



**NEW TOWN KOLKATA DEVELOPMENT AUTHORITY**  
(A Statutory Authority under Government of West Bengal)

3, Major Arterial Road • New Town • Kolkata – 700156  
Ph. No. (033) 2324-2138 Email Id: eeme@nkda.in

Memo No. 7105/NKDA/Elect(Solar)/2019-20/03

Date: 30-08-2019

**NOTICE INVITING e-QUOTATION**

**Notice Inviting e-Quotation No.04/EE-E/NKDA/2019-20**

Executive Engineer (E), New Town Kolkata Development Authority invites quoted rate e-quotation from resourceful, reliable, bona-fide manufacturer or authorized dealer having experience in similar nature of work at WBHIDCO, PWD, PHED, WBSEDCL and other Govt. departments are requested to submit their offer for the work detailed below.

(Submission of Bid through **online**)

Sl. No	Name of the work	Estimated Amount(Rs.)	Earnest Money(Rs.)	Price of Tender documents	Period of Completion
1	Installation of Smart Energy Efficient LoRaWAN Based Lighting Application at Different Area of New Town, AA-IA, IB & IC (NKDA)	Agency has to Quote.	Earnest money Rs.12,00,000=00 ( <b>Rupees Twelve lakh</b> ) only to submit through Online payments/RTGS/NEFT from ICICI Bank. In favour of " <b>Newtown Kolkata Development Authority</b> " payable at Kolkata.	Rs.10,005=00 (Rupees Ten Thousand and Five) only per set to be paid only at the time of agreement.	A)120(One hundred and twenty) Days for Supply, Installation, Testing, Commissioning B) Maintenance period 05(Five) years.

- 1) In the event of e-filing, intending bidder may download the tender documents from the website <http://wbtenders.gov.in> directly with the help of Digital Signature Certificate. All the bidder shall have to submit Earnest Money & necessary earnest money will be deposited by the bidder through the following payment mode as finance dept. order no. 3975-F (Y) dated 28<sup>th</sup> July 2016 (Annexure-A).
  - i) Net banking (any of the banks listed to the ICICI bank payment gateway) in case of payment through ICICI payment gateway. **RTGS/NEFT** through bank account in any bank. The EMD shall be deposited in favor of "Newtown Kolkata Development Authority" payable at Kolkata.
- 2) Both **Technical Bid** and **Financial Bid** are to be submitted concurrently duly digitally signed in the website <http://wbtenders.gov.in>
- 3) Tender documents may be downloaded from website and submission of Technical Bid and Financial Bid will be done as per Time Schedule stated in Sl. No. 14 of this NleT.
- 4) The **FINANCIAL OFFER** of the prospective qualified tenderer(s) will be considered only if the **TECHNICAL BID** of the tenderer(s) is found qualified by competent authority of New Town Kolkata Development Authority. The decision of the competent authority of

New Town Kolkata Development Authority will be final and absolute in this respect. The list of Qualified Bidders will be displayed in the website.

**5) Eligibility criteria for participation in the tender:**

- i. Working Contractors of NKDA, WBIIIDCO, PWD, WBSEDCL and other Govt. Departments having satisfactorily completed (as prime contractor) at least one work of similar nature(i.e. LED Street Lighting, LED Smart street Lighting, LED luminaries and its wiring, installation job only) having magnitude of at least Rs.2.5 Crore during the last 3 years. Authentic documents in original, from the Engineer-in-charge of the work will have to be submitted in support of the above credential as non-statutory documents.
  - ii. Preferable have registered office & field service setup to provide good after sale services including necessary repair & maintenance in the state of West Bengal.
  - iii. OEM should have 5 years of experience in LED street light manufacturing field and have own NABL accredited Lab and R & D facility.
  - iv. Pan Card, Income Tax Acknowledgement Receipt for the latest Assessment year, P.T. Deposit Challan for the current year, GST Registration and PF registration Certificate are to be submitted as non-statutory documents.
  - v. The prospective bidders shall have PF & ESI enlistment. The last Month Challan & ECR copy of PF & ESI shall be furnished for Technical Evaluation.
  - vi. The prospective bidders shall have existing Labour strength (in Payroll) of Min 15 Nos. and that to be reflected in ECR copy of PF & ESI of last Month.
  - vii. The prospective bidders in their full time engagement experienced technical personnel, the minimum being one Electrical Engineering Diploma holder (Authenticated documents in respect of qualification and Full time Employment through ECR copy of PF & ESI for engagement shall be furnished for Technical Evaluation.) (If Technical Person is being Proprietor/Partner/Director of Company then ECR copy may not required).
  - viii. The prospective bidders in their full time engagement experienced Electrical Supervisor, having SSC Part of 1,2,3,4,5,6A,7A,11 or National (Authenticated documents in respect of qualification and Full time Employment through ECR copy of PF & ESI for engagement shall be furnished for Technical Evaluation.) (If Supervisor having above mentioned Part is being Proprietor/Partner/Director of Company then ECR copy may not required).
  - ix. The prospective bidders should engage their full time experienced Skilled/Highly Skilled Labor as stated in the schedule of works (Authenticated documents in respect of qualification and Full time Employment through ECR copy of PF & ESI for engagement shall be furnished for Technical Evaluation.) (If the persons having above mentioned Part are being Partner/Director of Company then ECR copy may not required).
  - x. The prospective bidders and OEM of Luminaire should have their own registered office in kolkata, W.B. they must submit their organogram for escalation purpose.
  - xi. **Joint Ventures/MOU will not be allowed.**
- 6) All materials are to be procured and supplied at site of work by the tenderer / firm at his / their own cost from approved reputed dealer / manufacturer. Departmental materials will not be issued under any circumstances unless any such provision is made and accepted latter by both the parties. Department unless otherwise stated means New Town Kolkata Development Authority. The prospective applicant shall be capable to establish Field Testing Laboratory equipped with requisite Instruments and Technical Staff complete in itself to carry out all necessary Tests for such project.
- 7) Mobilization advance, time / cost overrun and consequent cost escalation for any material labour etc. and secured advance will not be allowed.
- 8) The offer shall remain valid for 6 (Six) Month from the date of opening of the tender.

- 9) On-going payments for work may be allowed to the executing agency as per existing rules and availability of fund. Subject to deduction of security deposit, progressive payment may be made against the completed or partly completed item of works. Such interim payments, shall be made as running account bill(s), however, shall not construed to mean that the respective items / components have finally been approved and accepted by NKDA and the contractor shall not be absolved of his responsibility to set right any deficiency of such paid items / components at his/ their own cost, for rectifying all defects which are subsequently being noted or found.
- 10) No claim for interest or compensation will be entertained in respect to any money or balance of payment which may be due or alleged to be due to the contractor owing to any dispute between the contractor and NKDA or in respect to any delay in making payment of progressive or final bill of the work, to the contractor.  
Payment for the works done by the contractor will be based on recorded and accepted measurement put for payment to be invariably made by putting signature (with seal) of the contractor (or his/ their authorized representative). The contractor or his / their authorized representatives are advised to take measurements jointly with the officials of NKDA. In case of failure of his/their part either to take measurement jointly and /or acceptance of the recorded measurement, within a reasonable time, measurement taken by the department shall be considered as final for making payment. Similar acceptance is also essential for level records and survey data, field books etc.
- 11) **Idle labour, idle rent and hire charges etc.:**  
No claim of any category and type, on this ground shall be entertained. The contractor and NKDA shall make every effort that such situation does not arise.
- 12) **Testing and Testing Equipment:** Testing of materials, to be used in work and the quality of finished work on quality control aspect, is to be undertaken by the contractor at own cost, with facilities provided at site and / or through approved (by NKDA) Test Houses / Laboratories. All materials and workmanship shall be in accordance with the specifications laid down in the contract and also as per P.W.D. (Roads & Buildings Schedule) and IS Codes. The Engineer-in-Charge reserves the right to test, examine and measure the material / workmanship direct at the place of manufacture, fabrication or at the site of works or any suitable place. The contractor shall provide such assistance, instrument machine, labour and materials as the Engineer-in-Charge may require for examining, measuring and testing the works and quality, weight or quantity of materials used and shall supply samples for testing as may be selected and required by the Engineer-in-Charge without any extra cost. Beside this, he/they will carry out tests from outside laboratory as per instruction of Engineer-in-Charge. The cost of all such tests would be borne by the agency.  
Should the Executive Engineer or his representative consider it necessary to satisfy himself / themselves as to quality of work, the contractor shall offer sample of work done as necessary, pull down reasonable part of the work required for inspection and testing. The contractor shall bear the cost of pulling down and shall make good the same at own cost and to the full satisfaction of E-I-C without any claim for payment
- 13) **Security Deposit:**  
Retention money towards performance Security shall be deducted from the running account bill of the tenderer as per prevailing order. No interest will be paid on the money retained for Security Deposit. Notwithstanding anything as mentioned in clause 13 of WBF2912, the security deposit for the entire work (including the original work and 05years operation and maintenance) i.e 10% of the total value of the work will be released in 05(five) after completion of the successful maintenance of the LoRaWAN based lighting.

#### 14) Date and Time Schedule:

Sl. No.	Particulars	Date & Time
1	Date of uploading of N.I.T. & other Documents (online) (Publishing Date)	02-09-2019
2	Documents download start date (Online)	02-09-2019 from 6:00P.M.
3	Documents download end date (Online)	23-09-2019 upto 6:00 P.M
4	Date of Pre-Bid meeting	12-09-2019 at 03:00PM
5	Last Date of submission of Pre-Bid queries in given format at EE (I), NKDA.	09-09-2019
6	Bid submission start date (Online)	30-08-2019 from 6:00P.M.
7	Bid submission closing date (Online)	23-09-2019 at 6:00 P.M
8	Bid opening date for Technical Proposals (Online)	26-09-2019 at 11:00 A.M.
9	Last Date of uploading list for Technically Qualified Bidder(online)	Will be intimated in due course.
10	Date for opening of Financial Proposal (Online).	Will be intimated in due course.

#### 15) Earnest Money:

- a) Earnest money of Rs.12,00,000-00 (Rupees twelve lakh ) only to submit in the form of ICICI Bank online/ RTGS/NEFT from scheduled Bank, In favor of **"Newtown Kolkata Development Authority"** payable at Kolkata balance amount covering 2% of the quoted amount to be submitted in bank draft / pay order at the time of making agreement by the successful tenderer.
  - b) Earnest Money for the successful tenderer will be retained and converted as Initial Security deposit. The Balance security deposit @ 8% will be deducted from on-going bills to cover 10% of the total value of work done.
  - c) The security deposit for the original work (i.e. excluding 05years operation and maintenance) of the successful tenderer will be refunded after defect liability period as stipulated in relevant clause of the tender document.
- 16) The tenderers are bound by the terms & conditions of WBF 2911(ii) along with specification, notice for calling Tenders, Special terms & condition, Information to Bidders, Schedule of works etc, which forms a part and parcel of this contract.
- 17) Income Tax, GST & PF will be deducted as per Govt. orders issued from time to time and would be applicable on the date of making payment of the bills. Building & other construction workers cess @ 1.0% will be deducted from progressive bills in pursuance with G.O. no. 599A/4M 28 / 06 dated 27/09/2006.
- 18) The Bidder, at his own responsibility and risk is encouraged to visit and examine the site of works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for the work as mentioned in the Notice Inviting Tender, before submitting offer with full satisfaction. The cost of visiting the site shall be at his own expenses.
- 19) The intending Bidders shall clearly understand that whatever may be the outcome of the present invitation of Bids, no cost of Bidding shall be reimbursable by the Department. New Town Kolkata Development Authority reserves the right to accept or reject any offer without assigning any reason whatsoever and is not liable for any reimbursement of any cost that might have been incurred by any Tenderer at any stage of Bidding.
- 20) Prospective applicants are advised to note carefully the eligibility criteria before tendering the bids.
- 21) **Conditional / Incomplete tender will not be accepted under any circumstances.**
- 22) **The intending tenderers are required to quote the rate *online*.**

- 23) Contractor shall have to comply with the provisions of (a) the contract labour (Regulation Abolition) Act. 1970 (b) Apprentice Act. 1961 and (c) minimum wages Act. 1948 of the notification thereof or any other laws relating thereto and the rules made and order issued there under from time to time.
- 24) During scrutiny, if it comes to the notice of the tender inviting authority that the credential or any other paper found incorrect / manufactured / fabricated, that bidder would not be allowed to participate in the tender and that application will be rejected without any prejudice.
- 25) If there be any objection regarding prequalification of any Agency the same should be lodged online to Chief Engineer, New Town Kolkata Development Authority within 2 (two) days from the date of publication of list of qualified agencies and beyond the said time schedule no objection will be entertained.
- 26) Before issuance of WORK ORDER, the Tender Inviting Authority may verify the credential and other documents of the lowest tenderer in original, if found necessary. After verification if it is found that the documents submitted by the lowest tenderer is either manufactured or false in that case work order will not be issued in favour of the said Tenderer under any circumstances and his/their offer will be treated as cancelled.
- 27) If any discrepancy arises between two similar clauses on different notification, the clause superseding others will be solely as per the discretion of the Tender inviting authority.
- 28) The successful Tenderer whose tender is accepted shall make formal agreement in WBF 2911 (ii) along with bid documents in triplicate, within 7 (seven) days from the date of issue of work order by Executive Engineer, New Town Kolkata Development Authority on payment of usual charges which is non-refundable under any circumstances and submit the same duly signed by him/them to this office. If the contractor fails to perform the formalities within the specified period the Tender is liable to be cancelled and the Earnest Money will be forfeited as per relevant clauses under memorandum of WBF 2911(ii).
- 29) **Qualification criteria:**  
The tender inviting and Accepting Authority will determine the eligibility of each bidder. The bidders shall have to meet all the minimum criteria as stipulated in relevant clauses of this NIT.  
The eligibility of a bidder will be ascertained on the basis of the document(s) submitted in support of the minimum criteria. If any document submitted by a bidder is either manufactured or false, in such cases the eligibility of the bidder / tenderer will be rejected at any stage without any prejudice to take any penal action against him/them as may be deemed fit by the Tender Accepting Authority.
- 30) **No. price preference and other concession will be allowed as per order no 8648 – F(T) dated 12.10.2012.**
- 31) Agencies are required to give a work programme preferably in the form of a bar-chart and to approve it by the EIC (Engineer-in-Charge) before commencement of work and if progress of work abruptly differs from the given work program, the undersigned may terminate the work order at any point of time.
- 32) Unless otherwise stipulated, all the works are to be done as per general conditions and general specifications of the latest edition of 'PWD (Electrical)/(W.B) Schedule
- 33) In case of any inadvertent typographical mistake in the specific price schedule of rates, the same will be treated to be so corrected as to confirm with the prevailing relevant schedule of rates and/or technically sanctioned estimate.
- 34) Intending tenderer should note that he will have to work simultaneously with other contractors already entrusted with other work or with contractors to be entrusted with other work in future in the same site. The contractor will have to work in close co-operation and

harmony with all the contractors engaged in the project. Any claim for idle labour, for any reason whatsoever, will not be entertained under any circumstances.

35) NKDA will not be held responsible for making payment against any anticipated profit and/or compensation for any losses or price escalation whatsoever for the works as stated in the annexure of this NleT. Rates should be quoted accordingly.

36) The address as furnished by the contractor shall be deemed as the postal address of this office. Any notice or instruction to be given to the contractor under the terms of contract shall be deemed to have been served if it has been delivered to his authorized agent (on the strength of authorization) or representative or sent by registered letter to his official address as furnished.

37) Arbitration clause of WBF 2911(ii) stands deleted. Any dispute related to the contract will have to be settled in Calcutta High Court.

38) Any Corrigendum, notification in connection to this NleT will be published in the official website of New Town Kolkata Development Authority ([www.nkdamar.org](http://www.nkdamar.org)) as well as <https://wbtenders.gov.in>. The applicants are requested to please follow the websites for such notifications, corrigendum etc.

39) **Scope of work:**

1. Supply, Installation, Testing, Commissioning with Five years comprehensive maintenance of Smart Energy Efficient LoRaWAN Based Lighting Application at Different Area of New Town, AA-IA, IB & IC.
2. The bidder must provide IP65 certification for complete LED Luminaire along with LoRaWAN controller fitted on it.
3. Testing as per IEC 60598 for Luminaire shall be carried out during inspection at manufacturer owned NABL accredited Lab before dispatch of material from OEM'S works/ ware house.
4. The bidder has to replace all the existing conventional and non-conventional light fittings as mentioned in annexure with new smart LED luminaries and controllers with specifications as provided in tender.
5. Buy back of existing conventional fittings including dismantling and transportation.
  - a. Vendors are advised to survey the installation and make themselves aware of the existing street light system.
  - b. Existing street light fittings are of 150 W and 250 W conventional fittings (HPSV /MH) with Ballast and Ignitor.
  - c. Price for buy-back should be considered for the street light fittings including lamp ballast and ignitor.
  - d. Bidder should be agreeable to buy the fittings in existing condition; the authority will not be responsible for any rectification of the defective /damaged condition of existing fittings.
  - e. No storage space will be provided to the bidder and they are responsible for shift the dismantled material immediately from the site.
6. The total comprehensive warranty for these new LED lights and controllers are for duration of 5 Years from the date of installation. Corresponding warranty certificate from OEMs must also be submitted. During this period, the bidder has to provide the maintenance, replacement of all defective LED luminaries, controller and other equipment's related to LED fittings of all types installed.

7. The bidder should have maintenance extra 5% fittings of total supply in his/her own stock. In case of any failure, they can replace the fittings within 1 days from the date of failure by the bidder own cost.
8. The communication connectivity between controller and application software for managing and monitoring of LED luminaires shall be borne and maintained by the bidder throughout the Project duration.
9. The bidder has to supply street light application software as per mentioned features in tender. The bidder shall host the application software on cloud environment.
10. The bidder shall provide comprehensive training and orientation of application software to NKDA selected officials at NKDA office.
11. Light solution should provide APIs to connect to Centralized Smart City Digital Platform to enable device data to be collected and facilitates cross- domain use case by Smart City Digital Platform.
12. Lighting Solution Should support the following standards such as Web sockets, REST APIs and typical formats like IITMI., JSON etc to have integration with Smart City digital Platform.
13. The system should provide all the APIs information to Smart City Digital Platform vendor and should own the integration and deployment efforts along with Smart City Digital Plat form vendor to aggregate the Smart Lighting services on Smart City Digital Platform dashboard.
14. The system should be controllable from proposed Command and Control Centre for which the bidder shall make necessary arrangement for integration.

#### 40) **Payment Mode:**

Sl. No.	Description of Work	Mode of payment
1	Supply, Delivery, Installation, Testing, Commissioning of Smart Energy Efficient LoRaWAN Based Lighting Application at Different Area of New Town, AA-1A, 1B & 1C. As specified in Technical Specifications.	I) 80% of the quoted amount after Supply, Delivery, Installation, Testing, Commissioning. II) 20% of the quoted amount after successful commissioning of the LoRaWAN street light as a whole.
2	Fixing of the above Specified LED light fitting on the Arm bracket and making connection by 2x 1.5 sqmm PVC insulated copper wire for phase & Neutral and 1 x 1.0 sqmm insulated copper wire for earth and also supply, delivery and fixing the water proof 195mm x 135mm x 90mm loop box on the metro pillar surface including 4 way terminal 15amps , brass earth terminal, 15amps brass earth terminal 15amps fuse and carrier including commissioning the same.	I) 80% of the quoted amount after Supply, Delivery, Installation, Testing, Commissioning. II) 20% of the quoted amount after successful commissioning of the LoRaWAN street light as a whole.
3	LoRaWAN 1.0 Class C Based street light Controller (with remote on, off features). As specified in Technical Specifications, With 5 Years Comprehensive maintenance.	I) 90% of the quoted amount after Supply, Delivery, Installation, Testing, Commissioning. II) 10% of the quoted amount after Five years successful maintenance.
4	5 Years Communication charges on Public LoRaWAN and On boarding charges of	Released in 05(Five) equal installments after completion of

	Controller on Platform.	each year of successful maintenance of the System.
5	5 Years Cloud based street light application for dash boarding and monitoring. AS mentioned in Technical Specifications.	Released in 05(Five) equal installments after completion of each year of successful maintenance of the System.
6	System Monitoring & Operating Tool: Supply, delivery, Installation & Commissioning of Display-Screen Size 55 Inches, CPU: O.S Windows 10 Professional, Processor Intel® Core™ i7, Memory standard 8 GB DDR4, Make: HP/DELL/LENOVO Warranty 3 years	100% of the quoted amount after completion of work.
7	Buy back of existing conventional fittings including dismantling and transportation. a) Vendors are advised to survey the installation and make themselves aware of the existing street light system b) Existing street light fittings are of 150 W and 250 W conventional fittings ( HPSV / MH ) with Ballast and Ignitor . c) Price for buy back should be considered for the street light fittings including lamp ballast and ignitor . d) Bidder should be agreeable to buy the fittings in existing condition; authority will not be responsible for any rectification of the defective /damaged condition of existing fittings. e) No storage space will be provided to bidder and they are responsible to shift the dismantled material immediately from the site.	Bill Discounted from the 1 <sup>st</sup> RA Bill.

41) **The tender document consists of:**

- i) Technical Specifications.
- ii) WBF2911.
- iii) Installation Area.
- iv) Pre-Bid queries sheet. (Queries raised in pre-bid queries sheet will only be entertained during pre-bid meeting).

  
**Executive Engineer (E)**  
**New Town Kolkata Development Authority**

**Memo No. 7105/NKDA/Elect(Solar)/2019-20/03**

**Date: 30-08-2019**

Copy forwarded for information to:-

- i) The Chief Executive Officer, New Town Kolkata Development Authority.
- ii) The Chief Executive Officer, New Town Kolkata Green Smart City Corporation Ltd.
- iii) The Chief Engineer, New Town Kolkata Development Authority.
- iv) The Finance Officer, New Town Kolkata Development Authority.
- v) The Assistant Engineer (E), New Town Kolkata Development Authority.
- vi) P.A to the Chairman, New Town Kolkata Development Authority.
- vii) Office copy of NKDA.
- viii) Official Website of New Town Kolkata Development Authority ([www.nkdamar.org](http://www.nkdamar.org))

  
**Executive Engineer (E)**  
**New Town Kolkata Development Authority**

# Technical Specifications:

## A. Street Light Controller Specification:

Parameters	Specifications
Device Features	On/ Off, Dimming & Metering
Lamp type	LED Light
Mode of Operation	Manual Mode, Lux Sensor [Factory] Mode, Calendar Schedule Mode.
No of Lamps	Individual
LED Load Wattage	20W to 500W
Dimming Interface	0-10V Analog
Dimming Range	0%-100% with step of 10%
Lux Sensor	460-655nm
Load power Measurement	Accuracy Class I, meter needs to be certified from NABL Accredited Lab.
Device Led Indicator	Red, Blue colour LED
Network Interface	LoRaWAN 1.0 Class C Certification Required to be submitted: 1. Device must have WPC ETA Certificate. 2. Device/Module must be LoRa Alliance certified.
RF Spectrum	India ISM Band
Tx Power	>= 14dBm
Rx sensitivity	-125dBm
Security	128Bit AES Encryption
Operating Voltage	170-300V AC, 50Hz
Power Consumption	<=2.5W
<b><u>Alert/ Notification:</u></b>	
Lamp failure	Yes
Over / under Voltage	Yes
Over / under Current	Yes
Main Failure	Yes
Low Power Factor	Yes
<b><u>Data Report :</u></b>	
Data report interval	Yes
Lux Sensor Value	Yes
Line Voltage	Yes
Load Current	Yes
Power Factor	Yes
Energy Consumption	Yes
Lamp Burn Time	Yes
Controller Burn Time	Yes
Lamp on/off Cycle	Yes
<b><u>Product Certifications:</u></b>	
Meter Accuracy	Class I
IP rating	IP65 When integrated LED Light
Operating Temperature	0°C to +60°C

**Other Details:**

Warranty	5Years from the date of installation.
Connection Type	7 Pin Male NEMA Connector

**Controller is capable of measuring and monitoring:**

- Input voltage (Volts)
- Load current (Amps)
- Active power (Watt)
- Power factor (PF)
- Energy (kWh)

**The Controller can detect the following failures specific to individual Luminaire.**

- Load failure alert & restoration
- High / low mains voltage alert & restoration
- High / low mains current alert & restoration

**B. Network:**

The LoRaWAN network deployment in the mentioned scope area will be responsibility of the bidder. For this purpose, the bidder will arrange Gateway hardware, infrastructure, location rental etc required for setting up network or avail LoRaWAN provider services across scope area.

**C. Application Software:**

Street light application Software will provide end to end functionality for provisioning, monitoring and controlling the installed street lights.

Following are major components of application:

- Standalone web-based software which shall offer users control of the whole system.
- Web based interfaces accessible from any computer or mobile via browsers such as InternetExplorer, Chrome or Safari.
- Shall allow administrators to create, modify and delete users.
- Street Light Controller Registration & Commissioning.
- Monitoring Dashboard
  - For individual street light visualization on a map for monitoring & control (web application).
  - To configure operating modes of controller and set dimming profile.
  - Get real time on/off status.
  - Alerts & Notification.
  - User Management.
  - Reports.

**Device Operating mode, Setup and Configuration**

Below section describes Device (Controller) operating mode, setup and configuration.

### 1.1.1 Device operating mode

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The application will enable to send the following modes of operation onto street light controller:

- Lux Sensor - In this mode controller will use on board ambient lux sensor to make a decision to switch on-off light, as per prevailing environment conditions.
- Schedules – In schedule mode re configurable time can be defined and set for switching on / off. Further a dimming profile can be applied for schedule mode of operation.
- Real Time / Manual – In real time mode the application will enable to send on/off /dim command in real time mode.

### 1.1.2 Device/Lamp Setup

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Application will allow User to create, view and update status of the controller at Project level. There will also be an option to bulk upload of controller details. Each street light lamp along with controller will be associated with the Pole.

### 1.1.3 Device/Lamps mapping to hierarchy

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Devices after creation need to be mapped to the lowest most hierarchy (Pole). User who has the privileges will be able to perform this mapping. Device can be further moved from one pole to another or can be removed permanently. When data will be visualized for a pole, there will be continuity of data irrespective of different devices/lamps attached to it.

### 1.1.4 Configuration

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Devices will be associated with one device mode of operation and a dimming operating mode can be applied. Device configuration can be associated with devices individually and can be changed remotely.

### 1.1.5 Lamp Groups

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Grouping of lights can be defined one time during the commissioning of the project. Lamp groups will be collection of lamps/devices needs to be monitored.

Each lamp will be associated with Pole and can be grouped in following hierarchy.

- Pole No.
- Lane
- Ward
- City

- User interface will be available where user will be able to send command at group level, while application will send commands individually to each lamp.

### **1.1.6 Dimming Profile**

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Dimming Profile will allow defining the dimming schedule of the Lamps at an interval of one hour. Application Users who have been given the permission to manage dimming profile will be able to update profile for each device. Each profile will have 12 different blocks where time and dimming % can be defined for each block. These schedules will be associated at the individual controller level.

Dimming profile can be assigned to group and/or individual devices. Profile applied on individual device will take precedence over profile applied on group to which device belongs.

### **1.1.7 Alert Configuration**

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System will allow configuration of alerts at each level of Hierarchy. There will be different types of alerts (Pre-defined alerts). User will be able to add/update email id.

### **1.1.8 Map View**

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The latitude and longitude value of every pole which is to be captured and provided by Customer will enable to plot the corresponding device on the map. Application will facilitate to control (On/OFF/Dim) device from the map view itself.

### **1.1.9 Dashboard View**

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Two kinds of Dashboard will be provided by the application:

- Executive dashboard.
- Operations dashboard.

#### **Executive Dashboard**

Following reports/analytics to be produced

- Total energy Consumption (Approximate).
- Total Energy Saved (Approximate).
- Cost saved (Approximate).

#### **Operations Dashboard**

Following reports to be produced

- Hierarchy view – This will present the devices status under a site (dashboard presentation).

- Active alarm report – All the active alarm will be shown here.
- ON/Off/Dim Status report – Report presents status of all the devices at that point of time.
- Map – Devices will be plotted on map and user can take actions on those devices from map itself.
- Latest Data – Last data received from the lamps will be shown on the dashboard with RAG status.

#### 1.1.10 Alerts monitored and triggered

The alerts type / parameters mentioned below will be programmed in the controller firmware as a rule parameter. Based on lamp failure the controller will send the desired data. The data will be then processed and concerned **email** alerts would be sent to the stakeholders onto their registered email id.

Lamp Failure	Yes
Mains Failure & Restoration	Yes

#### 1.1.11 Reports

The application visualization will provide the below mentioned reports visualization.

- Energy Saving Report
- Load ON/OFF Status report
- Device alert log
- Device Metering Report
- **Data Archiving:** Controller data for running year to be on cloud for min of 6 months. Old data to be archived and handed over Customer IT team at agreed frequency in readable/RDBMS format.

### 1.2 Data Communication Frequency

- **Communication from Controller to Application**
  - Normal mode:
    - The controller will send health packets for every hour during operation on mains supply, additionally on request basis when asked by user.
  - Alert/Event Mode:
    - The controller will send alert packets upon occurrence of the event.
- **Communication from Application to Controller**
  - The command will be send to device only for any configuration or schedule change once in month.

## D. Street Light Specification:

1.1	Electrical Specifications ( LED Driver)	150W LED streetlight
	Input Voltage	AC 140 to 270 V AC.
	Input Frequency	50Hz
	Power Factor	$\geq 0.95$
	Drive Current	$\leq 750\text{mA}$
	Driver Efficiency	$\geq 90\%$
	IEC Compliance	Confirming to IEC-61347-1 & IEC 61347-2-13
		IEC 61547, 610-3-2, CISPR-15/ IEC : 60598 . EN EC & CE approved.
	Ingress protection	driver itself should be IP66
1.2	Total Harmonic distortion.	
	THD(I)	$\leq 10\%$
	Humidity	10% to 90% RH
1.3	LED Luminaire Specifications:	
	Life Expectancy	Equal or more than 50000 burning hrs. With @L70.
	Colour Temp	5700K $\pm$ 300K
	Colour Rendering Index	$\geq 70$
	Lumen/watt	$\geq 120\text{lum/W}$
	Wattage	150W
	Make of LED Source	High Power LED-- CREE/SEOUL/LUMILEDS/Osram/Nischia
	LED wattage	High power LED with 1W to 5W only
	Surge Protection	5KV within the driver & 10KV external/ internal to fixture.
	NEMA 7 pin socket	luminaire must have NEMA 7 pin socket
	Lamp Housing	The body shall be robust, corrosion resistant superior in finish & without any cracks or through holes, made in a single piece by high pressure die cast LM6 aluminium alloy. The luminaries shall be monolithic construction totally enclosed dust tight & water proof. Degree of protection shall be IP66 as defined in Appendix A of IS10322 (Part-I 1982) with latest amendments.
	Heat Sink/Dissipation	Integrated with in luminaire & The dimensions of luminaries shall be adequate to permit sufficient heat dissipation through the body itself, so as to prevent abnormal temperature rise inside the lantern & consequential damage to cover & gasket materials, LEDs, lenses & Electronic Driver.
	Driver	Drivers should be potted & aluminium body for improved durability, constant current drivers with separate compartment , preferable top maintainable for ease of maintenance , also driver compartment should be IP66.Driver should also have Double phase protection , over load , open circuit and short circuit protection. driver

		itself should be IP66
	Covers	Covers should be used to ensure proper IP66 degree of protection. It shall not get discoloured shall not suffer degradation due to heat and ageing.
	Gasket	Gasket: A extruded silicon/EPDM loop gasket shall be provided in the lantern body to ensure a weather proof seal between the toughened glass and the metal housing to exclude the entry of dust, water, insects, etc. When the luminaries are closed, should conform to IP 66 Class.
	Impact resistance	≥ IK05
	Junction Temp	<105
	Luminaire system efficiency	≥120 lumens/watt(≥18000lumens delivered) (supported by LM79 from own NABL accredited lab)
	Ingress Protection Level	IP66
	Manufactures Logo	Manufactures Word Mark/Name Engraved/ Embossing on die cast housing to allow traceability/authenticity till life of fixture (Sticker/Printing not allowed).
	Secondary optics	Secondary optics to be used for superior spread and throw.
	Warranty	5Years from the date of installation.

Certificates required along with the tender:

1. ROHS certification for Source (LED).
2. Photo biological test report.
3. LED Source manufacturer's authorisation certificate.
4. LM79 report from own NABL approved lab along with the tender.
5. LM80 report from the source manufacturer with OEM's watermark across the page.
6. Type test report as per IS 10322/60598.
7. ISO certifications for manufacturing facility.
8. Manufacturer should have their own NABL accredited lab for photometric testing.
9. Technical data sheet for the above product.
10. BIS certification as for electrical safety for drivers under IS No15885.
11. BIS for the product and driver.
12. Make PWD approved.

Note: Testing as per IEC 60598 for Luminaire shall be carried out during inspection at manufacturer owned NABL accredited Lab before despatch of material from OEM'S works/ ware house.

Proper documents certifying all the above mentioned features must be submitted.

  
 Executive Engineer (E)  
 New Town Area Development Authority  
 G3 MAN, Kolkata-700156

# Installation Area

Street Light Details OF NKDA

## Action Area-IA

SL.NO.	ST.NO.	CONVENTIONAL	LED	TYPE OF POLE		TOTAL NO. OF FITTINGS
				Single	Double	
1	1		3	S		3
2	2		2	S		2
3	3	4		S		4
4	4	5		S		5
5	5	5	5	S		10
6	6		2	S		2
7	7	7		S		7
8	8		3	S		3
9	9		2	S		2
10	10	4		S		4
11	11	12		S		12
12	12	11		S		11
13	13	5		S		5
14	14	2	4	S		6
15	15	10		S		10
16	16	15		S		15
17	17	7		S		7
18	18	7	1	S		8
19	19		6	S		6
20	20	7		S		7
21	21	11		S		11
22	22	5		S		5
23	23		3	S		3
24	24	24			D	24
25	25		3	S		3
26	26	3		S		3
27	27		2	S		2
28	28	4		S		4
29	29	4	3	S		7
30	30	13		S		13
31	31	5		S		5
32	32	11		S		11
33	33	5		S		5
34	34	2		S		2
35	35	8	13	S		21
36	36	2		S		2
37	37	15		S		15
38	38	2		S		2
39	39	12		S		12

40	40	2		S		2
41	41	10		S		10
42	42	2		S		2
43	43	19		S		19
44	44	2		S		2
45	45	30			D	30
46	46	5		S		5
47	47	19	1	S		20
48	48	5		S		5
49	49	2		S		2
50	50	2		S		2
51	51	7		S		7
52	52	2		S		2
53	53	13		S		13
54	54	2		S		2
55	55	6		S		6
56	56	2		S		2
57	57	3		S		3
58	58	2		S		2
59	59	3		S		3
60	60	2		S		2
61	61	2		S		2
62	62	3		S		3
63	63	3		S		3
64	64	30		S		30
65	65	5		S		5
66	66		3	S		3
67	67	1		S		1
68	68	5		S		5
69	69	10		S		10
70	70	58			D	58
71	71	4		S		4
72	72	20		S		20
73	73	4		S		4
74	74	5		S		5
75	75		3	S		3
76	76	4		S		4
77	77	13		S		13
78	78	2		S		2
79	79	9		S		9
80	80	2		S		2
81	81	2		S		2
82	82	4		S		4
83	83	2		S		2
84	84	2		S		2
85	85	13		S		13
86	86	2		S		2

87	87	5		S		5
88	88		3	S		3
89	89	5		S		5
90	90	8		S		8
91	91	8		S		8
92	92	4		S		4
93	93		4	S		4
94	94	4		S		4
95	96		3	S		3
96	98	4		S		4
97	100		2	S		2
98	102		3	S		3
99	Tarulia	29		S		29
		<b>639</b>	<b>74</b>			<b>713</b>

**FEEDER PILLER BOX ACTION AREA -IA**

SL. NO.	ST.NO.	NO.OF BOX	
1	33	1	
2	12	1	
3	16	2	
4	22	1	
5	90	1	
6	69	1	
7	53	1	
8	43	1	
9	45	1	
10	70	1	
11	Tarulia	1	
<b>TOTAL</b>		<b>12</b>	

  
**Executive Engineer (E)**  
 New Town Kolkata Development Authority  
 03 MAR, Kolkata-700156

Street Light Details Of NKDA

**Action Area-IB**

SL.NO.	ST.NO.	CONVENTIONAL	LED	TYPE OF POLE		TOTAL NO. OF FITTINGS
				Single	Double	
2	97	58			D	58
3	99	14		S		14
4	101	29	3	S		32
5	103		4	S		4
7	105		4	S		4
9	107		4	S		4
10	108	16			D	16
11	109	10		S		10
12	110	11	1	S		12
13	111	6		S		6
14	112		3	S		3
15	113		4	S		4
16	114		2	S		2
17	115		4	S		4
18	116		4	S		4
19	117		5	S		5
20	118		2	S		2
21	119		4	S		4
22	120		3	S		3
23	121		4	S		4
24	122		3	S		3
25	123		4	S		4
27	125		4	S		4
28	126		3	S		3
29	127		4	S		4
30	128		3	S		3
31	129		5	S		5
32	130		3	S		3
33	131	22	2	S		24
34	132		3	S		3
35	133		3	S		3
36	134		3	S		3
37	135		3	S		3
38	136		3	S		3
39	137		3	S		3
40	138		3	S		3
41	139		3	S		3
42	140		3	S		3
43	141		3	S		3
44	142		3	S		3
45	143		3	S		3
46	144	20			D	20

47	145		6		D	6
48	146	5		S		5
49	147		4	S		4
50	148		3	S		3
51	149		3	S		3
52	150		2	S		2
53	151		4	S		4
54	152		2	S		2
55	153	6		S		6
56	154		2	S		2
57	155		3	S		3
58	156		2	S		2
59	157		4	S		4
60	158		2	S		2
61	159		3	S		3
62	160	26		S		26
63	161		4	S		4
64	162		3	S		3
65	163		3	S		3
66	164		3	S		3
67	165	39		S		39
68	166	25		S		25
69	167	6		S		6
70	168		2	S		2
71	169		6	S		6
72	170		3	S		3
73	174	14		S		14
74	176		2	S		2
		307	184			491

**FEEDER PILLER BOX ACTION AREA -IB**

SL. NO.	ST.NO	NO.OF BOX	
1	95	1	
2	97	1	
3	101	1	LED
4	160	1	
5	174	1	
6	128	1	
7	166	1	LED
<b>TOTAL</b>		7	

*20/3/2019*  
**Executive Engineer (E)**  
**New Town Kolkata Development Authority**  
**03 MAR, Kolkata-700156**

**Street Light Details Of NKDA**

**Action Area-IC**

SL.NO.	ST.NO.	CONVENTIONAL	LED	TYPE OF POLE		TOTAL NO. OF FITTINGS
				Single	Double	
1	171	2		S		2
2	172		2	S		2
4	175	64			D	64
7	177	4		S		4
8	178		22	S		22
9	179	4		S		4
10	180	18			D	18
11	181	5		S		5
12	182					
13	183	19		S		19
14	184	25		S		25
15	185	25	5	S		30
16	186	6		S		6
17	187	8		S		8
18	188	3		S		3
19	189	18		S		18
20	190	6		S		6
21	191		4	S		4
22	192	7		S		7
23	193	7		S		7
24	194	6		S		6
25	195		6	S		6
26	196	6	1	S		7
27	197		6	S		6
28	198	7	4	S		11
29	199		19	S		19
30	200	8	3	S		11
31	201		4	S		4
32	202	8		S		8
33	203		3	S		3
34	204	8		S		8
35	205		3	S		3
36	206	8		S		8
37	207		3	S		3
38	208	8	2	S		10
39	209		3	S		3
40	210	3		S		3
41	211		18	S		18
42	212	4		S		4
43	213		4	S		4

44	214	4	2	S		6
45	215		4	S		4
46	216	6	3	S		9
47	217		4	S		4
48	218	6	1	S		7
49	219		3	S		3
50	220	5		S		5
51	221		4	S		4
52	222	5	3	S		8
53	223		3	S		3
54	224	6		S		6
55	225		4	S		4
56	226	4		S		4
57	227		5	S		5
58	228	2		S		2
59	229	8		S		8
60	230	4		S		4
61	231		5	S		5
62	232	2		S		2
63	233		7	S		7
64	234	3	1	S		4
65	235		4	S		4
66	236	3		S		3
67	237		4	S		4
68	238	7	3	S		10
69	239		4	S		4
70	240	38			D	38
71	241		4	S		4
72	242		11	S		11
73	243		6	S		6
74	244	5		S		4
75	245		3	S		3
76	246		3	S		3
		395	203			598

**FEEDER PILLER BOX ACTION AREA -IC**

SL. NO.	ST.NO.	NO.OF BOX	
1	256	1	
2	254	1	
3	240	1	
4	175	1	
5	190	1	
6	224	2	
7	211	1	LED
8	226	1	LED
TOTAL		9	

*af*  
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