposit for the fulfillment of the Contract, but shall be forfeited, if the Bidder fails to execute the agreement within 15 days after the letter of acceptance of Tender.

#### **PERFORMANCE GUARANTEE**

The person/persons whose tender may be accepted (herein after called the contractor) shall pay 5 % performance guarantee in form of bank guarantee of the estimated project value within 15 days from the date of receipt of the order.

#### **VALIDITY**

Bids submitted by the bidders shall remain valid for an acceptance for a period of 120 days from the bid submission date, without the consent of writing of MMC to revoke or cancel his tender or to vary the tender given or any terms thereof. In case of Bidder revoking or canceling his tender or vary any term in regard to thereof without the consent of MMC in writing, the MMC shall forfeit earnest money paid by him along with the tender.

#### **RIGHT OF MMC TO ACCEPT OR REJECT TENDER**

The acceptance of Tender will rest with the MMC. The MMC, however, does not bind itself to accept the lowest tender and reserves itself the authority to reject any or all the tenders received without assigning any reasons whatsoever. The whole work may be split up between two or more contractors or accepted in part and not entirely, if considered expedient. Misleading or wrong information submitted by the Bidder shall be liable to be rejected.

Tender in which any of the particulars and prescribed information are missing or are incomplete in any respect and / or the prescribed conditions are not fulfilled are liable to be rejected.

Canvassing in connection with tender is strictly prohibited and tenders submitted by the Bidders, who resort to canvassing, shall be liable to be rejected.

Tender containing uncalled remarks or any additional conditions are liable to be rejected.

#### **TIME SCHEDULE**

The time allowed for carrying out the job is as mentioned in the Scope of Work. This may be extended in mutual consultation between the Contractor and MMC.

#### **AGREEMENT**

The successful Bidder shall be issued letter of award. The successful bidders will have to give the demonstration as mentioned in the tender evaluation criteria within 15 days of the issue of letter of award. After successful demonstration, the MMC and successful bidder will sign Energy Saving Performance Contract (ESPC) within 10 days. In the event of failure on the part of the successful Bidder to sign the ESPC within above stipulated period, the earnest money or his initial security deposit will be forfeited and the acceptance of the tender shall be considered as cancelled and the MMC will have the

right to call second lowest bidder. The successful Bidder will be required to sign the ESPC on Rs. 100 (Rs. One Hundred only) Punjab Government Stamp paper.

# **GENERAL CONDITION OF TENDER**

## **Relation with public Authorities:**

The Contractor shall comply with all powers and legal orders and directions given from time to time by any local or public authorities and shall pay out of his own money, the fees or charges to which he shall be liable.

## **Permit and Licenses:**

The Contractor shall procure at his sole expenses all permits and licenses and pay all charges and fees for lawful execution of the work.

## **Inspection of materials:**

The Contractor shall furnish the MMC every facility and assistance for ascertaining whether or not the work performed is in accordance with the requirements and instructions of the plans and estimates and the specifications. If at any stage MMC want to confirm about the specifications then the contractor shall remove or uncover any portions of the finished work considered necessary for fresh inspection at his own cost. The MMC official will inspect the manufacturing plant/ LED Luminaries etc. at the cost of bidder and the bidder is bound to inspect the material to the MMC officials at plant before dispatching the material

## **Materials:**

All Materials shall be new and of the quality confirming through then relevant Technical Specifications as specified in the Tender.

## **Testing:**

The Contractor shall be completely responsible for the testing. All tests shall be carried in the presence of Engineer-in-charge or his authorized representative and approval obtained for the tests. The quality and specifications of material supplied by contractor will be examined by third party inspection or analysis report of NABL-accredited laboratory, if required at any time on the cost of successful bidder.



**Rates:**

The rates of items shall include all taxes (except service tax), transport, loading and unloading charge and all such changes that may be required to be incurred for implementation, operation & maintenance of LED street lights.

Signature of the Bidder

Name of the Authorized Signatory

Address:

**Corporation Engineer**  
**Municipal Corporation Mohali**

## SPECIAL CONDITION OF TENDER

### Information about street lighting of Mohali City

Municipal Corporation Mohali is divided into four administrative zones. There are a total of 21,800 luminaires in place being operated by **130 Nos** Single phase and **190 Nos** Three phase switching points/feeder panels. The type and total number of luminaires installed for street lights under MMC are tabulated below:

	Type of luminaire	Wattage (W)	Ballast losses (W)	Numbers
1	CFL , Post top	36	5	2986
2	CFL ,Posttop	45	6	500
3	CFL ,Posttop	65	9	76
4	CFL ,Posttop	85	11	90
5	CFL, Posttop	26	3	65
6	Tube Light	14	1	384
7	MH Posttop	125	21	41
8	FTL	40	10	4563
9	HPSV	70	15	5195
10	HPSV	150	20	5160
11	CDMT Posttop Fxr	150	20	318
12	HPSV	250	25	1268
13	MH	400	25	818
14	HM 250*2	500	50	336
<b>Total</b>				<b>21800</b>

**Note:** The total number of luminaires to be replaced under the project may change by  $\pm 10\%$  within the implementation period.

A snapshot of indicative baseline conditions for the street lighting in MMC is provided at Annexure 1.

### SCOPE OF WORK

MMC seeks to appoint LED lamp manufacturer or Energy Service Company or an association of firms with LED lamp manufacturer or Energy Service Company as one of the partner, for a **contract period of 10 years**, for undertaking following tasks for upgrading the street lighting system under MMC jurisdiction:

- Task 1: Replacement of existing luminaires with LED luminaires (Including LED lamp, Driver and fixture), new feeder panel and installation of Centralized Control & Monitoring System (CCMS)

- Task 2: Operation and maintenance of LED luminaires (Including LED lamp, Driver and fixture), Feeder panel and CCMS
- Task 3: Provision of Dimming of LED Street Light maximum 10%. Bidder must have dimming a street light luminaries at night hour from 1200 AM to 0500 AM with 75% illumination of luminaries. If bidder achieved more than 10 % energy saving then no extra payment will be given to bidder.
- Task 4: Infrastructure improvement required to make it suitable for LED installations

**Task 1:** Replacement of existing luminaires with LED luminaires (Including LED, Driver and fixture), and installation of feeder panel with Centralized Control & Monitoring System (CCMS)

1. The Contractor has to procure, install, test and commission LED luminaires and CCMS panels within 4 months from the date of award of work.
2. The intent of MMC to replace existing luminaires with LED luminaires is to get er lux levels on roads as per Indian lighting code of different road subject to infrastructure and other condition of road and based on that following wattages of LED luminaires need to be installed during replacement of existing luminaires:

<b>Sr. No.</b>	<b>Type of luminaire (existing)</b>	<b>Wattage (W)</b>	<b>Ballast losses (W)</b>	<b>Wattage of LED option</b>
1	CFL ,Posttop	36	5	LED 15 W
2	CFL ,Posttop	45	6	LED 18 W
3	CFL ,Posttop	65	9	LED 26 W
4	CFL ,Posttop	85	11	LED 35 W
5	CFL ,Posttop	26	3	LED 10 W
6	Tube Light	14	1	LED 8 W
7	MH Posttop	125	21	LED 50 W
8	FTL	40	10	LED 18 W
9	HPSV	70	15	LED 30 W
10	HPSV	150	20	LED 60 W
11	CDMT Posttop Fxr	150	20	LED 60 W
12	HPSV	250	20	LED 100 W
13	MH	400	40	LED 135 W
14	HM 250*2	500	50	LED 200 W

3. The Contactor has to optimize the operating hours through installation of CCMS or other control systems so as to achieve reduction in operating hours by at least half an hour.
4. The Contractor has to adhere to the specifications as specified in Technical Specifications section.

5. The Contractor has to arrange all the machineries and instruments required for the implementation of the project at its own expense and The successful bidder will be bound to use 2 nos MC's hydraulic ladders (sky lifts) for the project period (without operators) .Bidder has responsible for all kind of maintenance, servicing, vehicle passing, Tax, Diesel charges for 10 years. The monthly rates for the sky lifts will be decided by the competent authority at the time of agreement.
6. The Contractor has to arrange for storage for supplies and dismantled lamps.
7. The Contractor shall ensure proper recording of the dismantled conventional fixtures and sign-off of those fixtures to MMC at least on weekly basis.
8. The Contractor has to undertake marking of poles (pole numbering) for each LED luminaire installed in service area of MMC and switching point details. The marking should also have a toll free number for lodging any complaints.
9. Before starting the installations, it is the responsibility of the Contactor to ensure that ONLY relevant poles or lamps are taken up for installations which belong to MMC. Poles outside such jurisdiction are not supposed to be taken up.

**10. Implementation Timeline:** The Successful Bidder has to supply, install, test and commission LED luminaires and single/three-phase feeder panel with CCMS panels within 4 months from the date of award of work failing which a penalty of INR 5,000/ week will be applicable for a maximum period of 8 weeks after which the ESCO would be penalized as below,

Penalty=2x [(wattage of LED lamps not installed) X 10 hours X no. of days of delay beyond 6 weeks X tariff] /1000 will be applicable for a maximum period of 12 weeks from completion time period of work mentioned in tender, if not action taken against the bidder and the decision of COMMISSIONER MC Mohali will be final and bounding on the contractor.

**Task 2: Operation and maintenance of LED luminaires (Including LED, Driver and fixture) , feeder panel with CCMS and line maintenance etc.**

During the contract period, following operation & maintenance activities will be required to be carried out by the Contractor:

1. The Contractor has to store inventory of LED Lighting Fixtures for maintenance requirement of 2 months.
2. Repairing / replacement of all defective components of the equipment installed on existing infrastructure after improvement/completion of work by the Contractor as per the requirement to ensure proper operation/functioning of the system.

3. The scope of work includes repairing/replacement of part(s) /system to make the system functional within contract period whenever a defect is noticed or reported at site. The breakdown shall be corrected within a period not exceeding 48hours.
4. Mechanism for identification of faulty lamps/fixtures and lodging and monitoring of complaints. It is imperative that a 24 X 7 days x 365 days call center for handling complaints must be established, which shall have a toll free number.
5. The Contractor shall attend to LED lamp faults based on CCMS report, consumer complaints or through other means.
6. The Contractor shall have develop online control system monitoring room in Municipal corporation building to check the status of street light points during night hours and other parameters of street light check for entire project tenure and the electricity bill of the control room will be bear by the bidder.

7. The Contractor shall ensure the following:

- To replace the defective/ non-burning LED lamps within 48 hours of its failure coming into knowledge of the Contractor through any means. Penalty for non-fulfillment after 48hours is reckoned as follows.

Penalty=2x [(wattage of defective LED lamp) X 10.30 hours X no. of days of default beyond 48 hours X tariff]/1000 or Rs. 25 per day per lamp whichever is higher.

8. The contractor will maintain a minimum of 98% of the lamps glowing. In case of default by the Contractor on this, a penalty equivalent to 2 times the monetized value of energy savings from the defective/ non-burning lamps will be deducted from the Contractor's payments. The penalty will be reckoned as follows.

Penalty=2x [(wattage of non-working LED lamps) X 10 hours X no. of days of default beyond 48 hours X tariff] /1000

The decision of MMC will be binding and final on any dispute on the above mentioned penalties.

9. The Contractor will manage the operation of all the control panels installed by him and also provide maintenance, web-based portal &communication services etc. of these control panels during the contract period.
10. An annual escalation of 5% would be provided on the quoted O&M rate after completion of 1 year of operation and maintenance. The one year completion would be considered from the period on which successful installation completion certificate is issued to the bidder by MMC.
11. The Contractor will be bound to painting and numbering of poles once in Two year.
12. The Contractor shall assign two senior officers from their organization who are regular employees and provide the contact details of the same, who shall be accountable for delivering on the said commitments during the Contract Period. In case, the assigned officer leaves the organization or is

reassigned, the Contractor has to intimate the same in writing to MMC and advice names of the new officers assigned for the role.

### **Task 3: Infrastructure improvement**

13. LED luminaires offer longer life than Fluorescent Tubular Lamps (FTL), High Pressure Sodium Vapour (HPSV) and Metal Halide (MH) luminaires but in order to sustain the savings and optimize the operations; LED luminaires require good power quality supply. To ensure this certain following infrastructure improvements, wherever necessary, will have to be made before installation of LEDs under this project:

- Upgrading earthing
- Upgrading Junction boxes (JBs)& MCBs
- Erecting new poles (where existing street lighting luminaires are mounted on walls)
- Line Maintenance after improvement and completion of installation.
- Civil Work which is dismantled by bidder during improvement of system.

For infrastructure improvement, the Contractor will first estimate the required quantity of earthing, MCBs, JBs and new poles, Line Maintenance, Civil Work and submit it to MMC for their review and approval.

14. After getting the approval from MMC, the Contractor will upgrade earthing, JBs and MCBs and erection of new poles, Line Maintenance, Civil Work as required at site within a period of 4 months from the date of award to make it suitable for LEDs installation.

15. The Contractor has to adhere to the specifications of earthing, JBs, MCBs and poles as specified in section on Technical Specifications. For the above mentioned infrastructure improvements the Contractor will be paid, considering 10% discount, on approved applicable schedule of rates as per R&B department of State of Punjab for the respective items.

16. After the completion of the Contract period, the ownership of assets i.e. all the equipment installed in MMC under this contract by the Contractor, will be transferred to MMC without any charge.

# TECHNICAL SPECIFICATIONS

The Contractor has to adhere to following technical specifications during the contract period.

## Lighting related technical specifications

### LED

<b>TYPICAL SPECIFICATIONS OF LED STREET LIGHTS</b>		
<b>Sl. No.</b>	<b>Type of Test/specification</b>	<b>Proofs/Report to be submitted</b>
1	High bright white power LEDs shall be used in the luminaries and the wattage of these LEDs shall be < 3W.	LED Technical Data Sheet
2	Life span of LEDs used in the Luminaire shall be more than 50,000 hours at 70% light output	LM-80/IS16105,L70 & TM 21 Test Report test report including technical data sheet of LED Chip from ILAC/ MRA/ KOLAS/ NVLAP / EPA/ OSRAM/ PHILIPS LUMILEDS / CREE (USA)/ NICHIA International Certifying Agencies
4	Colour rendering index (CRI) of the LEDs used in the luminaire shall be greater than 70	
5	LED chip efficacy shall be more than 135 Lumens/watt at Tj 25° C (Manufacturer shall submit the proof - LED Technical Data Sheet to be submitted)	
6	Junction Temperature (Tj) should be <85°C	
7	Photo Biological Safety Report for the LEDs as per IEC 62471 and assessment of blue light as per IEC/TR 62778 – Ed. 1.0	
8	Colour temperature of the luminaire shall be in the range of nominal 5000K to 6000K ( CCT as per BIS only)	LM 79/IS 16106-2012 from NABL certified TPL
9	The distribution of luminaire illumination (control of distribution) shall be based on type of road as per BIS standard IS1944 refer table from NLC for Road category.	
10	Power factor > 0.95	
11	System Efficacy (lumen/watt) Shall be >100lumen/watt, System lumen output supported by LM79 report shall be submitted.	
12	CRI of Luminaries > 70	
13	Light Uniformity Ratio (Emin/Eavg) shall be as per IS 1944 based on category of road	Test report from TPL NABL Accredited Lab
14	The luminaire light output (lumen) shall be constant. The voltage variations / fluctuations in the specified voltage range shall not impinge upon the lumen it produces. Maximum +/-2% is allowed throughout in the input operating voltage range	
15	Operating voltage:140 V to 270V universal electronic driver with internal surge protection of 10KV (Applicability IS 15885, Driver Safety 16104-1/2)	
16	Total Harmonic Distortion: < 10% THD - Test Method IEC:610003-2	
18	LED Drive current >=350 mA<1000 mA	
19	LED driver efficiency > 85%	
20	Luminaire Body Temp should not exceed 30 deg. C from ambient (45 deg.c) with tolerance of 10deg.C after 24 Hrs	

<b>TYPICAL SPECIFICATIONS OF LED STREET LIGHTS</b>			
<b>Sl. No.</b>	<b>Type of Test/specification</b>		<b>Proofs/Report to be submitted</b>
21	Heat dissipation / heat sink: Well-designed thermal management system with defined heat sink		LM 80 report at which life > 50000 hrs
22	The luminaire housing shall be made up of corrosion free High Pressure Aluminium die cast thus conforming the luminaire to minimum IP-66 protection and safety as per IEC 60598/IS 10322. (Only single housing fixtures allowed).		TPL NABL Accredited Lab as per IS:10322 part 5 Sec-3 /IEC:60598-2-3
23	The luminaire shall be equipped with distortion free, clear, heat resistant, toughened, UV stabilized glass / Poly-carbonate cover in the front fixed to the die cast Aluminium frame which shall be fixed to the housing by means of stainless steel screws.		
24	The luminaire shall be built in such a way that it can withstand wind speed of 150Kmph. NABL accredited lab report supporting the same shall be furnished by the manufacturer.(Impact resistance >=IK07)		
<b>Whether all the LED street lights supplied by you comply with the following Technical specifications</b>			
25	Cover/glass without lens or with lens: Fixture cover – UV stabilized Polycarbonate / toughened glass or equivalent will be accepted for the Luminaire without lens. For the luminaire with lens, toughened glass be required with proper IP66 provision.		DECLARE
26	Frequency	50Hz +/- 3%	DECLARE
27	Operating temperature	Range: -10C to +50C	TPL NABL Accredited Lab as per IS:10322 part 5 Sec-3
28	Protections	IP66, Surge protection of 10kV, IEC61000-4-5	Certified by NABL Accredited Lab/in-house lab
29	Working humidity	10% to 90% RH	Certified by NABL Accredited Lab/in-house lab
30	Conformation standards of luminaire (Test reports of luminaire)	The luminaire should conform to IEC 60598/ IS:10322 The luminaire should be tested as per IEC 60598-2-3:2002/ IS:10322 Part 5 Sec-3 standards and following test reports should be submitted: Heat Resistance Test, Thermal Test, Ingress Protection Test, Drop Test Electrical / Insulation Resistance Test, Endurance Test, Humidity Test , Photometry Test (LM79 report), Vibration Test	From NABL Certified TPL Test report TEST REPORT as per IS:10322 part 5 Sec-3 /IEC:60598-2-3
32	Finish	Aesthetically designed housing with grey color corrosion resistant polyester powder coating	DECLARE
33	Luminaire configuration / technical requirement	Side entry type. Shall consist of separate optical and control gear compartments. It should be easy replaceable in the field condition.	DECLARE
34	Compliance	RoHS/CE/ERTL/ERDI	CONFIRM
35	Surge Protection	External Surge protection of minimum 10 kV/ 10 kA to be separately installed with the each fixture, if required	As per ANSI C 136.2-2014

**NOTE:** All Tests have to be confirmed and appropriate TEST REPORT has to be submitted along with Technical bid online. hard copy will not be received by this office.

**Stage wise Quality Check Test for Successful Bidder: During Installation**



<b>Sl. No.</b>	<b>Test Details</b>	<b>Sample Qty./ Test Condition</b>
<b>1</b>	Lighting testing, 1. Electrical (System Power, Power Factor, Supply Current) and Photometric ( System Luminous Flux , System Efficacy) and Colorimetric (CCT, CRI, Co-Ordinate) measurement as per IS/16106 : 2012	1
<b>2</b>	Luminance (Uniformity Verification (using IES file data ) as per tender	
<b>3</b>	Lighting testing, Operating Voltage Range and Test for Constant Light Output as per tender	
<b>4</b>	Lighting testing, Measurement of Supply Current Total Harmonic Distortion (THD ) as per tender	
<b>5</b>	Lighting testing, LED Driver Current and Efficiency as per tender	
<b>6</b>	Lighting testing, Thermal IN SITU test (luminaire body, Led shoulder point and LED driver case temperature) for 24 hrs as per tender	
<b>7</b>	Lighting testing, Type testing as per IS 10322 Part-5 Section-3/ IEC-60598-2-3(include Safety, Reliability, IP tests)	1
<b>8</b>	Lighting testing, Surge Testing at 10kV as per tender	1

**NOTE:** - MMC is free to draw samples after start of supplies from the supplied quantity and subject the same to test in a NABL Accredited Lab. Cost of first set of tests will be paid by the selected ESCO. If the results of the first set of samples is meeting the requirements of this tender then any further testing will be done by MMC at its own cost. Failure of the sample will invite strict penalty and disqualify the Bidder from future tenders also. Also MMC may start deducting 20 – 30% (depending upon the extent of failure) of the energy savings payment of the ESCO till they install fixtures meeting the technical specifications meeting the tender requirements. The decision of MMC on the same shall be binding on the Contractor.

# CENTRALIZED CONTROL & MONITORING SYSTEMS (CCMS)

CCMS having following features will be installed by the contractor:

Sl. No	Features	Description
<b>1</b>	<b>Operational Features</b>	<ul style="list-style-type: none"> <li>• The CCMS unit should be capable of switching ON and OFF the lights of a particular switching point and/or networked switching points from Central Control Station instantaneously or automatically throughout the year on basis of Sunrise and sunset time depending on the geographical location of the switching point.</li> <li>• The CCMS unit should be a GPRS and/or GSM (with IMEI number) proven technology based remote streetlight monitoring system with capacity for self-protection from short-circuit, over voltage and anti-theft alert.</li> <li>• The CCMS unit should have a battery backup of at least 12 hours.</li> <li>• The CCMS Unit should have requisite Digital Input/Output to fetch data.</li> <li>• The rating of the CCMS units should be at least twice that of the lighting load.</li> <li>• Enclosure Box to be FRS material with proper lock arrangement.</li> </ul>
<b>2</b>	<b>Energy measurement and communication features</b>	<ul style="list-style-type: none"> <li>• The CCMS unit Should be able to capture (record) and provide following parameters at variable time-intervals (Individual switching point wise and/or networked switching points) :               <ul style="list-style-type: none"> <li>➤ Voltages</li> <li>➤ Current</li> <li>➤ Power Factor</li> <li>➤ Active Power (kW)</li> <li>➤ Apparent Power (kVA)</li> <li>➤ Metering kWh cumulative</li> <li>➤ Metering kVAh cumulative</li> </ul> </li> <li>• Number of hours each at the LED luminaires was glowing</li> <li>• Number of hours the power supply was unavailable</li> <li>• Special emergency on/off facility with wireless control.</li> <li>• Benchmarking capacity so as to generate alert SMS for:               <ul style="list-style-type: none"> <li>➤ Phase-wise currents on crossing threshold values*</li> <li>➤ Phase-wise voltages on crossing threshold values*</li> <li>➤ MCB trips</li> <li>➤ Theft alerts</li> <li>➤ Group failure of lights</li> <li>➤ No output supply</li> </ul> </li> <li>• Alert SMS shall be forwarded to five (5) phone numbers, in each of the respective municipality.</li> <li>• Class 1.0 accuracy Energy Meter with ISI marking/IS-13779 is to be used for power measurement. Type testing report from NABL Accredited Lab to be provided.</li> </ul> <p>* Please refer the technical specifications for designing the threshold values for voltage and current.</p>
<b>3</b>	<b>Web based Application</b>	<p>Central Control and Monitoring System functionalities</p> <ul style="list-style-type: none"> <li>• CCMS shall have a web-server to receive and record all data with time stamping from the streetlight controllers.</li> <li>• It should be able to communicate with any individual switching points or collectively amongst networked switching points for control and monitoring.</li> <li>• It should able to record LED luminaires glowing and non-glowing hours of a particular switching point.</li> <li>• It should be able to display the power failure details of a particular switching point and the relevant luminaires.</li> <li>• It should register all fault conditions like excess voltage/current drawn,</li> </ul>

Sl. No	Features	Description
		<p>lamps failure, no-power supply, etc through the instantaneous alert messages sent by the CCMS unit.</p> <ul style="list-style-type: none"> <li>• Reports such as energy saving report, lamp failure report, actual hours of operation, uptime (%), etc. should be generated on a daily basis from the data/readings received from the CCMS units.</li> <li>• It should be able to track the failure of lamps in a particular switching point.</li> <li>• Different user authorization levels should be settable and the central server should be capable of handling heavy traffic, i.e. the number of LED street lights installed in respective ULBs under this program.</li> <li>• GIS Mapping should be done covering all switching points and the details of each switch point shall be viewable in the web application software through a Google-map interface or web based digital map.</li> <li>• All the CCMS units should be remotely configured from the Central Control Unit: <ul style="list-style-type: none"> <li>• Setting new ON/OFF timings</li> <li>• Setting the Response Time Count (RTC) time of Automation unit</li> <li>• Knowing the current status of any particular switching point.</li> <li>• Reset the unit.</li> </ul> </li> <li>• The minimum interval for the update of data should be 15 minute but programmable up to 1 minute.</li> <li>• Auto synchronization of controller with server timing to be further synchronized with standard GPS clock timing.</li> <li>• The system monitors all the following from the CCMS unit <ul style="list-style-type: none"> <li>• Voltages each phase</li> <li>• Current each phase</li> <li>• PF each phase</li> <li>• Metering kWh cumulative</li> <li>• Metering kVAh</li> </ul> </li> <li>• Further system is able to indicate various faults <ul style="list-style-type: none"> <li>• Number of operational lights</li> <li>• Number of non-operational lights</li> <li>• Failure of contactor</li> <li>• Status of the incoming supply (power failure)</li> <li>• High /low voltage</li> <li>• Overload on the phases</li> </ul> </li> <li>• The central CCMS unit is capable of handling minimum 400 number switching point units.</li> <li>• CCMS shall have server preferably dedicated server set-up or cloud based arrangement to ensure 100% guarantee of the data transmission and real time data storage for last 2 years (24 Months) and archived data for the contract period.</li> <li>• Data authenticity and validation has to be ensured. Reports to be submitted in a common CVS format.</li> <li>• Cyber security, safe database management, data retrieval and trouble free operation of software and allied systems (24*7) to be ensured.</li> <li>• CCMS system should have a self-healing mechanism and in case of failure, Bidder to ensure resumption of service within 24 hours. Till resumption of full services, the default settings of the CCMS should ensure timely ON/ OFF operation of the street lights.</li> <li>• System to report Jamming/ hacking attempts and maintain status-quo in case of Jamming/ hacking attempts i.e. if lights are ON, they should remain ON till the default OFF time recorded in the system. In case lights are OFF at the time of Jamming attempt/ hacking, lights should remain OFF till default ON time recorded in the system.</li> </ul>

**Note:**

1. Bidder will manage (warranty, operation, maintenance, web-based portal, communication charges) the installed CCMS units for the contract period.
2. The feature proposed for CCMS is indicative. However, Bidders are free to offer their lighting control technology which should encompass all key features as above.

## **Infrastructure related technical specifications**

After the award of the contract the bidder shall have to undertake the one time rectification/repair for improvement of existing system if any i.e. Damaged poles, Junction box, pole wiring from junction box to light fixture, underground cables, GI Bracket, Switches, timers, feeder panel or any other measures required to maintain the performance standards for Operations and Maintenance as per the provision of this contract. The bidder and MC will inspect the site jointly after repaired the bidder shall be fully responsible for operation, maintenance and monitoring of the project.

## **Technical specifications**

1..	Supply and laying of XLPE/ P.V.C. insulated P.V.C. sheathed aluminium conductor un-armoured cable working voltage upto and including 1100 volts grade to be laid loose in the existing trench or pipe as per PWD General Specifications 2010. (Make havel, polycab, ecko)	Mtr.
2.	XLPE/ PVC insulated PVC sheathed aluminium conductor un armoured cable working voltage 1100volts grade 16sq.mm (4 Core)	Mtr
3.	S/E of aluminum conductor P.V.C. insulated P.V.C. sheathed un-armoured cable working voltage 1100 volts grade 2 core 16mm <sup>2</sup>	Mtr
4.	S/E of aluminum conductor P.V.C. insulated P.V.C. sheathed un-armoured cable working voltage 1100 volts grade 2 core 10mm <sup>2</sup>	Mtr
5.	XLPE/ PVC insulated PVC sheathed aluminium conductor un armoured cable working voltage 1100volts grade 25sq.mm (3 ½ Core)	Mtr
5(i)	XLPE/ PVC insulated PVC sheathed aluminium conductor un armoured cable working voltage 1100volts grade 35sq.mm (3 ½ Core)	
6.	Supply and erection of double walled corrugated (DWC) HDPE pipe to be laid 1mtr. below ground level including excavation (making necessary trench), placing the pipe in position and back filling with excavated soil etc. of the required size. Double walled corrugated (DWC) HDPE pipe 50/38 mm (outer/ inner dia.) ( Paid as per actual)	Mtr
	Double walled corrugated (DWC) HDPE pipe 63/51 mm (outer/ inner dia.) ( Paid as per actual)	Mtr

7.	S/E of PVC insulated copper conductor single core FRLS cable (ISI marked) overall 1.5 sq.mm, 1100volts grade	Mtr
8.	Erection of pipe in road cut through trenchless technology( Paid as per actual)	Mtr
9.	Supply and erection of galvanized steel octagonal pole of suitable length conforming to IS 2629/IS 2633/ IS4759. The pole shall be in single piece (single hot dip galvanized) and shall tapered towards the top. The bottom section shall have open able slot with exterior surface door & shall have suitable locking arrangement for housing three phase 4wire cable connection, bakelite sheet, MCB, loop in and out arrangement for incoming/ outgoing cables. There shall also be suitable arrangement for the purpose of earthing. Rigid Base plate of suitable size and thickness shall be welded inside and outside at the bottom of pole with provision for fixing 4 foundation bolts.The octagonal pole shall be bolted on a pre- cast foundation with a set of four foundation bolts for greater rigidity. The foundation shall be erected over cement concrete M20 of given size to fixed up to a required planting depth below ground level as required:-	
A	Galvanized octagonal pole overall length 5 metre (sheet thickness 3mm), top dia.(A/F) 70mm and bottom dia. (A/F)130mm, foundation size below ground level 550mm x550mm x 1200mm, 4Nos. foundation bolts size 16mm dia., length 600mm with base plate dimensions 200mm x200mm x 12mm thick..	
B	Galvanized octagonal pole overall length 6 metre (sheet thickness 3mm), top dia.(A/F) 70mm and bottom dia. (A/F)130mm, foundation size below ground level 550mm x550mm x 1200mm, 4Nos. foundation bolts size 20mm dia., length 600mm with base plate dimensions 220mm x220mm x 12mm thick.	
C	Galvanized octagonal pole overall length 7 metre (sheet thickness 3mm), top dia.(A/F) 70mm and bottom dia. (A/F) 130mm, foundation size below ground level 550mm x 550mm x 1400mm, 4Nos. foundation bolts size 20mm dia., length 700mm with base plate dimensions 240mm x 240mm x 16mm thick.	
D	Galvanized octagonal pole overall length 8 metre (sheet thickness 3mm), top dia.(A/F) 70mm and bottom dia. (A/F) 135mm, foundation size below ground level 550mm x 550mm x 1500mm, 4Nos. foundation bolts size 20mm dia., length 750mm with base plate dimensions 240mm x 240mm x 16mm thick.	
E	Galvanized octagonal pole overall length 10 metre (sheet thickness 3mm), top dia.(A/F) 70mm and bottom dia. (A/F) 175mm, foundation size below ground level 600mm x 600mm x 1800mm, 4Nos. foundation bolts size 24mm dia., length 750mm with base plate dimensions 275mm x 275mm x 16mm thick.	Nos

10.	Supply and erection of single arm bracket 1 metre long for 4 to 6 metre long galvanized octagonal pole, the bracket should be fixed on the top of the pole having top outer dia. 70mm (A/F) complete in all respect as approved by the Engineer-in-charge at site. Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos
11.	Supply and erection of single arm bracket 1 metre long for 7 to 8 metre long galvanized octagonal pole, the bracket should be fixed on the top of the pole having top outer dia. 70mm (A/F) complete in all respect as approved by the Engineer-in-charge at site. Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos
12.	Supply and erection of single arm bracket 2 metre long for 7 to 8 metre long galvanized octagonal pole, the bracket should be fixed on the top of the pole having top outer dia. 70mm (A/F) complete in all respect as approved by the Engineer-in-charge at site. Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos
13.	Supply and erection of 3-Stepped steel tubular swaged and welded pole of suitable length conforming to I.S. 1161-1979 (UTS 42 kgf/mm sq.) to fixed up to a required planting depth below ground level in a RCC readymade muff of suitable length and dia. as described under the required sub-head here under. The gap between the pole and muff is to be filled with 1:2:4 cement concrete as required at site:- Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	
14.	Overall length 7 metre, with planting depth 1.25 metre, length of sections 4 metre,1.5 metre and 1.5 metre (Bottom, Middle and Top respectively), Outer dia and thickness of sections 114.3mm x 4.5mm, 88.9mm x4.05mm and 76.1mm x 3.25mm (Bottom, Middle and Top respectively) with approximate weight 73 kg. (410 SP-2) Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	
15.	Overall length 8 metre, with planting depth 1.5 metre, length of sections 4.5 metre,1.75 metre and 1.75 metre (Bottom, Middle and Top respectively), Outer dia and thickness of sections 139.7mm x 4.5mm, 114.3mm x 3.65mm and 88.9mm x 3.25mm (Bottom, Middle and Top respectively) with approximate weight 97 kg. (410 SP-7) Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos
16.	Overall length 9 metre, with planting depth 1.5 metre, length of sections 5 metre, 2 metre and 2metre (Bottom, Middle and Top respectively), Outer dia and thickness of sections 114.3mm x 5.4mm, 88.9mm x 4.85mm and 76.1mm x 3.25mm (Bottom, Middle and Top respectively) with approximate weight 108 kg. (410 SP-27) Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos

17.	Supply and erection of G.I. pipe 50mm dia. (medium) Single arm bracket 3.75 metre long each arm welded with MS canopy 80mm inner dia., outer dia 89.5mm (medium), 450mm long suitable for 3 stepped steel tubular swaged and welded pole with top outer section dia. 76.1mm. The MS canopy should have 3no. holes for fixing the bracket at the top end of the pole with the help of 3nos. ½"x1½" size nut bolt of full thread. The bracket should have MS round sheet 3mm thick 90mm dia. welded with MS ring of 90mm dia and 50mm long, 1.62mm thick for covering the top end of the canopy. The MS canopy and GI bracket should be welded at tentative angel 105° (105 degree) inclination with MS sheet 5mm thick triangular in shape having dimensions 300mm x 150mm x 5mm thick with two coats of an approved aluminium paint as desired by Engineer-in charge at site. ( Paid as per actual) Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos
18.	Supply and erection of G.I. pipe 50mm dia. (medium) Double arm bracket 2.5 metre long each arm welded with MS canopy 80mm inner dia., outer dia 89.5mm (medium), 450mm long suitable for 3 stepped steel tubular swaged and welded pole with top outer section dia. 76.1mm. The MS canopy should have 3no. holes for fixing the bracket at the top end of the pole with the help of 3nos. ½"x1½" size nut bolt of full thread. The bracket should have MS round sheet 3mm thick 90mm dia. welded with MS ring of 90mm dia and 50mm long, 1.62mm thick for covering the top end of the canopy. The MS canopy and GI bracket should be welded at tentative angel 105° (105 degree) inclination with MS sheet 5mm thick triangular in shape having dimensions 375mm x 150mm x 5mm thick with two coats of an approved aluminium paint as desired by Engineer-in charge at site. Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos
19.	S/E of joint kit for street light cable 4 core 16mm <sup>2</sup> resin cast type straight joint with cable jointing compound complete in all respect	Nos

20.	<p>Making of cement concrete muff of overall size 450mm dia., 80cm long with 1:2:4 cement concrete mixture( Ready mixed concrete M20 grade by using cement 375 kg/Cum manufactured in fully automatic batching plant and transported to site of work in transient mixture as per mixed design of specified grade IS 9103 as per direction of engineer in charge ) . The muff is to be made around the steel tubular pole sufficient to completely with fiber sheet 4mm thick junction box having size 10 "x12"x4" with brass conductors 4 no.with backlite strip with hinged water tight cover with locking arrangement (L-key ) having single pole MCB of required capacity fixed on din bar. The fiber junction box is to be fixed with the pole by a MS flat clamp of size 20mm x 3mm thick. PVC pipe 40 mm dia. (2 No. x0.60 m) should be provided for incoming and outgoing cables. The outer surface of the muff shall be finished with pure cement and two coats of white snowcem complete in all respect as approved and desired by the Engineer In- Charge at site. ( Paid as per actual)</p>	Nos
21.	Labour for dismantling 3-stepped steel tubular pole upto 16m.	
22.	Erection of 3 stepped steel tubular pole upto 10 m length in cement concrete 1:2:4 up to ground level but excluding cost of pole including two coats of approved aluminium paint etc.	
23.	Labour for dismantling of bracket on 3-stepped steel tubular pole/ PCC pole/GI pole/Octanogal pole.	
24.	Labour for Erection of bracket on 3-stepped steel tubular pole/ PCC pole/GI pole/Octanogal pole.	
25.	<p>Supply and erection of G.I. pipe 50mm dia. (medium) Single arm bracket 1.5 metre long each arm welded with MS canopy 80mm inner dia., outer dia 89.5mm (medium), 450mm long suitable for 3 stepped steel tubular swaged and welded pole with top outer section dia. 76.1mm. The MS canopy should have 3no. holes for fixing the bracket at the top end of the pole with the help of 3nos. ½"x1½" size nut bolt of full thread. The bracket should have MS round sheet 3mm thick 90mm dia. welded with MS ring of 90mm dia and 50mm long, 1.62mm thick for covering the top end of the canopy. The MS canopy and GI bracket should be welded at tentative angel 105° (105 degree) inclination with MS sheet 5mm thick triangular in shape having dimensions225mm x 150mm x 5mm thick with two coats of an approved aluminium paint as desired by Engineer-in charge at site. Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)</p>	Nos



26.	Supply and erection of G.I. pipe 40mm dia. (A-class) single arm bracket at least 1 metre long arm to give a total overhang at a tentative angle of 100/105°, the bracket should be fixed on the top of the GI pipe pole having top outer dia. 80mm with GI reducer 80mm x 40mm with two coats of an approved aluminium paint complete in all respect as approved by the Engineer-in-charge at site Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	Nos
27.	Supply & erection of 'D' iron clamp 50mm x 6mm flat iron complete with fixing bolts and nuts (16mm x 200mm) including making holes in the pole as approved by Engineer-in-charge.	Nos
28.	Supply and erection of G.I. pipe 'A' quality of suitable length and dia. conforming to I.S. 1239 part-I 1979, including fixing up to a given depth below G/L, the hole of excavation about 30 cm dia. and given depth to be filled in up to 15 cm below and above G/L with 1:2:4 cement concrete up to a height of 45 cm from G/L. The radial thickness of the plinth above G/L should not be less than 6.35 cm and sufficient to completely flush a MCB distribution board SPN 4way with hinged water tight cover with locking arrangement having one single pole MCB of required capacity of the same size the outer surface of the plinth to be finished with 1:2 cement plaster 6 mm thick M.S. fuse box shall have a water proof hinged cover with locking arrangement including painting of pole with two coats of approved aluminium paint as required:- Make :- Jindal, Tata, Ravindra.(The weight should be as per IS Standrad)	
29.	6.1 metre long having nominal bore dia. 80mm, planting depth 120cm with pit depth 135cm.	Nos
30.	Erection of G.I. pipe pole upto 6 m length in cement concrete 1:2:4 up to ground level but excluding cost of pole including two coats of approved aluminium paint etc.	Nos
31.	Labour for dismantling G.I. pipe pole upto length 6.1 m.	Nos

32.	<p>Making of CC muff of overall size 450mm dia., 80cm long with 1:2:4 CC mixture. The muff is to be made around the steel tubular pole sufficient to completely flush a MCB DB SPN 4way (DD) with hinged water tight cover with locking arrangement having 1SP MCB of reqd. capacity fixed on din bar. The MCB DB is to be fixed with the pole by a MS flat clamp of size 20mmx2mm thick. The Box shall be fitted with bakelite strip size 8"x1"x3/8" deep fixed with the help of steel screws. 4 Nos. Brass links(3way)of size 1/2"x1/2" is to be fixed on the bakelite strip with the help of steel screws.PVC pipe40mm dia.(2No.x0.60m) should be provided for incoming and outgoing cables. The outer surface of the muff shall be finished with pure cement &amp; 2 coats of white snowcem and making an extra collar will be provided with 1:2:4 Cement Sand &amp; Concrete mixture around the Steel tubular pole. The size of collar (height is 16"&amp;dia is 12" including pole dia i.e. 168.3mm) complete in all respect.</p>	Nos
33.	<p>S/E of earth rod 20mm dia for providing earth connections upto line earth with GI wire no.8 SWG . The rod shall be tapered at one end and flatted on other end.The hole size 10MM dia shall be drilled on the flatened side for facilitating connection with Gi wire and thimble etc. The rod shall be grouted up to complete length vertically 3 Mtr long.</p>	Nos
34.	Dismantling of CC 1.8.16 paid as per actual	Cum.
35.	Refixing of paver block paid as per actual	Sqm.
36.	P/F of rubber moulded 60MM thick Paver block paid as per actual	Sqm.
37.	CC 1.8.16 with 40MM thick stone aggregate paid as per actual	Cum.
38.	CC 1.2.4 paid as per actual	Cum.
39.	Loading unloading of material C/A paid as per actual	Cum.
40.	Loading unloading of material F/A paid as per actual	Cum.
41.	Laying of 2 " thick coarse sand paid as per actual	Cum.
42	Repair of footpath, kerb channels cc flooring and providing and fixing of missing new paver block 60 mm thick and other misc. work ( Paid as per actual)(L/S)	Sqm.

# **EVALUATION CRITERIA**

## **GENERAL INFORMATION**

MMC shall ensure that the rules for the bidding proceedings for the Project are applied in a non-discriminatory, transparent and objective manner. MMC shall not provide to any Bidder information with regard to the Project or the bidding proceedings, which may have the effect of restricting competition.

Information relating to the examination, clarification, evaluation, and recommendation for the Bidders shall not be disclosed to any person who is not officially concerned with the process. MMC will treat all information, submitted as part of Bid, in confidence and will require all those who have access to such material to treat the same in confidence.

## **EVALUATION PROCESS**

### **Short listing of Qualified Bidders**

1. The Bids shall be first evaluated with reference to the Eligibility Criteria and those fulfilling the eligibility requirements will be included in the list of Qualified Bidders.
2. To facilitate evaluation of Bids, MMC may, at its sole discretion, seek clarifications from any Bidder regarding its Bid. Such clarification(s) shall be provided within the time specified by MMC for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing.
3. If a Bidder does not provide clarifications sought as mentioned above within the prescribed time, its Bid shall be liable to be rejected. In case the Bid is not rejected, the MMC may proceed to evaluate the Bid by construing the particulars requiring clarification to the best of its understanding, and the Bidder shall be barred from subsequently questioning such interpretation of MMC.
4. At the same time, MMC would notify the other Bidders that they have not been qualified. MMC will not entertain any query or clarification from Bidders who fail to qualify.

### **Technical presentation**

The Qualified Bidders will be invited to make presentation against the technical committee of the street lighting department high lighting experiences, problem faced, bottlenecks solved for similar nature of projects after opening a technical bid and before opening a price bid.

### **Site visit**

If required, site visit can be conducted with ESCO and MMC Officials or its consultants to check the performance of ESCO, where the ESCO has already carried such work.

## Evaluation of Price Bid

1. The Price Bids of only Qualified Bidders will be opened.
2. The Price Bids opened would be evaluated on the basis of “Financial Bid Parameter” (**monetized benefit for MMC**).
3. The assessment of Financial Bid Parameter comprises of evaluation of following quoted parameters by the Bidders:

- a. **Sharing of monetized energy savings for MMC (“A”)** – calculated on the basis of quoted percentage of energy savings sharing with MMC, guaranteed energy savings, baseline energy consumption and tariff. This has to be minimum 10%. The calculation is as follows

$$A = \text{Quoted percentage sharing of energy savings for MMC} \times \text{Guaranteed energy savings} \\ \times \text{baseline energy consumption} \times \text{tariff}$$

$$= \text{Quoted percentage sharing of energy savings for MMC} \times 62\% \times 1, 11, 88,026 \times 6.69$$

- b. **Annual operation & maintenance of LEDs and CCMS panels (“B”)** – Bidder will quote yearly O&M costs for 10 years. The Net Present Value (NPV) of annual O&M costs will be calculated assuming a discount factor of 10%. This NPV will be divided by tenure (10 years) to get average O&M cost for first year.
- c. **Buy-back of dismantled fixtures (“C”)** – Bidder will quote Buy-back price for dismantled fixtures. The calculation will be made considering buy-back price for each lamp type and number of lamps in each lamp type. The calculation is as follows
- d. Buy-back of dismantled feeder panel (“D”)

$$C = (\text{Buy-back price of lamp type}) \times (\text{Number of lamps in each lamp type})$$

$$D = (\text{Buy-back price of feeder panel}) \times (\text{Number of feeder panel})$$

Financial Bid Parameter shall be calculated as follows:

$$\text{Financial Bid Parameter} = A - B + C + D$$

4. The Price Bids would then be ranked in descending order of the validated Financial Bid Parameter, with the Bidder quoting the highest monetized benefit for MMC as ranked “First” and the Bidder quoting the second highest Financial Bid Parameter shall be ranked “Second” and so on.
5. The Bidder ranked first in accordance with the above procedure would be declared as the “Successful Bidder”.

## Live demonstration

1. The Successful Bidder will be asked for Live Demonstration of LED lamps (20-40 LEDs of each of the proposed categories) & proposed CCMS system which are to be installed during project execution. This demonstration will be monitored and verified jointly by MMC and its consultants. The Successful Bidder will not be paid any charges for Live Demonstration. The Bidder will be given only two trials for such test and performance assessment.
2. In case, Live Demonstration does not meet the criteria as specified in Technical Specification, then the Successful Bidder will be disqualified and EMD will be forfeited. Thereafter, Qualified Bidder who was "Second" will be invited and so on.

### **Signing of ESPC**

1. If Live Demonstration meets the criteria specified in Technical Specifications then MMC will sign the Energy Saving Performance Contract (ESPC) with the successful Bidder and will give go ahead on the implementation of the project and issue the Work Order to the Successful Bidder.
2. MMC will then coordinate with selected ESCO for provision of auto revolving BG as per format finalized between bank and MMC.

## **PAYMENT MECHANISM**

MMC will pay the fixed monthly quoted share of saving (monetary value) and operation & maintenance to the Contractor starting from the completion date of particular feeder panel with CCMS complete in all respect and continuing till the duration of the Contract Period thereafter. The energy savings will assume to be same throughout the duration of the contract period as deemed saving approach will be used to estimate the energy savings under the contract.

As mentioned in Scope of Work, the envisaged energy savings with replacement of existing streetlights as well as optimization of operation hours of streetlights is 62%.The Contractor will provide report,on quarterly basis, on energy savings based on CCMS reports vis-à-vis the baseline consumption. The Contractor will provide reasons for deviation in energy savings, if any, and assist MMC in addressing the reasons.

### **Payment Mechanism**

1. Under this agreement, the Contractor is required to make capital investment for installation of LEDs, feeders panels and control systems (as per Task 1 & 2) and realise payments through monthly instalments from MMC. In order to provide payment security to the Contractor, an amount equivalent to 6 months installment in the form of auto revolving BG will be provided to the Contractor. MMC will renew this BG automatically after every 6 months. The monthly payment to the Contractor will be made as per agreed energy saving, after signing of Energy Saving Performance Contract (ESPC) between MMC and Contractor. All the payments to the contractor will be made within 15 days of the receipt of the bills by MMC. MMC will review the work within a week and make 75% payment for the approved work within 15 days of the receipt of the bill and remaining 25% payment within month after check all status of street light like On /Off status etc.
2. The Contractor can raise the bill of the work done under the Infrastructure Improvement as per Task 3 after every 20 days for the work completed till that date. MMC will review the work within a week and payment will be released after the satisfaction of Engineer in charge.

# **Annexure 1: Snapshot of baseline conditions of MMC street lighting**

## **Baseline energy consumption:**

The baseline energy consumption has been estimated from the total power consumption of the existing street lighting luminaires including the ballast losses.

1. Based on the rated power consumption and ballast losses of the total population of street lighting luminaires

The actual energy consumption for street lighting, the baseline energy consumption has been estimated from the total power consumption of the existing street lighting luminaires including the ballast losses.

As the Contractor will ensure the performance standards mentioned in this contract after implementation of this street lighting project so the baseline has been estimated for those particular performance standards and it comes out to be **1,06,71,693 kWh**. In this option, it has been assumed that the 100% of the street lights are operational and the average operating hours of the street lights is 11 hours/ day. Based on these parameters, the annual baseline energy consumption has been estimated to be **1,06,71,693 kWh**. This baseline is less than the actual energy bills of street lighting in last year but more relevant as the last year bills might be higher on account of some of the thefts, leakages, miscalculation, reconciliation, etc. in the last year. So the baseline for this project will be considered as **1,06,71,693 kWh** for the mentioned number of lamps (**21,800**). The baseline will be adjusted for any increase or decrease in actual number of lamps corresponding to their rating and number after the implementation of the project.

## **Energy Tariff:**

Based on the last 12 months electricity bills provided by MMC officials, the average energy tariff applicable for MMC street lighting comes out to be **Rs. 6.69/kWh**.

## **O&M hike**

An escalation of 5% has been provided for every year in the coming years for calculating the monetary payment to contract towards O&M activity. The escalation would be provided annually on the quoted O&M rate after completion of one year of successful operation and maintenance activity. The one year completion would be considered from the period on which successful installation completion certificate is issued to the bidder by MMC.

## **Tariff hike**

No provision for escalation in tariff has been provided.

**MUNICIPAL CORPORATION**  
**MOHALI**

**WORK OF REPLACEMENT OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT  
LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH  
OPERATION & MAINTENANCE**

**PRICE BID DOCUMENT**

**FOR AUTHORIZED USE ONLY:**

Issued to:

**Corporation Engineer**  
**Municipal Corporation , Mohali**



# MUNICIPAL CORPORATION MOHALI

## SCHEDULE - B

Name of work: **REPLACEMENT WORK OF EXISTING STREET LIGHTS WITH ENERGY EFFICIENT LED STREET LIGHTS, INSTALLATION OF CONTROL SYSTEMS ALONG WITH OPERATION & MAINTENANCE FOR 10 YEARS ON ESCO (PAY FROM SAVINGS) BASIS**

As detailed out in tender evaluation criteria, MMC invites Bidders to provide quotes for following three parameters:

- Sharing of monetized energy savings
- Annual O&M expenses
- Buy-back of dismantled fixtures
- Buy-back of dismantled feeder panel

Kindly provide quote on-line as per following format:

1. Quote for sharing of monetized energy savings between MMC and Bidder as per Task -1 of scope of work:

<b>Sharing of monetized energy savings</b>	
<b>MMC Share in %</b>	<b>Bidder's Share in %</b>
<b>To be quoted online only</b>	

Note: Minimum MMC share should be 10%

2. Quote for annual operation and maintenance of LED luminaires (Including LED, Driver and fixture)& CCMS expenses as per Task-2 of scope of work

<b>Quote for O&amp;M expenses/LED luminaire/year</b>		
<b>Year</b>	<b>Amount (in figures)</b>	<b>Amount (in words)</b>
<b>1</b>		
<b>2</b>		
<b>3</b>		
<b>4</b>		
<b>5</b>	<b>To be quoted online only</b>	
<b>6</b>		
<b>7</b>		
<b>8</b>		
<b>9</b>		

<b>10</b>		
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Note: The Net Present Value (NPV) of annual O&M costs will be calculated assuming a discount factor of 10%. This NPV will be divided by tenure (10 years) to get average O&M cost for first year.

3. Quote for buy-back for dismantled fixtures

<b>Quote for buy-back for dismantled fixtures</b>			
<b>Type of fixture</b>	<b>Fixture Quantity (Nos.)</b>	<b>Buy-back amount/fixture (in figures)</b>	<b>Buy-back amount/fixture (in words)</b>
CFL ,Posttop – 36 W	2986		
CFL ,Posttop – 45 W	500		
CFL ,Posttop – 65 W	76		
CFL ,Posttop - 85 W	90		
CFL, Posttop-26	65		
Tube Light-14	384		
MH Posttop – 125 W	41		
FTL – 40 W	4563		
HPSV – 70 W	5195		
HPSV – 150 W	5160		
CDMT Posttop Fxr – 150 W	318		
HPSV – 250 W	1268		
MH – 400 W	818		
HM 250*2 – 500 W	336		

4. Quote for buy-back for dismantled feeder panel

<b>Quote for buy-back for feeder panel</b>			
<b>Type of feeder panel</b>	<b>Feeder panel Quantity (Nos.)</b>	<b>Buy-back amount/ feeder panel (in figures)</b>	<b>Buy-back amount/ feeder panel (in words)</b>
Size 1200 x 900 x 350mm			
Size 900 x 600 x 350mm			

**Note:** The quoted rates online in the Price Bid shall be inclusive of all taxes, duties, etc. and no claim in this context shall be entertained. Bidders shall not be paid any extra amount due to increase in any type of Government Taxes including excise duty during implementation of contract. Any variations in taxes etc. shall be borne by the Bidder.

Place:

Date:

Signature of ESCO

Name of Authorized Representative

With Stamp