

## CORRIGENDUM- II

**Subject: Design, Supply, Delivery, Installation and Commissioning of Energy Efficient Smart LED Lighting Solution at NSD, KDS, SMP, Kolkata.**

**Notice Inviting Tender No. SMP/KDS/Mech/SE-I/ASDV/585 Dt. 19.07.2021**

**The following changes have been decided to incorporate in the bid document.**

**Reply to Prebid Queries-**

SL.No.	Name of the Firm	Reference	Queries Raised	Request Raised	Reply
<b>1</b>	Simoco Telecommunications (South Asia) Ltd.	Page no. 13 Clause No 12a (i), mandatory tender requirement is: Manufacturer should have "In house NABL accredited Lab certification".	"In house NABL accredited Lab certification" of products may facilitate some selected suppliers. In majority of Government tenders, this is not mandatory. This may lead to diluted report resulting from self-bias.	Kindly allow the quoted products to be tested from independent NABL accredited Laboratory. This will allow impartial report.	Certification from either In-house or Independent NABL accredited lab will be accepted. Having inhouse design, development, production and testing facility for manufacturing of luminaries is not mandatory.
<b>2</b>	Simoco Telecommunications (South Asia) Ltd.	13 Clause No 12a (i), mandatory tender requirement is: Manufacturer should have "In	"In house NABL accredited Photometry Laboratory certification" may facilitate some selected suppliers. In majority of Government tenders, this is not	Kindly allow the quoted products to be tested from independent NABL accredited Laboratory for Photometry tests. This will allow impartial report.	Certification from either In-house or Independent NABL accredited lab will be accepted. In house NABL accredited

		house NABL Accredited Photometry Laboratory certification”	mandatory. Sometimes this may lead to diluted report resulting from self-bias.		Photometry Laboratory is not mandatory for manufacturer.
3	Simoco Telecommunications (South Asia) Ltd.	Page no. 14 Clause No. 12a (ii), mandatory tender requirement is: Manufacturer should have “valid Calibration certificate from a NABL Accredited calibration laboratory” for Automatic Pick and Place machine/ Temperature controlled automatic wave soldering machine/ Automatic temperature-controlled re-flow soldering	As per Standard requirements of Quality Process, only TEST & MEASURING EQUIPMENTS need to be calibrated from NABL Accredited calibration laboratory, not the MANUFACTURING MACHINES.	Please delete this clause.	Clause No. 12a (ii) is omitted for wider participation.

		machine/ Heat & Humidity chamber			
<b>4</b>	Simoco Telecommunications (South Asia) Ltd.	Page no. 14 Clause No. 12a (ii), mandatory tender requirement mentions Both Integrating Sphere & Mirror Type-C Gonio Photometer.	Both Integrating Spheres and Mirror Type-C Gonio Photometer can be used for Photometry Test.	The tender should be amended by mentioning that OEM should possess either Integrating Sphere OR Mirror Type-C Gonio Photometer.	Clause No. 12a (ii) is omitted for wider participation.
<b>5</b>	Simoco Telecommunications (South Asia) Ltd.	Page no. 15 Clause No 12a(ii), mandatory tender requirement requires: In-house Ingress Protection Testing Facility & Impact Testing Facility.	“In house Ingress Protection Testing Facility & Impact Testing Facility” may facilitate some selected suppliers. In majority of Government tenders, this is not mandatory. This may lead to diluted report resulting from self-bias.	Kindly allow the quoted products to be tested from independent NABL accredited Laboratory for Ingress Protection & Impact Test. This will allow impartial report.	Clause No. 12a (ii) is omitted for wider participation.
<b>6</b>	Simoco Telecommunications (South Asia) Ltd.	Page no. 16 Clause No 12a(iv), under LED Driver there is	Since maximum fault in LED Lights arises in Drivers, Potting of Drivers creates a major blockade in future repair	Please allow the drivers to be supplied in unpotted condition. This will keep the avenue open for repairing of	NIT Clause prevails. Potted Driver has advantages over non-potted drivers.

		mention for “Potted Driver”	of drivers. When the driver becomes faulty, the Potted Drivers have to be thrown away.	drivers during future failure & help in reducing cost of repair.	
7	Simoco Telecommunications (South Asia) Ltd.	Page no. 20 Clause No 12a(x), under ADDITIONAL MANDATORY REQUIREMENT FOR LED FLOOD LIGHT LUMINAIRE, it is mentioned that Dimming Range Should be 10% to 100% of full Glow & Smooth dimming or step dimming ≥5 Steps will be accepted.	As the Lighting Solution should be designed to maintain a minimum of 25 Lux at a radius of 40 Meters on the circumference of each 25 Meters High Mast /27.5- Meter-High Lattice Tower, therefore 5 step dimming is completely redundant.	In order to maintain minimum 25 lux, 3 step dimming is sufficient. We shall request to amend the tender clause mentioning maximum 3 step dimming.	Dimming range is defined for individually controlled LED flood Light luminaire. The condition of maintaining 25 Lux at a radius of 40 Meters on the circumference of each 25 Meters High Mast /27.5-Meter- High Lattice Tower is for group control. For Group control no dimming range is defined. Three Step Dimming is allowed for wider participation. Below three steps dimming will not be accepted. <b>QCBS Parameter no. 8 is modified as - Nature of Dimming:</b> · Continuous Dimming- 5 Marks.

					<ul style="list-style-type: none"> <li>· <math>\geq 7</math> Step Dimming = 3 Mark.</li> <li>· <math>\geq 3</math> Step Dimming = 0 Mark.</li> <li>· Less than 3 Step Dimming= Non-Compliance.</li> </ul>
8	Simoco Telecommunications (South Asia) Ltd.	<p>page no. 20 Clause No 12a(x), under ADDITIONAL MANDATORY REQUIREMENT FOR LED STREET LIGHT LUMINAIRE, it is mentioned that The LED Street Light Luminaire Should is wirelessly individually controlled dimmable type</p>	<p>To implement this requirement wirelessly, RF based technology like Lora or Zigbee etc. Might be used. But application of RF based solution in Port area is prone to interference. As a result, the system may not work with full efficiency.</p>	<p>Group control and dimming may be allowed in the system.</p>	<p>NIT Clause prevails. The Site condition of Dock demands individual level wireless control and dimming of Street Lights and Flood Lights installed on different structures like gates and buildings. For Group Control of lights through CCMS Pillar box the power supply should come from the same source or cable which is not the case for light poles and Flood lights installed on different structure. Grouping of only few LEDs might be possible</p>

					which will not be a good solution.
<b>9</b>	Simoco Telecommunications (South Asia) Ltd.	page no. 21 Clause No 12a(x), under ADDITIONAL MANDATORY REQUIREMENT FOR LED FLOOD LIGHT LUMINAIRE	To implement this requirement wirelessly, RF based technology like Lora or Zigbee etc. might be used. But application of RF based solution in Port area is prone to interference. As a result, the system may not work with full efficiency.	Group control and dimming may be allowed in the system.	NIT Clause prevails. The Site condition of Dock demands individual level wireless control and dimming of Street Lights and Flood Lights installed on different structures like gates and buildings. For Group Control of lights through CCMS Pillar box the power supply should come from the same source or cable which is not the case for light poles and Flood lights installed on different structure. Grouping of only few LEDs might be possible which will not be a good solution.
<b>10</b>	Simoco Telecommunications (South Asia) Ltd.	"Phase cut type of dimming or switching type	As the Lighting Solution should be designed to maintain a minimum of	This clause may be deleted.	Phase cut type of dimming is not actually dimming of

		of dimming will not be accepted. In dimming condition each discrete LED of the individual luminaire should be in glowing condition with reduced light output as	25 Lux at a radius of 40 Meters on the circumference of each 25 Meters High Mast /27.5-Meter-High Lattice Tower, therefore it is better to provide the responsibility to bidders only to design and maintain the desired lux level with dimming. So, mentioning the type of switching technology may not be the criteria for bidder selection. To implement the discrete glowing of LEDs of the individual luminaire wirelessly, RF based technology like LoRA or Zigbee etc. might be used. But application of RF based solution in Port area is prone to interference. As a result, the system may not work with full efficiency.		the LEDs rather it is switching ON and OFF of a set of LEDs. If this is achieved through 3 phases, switching will lead to flow of unbalance current in the power system, even if it is achieved through internal division of single phase. This switching of each internal set of LEDs will give rise to switching transients. These switching transients are having a large frequency bandwidth; hence they might interfere in the electronic circuits on-board giving rise to inferior performance. This switching type of dimming is an old technology on date.
11	J. Tron Electronics	N. A	Approx. Area, preferably the radius to be covered under the illumination		The Energy Efficient Smart Lighting Solution should be

			scheme specified in the NIT. This will help us in designing the CCMS Panel.		designed to maintain a minimum of 25 Lux at a radius of 40 Meters on the circumference of each 25 Meter High Mast /27.5-Meter High Lattice Tower considering the High Mast/Lattice Tower to be at the centre of the circle.
<b>12</b>	J. Tron Electronics	N. A	Whether you need separate CCMS for the Street Light and High Mast Light?		Monitoring will take place from a single web interface. However, controller may be different for Street and High Mast Luminaires as per service provider's technical solution for light fittings mentioned in the NIT.
<b>13</b>	J. Tron Electronics	N. A	If more than one CCMS shall be allowed in case the area to be covered is vast as asked in the point at 1 above, even if separate control is there for the street light and		The Centralised Control and Monitoring System (CCMS) should cover both Street Lights and High Mast Lights. It should be



			high mast lighting.		common platform for monitoring all the three different types of light fittings.
<b>14</b>	Signify	Page no. 14, Clause no. 12.a. ii	Automatic Pick and Place machine for LEDs and electronic components. (Supporting Document-Details of the machine with a valid Calibration certificate of the machine from a NABL Accredited calibration laboratory).	Please remove this clause as this does not directly relates to the performance of the product which can be measured under different conditions.	Clause No. 12a (ii) is omitted for wider participation.
<b>15</b>	Signify	Page no. 15, Clause no. 12.a. iii	LED Chip efficacy: Supporting Document LM79	Request you to change this to LM80 report.	For LED Chip Efficacy LM80 Report is to be submitted.
<b>16</b>	Signify	Page no. 15, Clause no. 12.a. iii	LED Module PCB: MCPCB is to be used for SMD Technology for LED wattage in excess of 0.5 W. The minimum thickness should be 1.5mm for outdoor Luminaries.	Wattage of LED should be > 1W and < 3W (high power LED) for outdoor applications. MCPCB is mandatory however thickness of MCPCB is dependent on overall system design and may vary from OEM to OEM. Certification of this criteria is not an industry practice and no such standard is in any IS. Request you to remove this.	The Criteria of minimum thickness of MCPCB is omitted for wider participation. MCPCB is to be used for SMD Technology for LED wattage in excess of 0.5 W. (Supporting Document - Self Declaration of Luminaire Manufacturer).

17	Signify	Page no. 16, Clause no. 12.a. iii	No Visible flickering (flicker free) to prevent eye strain, uniform and Glare free, No UV/IR Radiation. (Supporting Document – LED Luminaire manufacturer Data Sheet, Spectral distribution of the led)	Visible flickering does not call for any test reports and not mentioned in manufacturer's data sheet. Request you to remove this clause.	For this Clause only Self Declaration from OEM should be given.
18	Signify	Page no. 16, Clause no. 12.a. iv	Potted LED Driver: Driver should be half Silicone gel potted driver for better heat dissipation and should be vibration proof for driver circuit component to increase longevity. Thermal conductivity should be greater than 0.6 W/mk.	1. Driver should be half Silicone gel/epoxy powder coated potted driver 2. Please share relevant standard in support of this clause. 3. Request you to consider the self-declaration in support of this requirement	The Driver Should be a Potted driver (Fully Potted) for better heat dissipation and should be vibration-proof for better longevity of driver circuit. NIT clause for Thermal conductivity of potting material prevails.
19	Signify	Page no. 17, Clause no. 12.a. iv	over Voltage Protection. Driver shall withstand min 340V for 2 hours and min 300V for 48 hours without failure.	As in the daytime no light will be ON, hence continuous 48 hours is not applicable here, Our proposal - 440V for 8 hours and 325V (+15V) cut-off.	NIT Clause Prevails.
20	Signify	Page no. 17, Clause no. 12.a. iv	Driver PCB should be FR4 Grade (Heat Resistive) having min thickness of	may vary from OEM to OEM as per design. Certification of this	This clause is omitted for wider participation.

			1.6 mm.	criteria is not an industry practice and no such standard is in any IS. Request you to remove this.	
<b>21</b>	Signify	Page no. 17, Clause no. 12.a. iv	Junction/channel temperature of switching devices like MOSFET & Transistors is to be provided.	Junction/channel temp. cannot be measured and not relevant. Please rely on the life class declared by manufacturer of the driver	This Clause is omitted.
<b>22</b>	Signify	Page no. 8, Clause no. 2	Similar Work Experience	In the Prebid meeting we have understood that any credential of similar smart outdoor lighting job executed under any smart city/development authority/Municipality will be considered as valid.	Refer to NIT condition regarding similar work.
<b>23</b>	Signify	Page no. 22, Clause no. 3	Similar Work Experience	Kindly consider outdoor Road Lighting in place of Road transport Depot Lighting	Outdoor Road Lighting experience will be considered.
<b>24</b>	Signify	Page no. 24, Clause no. 12	Isolated Driver:	What is the meaning of 2 or 3 stage driver?	It is a Driver circuit design topology.
<b>25</b>	Signify	Page no. 38, Clause no. 12	The CCMS system should give alerts and daily status reports to minimum 10 authorised personnel via SMS, and	The alerts over SMS/email shall be restricted to 3 users/cabinet.	The CCMS system should give alerts and daily status reports to maximum 10 authorised

			Email.		personnel via SMS, and Email.
<b>26</b>	Signify	Page no. 39, Clause no. 23	The system should be operated as per requirement of Dock Safety Regulation, 1990. Illumination in the dock working area should be maintained at a of minimum 25 Lux and passage for dock worker and other than working area 10 Lux as per Dock safety regulation 1990.	Is it applicable for both Group and individual dimming?	Yes.
<b>27</b>	Signify	Page no. 39 Clause no. 26	One-year warranty of the illumination solution post go-live with 5 years of Comprehensive Annual Maintenance & Operation Contract.	Is it one year lux level warranty of min. 25 lux?	It is warranty of the entire energy efficient smart lighting solution as a whole.
<b>28</b>	Signify	Page no. 40 Clause no. 38	For CLOUD server, the CLOUD registration shall be done in the name of Client/Owner.	Cloud hosted software application is offered as a usage service, signify shall offer service for the contract period of 5 year which can be extended further. In this software as service model (SaaS) SMP need not invest into setting up and maintain any cloud infrastructure	NIT Clause prevails.

<b>29</b>	Signify	Page no. 47 Clause no. 3	After go live of the project, if the lumen output of the LED Luminaires reduces and the condition of minimum 25 Lux at a radius of 40 meters from the High Mast is not satisfied, the lumen depreciated luminaires should be replaced/repair and reinstalled within 2 days.	Min. 25 lux should be maintained for which period?	For 5 years CAMOC and 1 year Warranty period post go-live of the project.
<b>30</b>	Signify	Page no. 64 Clause no. 17	LED(SMD) with Approved Make	wattage of LED should be > 1W and < 3W (high power LED) for outdoor applications, COB/Multichip/Multi-die LED not accepted. For the reliable performance of this project SMP should ask the bidder to offer at least 3 components out of 4 of same make (LED luminaire, LED Driver, Controls hardware and controller application software).	NIT Clause prevails.
<b>31</b>	Signify	Page no. 66 Clause no. 47	Minimum Lumen Output	Request you to change this to LM79 report	LM 79 Report Should be submitted.

<b>32</b>	Signify	Page no. 51 Clause no. 25	Point no. 25.i & ii	Payment terms are not workable and could be an issue. There is no mention / clarity around payment release will happen within how many days after submission of bills.	If the bills are found in order, payment will be released within 30 to 45 days.
<b>33</b>	Signify	Page no. 4 Clause no. 2. d	Earnest Money Deposit	Please share the value of EMD and hope BG will be allowed.	Reference Clause no. 9.1, Page no. 11, the bidders shall be required to submit a Bid Security Declaration as per given format (Annexure I) in lieu of submission of EMD.No EMD is required to be remitted. Instead, a duly filled in Bid Securing Declaration form is to be furnished along with the Techno-Commercial offer.
<b>34</b>	Signify	Page no. 12 Clause no. 10.1	Further there is requirement to submit security deposit for successful tenderer which can be given as BG	What is the validity? It is mentioned to be released within 90 days after successful completion of warranty	Refer Clause no. 10, Page no. 12 regarding Security Deposit.

				period of the contract.	
<b>35</b>	Signify	Page no. 12 Clause no. 10.1	It is mentioned that PBG to be released within 90 days after successful completion of warranty period of the contract	Trust it will be released before start of CAMOC. However, value is 3% including CAMOC. Kindly clarify	BG towards Security Deposit will be valid upto 3 months after completion of warranty period. As such at the start of CAMOC (after completion of warranty period) BG cannot be released. The value of BG towards Security Deposit will be 3% of the Total value of the work (excluding CAMOC value).
<b>36</b>	Signify	Page no. 70 Section 4	Performance Bank Guarantee	Trust the same is security deposit as mentioned. kindly confirm	Yes.
<b>37</b>	Signify	Page no. 70 Section 4	Legal liabilities are open ended	There is no limitation of liability clause, no exclusion of consequential damages, no IP clause etc. - need confirmation/clarification	Refer NIT Page no. 70, Section 4, Clause no. 2.
<b>38</b>	Bajaj Electricals Ltd.	Page no. 9 C 7.1.c	Performance Certificates of previous/ongoing works carried out.	Kindly accept Completion certificate instead of performance certificate	NIT Clause prevails.
<b>39</b>	Bajaj Electricals Ltd.	Page no. 19 Clause no. Viii	Bidder to confirm structural suitability of	We request you to provide the required	The LED Flood Lights should be installed

			the mast for light fittings proposed by them.	details of the High mast. We can confirm structural suitability of the High masts on receipt of the same.	on the carriage without causing any unbalance.
<b>40</b>	Bajaj Electricals Ltd.	Page no. 19 Clause no. Viii	Supply and laying of 3.5 C, 25 sq.mm, XLPE insulated Armoured Al cable in hard standing with suitable size HDPE Pipe protection.	This item is not provided in the BOQ. Let us know where it will be used so that we can consider it in our bid.	BOQ no. 1
<b>41</b>	Bajaj Electricals Ltd	Page no. 19 Clause no. Xi	Earthing with 50 mm dia ISI Medium GI pipe 3.64 mm thick x 3.00 Mts.	Please confirm whether Existing earthing to be used. In case, new earthing is required, we request you to provide the required quantity.	1 No. new earthing is to be created as per technical specification. Additionally, connection with the existing earthing also should be done.
<b>42</b>	Bajaj Electricals Ltd	Page no. 18,20 Clause no. vi, x	Manufacturers or bidders shall submit a declaration about the product details supported by type test certificate from an about the product details supported by type test certificate from an independent third party NABL accredited laboratory against the specified test standard.	We request you to accept Certificates from OEM's NABL lab.	IS 10322-5-5 (2013) Standard compliance Test Report Should be Submitted for flood lighting luminaire and IS 10322-5-3 (2012) Standard compliance Test Report Should be Submitted for Street Light Luminaire. Test



					Report will be accepted from both in-house and independent third party NABL accredited laboratory against the specified test standard.
<b>43</b>	Bajaj Electricals Ltd	Page no. 51 Clause no. 25	Payment terms:	1) Please make 50% payment instead of 30% against supply on prorata basis to maintain Cash flow.2) Please make 30% payment instead of 45% against installation on prorata basis to maintain Cash flow.3) Please make 20% payment after Go-live of the project against PBG of equivalent amount (5 no. BGs of 4% amount). The PBG for each year can be released after completion of each year of O&M.	NIT Clause prevails.
<b>44</b>	Bajaj Electricals Ltd	Page no. 51 Clause no. 25	Payment terms:	We request you not to apply any penalty/LD/ compensation charges if the payment is not made	NIT Clause prevails.

				on time. We also request you to allow us to hold the work in case; the payment is not done on time. It will help us to execute the project smoothly without cash flow issues for the project.	
45	Bajaj Electricals Ltd	Page no. 53 Clause no. 30	Insurance	We understand that the insurance for the SITC / execution period of 150 days shall be in our scope and Insurance during Warranty, Operation & Maintenance period shall be in your scope only.	Insurance shall be in the scope of the bidder for the entire contract period.
46	Bajaj Electricals Ltd	Page no. 37 Scope of Work	Cloud server should be such that during the duration of the contract all the monitoring and operations data should be stored in cloud storage for the entire contract period and should be accessible to authorised personnel's of SMP, Kolkata for future analysis and for preparation of analytics reports. After the end of	As a standard practice Data backup will be available for 2years and then it will be archived and could be handed over to customer (SMP) at the end contract period. Kindly confirm the same.	NIT Clause prevails.

			the contract, the party has to handover all the past data in any portable storage device as mutually agreed by selected bidder and SMP, Kolkata.		
<b>47</b>	Bajaj Electricals Ltd	Page no. 38 21 SCOPE OF WORK: Point no.11	A user friendly dash board should be developed. The content of the Dash board will be finalized during the execution of the project. A proposed sample of the Dashboard should be submitted with the proposed solution.	Please provide Dashboard KPI in the tender for our consideration and budgeting in the bid.	NIT Clause prevails.
<b>48</b>	Bajaj Electricals Ltd	Page no. 39 21 SCOPE OF WORK: Point no.27	All associated hardware, software, network, internet connectivity, civil, electrical, manpower and any other requirements towards successful implementation, commissioning and operation for the project is required to be made by the Service Provider (SP) at his own cost, charges,	We understand that the Civil work will not be in our scope.	Civil Work is in the scope of the Service Provider.

			expenses, risks including accidental damages, Insurance, licenses, etc. including other arrangements, if any, at KDS, SMP, Kolkata. However, during the Warranty and CAMOC period SP will be permitted to replace the faulty parts by its equal or high spec parts at no extra cost to SMP, Kolkata.		
49	Bajaj Electricals Ltd	Page no. 40 21 SCOPE OF WORK: Point no.39	The solution should ensure secure and safe database management and trouble-free operation of software and allied systems. It should have a self-diagnostic and self-healing feature to identify fault and resume the system by isolating it within shortest possible time.	Self-diagnostic and self-healing feature clarity is required as it need to be budgeted in bid for development as per requirement. It will help us if the clarity is given before bidding from estimation point of view.	NIT Clause prevails.
50	Bajaj Electricals Ltd	Page no. 41 21 SCOPE OF WORK: Point no.51	The application should help users to generate various reports related to the system performance	Reports are generated in Excel and CVS format. These reports can be converted into PDF	NIT Clause prevails.

			parameters such as energy consumption report, luminaire and system failure report, actual hours of operation, Group uptime (%), Group downtime (%), Luminaire Dimming level, etc. based on historical data on daily, monthly, quarterly or annually basis as the case may be from the data/readings received. The reports should be generated in Excel or PDF or Graphical format.	externally. Graphical format will be available for applicable reports. Inbuilt pdf is not available, as general practice. Kindly accept the same.	
51	Bajaj Electricals Ltd	Page no. 42 21 SCOPE OF WORK: Point no.55	The application should have required protection like Firewall, Malware, Antivirus etc., as per industry security standards. The application software should be flexible to cater to customized requirement which are not foreseen at this point of time but are deemed necessary during the execution and	Please define required customization before bidding so that we can budget it accordingly.	NIT Clause prevails.

			O&M.		
<b>52</b>	Bajaj Electricals Ltd	Page no. 42 21.1.1 MIS Reports: point (e)	Provision needs to be arranged for any other reports as required by SMP, Kolkata from time to time.	Please define/specify the other required reports before bidding so that we can budget it accordingly.	NIT Clause prevails.
<b>53</b>	Bajaj Electricals Ltd	Page no. 42 Clause no. 21.2	API based Integration with Port Operation System (POS) & Enterprise Business System or Solution (EBS) or Port authorized agency of SMP, Kolkata: If required, the selected SP is responsible for integration of proposed solution with SMP, Kolkata's/ it's authorized agency's computerized software system (EBS/ERP POMS or any other system required by Port or its authorized agency) without any additional cost to SMP, Kolkata.	We as a lighting company, do not have expertise in Third party integration. We can share monitoring APIs for integration. We request you to remove integration scope from the tender. In case controlling APIs are to be shared by us, please specify the same in tender so that we can budget for it in the bid.	NIT Clause prevails.
<b>54</b>	Bajaj Electricals Ltd	Page no. 43 Clause no. 21.3	Audit of proposed Web accessible solution: SP will submit software audit report accredited	Please let us know the specific compliances required for the same.	NIT Clause Prevails.

			by any Govt. empanelled agency at his own cost before go-live of the project.		
55	Bajaj Electricals Ltd	Page no. 15 iii) LED LUMINARIES' REQUIREMENT:	LED Module PCB: MCPCB is to be used for SMD Technology for LED wattage in excess of 0.5 W. The minimum thickness should be 1.5mm for outdoor Luminaries. (Supporting Document - LED manufacturer datasheet and type test report from NABL accredited Lab).	The test does not come under the scope of NABL lab. We will submit self-declaration letter and also this can be checked & verified during the inspection. Please accept the same.	The Criteria of minimum thickness is omitted for wider participation.MCPCB is to be used for SMD Technology for LED wattage in excess of 0.5 W. (Supporting Document - Self Declaration of Luminaire Manufacturer).
56	Bajaj Electricals Ltd	Page no. 16 iv) LED DRIVER	iv) LED DRIVER: · Type: Wirelessly/Remotely dimmable LED driver, registered as per product type under BIS-CRS Compulsory Registration Scheme. Driver should also be Constant Current Type. (Supporting Document – LED Driver manufacturer Data Sheet).	Driver shall be analog dimmable and for dimming signal/command controller shall be use, which will receive the signal. Kindly accept the same.	Technology of achieving the dimming feature in NIT is open.

57	Bajaj Electricals Ltd	Page no. 16 iv) LED DRIVER	<p>Potted LED Driver: Driver should be half Silicone gel potted driver for better heat dissipation and should be vibration proof for driver circuit component to increase longevity. Thermal conductivity should be greater than 0.6 W/mk. (Supporting Document – Driver Destructive test report for checking of potted driver needs to be done).</p>	As per industrial practice either driver shall be without potting or fully potted, so allow fully potted driver for better performance	The Driver Should be a Potted driver (Fully Potted) for better heat dissipation and should be vibration proof for driver circuit to increase longevity.
58	Bajaj Electricals Ltd	Page no. 23 QCBS PARAMETERS: Sr. no. 4 & 5	<p><b>QCBS PARAMETERS FOR EVALUATION:</b></p> <p>4) Experience of Supply, Installation, commissioning and Maintenance of LED High Mast/Lattice Tower Lighting System of minimum 10Nos. along with cabling jobs, Feeder Pillar Box and other</p> <p>5) Experience of Supply, Installation,</p>	LED is recent technology where OEMs already give warranty of 5 years warranty. Hence contract with O&M are rare and are under execution, if any. Hence, it will be difficult to arrange the credentials for maintenance work. We request you to remove Maintenance part from this clause.	The maintenance work is removed from clause no.4. For point no. 5 NIT Clause prevails.



			Commissioning and Maintenance of Smart LED Flood Lights/Smart LED Street Lights with Smart/Web Enabled Centralised Control and Monitoring System with dimming functionality (Project valuing at least 1.26 Cr excluding GST only shall be		
59	Bajaj Electricals Ltd	Page no. 23QCBS PARAMETERS: Sr. no. 4	Experience of Supply, Installation, commissioning and Maintenance of LED High Mast/Lattice Tower Lighting System of minimum 10Nos. along with cabling jobs, Feeder Pillar Box and other ancillaries	Order for LED High mast are for Supply, Installation, Commissioning of the project. Maintenance of the project is not included in the order considering 5 years Warrantee on LED luminaire from manufacturer. We are requesting you to kindly replace the Criteria with "Supply, Installation, commissioning of LED High Mast/ Lattice Tower Lighting System of minimum 10Nos. along with cabling jobs, Feeder	The maintenance work is removed from this clause.

				Pillar Box and other ancillaries.	
60	Bajaj Electricals Ltd	Page no. 23QCBS PARAMETERS: Sr. no. 5	Experience of Supply, Installation, Commissioning and Maintenance of Smart LED Flood Lights/Smart LED Street Lights with Smart/Web Enabled Centralised Control and Monitoring System with dimming functionality (Project valuing at least 1.26 Cr excluding GST only shall be	<p>Smart lighting is a new concept and considered in big projects with 5 to 7 years maintenance warrantee. Most of the projects with smart lighting are under execution or under maintenance. Submission of completion certificate for maintenance seems difficult. We are requesting to kindly amend to credential for Supply, Installation, Commissioning and Maintenance of Smart LED Flood Lights/Smart LED Street Lights with Smart/Web Enabled Centralised Control and Monitoring System with dimming functionality.</p> <p>Smart LED Flood Lights with Smart / Web Enabled Centralised Control and Monitoring System with dimming</p>	If it is under on-going maintenance performance certificate may be submitted.

				functionalities are used for Façade lighting application also. Kindly confirm your acceptance however application is not mentioned in the tender clause.	
61	Bajaj Electricals Ltd	Page no. 63,15 Sr. no.14; 15	Impact testing facility.: Details of the machine with a valid Calibration certificate of the machine from a NABL Accredited calibration laboratory.	We request you to allow the testing from third party lab having testing facility with Calibration certificate from a NABL accredited calibration lab. A self-declaration regarding the same can be submitted with the bid.	Clause No. 12a (ii) is omitted is omitted for wider participation.
62	Bajaj Electricals Ltd	Page no. 43 Clause no.5	During 1 year warranty period and the five-year period of the Comprehensive Annual Maintenance & Operation Contract, the SP shall also <b>render round-the-clock</b> service for operation and maintenance of the entire solution with their personnel.	Please let us know why manpower is required for operation purpose, as it is automatically controlled. However, Manpower will be required for maintenance.	The system should be operated as per requirement of Dock Safety Regulations, 1990. Illumination in the dock working area should be maintained at a of minimum 25 Lux and passage for dock worker and other than working area 10 Lux as per Dock safety regulation

					1990. The Dimming of the LED Light fittings will be done as per the instruction of Traffic Department of SMP, Kolkata, KDS, at places where there will be no operation. Hence as per SMP, Kolkata requirement the operator will be asked to operate any functionality of the system as and when required.
63	Bajaj Electricals Ltd	Page no. 43 Clause no.6	6. During warranty and comprehensive maintenance & Operation contract period, the SP shall provide at least 01 (One) technical personnel who will be stationed at SMP, Kolkata to take care of the entire solution so that uninterrupted operation is carried out. SP will be responsible for supply of	Please let us know whether technical person posting is required round the clock or for a particular shift.	Round the Clock.

			<p>maintenance spares and consumables during the entire period and SP representative will operate as per the direction of officials of SMP, Kolkata.</p>		
64	Bajaj Electricals Ltd	<p>Page no. 37 Clause no.21</p>	<p>Scope of work</p>	<p>Please let us know whether the Existing cables from CCMS/ Panel/DB to the JB on the Lattice tower / JB at bottom of HM shall be used or new cable is to be laid by us.</p>	<p>Other than the High Mast Trailing cable and Lattice Tower Trailing cable all the cables from CCMS panel to Feeder Pillar Box at the base of High Mast or Lattice Tower is within the scope of the Service Provider. The Termination of the incoming power cable of CCMS/ Controller Box and from CCMS/Controller Box to Feeder Pillar Box is within the scope of the service provider. Any other cable as required as per their solution is under the scope of</p>

					the contractor.
<b>65</b>	Bajaj Electricals Ltd	Page no. 37 Clause no.21	Scope of work	Please let us know whether the Existing cables from CCMS/ Panel/DB to the poles shall be used or new cable to be laid. Also let us know whether existing wire inside the pole to be used or to be replaced.	The existing wires inside the poles can be used. If additional cables or wires are required as per SP's technical solution it should be provided from SP's end. The existing cables from the Feeder Pillar Box to Poles can be used if additional cables or wires are required as per SP's technical solution it should be provided from SP's end.
<b>66</b>	Bajaj Electricals Ltd	Page no. 38 clause no 21 & point no 18	The Energy Efficient Smart Lighting Solution should be designed to maintain a minimum of 25 Lux at a radius of 40 Meters on the circumference of each 25 Meters High Mast /27.5-Meter-High Lattice Tower considering the High Mast/Lattice Tower to be at the centre of the	Kindly amend the clause with acceptance of Dialux/Calculux/AGI 32.	NIT Clause Prevails.

			circle. A Dialux/Calculux Report should be submitted for compliance with Grid size of 5 m × 5 m and maintenance factor of .8.		
67	Bajaj Electricals Ltd	Page no. 39 clause no 21 & point no 23	The illumination in the dock working area should be maintained minimum 25 Lux and passage for dock worker and other than working area 10 Lux as per Dock safety regulation 1990.	Please define or give the details of area where 10 Lux level is to be provided. It is not given in the tender; hence we are unable to check and estimate.	After maximum dimming of LED Lights, The Energy Efficient Smart Lighting Solution should be designed to maintain a minimum of 10 Lux at a radius of 40 Meters on the circumference of each 25 Meters High Mast /27.5-Meter-high Lattice Tower considering the High Mast/Lattice Tower to be at the centre of the circle.
68	Bajaj Electricals Ltd	Page no. 37 clause no 21	Scope of work: Warranty, Operation and maintenance	Bidders' liability to be limited to the performance of material supplied by him and his workmanship only. Please confirm.	Refer to NIT.
69	Bajaj Electricals Ltd	Page no. 50	23.2. a) If the	We request you to limit	NIT Clause Prevails.

		Clause 23.2. a)	Contractor/SP fails to complete the work within the stipulated dates or such extension thereof as communicated by the Engineer in writing, the contractor/SP shall pay as compensation (Liquidated Damage) to the Trustees and not as a penalty, 1/2 % (half percent) of the total value of work (contract price) as mentioned in the latter of acceptance of the tender/offer, for every week or part thereof the work remains unfinished. Provided always that the amount of such compensation shall not exceed 10% the said value of work.	the maximum compensation / LD / Penalty maximum up to 5% of contract value only.	
70	Bajaj Electricals Ltd	Page no. 50 Clause 23.3	Without being liable for any compensation to the Contractor/SP, the Trustees may, in their absolute	We request you to remove the wording as "Final & Conclusive" and replace it with " as per mutual agreement"	NIT Clause Prevails.



			discretion, terminate the contract due to occurrence of any of the following reasons and decision of the Trustees in this respect, as communicated by the Engineer shall be final and conclusive:		
<b>71</b>	Bajaj Electricals Ltd	Page no. 51 Clause 23.4.3	23.4.3 The Trustees shall have the power to retain all moneys due to the Contractor/SP until the work is completed by other agency and the Contractor's/SP's Liabilities to the Trustees and known in all respect.	We request you to remove this clause from tender.	NIT Clause Prevails.
<b>72</b>	Bajaj Electricals Ltd	Page no. 53 Clause 31.1	31.1 Without being liable for any compensation to the Contractor,	We request you to remove this point, as the liabilities can be from either side.	NIT Clause Prevails.
<b>73</b>	Bajaj Electricals Ltd	Page no. 53 Clause 31	the decision of the Trustees in this respect, as communicated by the Engineer shall be final, binding and conclusive:	We request you to remove the wording as "Final & Conclusive" and replace it with "as per mutual agreement"	NIT Clause Prevails.
<b>74</b>	Bajaj Electricals Ltd	Page no. 53 Clause 31	c) The Contractor has failed to commence	Please replace the wording as "The Contractor for reasons	NIT Clause Prevails.

				solely attributable to the Contractor has failed to commence..."	
<b>75</b>	Bajaj Electricals Ltd	Page no. 54 Clause 31.2	31.2 In all such cases of Termination of work, the Trustees shall have the power to complete the work through any other agency at the Contractor's risk and expense and the Contractor shall be debited any sum or sums that may be expended in completing the work beyond the amount that would have been due to the Contractor, had he duly completed the whole of the work in accordance with the contract.	We request you to delete this clause from tender.	NIT Clause Prevails.
<b>76</b>	Bajaj Electricals Ltd	Page no. 55 Clause 36.1	contract, the decision of the Engineer shall be final binding on all parties to the contract and shall forthwith be given effect to by the Contractor.	Kindly delete this clause. we request all disputes be referred to sole arbitrator appointed mutually by the parties.	NIT Clause Prevails.

77	Bajaj Electricals Ltd	Page no. 55 Clause 36.2	36.2 If the Contractor is dissatisfied with any such decision of the Engineer / his representative, he shall within 15 days after receiving notice of such award / decision, requires that the matter shall be <u>referred to Chairman or BoT, SMP, Kolkata for taking a view on the dispute.</u>	we suggest all disputes be referred to sole arbitrator appointed mutually by the parties. Dispute resolution by 3 arbitrators is also acceptable. however, provision of referencing to chairman and Engineer is not feasible / justified. Hence we request you to change Clause no. 36.1 & 36.2 accordingly.	NIT Clause Prevails.
78	Bajaj Electricals Ltd	Page no. 55 Clause 36.4	Notwithstanding anything contained herein above, <u>Employer</u>	We request you to replace the word " employer" with " Parties"	NIT Clause Prevails.
79	Bajaj Electricals Ltd	Page no. 56 Clause 36.9	a) The Contractor shall have to raise disputes or differences of any kind whatsoever, in relation to the execution of the work to the Engineer	we request matter to be referred to arbitration.	NIT Clause Prevails.
80	Bajaj Electricals Ltd	Page no. 56 Clause 36.9	b) No dispute or difference on any matter whatsoever pertaining to the contract can be raised by the Contractor after submission of certificate in form G.C.3 by him.	We request you delete this clause.	NIT Clause Prevails.

			c) Contractor's claim/dispute raised beyond the time limits prescribed in Sub-clauses (a) & (b) herein above, shall		
81	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	19	Bidder to confirm structural suitability of the mast for light fittings proposed by them	Please provide High mast details	The LED Flood Lights should be installed on the carriage without causing any unbalance.
82	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	19	Earthing with 50 mm dia ISI Medium GI pipe 3.64 mm thick x 3.00 Mts.	Please confirm acceptance of using Existing earthing.	One new earthing is to be created as per technical specification. Additionally, connection with the existing Earthing also has to be done.
83	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	18,20	Manufacturers or bidders shall submit a declaration about the product details supported by type test certificate from an independent third party NABL accredited laboratory against the specified test standard.	Kindly accept Certificates from OEM's NABL lab along with third party NABL accredited laboratory	Certification from both in house or Independent NABL accredited lab will be accepted.
84	INDUMOTI CIVIL AND MECHANICAL	51	Payment terms:	Preferred payment terms -1) 60% payment against	NIT Clause Prevails.

	PVT LTD.			supply of material on prorata basis. 2) 30% payment against installation on prorata basis 3) 10% payment after handing over of project with 10 % PBG for DLP. 4) 5% PBG for every year for 5 years	
85	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	38	A user friendly dash board should be developed. The content of the Dash board will be finalized during the execution of the project. A proposed sample of the Dashboard should be submitted with the proposed solution.	Please provide Dashboard details	NIT Clause Prevails.
86	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	40	The solution should ensure secure and safe database management and trouble-free operation of software and allied systems. It should have a self-diagnostic and self-healing feature to identify fault and resume the system by isolating it	Please elaborate " Self-diagnostic" and "self-healing" feature for better understanding.	NIT Clause Prevails.

			within shortest possible time.		
87	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	41	The application should help users to generate various reports related to the system performance parameters such as energy consumption report, luminaire and system failure report, actual hours of operation, Group uptime (%), Group downtime (%), Luminaire Dimming level, etc. based on historical data on daily, monthly, quarterly or annually basis as the case may be from the data/readings received. The reports should be generated in Excel or PDF or Graphical format.	Reports are available in Excel and manually can be converted to PDF.	NIT Clause Prevails.
88	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	42	Provision needs to be arranged for any other reports as required by SMP, Kolkata from time to time.	Please provide report format	NIT Clause Prevails.
89	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	43	Audit of proposed Web accessible solution: SP will submit software	Please confirm reference no. of the specific compliances required.	NIT Clause Prevails.

			audit report accredited by any Govt. empanelled agency at his own cost before go-live of the project.		
90	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	16	Potted LED Driver: Driver should be half Silicone gel potted driver for better heat dissipation and should be vibration proof for driver circuit component to increase longevity. Thermal conductivity should be greater than 0.6 W/mk. (Supporting Document – Driver Destructive test report for checking of potted driver needs to be done).	Driver shall be either fully potted or without potting. Partially potting is not possible kindly confirm	The Driver Should be a Potted driver (Fully Potted) for better heat dissipation and should be vibration proof for driver circuit to increase longevity. NIT clause for Thermal conductivity of potting material prevails.
91	INDUMOTI CIVIL AND MECHANICAL PVT LTD.	23	<b>QCBS PARAMETERS FOR EVALUATION:</b> 4) Experience of Supply, Installation, commissioning and Maintenance of LED High Mast/Lattice Tower Lighting System of minimum 10Nos. along with cabling	LED is recent technology where OEMs already give warranty of 5 years warranty. Hence contract with O&M are rare and are under execution, if any. Hence, it will be difficult to arrange the credentials for maintenance work. We	The maintenance work is removed from clause no.4. For point no. 5 NIT Clause prevails.

			<p>jobs, Feeder Pillar Box and other</p> <p>5) Experience of Supply, Installation, Commissioning and Maintenance of Smart LED Flood Lights/Smart LED Street Lights with Smart/Web Enabled Centralised Control and Monitoring System with dimming functionality (Project valuing at least 1.26 Cr excluding GST only shall be</p>	request you to remove Maintenance part from this clause.	
92	R A Electrical	51	<p>Payment terms:</p>	<p>Preferred payment terms -</p> <p>1)50% payment against supply of material as per bill</p> <p>2) 40% payment against installation as per bill.</p> <p>3) 10% payment after handing over of project with 10 % PBG for DLP.</p> <p>4) 10% PBG for 5 years</p>	NIT Clause Prevails.
93	R A Electrical	23	<p><b>QCBS PARAMETERS FOR EVALUATION:</b></p> <p>4) Experience of Supply,</p>	<p>Credential certificate with maintenance of LED high masts are not</p>	The maintenance work is removed from this clause.



			Installation, commissioning and Maintenance of LED High Mast/Lattice Tower Lighting System of minimum 10Nos. along with cabling jobs, Feeder Pillar Box and other	available kindly change the clause to Supply, Installation, commissioning of LED High Mast/Lattice Tower Lighting System for of minimum 10Nos. along with cabling, jobs, Feeder Pillar Box and other	
94	R A Electrical	23	"QCBS PARAMETERS FOR EVALUATION: 5) Experience of Supply, Installation, Commissioning and Maintenance of Smart LED Flood Lights/Smart LED Street Lights with Smart/Web Enabled Centralised Control and Monitoring System with dimming functionality (Project valuing at least 1.26 Cr excluding GST only shall be "	Credential certificate with maintenance of Smart LED Streetlight and LED Flood light with dimming facility is not available kindly change the clause to Supply, Installation, Commissioning of Smart LED Flood Lights/Smart LED Street Lights with Smart/Web Enabled Centralised Control and Monitoring System.	NIL Clause Prevails.
95	R A Electrical	43	During 1 year warranty period and the five-year period of the Comprehensive Annual Maintenance &	Please let us know how many operators are required for round the clock operation as per KOPT rules. Is possible	Refer NIT Page no. 43, Clause no. 21.5, and Point no.6. Yes, it is possible for the operator to take

			Operation Contract, the SP shall also <b>render round-the-clock</b> service for operation and maintenance of the entire solution with their personnel.	for operator to take care of O&M.	care of O&M if he is capable.
96	R A Electrical	37	Scope of work	Is the supply and erection of power cable from CCMS to the JB on the top is under the scope of contractor? If so than can they use the existing cable.	Refer NIT Page no. 42, Clause no. 21, Point no. 57 & 58. Yes; you can use the existing cable.
97	R A Electrical	37	Scope of work: Warranty, Operation and maintenance	Warrantee of the material is against manufacturing defect only.	Refer NIT Clause no. 21.5.
98	Rajdeep Electricals Pvt. Limited	Page No. 08 Point No. 2	As per NIT, Page No. 08 Point No. 2. Here "similar works" shall mean experience of carrying out Design, Supply, Delivery, Installation and Commissioning of Energy Efficient Smart Outdoor LED lighting solution with Centralized Control & Monitoring System for any Govt. / Semi-Govt. /	Please consider Energy Efficient LED Lighting work instead of Energy Efficient Smart LED Lighting Solution with CCMS.	NIT Clause Prevails.

			PSUs/ private organizations. The Tenderer shall have to upload documents, viz. order letter, performance/completion certificates to establish his credentials. Work experience as a supply contractor shall not be considered as requisite qualification.		
99	Rajdeep Electricals Pvt. Limited		We understand that JV/Consortium is allowed in this tender and any bidders from JV/Consortium will full-fil the Pre-Qualification Criteria will be considered & his bid accepted for technically qualified.		Refer NIT Page no. 26, Clause no. 13.
100	Rajdeep Electricals Pvt. Limited		As per Tender document, Payment terms are very conservative and not on item based but on tender value based.	Please consider Payment terms 75 % on Supply, 15% on Installation, 10% on Testing & Commissioning. If payment condition will follow existing terms than very huge investment is required by	NIT Clause Prevails.

				successful bidder. In this COVID-19 pandemic situation every govt. organizations are giving relaxation in payment condition to the contractor and here payment condition is very conservative, need to be modify. Hence our request please be consider.	
101	Wipro	Page No. 8, Clause No. 4, Point No. 2	Here "similar works" shall mean the experience of carrying out Design, Supply, Delivery, Installation and Commissioning of Energy Efficient Smart Outdoor LED lighting solutions with Centralised Control & Monitoring System for any Govt. / Semi-Govt. / PSUs/ private organizations. The Tenderer shall have to upload documents, viz. order letter, performance/completion certificates to establish his credentials. Work	Maximum job is done based on "Supply, Delivery, Installation & Commissioning" and EOI jobs are rare. Also, SMP is validating the project idea, design and technology-based on technical evaluation. Hence, requesting SMP to remove the "Design" word from Similar Works which is not common and will narrow the chance of fair participation. There is hardly any tender published by GOI or State Govts where "Design" is	The Design word from Similar Works experience has been omitted for wider participation.

			experience as a supply contractor shall not be considered a requisite qualification.	a clause along with Supply, Delivery, Installation & Commissioning.	
102	Wipro	Page No. 13, Clause No. 12, Point No. i	The manufacturer of LED Luminaries should be an ISO 9000:2008 / ISO 9001:2015 and ISO 14001:2015 certified organization. (Supporting Document -ISO certification accredited by an IAF member).	Currently, maximum manufacturing facilities are under Captive Vendors which manufacture luminaries for the OEM solely under their design, formula, raw materials, supervision and QA. Hence, allowance of Captive Vendor ISO Certifications to be considered along with Supporting Documents of Captive Vendor Organisation which is manufacturing for OEM in OEM Letterhead. This is done post the "MAKE IN INDIA" initiative to promote small scale vendors by large OEMs. These criteria are to be added as an either-or requisite along with the above point as any of the documents to be	NIT Clause prevails.

				submitted. This is because the manufacturing point ISO is much more important.	
103	Wipro	Page No. 14, Clause No. 12, Point No. ii	ENVIRONMENT WITH FACILITIES FOR ASSEMBLY OF LED MODULES AND PCBs.	The machinery list and declaration by OEM can be given on Letterhead. No Certification rule or IS exists for the Manufacturing Facilities in India. Hence, NABL Accreditation is not possible to give as it is technically a wrong requirement. Kindly also note that NABL accreditation and calibration certificate are not applicable to the manufacturing facilities, it is for testing equipment only. This clause is to be changed to "Manufacturer's Declaration on OEM Letterhead" like in Clause No. 12, Point No. a) on Page No. 13.	Clause No. 12a (ii) is omitted is omitted for wider participation.
104	Wipro	Page No. 15, Clause No. 12,	Rated Minimum life span of LEDs (L70B50) used in	The rated minimum life should be changed to L70	NIT Clause Prevails.

		Point No. iii	the Luminary shall be greater than 50,000 Hrs. at the soldering point temperature of 105 C & at the luminary driving current. <b>(Supporting Document -TM-21 life projection calculation along with LM80 for all three ambient temperatures of 55, 85, 105 Deg. C as per applicable standard shall be submitted to substantiate that the life of LED Chip (L70B50) shall be more than 50000 burning hours.)</b>	only and not to L70B50. L70 is a higher standardisation that is applicable now. It means 30% depreciation of lumen at 70% of declared life. However, L70B50 means 30% depreciation of lumen at 70% of declared life along with <u>acceptance of 50% burning of LED modules</u> . L70B50 ensures the chip will not be of Class A Quality and will be cheaper technically than L70 only. These are ensured by some OEMs to take financial advantage of the technical vagueness. For such a high-value & prestigious project, Chip life criteria should be changed to L70 only.	
105	Wipro	Page No. 16, Clause No. 12, Point No. iii	The label should mention Name of Manufacturer, model name and number, system lumen pack, nominal CCT, Wattage of fitting, Date	Please note that there is a standard BIS Rule for Labelling which is validated by GOI under BIS. Wipro cannot deviate from the	The Labelling should be as per Latest BIS Standard.

			of Manufacture, and other labelling details as per IS. Stickers are not permitted for labels.	labelling rule and incorporate extra points in the labelling. All points will be covered in the datasheet. Deviating BIS is a legal risk and Wipro cannot take that. A few of the points mentioned like system lumen pack is not under BIS Labelling format. We will mention those in Datasheet. However, cannot change the BIS Labelling format.	
106	Wipro	Page No. 16, Clause No. 12, Point No. iii	Total Harmonic Distortion (THD): Less than 10% at full load (Supporting Document – LED Luminaire manufacture datasheet)	Please note that the present best market standard is $\leq 10\%$ THD at full load. Making it only Less Than 10% is too stringent to deviate from the best industry practices. Requesting you to change the details to "LESS THAN EQUAL TO 10% AT FULL LOAD"	Total Harmonic Distortion (THD): Less than or equal to 10% at full load (Supporting Document – LED Luminaire manufacture datasheet)
107	Wipro	Page No. 16, Clause No. 12, Point No. iii	Potted LED Driver: Driver should be half Silicone gel potted driver for better heat dissipation and should be vibration-proof for driver circuit	Please note that "Half Silicon Gel" is a technically wrong word. The drivers need to be completely Potted. This word may create	The Driver Should be a Potted driver (Fully Potted) for better heat dissipation and should be vibration proof for driver



			components to increase longevity. Thermal conductivity should be greater than 0.6 W/mk. (Supporting Document – Driver Destructive test report for checking of potted driver needs to be done).	loopholes for giving low-quality materials. Kindly remove the "Half Silicon Gel" and mention "Drivers to be Completely Potted". Balance all is okay for us.	circuit to increase longevity. NIT clause for Thermal conductivity of potting material prevails.
108	Wipro	Page No. 17, Clause No. 12, Point No. iv	Driver shall comply with the safety requirements laid down in IEC: 61347-2-13/EN: 61347-2-13/IS: 15885-2-13. (Supporting Document- IEC:61347-2-13/ EN: 61347-2-13/IS:15885-2-13 Test conformance Report) & Driver shall comply with the performance requirements as per IEC: 62384/IS: 16104. (Supporting Document - IEC: 62384/IS: 16105 Test Reports).	Wipro requests to change the supporting documents to "Driver Manufacturer Confirmation & Datasheet" as these methods are applied during manufacturing and Test Conformance reports are not possible. These are standards that OEM needs to comply and for that, they can confirm it in Datasheet. No Separate Test Reports are possible. Kindly change the supporting document to "Driver OEM Datasheet"	(Supporting Document -Self Declaration from Driver Manufacturer).
109	Wipro	Page No. 18, Clause No. 12, Point No. vi_	ADDITIONAL TEST REPORTS TO BE SUBMITTED FOR	<u>Please note that all the NABL labs are given certification post strict</u>	IS 10322-5-5 (2013) Standard complianceTest

			<p>COMPLIANCE WITH IS 10322-5-5 (2013) FOR FLOODLIGHTING LUMINAIRE. - Bid evaluation shall comprise of type test certificate and the verification of relevant documents. Manufacturers or bidders shall submit a declaration about the product details supported by type test certificate from an independent third party NABL accredited laboratory against the specified test standard</p>	<p><u>evaluation, monitoring and sudden visits by NABL authority under GOI. Hence, there is no difference in reports and quality of reports among various NABL Labs. Kindly change the requisite clause to In-House or Third-Party NABL labs as all the NABL Labs of the OEM act as a separate entity and they serve testing purposes for In-Houses as well as Independent Testing. Asking mandatorily for testing from Third Party is not only time consuming and unnecessary cumbersome but also questions the very establishment and standard of accreditation by the Govt of India. Even after asking for reports from NABL and their proof, In-House or Third-Party NABL Laboratory testing</u></p>	<p>Report Should be Submitted FOR FLOOD LIGHTING LUMINAIRE and IS 10322-5-3 (2012) Standard compliance Test Report Should be Submitted for Street Light Luminaire. Test Report will be accepted from both in-house or independent third party NABL accredited laboratory against the specified test standard.</p>
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				<u>reports of 10322-5-5 (2013) should be asked else the tender is in direct question about the quality of accreditation by another Govt of India entity.</u>	
110	Wipro	Page No. 20, Clause No. 12, Point No. X	Smooth dimming or step dimming $\geq 5$ Steps will be accepted.	Please note that Step Dimming is an earlier technology and for current tender such should not be kept. This will ensure sub-quality of dimming activity for such prestigious and high-value job. Smooth Dimming of 10% to 100% of full Glow is market standard now. Requesting SMP to kindly remove the step dimming point and its equivalent measurement criteria.	NIT Clause Prevails.
111	Wipro	Page No. 20, Clause No. 12, Point No. X	<u>ADDITIONAL TEST REPORTS TO BE SUBMITTED FOR COMPLIANCE WITH IS 10322-5-5 (2013) FOR STREET LIGHTING LUMINAIRE. -</u>	<u>Please note that all the NABL labs are given certification post strict evaluation, monitoring and sudden visits by NABL authority under GOI. Hence, there is no</u>	IS 10322-5-5 (2013) Standard compliance Test Report Should be Submitted FOR FLOOD LIGHTING LUMINAIRE and IS 10322-5-3 (2012)

			<p><u>Bid evaluation shall comprise of type test certificate and the verification of relevant documents.</u></p> <p><u>Manufacturers or bidders shall submit a declaration about the product details supported by type test certificate from an independent third party NABL accredited laboratory against the specified test standard</u></p>	<p><u>difference in reports and quality of reports among various NABL Labs. Kindly change the requisite clause to In-House or Third-Party NABL labs as all the NABL Labs of the OEM act as a separate entity and they serve testing purposes for In-Houses as well as Independent Testing. Asking mandatorily for testing from Third Party is not only time consuming and unnecessary cumbersome but also questions the very establishment and standard of accreditation by the Govt of India. Even after asking for reports from NABL and their proof, In-House or Third-Party NABL Laboratory testing reports of 10322-5-5 (2013) should be asked else the tender is in direct question about the</u></p>	<p>Standard compliance Test Report Should be Submitted for Street Light Luminaire. Test Report will be accepted from both in-house or independent third party NABL accredited laboratory against the specified test standard.</p>
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				<u>quality of accreditation by another Govt of India entity.</u>	
112	Wipro	Page No. 21, Clause No. 12, Point No. Xi	The Wattage of the individually wirelessly controlled dimmable LED Flood Light Luminaires should not be more than 400 Watt, with beam angle of 60 degrees. (Supporting Document – LED Luminaire manufacturer Data Sheet).	Wipro requests NOT to restrict the beam angle to 60 Degree as using less wattage is also there in evaluation criteria. OEM will submit their Dialux report as well as a pilot testing option is there. Wipro requests SMP to keep the beam angle out of the tender and as per the expertise of OEM they can use their product. This will also help in proper technical design and better end results for SMP. Otherwise, for maintaining the clause of 60 Degree there may arise Uniformity Issue even after maintaining the required lux level but due to the tender clause, such cannot be addressed then. Hence, requesting you to please remove the beam angle	In NIT Beam angle is defined for individually controlled LED flood light Luminaire. Individually wirelessly controlled dimmable LED Street Light Luminaire and Individually wirelessly controlled dimmable LED Flood Light Luminaires are not considered in QCBS Evaluation. They should be compliant with both the mandatory requirements and additional mandatory requirements mentioned in technical evaluation above. Beam angle is not defined for design based on High Mast and

				and let it be based on the design for the proper technical results. Mentioning the beam angle is unnecessary and will create improper results.	Lattice Tower where group control is applicable.
113	Wipro	Page No. 21, Clause No. 12, Point No. Xi	Smooth dimming or step dimming $\geq 5$ Steps will be accepted.	Please note that Step Dimming is an earlier technology and for current tender such should not be kept. This will ensure sub-quality of dimming activity for such prestigious and high-value jobs. Smooth Dimming of 10% to 100% of full Glow is market standard now. Requesting SMP to kindly remove the step dimming point and its equivalent measurement criteria.	NIT Clause Prevails.
114	Wipro	Page No. 24, Point No. 9 under QCBS Parameters	LED Driver Efficiency	The criteria mentioned are unrealistic and not available worldwide. No driver available globally can reach to the efficiency of $\geq 95\%$ . Highest possible range	<b>The Criteria is modified as: LED Driver Efficiency:</b> Efficiency $\geq 90\%$ = 5 Marks. $90\% > \text{Efficiency} \geq 88\%$ = 4 Marks.

				available globally is $\geq 85\%$ to $\leq 90\%$ . Thus, kindly change the range of the marking parameters otherwise the point is technically wrong and unrealistic.	$88\% > \text{Efficiency} \geq 87\% = 3 \text{ Marks.}$ $87\% > \text{Efficiency} \geq 86\% = 2 \text{ Marks.}$ $86\% > \text{Efficiency} \geq 85\% = 0 \text{ Mark.}$ $\text{Efficiency} < 85\% = \text{Noncompliance.}$
115	Wipro	Page No. 24, Point No. 13 under QCBS Parameters	Maximum Wattage of LED Flood Light Luminaires including Driver without Dimming	The technical point is in design concept violation if the beam angle is mentioned. Like our point no. 12, the beam angle clause needs to be removed and to be kept on the purview of OEM to meet the lux level criterion and QCBS criteria.	In NIT Beam angle is defined for individually controlled LED flood light Luminaire. Individually wirelessly controlled dimmable LED Street Light Luminaire and Individually wirelessly controlled dimmable LED Flood Light Luminaires are not considered in QCBS Evaluation. They should be compliant with both the mandatory requirements and additional mandatory requirements mentioned in

					technical evaluation above.
116	Wipro	Page No. 24, Point No. 13 under QCBS Parameters	The technical point is in design concept violation if the beam angle is mentioned. Like our point no. 12, the beam angle clause needs to be removed and to be kept on the purview of OEM to meet the lux level criterion and QCBS criteria.	The technical point is in design concept violation if the beam angle is mentioned. Like our point no. 12, the beam angle clause needs to be removed and to be kept on the purview of OEM to meet the lux level criterion and QCBS criteria.	In NIT Beam angle is defined for individually controlled LED flood light Luminaire. Individually wirelessly controlled dimmable LED Street Light Luminaire and Individually wirelessly controlled dimmable LED Flood Light Luminaires are not considered in QCBS Evaluation. They should be compliant with both the mandatory requirements and additional mandatory requirements mentioned in technical evaluation above.
117	Wipro	Page No. 26, Point No. 13	JOINT VENTURES/CONSORTIUM AND OTHER FORMS OF ASSOCIATION:	It is understood that OEM doesn't require to form JV with any prospective bidder (Not	Yes.



				OEM) but only needs to suffice the required documents of the OEM as per the tender. Kindly confirm.	
118	Wipro	Page-40: Point-35:	The solution should facilitate asset mapping through GPS coordinates of each CCMS panel/controller Box on existing maps.	Is onboard GPS for all NEMA Controllers required? Or only in Smart Feeder Panel is enough? – Kindly clarify	Refer Page no. 41 point no. 53.
119	Wipro	Page-41: Point-48:	The CCMS Panel Box/Controller Box and its communication the module should be provided with battery backup or equivalent to help store all the data and send a main power failure alarm to the Cloud before it shuts down safely.	Is battery backup for power failure alarm reporting required for individual NEMA Controllers as well? Is Cloud Server or the local server provided by Kolkata Port Trust? – Kindly clarify	Yes, it is required to have battery backup for power failure alarm reporting required for individual NEMA Controller. Refer NIT for Cloud Server details.
120	Wipro	Page-60: of Bill of Quantities:	BOQ No. 1- 64 Qty Floodlight. BOQ No. 2 100 Qty Streetlight & BOQ No. 3 150 Qty Floodlight	Please confirm the understanding that BOQ No. 1 of 64 Nos. of Floodlight will be Group Controlled as a Single High mast/Lattice to be considered as a Single Group and Dimming will happen accordingly. For	There are 64 Nos. of Lighting Towers (Inclusive of High Mast and Lattice Tower). Each High Mast / Lattice Tower will be considered as a single group. Hence 64 nos. of

				BOQ No. 2 & 3, individual Luminaries Dimming will happen. Kindly confirm, please.	Group. As per your design all the LED Luminaires installed on individual Lighting Tower is to be group controlled. BOQ no. 1 is inclusive of all Light fittings per group, CCMS/Controller Panel Box per group, all required accessories required for each group. For BOQ no. 2 & 3 individual level control will happen.
121	Wipro	Page-60: of Bill of Quantities:	BOQ NO. 5 Cloud Cost for the entire Contract Period:	Please confirm whether the contract period during the financial cost to be quoted is for 1 year or 5 years in BOQ No. 5.	The Financial cost to be quoted for the Entire Contract Period i.e., for 6 years post go live of the project. Which includes 1 year warranty period followed by 5 years CAMOC Period.
122	HAVELLS	Page No. 23-26	LED System Efficacy: $\geq 140$ Lm/Watt: 5 Marks; since the lumen required is 44000 Lumens which		NIT Clause Prevails.

			can be achieved using 350 W Flood Light @126 Lm/Watt.		
123	HAVELLS	Page No. 23-26	a. LED Driver Efficiency: $\geq 95\%$ : 5 Marks since smart driver achieve $>90\%$ & only isolated driver crosses 95% which is not preferable here from safety point of view.		<b>The Criteria is modified as: LED Driver Efficiency:</b> Efficiency $\geq 90\%$ = 5 Marks. 90 % > Efficiency $\geq 88\%$ = 4 Marks. 88% > Efficiency $\geq 87\%$ = 3 Marks. 87% > Efficiency $\geq 86\%$ = 2 Marks. 86% > Efficiency $\geq 85\%$ = 0 Mark. Efficiency $< 85\%$ = non-compliance.
124	HAVELLS	Page No. 23-26	a. Internal SPD: 10KV: 4 Marks; since we are providing external SPD of 20kv, so internal SPD of 4kv would be okay.		NIT Clause Prevails.
125	HAVELLS	Page No. 37-43	Dimensions & material of the CCMS Panel shouldn't be defined: we recommend Plastic material since the RF communications would be possible & secondly IP 65 rating can be achieved		Dimensions and material of the CCMS Panel is made open depending on the design of the service provider having minimum IP65 Protection.

			using Plastic material.		
126	HAVELLS	Page No. 37-43	IP54 to be considered for the CCMS Panel instead of IP65 since it meets the desired required conditions: IP65 can be achieved if material of the Panel is Plastic & IP54 can be complied if material is metal		Minimum requirement of IP65 protection prevails.
127	HAVELLS	Point No. 13 of Page No. 38	Should be deleted/modified since CCMS Panel gives the data only for group of luminaires in a single circuit but not for individual luminaires.		NIT Clause Prevails.
128	HAVELLS	Page No. 60	a. Nos of High Masts not defined??		Total 64 Nos. of Lighting Towers inclusive of High Masts and Lattice Tower.
129	HAVELLS	Page No. 60	a. Difference between the Item No. 1 & Item No. 3 isn't defined since both are Flood Lights: whether group monitoring or individual monitoring or only group dim or individual dim okay??		Item no. 1 Group Control and Item no.3 Individual control.

130	HAVELLS	Page No. 60	a. Design Parameters not defined for Street Lights (100 Nos, Maximum Wattage: <140 W)??		Refer NIT Page no. 20 Clause X
131	HAVELLS	Page No. 37	BOQ Item No. 1 is Group Dimming Flood Light; BOQ Item No. 2 is ILC Street Light; BOQ Item No 3 is Individual Dimming Flood Light; Same point need to be confirmed whether Individual or Group level parameters data required??		Refer NIT Bill of Quantities.

The Pre-bid queries reply shall form part of the Tender Document.

**After incorporating the Prebid queries reply the updated Technical Evaluation criteria is presented below:**

## **12.0 Technical Evaluation:**

The prospective bidders (if not OEM) have to submit the following documents from OEM (LED Luminaries and Driver Manufacturer) pertaining to the mandatory requirements. If the prospective bidder is OEM, they have to submit all the mandatory documents.

Mandatory requirements are applicable for all the Type of Luminaries.

### **a) Mandatory Requirements:**

#### **i) LED LUMINARIES' MANUFACTURER REQUIREMENTS:**

- LED Luminaries Manufacturer shall have company service network in Kolkata; India to ensure response time of two working days. **(Supporting Document -Confirmation on official letter head giving details of company service network in Kolkata with undertaking of timely service within two Working days).**
- The manufacturer of LED Luminaries should be an ISO 9000:2008/ISO 9001:2015 and ISO 14001:2015 certified organization. **(Supporting Document -ISO certification accredited by an IAF member).**
- LED Manufacturer should have separate valid BIS registration number for both luminaries and driver. Driver should have the registration of BIS of the OEM of driver manufacturer. **(Supporting Document –Separate BIS Registration Certificate for Luminaries and Driver).**

#### **ii) ENVIRONMENT WITH FACILITIES FOR ASSEMBLY OF LED MODULES AND PCBs:**

This clause is omitted.

#### **iii) LED LUMINARIES' REQUIREMENT:**

- LED Chip Efficacy shall not be less than 130 Lumen/watt and System Efficacy shall be greater than 110 Lumens/Watt@ drive current. In respect of LEDs of higher power ratings, drive current greater than 350 mA can be accepted if the LED's LM 80/IS: 16105 test reports support the same. **(Supporting Document- LM-80Report)**

- LED used should be of SMD (Surface Mounted Device) type. **(Supporting Document-LED Luminaire Data Sheet) and approved make of LED Chip- CREE / LUMILEDS / NICHIA / OSRAM.**
- The LEDs shall comply with Photo biological safety norms as per IEC 62471/ EN62471/ IS: 16108 and should fall in the exempt or low risk group of outdoor Luminaries. **(Supporting Document - Report from Internationally/Nationally accredited Lab.)**
- Rated Minimum life span of LEDs (L70B50) used in the Luminary shall be greater than 50,000 Hrs. at the soldering point temperature of 105 C & at the luminary driving current. **(Supporting Document -TM-21 life projection calculation along with LM80 for all three ambient temperatures of 55, 85, 105 Deg. C as per applicable standard shall be submitted to substantiate that the life of LED Chip (L70B50) shall be more than 50000 burning hours.)**
- Secondary Lens/Optics: Luminaries should have secondary optical lens of type PMMA (Poly-Methyl Methacrylate Acrylic)/Borosilicate glass/Polycarbonate. Also, the lens shall have maximum temperature withstand capacity of 120 Deg. C. **(Supporting Document -LED manufacture datasheet and type test report certificate from NABL Accredited lab.)**
- Colour temperature of the proposed white colour LED shall be 5700K (i.e., 5665K +/- 355K, as per ANSI standard C78.377A). **(Supporting Document-LED manufacture datasheet and soft copy of IES file &LM 79 report from NABL accredited Lab).**
- Colour Rendering Index (CRI): Greater than or equal to 70. **(Supporting Document -LED manufacture datasheet and soft copy of IES file, LM 79 Report from NABL accredited Lab).**
- LED Module PCB: MCPCB is to be used for SMD Technology for LED wattage in excess of 0.5 W.**(Supporting Document - Self Declaration of Luminaire Manufacturer).**
- Junction temperature of LED Chip shall not exceed 105 Deg. C in case of SMD. **(Supporting Document - LED manufacture datasheet or LM 80 Report, and thermal and temperature rise type test report).**
- No Visible flickering (flicker free) to prevent eye strain, uniform and Glare free, No UV/IR Radiation. **(Supporting Document – Self Declaration).**
- The LED Flood Lights should be Integral type.
- Luminaire manufacturer shall produce certificate of association with LED manufacturer for minimum 2 years.
- There should not be any assembly of 2 or more nos. of less wattage LED luminaires to achieve the offered LED Luminaire Wattage. Accordingly, the driver unit should be a single one and not assembled one. The Single unit can contain a maximum of two drivers.
- The Labelling should be as per Latest BIS Standard.

#### **iv) LED DRIVER:**

- Type: Wirelessly/Remotely dimmable LED driver, registered as per product type under BIS-CRS Compulsory Registration Scheme. Driver should also be Constant Current Type. **(Supporting Document – LED Driver manufacturer Data Sheet).**
- Electrically Isolated Driver. **(Supporting Document – LED Driver manufacturer Data Sheet).**
- Minimum Efficiency of Driver: 85%. **(Supporting Document – Driver manufacturer datasheet and type test report)**
- Dimming Range and nature of dimming as per scope of work. **(Supporting Document – LED Luminaire manufacturer datasheet).**
- Power factor of complete fitting  $\geq 0.95$ . **(Supporting Document – LED Luminaire datasheet).**
- Surge Protection: Minimum 4 kV internal surge protection is to be used in series with every driver with failsafe (i.e., without leading to fire hazard) and extra Min 10 kV Surge Protection device, external to the driver circuit, but within the same housing needs to be used. Failed status of surge devices should be clearly visible through flag/indication. **(Supporting Document – LED Luminaire Datasheet and type test report).**
- Total Harmonic Distortion (THD): Less than or equal to 10% at full load. **(Supporting Document – LED Luminaire manufacture datasheet).**
- Potted LED Driver: Driver should be fully potted driver for better heat dissipation and should be vibration-proof for driver circuit component to increase longevity. Thermal conductivity should be greater than 0.6 W/mK.**(Supporting Document – Driver Destructive test report for checking of potted driver needs to be done).**
- IP Protection: 66 or above. **(Supporting Document -Luminaire manufacturer datasheet and Type Test report)**
- Power Supply shall be connected to the LED PCBs through proper connectors.
- Protection: I. Short Circuit Protection. II. Open Circuit Protection. III. Reverse Polarity Protection. IV. over Voltage Protection. Driver shall withstand min 340V for 2 hours and min 300V for 48 hours without failure. **(Supporting Document - Driver manufacturer datasheet and Type Test report).**
- Driver shall comply with the safety requirements laid down in IEC: 61347-2-13/EN: 61347-2-13/IS: 15885-2-13. **(Supporting Document -Self Declaration from Driver Manufacturer).**



- Driver shall comply with the performance requirements as per IEC: 62384/IS: 16104. **(Supporting Document -Self Declaration from Driver Manufacturer).**
- Wide Operating Voltage Range.**(Supporting Document -Luminaire manufacturer datasheet).**

#### **V) LUMINARY SYSTEM:**

- Housing: Made of pressure die cast Aluminium (LM6/ADC12/LM24) having sufficient area with fins /heat sink for heat dissipation. **(Supporting Document - LED Luminaire manufacturer datasheet)**
- Cover Type: Heat Resistant Toughened Clear Glass or UV Stabilized Polycarbonate Cover. **(Supporting Document - LED Luminaire manufacturer datasheet).**
- Connecting wires used inside the luminaries shall be Low Smoke, Fire retardant (FRLS). **(Supporting Document - LED Luminaire manufacturer datasheet).**
- Luminaries should be provided with mounting bracket (GI or Stainless Steel). **(Supporting Document - LED Luminaire manufacturer datasheet).**
- Ambient temperature to be considered: 35+ degrees centigrade. **(Supporting Document - LED Luminaire manufacturer datasheet).**
- Humidity to be considered: 10% to 90% RH. **(Supporting Document - LED Luminaire manufacturer datasheet).**
- Separate Driver and Optical compartments to be provided for efficient heat management and to ensure sustainable operation. **(Supporting Document - LED Luminaire manufacturer datasheet).**

#### **VI) ADDITIONAL TEST REPORTS TO BE SUBMITTED FOR COMPLAINT WITH IS 10322-5-5 (2013) FOR FLOOD LIGHTING LUMINAIRE:**

IS 10322-5-5 (2013) Standard compliance Test Report should be submitted for flood light luminaire. Test Report will be accepted from both in-house or independent third party NABL accredited laboratory against the specified test standard.

## **VII)CCMS PANEL BOX/CONTROLLER - OUTDOOR FEEDER PILLAR WITH INTELLIGENT SMART LIGHTING CONTROL SYSTEM AT THE BASE OF MAST/LATTICE TOWER FOR GROUP CONTROL.**

Dimensions and material of the CCMS Panel depends on the design of the service provider having minimum IP65 Protection. The Panel will have the following components:

- This hardware should consist of minimum of 10KV Surge Protection Device (SPD) designed to protect the sensitive electrical and electronic equipment from damage by vulnerable high surges or over voltage transients, etc.
- MCBs, Contactors and Fuses which protects system and operators in case of electrical malfunction, these should be rated above the lighting load requirement. The CCMS Panel /Controller Panel Should provide protection from Short Circuit, Overload, etc.
- It should allow manual override of the system with Isolator during maintenance and system faults.
- CCMS Panel Box/Controller should consist of an Energy Meter of suitable Current Rating, Accuracy Class 1.0/0.5/0.5S, rated frequency 50Hz, at rated voltage and unity power factor.
- The system should monitor energy parameters and communicate it with Cloud i.e., Voltage per phase, Current per phase, PF per phase, Metering KWH cumulative, Metering KVAH, Number of operational light, Number of non-operational lights, Failure of contactor, Status of the incoming supply (power failure), High /low voltage, Overload on the phases, etc.
- The CCMS Panel/Controller will continuously monitor to detect events like tamper, faulty lights, etc. and generates alerts by sending SMS/email.
- CCMS Panel/Controller Should support GSM/GRPS/3G/4G reliable and safe connectivity with cloud or any other communication 19 technology to communicate with cloud.
- The CCMS Panel/Controller should have enough 3 Phase 4 Wire Terminal Blocks for Termination of Incoming and outgoing 3.5C 25 Sq.mm AL 1.1KV Grade Cable.
- Fire Resistant, PVC insulated, 1.1KV Grade copper wires of suitable sizes are to use for interconnection inside the CCMS Panel /Controller.

- The CCMS Panel/Controller should be able to wirelessly/Remotely control with the LED Luminaire installed on the Lantern carriage on the Top of the High Mast and the LED Luminaires installed on the Top platform of Lattice Tower in a secure manner without data loss.
- The CCMS Panel /Controller or any devices or equipment should be installed with suitable mechanical/civil protection for protection of the devices.

#### **VIII) INSTALLATION OF LED LUMINAIRES:**

- 3 Core/5 Core, 1.5 Sq.mm, PVC insulated Flexible Copper Cables should be used for interconnection from the Joint Box on the High Mast Carriage to LED Luminaries in High Masts and from Top Platform DB to Luminaries in case of Lattice Towers.
- Installation and commissioning of LED floodlight/Street Light luminaire along with all its accessories on high mast/Lattice Tower/ Light Pole/Structures with proper clamping arrangement etc. complete in all respect.
- The LED Flood Lights should be installed on the carriage without causing any unbalance. Bidder to confirm structural suitability of the mast for light fittings proposed by them.

#### **IX) INSTALLATION OF CCMS PANEL/CONTROLLER BOX:**

- Construction of RCC foundation for the above CCMS Panel Box/Controller Box including supply of foundation accessories consisting of cement, reinforcement steel bars, bricks, sand, stone chips, shuttering materials, labour etc. complete and refilling of earth up to the existing ground level after curing. Installation of the CCMS Panel Box/Controller Box by grouting the stand in concrete.
- Finishing the end of the above XLPE armoured cables by crimping method incl. supplying and fixing solderless socket (Dowels make), tapes, anticorrosive paste & jointing materials.
- Supplying and fixing compression type gland complete with brass gland, brass ring & rubber ring for dust & moisture-proof entry of the above XLPE armoured cable.
- Supply and laying of 3.5 C, 25 sq.mm, XLPE insulated Armoured Al cable in hard standing with suitable size HDPE Pipe protection.

- Interconnection of the earth pit and connecting the equipment's body to earth electrode station including Supply & Fixing of 25 mm X 6mm galvanized (HotDip) MS flat as required and connection to equipment's incl. drilling holes, with bolts, nuts, washers, etc.
- Earthing with 50 mm dia ISI Medium GI pipe 3.64 mm thick x 3.00 Mts. long and 1 x 4 SWG GI (Hot Dip) wire (4 Mts. long), 13 mm dia x 80 mm long GI bolts, double nuts, double washers incl. S & F 15 mm dia GI pipe protection (1 Mts. long) to be filled with bitumen partly under the ground level and partly 20 above ground level driven to an average depth of 3.65 Mts. below the ground level and also providing masonry enclosure on the top of the earth electrode of overall size 86.36 cm x 86.36 cm x 46 cm deep (below Ground level) complete with cemented brick work(1:6) of 25 cm width duly plastered with cement mortar (inside) CI hinged inspection cover of size 36.56 cm x 35.56 cm with locking arrangement, GI reducer including drilling of 46 nos. 12 mm dia holes on the GI pipe and treating of soil by using salt and charcoal as required. (1 no. for each CCMS Panel Box).Additionally, connection with the existing Earthing also should be done.

**x) ADDITIONAL MANDATORY REQUIREMENT FOR LED STREET LIGHT LUMINAIRE:**

- The Wattage of the Street Light Luminaries should not be more than 140 Watt. **(Supporting Document – LED Luminaire manufacturer Data Sheet).**
- All the mandatory requirement clauses in technical evaluation above also apply to the Street Lights.
- The Street Lights should be Integral type. **(Supporting Document – LED Luminaire manufacturer Data Sheet).**
- Minimum Lumen output 16200 Lm. **(Supporting Document – LM 79 Report).**
- Model and make of LED Street Lights fittings. **(Supporting Document – LED Luminaire manufacturer Data Sheet).**
- The Driver should be Wirelessly Dimmable Driver. **(Supporting Document – Driver manufacturer Data Sheet).**
- The LED Street Light Luminaire Should is wirelessly individually controlled dimmable type. **(Supporting Document – Luminaire manufacturer Data Sheet).**
- Dimming Range Should be 10% to 100% of full Glow. **(Supporting Document – Luminaire manufacturer Data Sheet).**

- Smooth dimming or step dimming  $\geq 3$  Steps will be accepted. **(Supporting Document – Luminaire manufacturer Data Sheet).**

#### **TEST REPORTS TO BE SUBMITTED FOR COMPLAINT WITH IS 10322-5-3 (2012) FOR STREET LIGHTING LUMINAIRE**

IS 10322-5-3 (2012) Standard compliance Test Report should be submitted for Street Light Luminaire. Test Report will be accepted from both in-house or independent third party NABL accredited laboratory against the specified test standard.

#### **XI) ADDITIONAL MANDATORY REQUIREMENT FOR INDIVIDUALLY CONTROLLED LED FLOOD LIGHT LUMINAIRE –**

- The Wattage of the individually wirelessly controlled dimmable LED Flood Light Luminaires should not be more than 400 Watt, with beam angle of 60 degree. **(Supporting Document – LED Luminaire manufacturer Data Sheet).**
- All the mandatory requirement clauses in technical evaluation above also apply to the individually wirelessly controlled dimmable LED Flood Light luminaire.
- The LED Flood Lights should be Integral type. **(Supporting Document – LED Luminaire manufacturer Data Sheet).**
- Minimum Lumen output 44000 Lm. **(Supporting Document – LM 79 Report).**
- Model and make of LED Flood Light Luminaire. **(Supporting Document – LED Luminaire manufacturer Data Sheet).**
- The Driver should be Wirelessly Dimmable Driver. **(Supporting Document – Driver manufacturer Data Sheet).**
- The LED Flood Light Luminaire should be individually controlled type. **(Supporting Document – Luminaire manufacturer Data Sheet).**
- Dimming Range Should be 10% to 100% of full Glow. **(Supporting Document – Luminaire manufacturer Data Sheet).**
- Smooth dimming or step dimming  $\geq 3$  Steps will be accepted. **(Supporting Document – Luminaire manufacturer Data Sheet).**

## QCBS PARAMETERS FOR EVALUATION:

Note: Bids of only those bidders who fulfil Pre-Qualification criteria as specified in section 4.0 will qualify for QCBS based technical evaluation. Bids of those bidders who do not fulfil Pre-Qualification criteria will be rejected and no further evaluation shall be conducted. Evaluation of Serial No. 6 to 15 is applicable for Wirelessly/Remotely Controlled Dimmable LED Flood Light luminaire to be installed in High Mast /Lattice Towers for Group Control. Individually wirelessly controlled dimmable LED Street Light Luminaire and individually wirelessly controlled dimmable LED Flood Light luminaires are not considered in QCBS Evaluation. They should be compliant with both the mandatory requirements and additional mandatory requirements mentioned in technical evaluation above.

S#	Parameters	Document Required	Max Marks
	<b>Company Profile</b>		
1	<p>Profile of company in terms of experience, number of years in business in India since incorporation</p> <ul style="list-style-type: none"><li>• 7 or more than 7 Years – 5 Marks.</li><li>• 5 or more than 5 Years but less than 7 years – 3 Marks.</li><li>• 3 or more than 3 Years but less than 5 Years – 1 Mark.</li><li>• Less than 3 Years – Non-compliance.</li></ul>	<p>1. Copy of valid Certificate of Incorporation. 2. Copy of GST certificate.</p>	05
2	<p>Average turnover of the organisation:</p> <ul style="list-style-type: none"><li>• Above Rs 8 Crore over last three financial years ending at 31.03.2021 – 05 Marks.</li><li>• Between Rs 5 Cr to 8 Cr – 4 Marks.</li><li>• Between Rs 2 Cr to 5 Cr – 3 Marks.</li><li>• Below Rs 2 Cr – 1 Mark.</li></ul>	<p>Company's Annual Reports, Audited Balance Sheet and Profit and Loss account for last 3 years (i.e., 2018-19, 2019-20, and 2020-21) OR Chartered Accountant Certificate for last 3 years (i.e., 2018-19, 2019-20, and 2020-21)</p> <p>In case audited balanced sheet for FY 2020-21 is not available Chartered Accountant Certificate with UDIN registration regarding turnover for FY 2020-21 may be submitted.</p>	05
	<b>Similar Work Experience</b>		

S#	Parameters	Document Required	Max Marks
3	<p>Experience in Transportation Sector – (Rail Terminal/ Airport Terminal/ Road Transport Depots/ Road / Port including Land Port/CFS):</p> <ul style="list-style-type: none"> <li>• 3 Projects - 05 Marks,</li> <li>• 2 Projects - 04 Marks,</li> <li>• 1 Project - 02 Marks.</li> <li>• Nil – 0</li> </ul>	<ol style="list-style-type: none"> <li>1. Work Order</li> <li>2. Completion Certificate/ Performance Certificate</li> </ol>	05
4	<p>Experience of Supply, Installation and commissioning of LED High Mast/Lattice Tower Lighting System of minimum 10 Nos. along with cabling jobs, Feeder Pillar Box and other ancillaries:</p> <ul style="list-style-type: none"> <li>• 3 Projects - 05 Marks,</li> <li>• 2 Projects - 03 Marks,</li> <li>• 1 Project - 01 Mark.</li> <li>• Nil – 0</li> </ul>	<ol style="list-style-type: none"> <li>1. Work Order</li> <li>2. Completion Certificate/ Performance Certificate</li> </ol>	05
5	<p>Experience of Supply, Installation, Commissioning and Maintenance of Smart LED High Mast Flood Lights/Smart LED Street Lights with Smart/Web Enabled Centralised Control and Monitoring System with dimming functionality (Project valuing at least 1.26 Cr excluding GST only shall be considered):</p> <ul style="list-style-type: none"> <li>• 3 Projects - 05 Marks,</li> <li>• 2 Projects - 03 Marks,</li> <li>• 1 Project - 01 Mark.</li> <li>• Nil – 0</li> </ul>	<ol style="list-style-type: none"> <li>1. Work Order</li> <li>2. Completion Certificate/ Performance Certificate</li> </ol>	05
	<b>Technical Solution</b>		
6	<p><b>LED Chip Efficacy:</b></p> <ul style="list-style-type: none"> <li>• Efficacy (Lumen /Watt) <math>\geq 160</math> = 05 Marks.</li> </ul>	LED's LM 80Report. LED Chip manufacturer data sheet.	05

S#	Parameters	Document Required	Max Marks
	<ul style="list-style-type: none"> <li>• Efficacy (Lumen /Watt) <math>\geq 150 &lt; 160</math> = 03 Marks.</li> <li>• Efficacy (Lumen /Watt) <math>\geq 140 &lt; 150</math> = 01 Mark.</li> <li>• Efficacy (Lumen/Watt) <math>\geq 130 &lt; 140</math> = 0 Mark.</li> <li>• <b>Efficacy (Lumen/Watt) <math>&lt; 130</math> = Non-Compliance.</b></li> </ul>		
7	<b>LED System efficacy:</b> <ul style="list-style-type: none"> <li>• Efficacy (Lumen /Watt) <math>\geq 140</math> = 5 Marks.</li> <li>• Efficacy (Lumen /Watt) <math>\geq 130 &lt; 140</math> = 4 Marks.</li> <li>• Efficacy (Lumen /Watt) <math>\geq 120 &lt; 130</math> = 3 Marks.</li> <li>• Efficacy (Lumen /Watt) <math>\geq 110 &lt; 120</math> = 1 Mark.</li> <li>• <b>Efficacy (Lumen /Watt) <math>&lt; 110</math> = Non-Compliance.</b></li> </ul>	LED's LM 79 Reports from NABL Accredited Lab to support the same.  LED Luminaire manufacturer data sheet.	05
8	<b>Nature of Dimming:</b> <ul style="list-style-type: none"> <li>• Continuous Dimming- 5 Marks.</li> <li>• <math>\geq 7</math> Step Dimming = 3 Mark.</li> <li>• <math>\geq 3</math> Step Dimming = 0 Mark.</li> <li>• <b>Less than 3 Step Dimming= Non-Compliance.</b></li> </ul>	Self-Declaration.  Proposed Technical Solution. LED Luminaire Data sheet.	05
9	<b>LED Driver Efficiency:</b> <ul style="list-style-type: none"> <li>• Efficiency <math>\geq 90\%</math> = 5 Marks.</li> <li>• <math>90\% &gt; \text{Efficiency} \geq 88\%</math> = 4 Marks.</li> <li>• <math>88\% &gt; \text{Efficiency} \geq 87\%</math> = 3 Marks.</li> <li>• <math>87\% &gt; \text{Efficiency} \geq 86\%</math> = 2 Marks.</li> <li>• <math>86\% &gt; \text{Efficiency} \geq 85\%</math> = 1 Mark.</li> <li>• <b>Efficiency <math>&lt; 85\%</math> = Non-Compliance.</b></li> </ul>	Luminaire Driver Datasheet.  LED Driver Type Test certificate from NABL Accredited Lab.	05



S#	Parameters	Document Required	Max Marks
10	<b>External Surge Protection (SP):</b> <ul style="list-style-type: none"> <li>20 KV <math>\geq</math> SP = 4 Marks.</li> <li>20 KV &gt; SP <math>\geq</math> 15 KV = 3 Marks.</li> <li>15 KV &gt; SP <math>\geq</math> 10 KV = 2 Marks.</li> <li><b>SP &lt; 10 KV = Non-Compliance.</b></li> </ul>	Type Test Certificate from NABL accredited Lab. Luminaire Manufacturer Datasheet.	04
11	<b>Internal Surge Protection (SP):</b> <ul style="list-style-type: none"> <li>SP <math>\geq</math> 10 KV = 4 Marks.</li> <li>10 KV &gt; SP <math>\geq</math> 6 KV = 3 Marks.</li> <li>6KV &gt; SP <math>\geq</math> 4 KV = 2 Marks.</li> <li><b>SP &lt; 4 KV = Non-Compliance.</b></li> </ul>	Type Test Certificate from NABL accredited Lab. Luminaire Manufacturer Datasheet.	04
12	<b>Isolated Driver:</b> <ul style="list-style-type: none"> <li>2 or 3 Stage Isolated Driver=1 Marks.</li> <li>1 Stage Isolated Driver= 0 Mark.</li> <li><b>Non-Isolated Driver =Non-Compliance.</b></li> </ul>	Type Test Certificate from NABL accredited Lab. Luminaire Driver Datasheet.	01
13	<b>Maximum Wattage of LED Flood Light Luminaires including Driver without Dimming:</b> <ul style="list-style-type: none"> <li>Less Than 350 Watt = 3 Marks.</li> <li>More Than 350 but less than 400 Watt = 1 Mark.</li> <li>More Than 400 Watt = 0 Mark.</li> </ul>	Luminaire Data Sheet.IES file & LM-79 from NABL accredited Lab.	04
14	<b>Thermal conductivity of potting material:</b>	Driver manufacturer datasheet and type test	01

S#	Parameters	Document Required	Max Marks
	<ul style="list-style-type: none"> <li>• Thermal Conductivity <math>\geq 1\text{W/mK}</math> = 1Mark.</li> <li>• Thermal Conductivity <math>&lt; 1\text{W/mk}</math> = 0 Mark.</li> <li>• Thermal Conductivity <math>&lt; 0.6\text{ W/mK}</math> = <b>Non-Compliance.</b></li> </ul>	report from NABL accredited Lab.	
15	<b>Impact Protection of Luminaire:</b> <ul style="list-style-type: none"> <li>• <math>IK \geq 08</math> = 1 Mark.</li> <li>• <math>08 &gt; IK \geq 07</math> = 0 Mark.</li> <li>• <math>IK &lt; 07</math> = 0 Mark.</li> </ul>	Luminaire manufacturer datasheet and Type Test report from NABL accredited Lab.	01
16	<b>Proposed Technical Solution for the Project:</b>	<p>Written PDF document giving details of the vendor's proposed technical solution for the project in maximum of 15 Pages.</p> <p>This should include Details: -</p> <ul style="list-style-type: none"> <li>• Communication Protocols used.</li> <li>• CCMS panel/Controller.</li> <li>• Network Architecture.</li> <li>• Cloud based web accessible Command, Control and Monitoring Software.</li> <li>• Network Devices.</li> <li>• Details of the Dash Board.</li> <li>• Network architecture for sending Alerts</li> </ul>	20 Marks.

S#	Parameters	Document Required	Max Marks
		<p>over SMS and Email.</p> <ul style="list-style-type: none"> <li>• Details of Cloud Server and Storage.</li> <li>• Details of Network Security and encryption used.</li> <li>• Dimming Technology Employed.</li> <li>• Energy Efficient Smart Lighting Solution as a whole, etc.</li> </ul>	
	<b>Approach &amp; Methodology</b>		
17	<p>Approach &amp; Methodology</p> <ul style="list-style-type: none"> <li>• Understanding of Project - 05 Marks <ul style="list-style-type: none"> <li>• Presentation – 10 Marks</li> </ul> </li> <li>• Value Addition with innovative Solution – 05 Marks</li> </ul>	<p>Understanding of the project should be described in the form of written text (maximum of 3 pages).</p> <p>The Power Point presentation shall be submitted along with other technical documents.</p> <p>The Bidder will be invited to present same power point presentation in front of Committee / Competent Authority to evaluate the presentation.</p> <p>Value Addition with innovative Solution should be described in the form of written text (maximum of 3 pages).</p>	20

For each technical proposal, the total points that can be awarded for the bidder is 100, the minimum technical score (T) that Bidder requires to qualify for opening of the financial proposal is 70.

The Highest evaluated Technical Proposal (Th) shall be given maximum Technical Score (Ts) of 100. The formula for determining the technical score (Ts) all other proposal is calculated as follows:

$T_s = 100 \times T / T_h$ , in which “Ts” is the Technical Score, “Th” is the highest technical score given and “T” is the Technical Score of the proposal under consideration. The technical scores will be calculated up to 2 decimal points.

**39.0 FORMAT OF PRICE BID:****BILL OF QUANTITIES**

<b>SL.No.</b>	<b>DESCRIPTION</b>	<b>Quantity</b>	<b>Unit Rate (Rs.)</b>	<b>(Rs.) Total Amount</b>
1	Supply, Delivery, Testing, Installation, and Commissioning of wirelessly/ remotely controlled dimmable Energy Efficient Smart LED Flood Light Luminaires as a Complete Set on High Mast Carriage /Lattice Tower Top Platform as per technical specifications including Controller /CCMS Panel Box and all other required accessories for each group as a whole. (This is inclusive of all LED Luminaires to be installed on a High Mast or Lattice Tower including all accessories for a Group/Tower).	64 SET.		
2	Supply, Delivery, Testing, Installation, and Commissioning of individually wirelessly controlled dimmable Energy Efficient Smart LED Street Light Luminaires on as per technical specifications including individual controller and all required accessories.	100 Nos.		
3	Supply, Delivery, Testing, Installation, and Commissioning of Individually wirelessly controlled dimmable Energy Efficient Smart LED Flood Light Luminaires including individual controller to be installed on structures as per technical specifications.	179 Nos.		
4	Software, networking and any other related	1 No.		

	cost for successful implementation and running of the solution for the entire contract period.			
5	Cloud Cost for the entire contract period.	1 No.		
6	CAMOC for 1 <sup>st</sup> Year after 1 year warranty period.	1 No.		
7	CAMOC for 2 <sup>nd</sup> Year after 1 year warranty period.	1 No.		
8	CAMOC for 3 <sup>rd</sup> Year after 1 year warranty period.	1 No.		
9	CAMOC for 4 <sup>th</sup> Year after 1 year warranty period.	1 No.		
10	CAMOC for 5 <sup>th</sup> Year after 1 year warranty period.	1 No.		

- Above rate will be applicable for additional requirement for 1 year from the date of go-live.

**\*Note:**

- I. GST shall not be considered for evaluation. However, GST will be paid as per applicable rate.

## **Annexure A**

### **INFORMATION TO BE FURNISHED BY THE VENDOR.**

#### **[LIST OF DOCUMENT TO BE SUBMITTED]**

Few of the technical documents to be submitted in Techno commercial Bid

<b>Sl#</b>	<b>Description</b>	<b>Supporting Document Required</b>	<b>Complied( Yes/No)</b>	<b>Remarks</b>
1.	Service Network of LED Manufacturer in Kolkata.	Confirmation on official letter head giving details of company service network in Kolkata with undertaking of timely service within two working days.		Required from Luminaire Manufacturer (OEM) for all three types of luminaires . (If OEMs are different).
2.	ISO 9001:2015, ISO 14001: 2015	ISO certification accredited by an IAF member.		Required from Luminaire Manufacturer (OEM) for all three types of luminaires . (If OEMs are different).
3.	BIS Registration	Separate BIS Registration Certificate for both Luminaries and driver System.		Required from Luminaire Manufacturer (OEM) for all three types of luminaires.
4.	LED Chip Efficacy.	LM-80 Report .		Required for all three types of luminaires.
5.	LuminariesSystemEfficacy.	LM 79 Report.		Required for all three types of luminaires.
6.	LED(SMD) with Approved	LED Luminaries Data		Required for all three types of

	Make.	Sheet.		luminaires
7.	Photo biological safety norms.	Report from Internationally/ nationally accredited lab.		Required for all three types of luminaires.
8.	LED Life.	TM-21 life projection calculation along with LM80 for all three ambient temperatures of 55, 85, 105 Deg. C as per applicable standard shall be submitted to substantiate that the life of LED Chip (L70B50) shall be more than 50000 burning hours.		Required for all three types of luminaires.
9.	Secondary Optics Type.	LED manufacture datasheet and type test report certificate from NABL Accredited lab.		Required for all three types of luminaires.
10.	Colour Temperature.	LED manufacturer datasheet and softcopy of IESfile&report from NABL accredited Lab.		Required for all three types of luminaires.
11.	CRI	LED manufacture datasheet and soft copy of IES file &LM 79 report from NABL accredited Lab.		Required for all three types of luminaires.
12.	LED Module MCPCB	Self-Declaration of Luminaire Manufacturer.		Required for all three types of luminaires.
13.	Junction temperature of LED Chip	LED manufacture datasheet or LM 80 Report, and thermal and		Required for all three types of luminaires.



		temperature rise type test report.		
14.	No Flicker, Uniform and Glare free. No UV/IR Radiation.	Self Declaration.		Required for all three types of luminaires.
15.	Luminaire manufacturer shall produce certificate of association with LED manufacturer for minimum 2 years.	Certificate of Association.		Required for all three types of luminaires
16.	Model no.&make of LED Luminaries.	Manufacturer Datasheet.		Required for all three types of luminaires
17.	Driver should also be Constant Current Type.	LED Driver manufacturer Data Sheet.		Required for all three types of luminaires
18.	Electrically Isolated Driver.	LED Driver manufacturer Data Sheet.		Required for all three types of luminaires
19.	Minimum Efficiency of Driver	Driver manufacturer datasheet and type test report.		Required for all three types of luminaires
20.	Dimming Range and Nature of Dimming.	LED Luminaire manufacturer datasheet.		Required for all three types of luminaires
21.	Power factor of complete fitting	LED Luminaire datasheet.		Required for all three types of luminaires
22.	Surge Protection.	LED Luminaire datasheet and type test report.		Required for all three types of luminaires
23.	Total Harmonic Distortion (THD)	LED Luminaire datasheet.		Required for all three types of luminaires
24.	Potted LED Driver.	Driver Destructive test report for checking of potted driver needs to be done.		Required for all three types of luminaires
25.	Thermal conductivity of potting materials	Driver manufacturer datasheet and type test		Required for all three types of luminaires

		report from NABL accredited Lab.		
26.	IP Protection: 66 or above.	Luminaire manufacturer datasheet and Type Test report.		Required for all three types of luminaires
27.	Protection:	Driver manufacturer datasheet and Type Test report.		Required for all three types of luminaires
28.	Driver safety requirements	Self Declaration from Driver Manufacturer.		Required for all three types of luminaires
29.	Driver performance requirements	Self Declaration from Driver Manufacturer.		Required for all three types of luminaires
30.	Wide Operating Voltage Range.	Luminaire manufacturer datasheet.		Required for all three types of luminaires
31.	Housing.	LED Luminaire manufacturer datasheet.		Required for all three types of luminaires
32.	Cover Type	LED Luminaire manufacturer datasheet.		Required for all three types of luminaires
33.	Low Smoke, Fire retardant (FRLS) connecting wires.	LED Luminaire manufacturer datasheet.		Required for all three types of luminaires
34.	Mounting bracket (GI or Stainless Steel).	LED Luminaire manufacturer datasheet.		Required for all three types of luminaires
35.	Ambient temperature.	LED Luminaire manufacturer datasheet.		Required for all three types of luminaires
36.	Humidity	LED Luminaire manufacturer datasheet.		Required for all three types of luminaires
37.	Separate Driver and Optical	LED Luminaire		Required for all three types of

	compartments.	manufacturer datasheet.		luminaires
38.	IS 10322-5-3 (2012) for Street Lights.	IS 10322-5-3 (2012) Standard compliance Test Report Should be Submitted for Street Light Luminaire. Test Report will be accepted from both in-house and independent third party NABL accredited laboratory against the specified test standard.		Required for Street Light.
39.	IS 10322-5-5 (2013) for Flood Light Luminaire.	IS 10322-5-5 (2013) Standard compliance Test Report Should be Submitted FOR FLOOD LIGHTING LUMINAIRE. Test Report will be accepted from both in-house and independent third party NABL accredited laboratory against the specified test standard.		Required for both the flood lights.
40.	The Wattage of the Street Light Luminaries should not be more than 140 Watt.	LED Luminaire manufacturer Data Sheet.		Required for Street Light.
41.	The Street Lights should be Integral type.	LED Luminaire manufacturer Data		Required for Street Light.

		Sheet.		
42.	Minimum Lumen output 16200 Lm.	LM 79 Report.		Required for Street Light.
43.	Model and make of LED Street Lights fittings.	LED Luminaire manufacturer Data Sheet.		Required for Street Light.
44.	Wirelessly Dimmable Driver.	Driver manufacturer Data Sheet.		Required for Street Light.
45.	Wirelessly individually controlled dimmable type.	Luminaire manufacturer Data Sheet.		Required for Street Light.
46.	Dimming Range.	Luminaire manufacturer Data Sheet.		Required for Street Light.
47.	Smooth dimming or step dimming.	Luminaire manufacturer Data Sheet.		Required for Street Light.
48.	Minimum 25 Lux at a radius of 40 meter.	Dialux or Calculux Report.		Applicable for Group control.
49.	Minimum 10 Lux at a radius of 40 meter after maximum dimming.	Dialux or Calculux Report.		Applicable for Group control.
50.	The Wattage of the individually wirelessly controlled dimmable LED Flood Light luminaires should not be more than 400 Watt, with beam angle of 60 degree.	Luminaire manufacturer Data Sheet.		Applicable for individually controlled led flood light luminaire.
51.	LED Flood Lights should be Integral type.	Luminaire manufacturer Data Sheet.		Applicable for individually controlled led flood light luminaire.
52.	Minimum Lumen output 44000 Lm.	LM 79 Report.		Applicable for individually controlled led flood light luminaire.
53.	Model and make of LED	Luminaire manufacturer		Applicable for individually

	Flood Light Luminaire.	Data Sheet.		controlled led flood light luminaire.
54.	Wirelessly Dimmable Driver.	Driver manufacturer Data Sheet.		Applicable for individually controlled led flood light luminaire.
55.	Individually controlled type.	Luminaire manufacturer Data Sheet.		Applicable for individually controlled led flood light luminaire.
56.	Dimming Range.	Luminaire manufacturer Data Sheet.		Applicable for individually controlled led flood light luminaire.
57.	Smooth dimming or step dimming.	Luminaire manufacturer Data Sheet.		Applicable for individually controlled led flood light luminaire.

•All other document not listed above but asked for technical evaluation mentioned in the tender document should be included in this list.

Note: All other details of the NIT shall remain unchanged.

The above Corrigendum shall be a part of the Tender Document as per terms of the original tender.

Chief Mechanical Engineer (I/C)