CORRIGENDUM

In the light of pre-bid meeting held on **08.12.2017(Friday)** at 1.00 P.M. & suggestions received from the prospective bidders, JREDA has decided to make following amendments/addendum in the NIB No. **13/JREDA/SHMLS/17-18** for Design, Supply, Installation, Testing & Commissioning of 75 nos. LED Based Solar High Mast Lighting System including 5 years Comprehensive Maintenance Contract (CMC) at Public places & Government Campuses in the state of Jharkhand:

<table>
<tr><th>Section/ Annexure</th><th>Original Criteria</th><th>Read as/ Amendments/Addendums</th></tr>
<tr><td>e-procurement notice</td><td>
<table>
<tr><td>Last date & time for receipt of online bids</td><td>20.12.2017(Wednesday) upto 5:00 P.M.</td></tr>
<tr><td>Submission of original copies of Bid fee & EMD (Offline)</td><td>20.12.2017 and 21.12.2017 upto 5:00 P.M.</td></tr>
<tr><td>Technical Bid Opening Date</td><td>22.12.2017(Friday)at 3:00 P.M.</td></tr>
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<table>
<tr><td>Last date & time for receipt of online bids</td><td>26.12.2017(Tuesday) upto 5:00 P.M.</td></tr>
<tr><td>Submission of original copies of Bid fee</td><td>26.12.2017 and 27.12.2017 upto 5:00 P.M.</td></tr>
<tr><td>Technical Bid Opening Date</td><td>28.12.2017(Thursday)at 3:00 P.M.</td></tr>
</table>
</td></tr>
<tr><td>Section-6</td><td>Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/Battery:
Li Ferro Phosphate batteries of capacity 12 Volt, 480 Ah @ C/10, (12 V, 240 Ah x 2Nos. or 12V, 120 Ah x 4 nos.)</td><td>Page no. 29 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/Battery:
Li Ferro Phosphate batteries of capacity 12.8 Volt, 480 Ah @ C/10, (12.8 V, 240 Ah x 2Nos. or 12.8V, 120 Ah x 4 nos.)</td></tr>
<tr><td>Section-6</td><td>Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/ Light Source:
• White Light Emitting Diode (W-LED) 4*30 Watt(LED +Driver)
• Using LEDs which emits ultraviolet light will not be Permitted
Only Nichia/ Osram/ Philips Lumileds/ Cree/ Seoul/ Everlite make LED’s shall be used for light.</td><td>Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/ Light Source:
• White Light Emitting Diode (W-LED) 4*40 Watt(LED +Driver)
• Using LEDs which emits ultraviolet light will not be Permitted
Only Nichia/ Osram/ Philips Lumileds/ Cree/ Seoul/ Everlite make LED’s shall be used for light.</td></tr>
</table>

Section-6	**Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/Pole (Minimum 80 Microns):** Octagonal GI Pole, 9M long of thickness min 5MM and Bottom Dia (A/F):210 MM Top Dia (A/F): 90 MM, mounted on a pedestal of 0.9M height with suitable RCC foundation at least 1.5M deep(single column of 900mmX900mmX1500mm)	**Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/Pole (Minimum 80 Microns):** 9M Long, 20 sided polygonal Raising lowering mast shaft in Single section Suitable for basic wind speed 50 m/sec (180 Km/ Hr) complete with head frame, Luminaries carriage suitable to install 4 nos. Luminaries, Solar Panels & battery on the top of the mast .There should be provision to install the type tested Winch inside the mast for raising & lowering of complete solar lighting system. The mast must be hot dip galvanized 20 sided polygonal structure having Bottom A/F Dia 410 mm , top A/ F Dia 150 mm of 3 mm thick. The high mast should have a designed life of 25 years.
Section-6	**Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS:**	**Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/ Stainless Steel Wire Rope:** Wire rope of Grade AISI 316 grade , 7/19 construction, with two ropes continues 6 mm diameter and braking load capacity 2400 kg x 2. The breaking load test report obtained from govt. laboratory of the wire rope should justify the desired the breaking load capacity.
Section-6	**Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/ S:** 750x750x1000MM	**Page no. 28 of the NIB, Table: BROAD PERFORMANCE PARAMETERS/ Decorative Pedestal:** **900 x 900 x 2500 MM**
Section-6	**Page no. 30 of the NIB, Clause no. 3 MINIMUM TECHNICAL REQUIREMENTS / STANDARDS/ BATTERY:** Battery shall be Lithium Ferro phosphate with maximum Depth of Discharge 90%, the batteries should conform to the latest BIS /International standards, copy of the same	**Page no. 30 of the NIB, Clause no. 3 MINIMUM TECHNICAL REQUIREMENTS / STANDARDS/ BATTERY:** Battery shall be Lithium Ferro phosphate (**LiFePo4)** with maximum Depth of Discharge **90%**, the batteries should conform to the latest BIS /International standards, copy of the

	relevant test certificate for the battery should be furnished. The battery should be tested by reputed Indian Central Electro-chemical research laboratory (CECRI) Tamilnadu or authorized MNRE test center. i. Capacity of the each battery shall not be less than12V, 100Ah/200 Ah at C10 rate. ii. DOD shall be 75% i.e., at least 75 % of the rated capacity of the battery should be between fully charged & load cut off conditions. iii. Battery terminal shall be provided with covers. iv. Suitable carrying handle shall be provided. v. Bidder shall mention the design cycle life of batteries at 75%, 50% and 25% depth of discharge at ambient temperature up to 45 degree C. vi. The batteries shall be designed for operating in ambient temperature of site upto 55 degree C. vii. The self-discharge of batteries shall be less than 2 % per month of rated capacity at 27 degree C.	same relevant test certificate for the battery should be furnished. The battery should be tested by reputed Indian Central Electro-chemical research laboratory (CECRI) Tamil Nadu or authorized MNRE test center. **The battery shall be of LiFePo4 storage batteries as per MNRE with control electronics, BMS, inter-connecting wires/cables properly sealed. Should have designed battery management system (appropriate over charging, over heating deep discharge protection).** i. Capacity of the each battery shall not be less than**12.8V**, 100Ah/200 Ah at C10 rate. ii. DOD shall be **90%** i.e., at least **90 %** of the rated capacity of the battery should be between fully charged & load cut off conditions. iii. Battery terminal shall be provided with covers. iv. Suitable carrying handle shall be provided. v. Bidder shall mention the design cycle life of batteries at 75%, 50% and 25% depth of discharge at ambient temperature up to 45 degree C. vi. The batteries shall be designed for operating in ambient temperature of site upto 55 degree C. vii. The self-discharge of batteries shall be less than 2 % per month of rated capacity at 27 degree C.

Section-6	**Page no. 30 of the NIB, Clause no. 4 MINIMUM TECHNICAL REQUIREMENTS / STANDARDS/Light Source:** v. The LED efficacy should be more than 140 lumen / watt, The total luminaries efficacy should not be less than 100 lumens per watt.(Including all loses) i.e the lumens output of each luminary should not be less than 1800 lumens.	**Page no. 30 of the NIB, Clause no. 4 MINIMUM TECHNICAL REQUIREMENTS / STANDARDS/Light Source:** v. The LED efficacy should be more than 140 lumen / watt.
Section-6	**Page no. 31 of the NIB, Clause no. 4./ Technical Requirement/light Source** ix. Power consumption of the each LED Luminary / Lighting unit shall not be more than 36 W (including LED Driver power loss).	**Page no. 31 of the NIB, Clause no. 4./ Technical Requirement/light Source** ix. Power consumption of the each LED Luminary / Lighting unit shall not be more than **30 W** (including LED Driver power loss).
Section-6	**Page no. 31 of the NIB, Clause no. 4./ Technical Requirement/light Source** x. The lux level over a 16 meter of radius should not be less than 5% at the point mentioned below in the lux level distribution chart.	**Page no. 31 of the NIB, Clause no. 4./ Technical Requirement/light Source** **Deleted**
Section-6	**Page no. 33 of the NIB, Clause no. 6./ Technical Requirement/Standards**	**Page no. 33 of the NIB, Clause no. 6./ Technical Requirement/Standards**

	Storage Batteries | General Requirements & Methods of Testing | Latest BIS standard	Storage Batteries | General Requirements & Methods of Testing | **IS 16046:2015**
Section-6	**Page no. 33 of the NIB, Clause no. 6.1/ Technical Requirement/MECHANICAL HARDWARE** (i) A galvanized metallic frame structure to be fixed on the pole to hold the SPV module(s). The frame structure should be fixed at 30 degree from horizontal facing true south. (ii) The pole should be hot deep Galvanized Iron Octagonal pole in single length for 9.0 mtr. Height as per specification as under: a. The Octagonal poles shall be Hot deep galvanized to min 80 microns. The material of pole shall be as per specification of BS EN 100025, ISO 1461. b. The size of the pole shall be min 90 mm (A/F) at Top side, 210 mm (A/F) at bottom side with thickness of 5 mm minimum. c. The base plate of pole shall be of size 300 X 300 X 16 mm duly welded to pole. d. Pole should have the arrangement at top for mounting of Solar panel of design capacity with mounting structure at an angle of latitude $\pm 2^0$	**Page no. 33 of the NIB, Clause no. 6.1/ Technical Requirement/MECHANICAL HARDWARE** (i) A galvanized metallic frame structure to be fixed on the pole to hold the SPV module(s). The frame structure should be fixed at 30 degree from horizontal facing true south. (ii) The pole should be hot deep Galvanized Iron Octagonal pole in single length for 9.0 mtr. Height as per specification as under: a. The Octagonal poles shall be Hot deep galvanized to min 80 microns. The material of pole shall be as per specification of BS EN 100025, ISO 1461. b. The size of the pole shall be min **150mm (A/F**) at Top side, **410 mm** (A/F) at bottom side with thickness of **3 mm** minimum. c. **Diameter of base plate (MM)= 580 mm** **Thickness of base plate (MM)= 20 mm** d. Pole should have the arrangement at top for mounting of Solar panel of design capacity with mounting structure at an angle of latitude $\pm 2^0$ degree.

	degree. e. The four LED luminaries shall be mounted on this pole at height of 6.5 meter from pole bottom. f. The battery either two or four shall also be mounted on this pole at suitable height hence provision should be made accordingly. g. The pole shall be mounted on suitable RCC foundation at least 1.5 meter deep and 0.5 meter above ground with 4 bolt of min 20 mm size h. The Nut -Bolts in battery box and panel structures should be proper riveted to ensure the theft. i. The design and foundation details of the pole shall be got approved from JREDA before execution of work. (iii) Battery box: Two vented metallic box of 20 SWG thick made of pre coated galvanized ms sheet with 60 microns thickness for housing the storage battery outdoors should be provided with proper lock and key. The boxes should be inscribed with JREDA written on at least two faces. The size of box should be as per battery size (including vent plug/level indicator) providing minimum clearance	e. The four LED luminaries shall be mounted on this pole at height of 6.5 meter from pole bottom. f. The battery either two or four shall also be mounted on this pole at suitable height hence provision should be made accordingly. g. The pole shall be mounted on suitable RCC foundation at least 1.5 meter deep and **1 meter** above ground with 4 bolt of min 20 mm size h. The Nut -Bolts in battery box and panel structures should be proper riveted to ensure the theft. i. The design and foundation details of the pole shall be got approved from JREDA before execution of work. (iii) Battery box: Two vented metallic box of 20 SWG thick made of pre coated galvanized ms sheet with 60 microns thickness for housing the storage battery outdoors should be provided with proper lock and key. The boxes should be inscribed with JREDA written on at least two faces. The size of box should be as per battery size (including vent plug/level indicator) providing minimum clearance of 25 mm on all sides. The battery box is to be properly rest/mounted on pole at 03 meters of height from ground level. Louvers for proper ventilation should be provided on one side and back of the battery

	of 25 mm on all sides. The battery box is to be properly rest/mounted on pole at 03 meters of height from ground level. Louvers for proper ventilation should be provided on one side and back of the battery box. No vent shall be providing on top of battery box. Box should be provided with proper locking arrangement. The edges of box should be turned properly to give smooth edge and good strength. Two wooden battens should be fixed inside the battery box to avoid the electrical contract between battery and box. Components and hardware shall be vandal and theft resistant. All parts shall be corrosion-resistant (iv) Electric cable The electric cable used shall be twin core PVC insulated water and UV resistance copper cable of minimum size 1.5mm. Cable shall meet IS 1554 / 694 Part 1:1988 & shall be of 650 V/ 1.1 kV.	box. No vent shall be providing on top of battery box. Box should be provided with proper locking arrangement. The edges of box should be turned properly to give smooth edge and good strength. Two wooden battens should be fixed inside the battery box to avoid the electrical contract between battery and box. Components and hardware shall be vandal and theft resistant. All parts shall be corrosion- resistant (iv) Electric cable The electric cable used shall be twin core PVC insulated water and UV resistance copper cable of minimum size 1.5mm. Cable shall meet IS 1554 / 694 Part 1:1988 & shall be of 650 V/ 1.1 kV.
Section-6	**Page no. 34 of the NIB, Clause no. 6.2 OTHER FEATURES** A toll free number (i.e. 1800 180 0005) of IVRS of JREDA and 14 digit UID number of minimum computer font size 72 or 13 mm (issued/provided by JREDA) is to be embossed/ punch on pole between 1-1.5 meter above from ground level and in front of battery box by contractor/ bidder, which in case of non-working/ operational problems	**Page no. 34 of the NIB, Clause no. 6.2 OTHER FEATURES** UID number of minimum computer font size 72 or 13 mm (**issued by developer**) is to be embossed/ punch on pole between 1-1.5 meter above from ground level and in front of battery box by contractor/ bidder. **Contractor/Bidder shall also make proper arrangement to emboss logo of state government and JREDA at visible height.** The

	etc of system will be dialed by the beneficiary etc to lodge a complaint in respect of system problems. The IVRS will divert the complaint to Contractor/ bidder through E mail, SMS etc. The contractor/ bidder will have to rectify the same to make/ restore the system to working position within 72 hours in the warrantee period of 5 years, failing which the system may be get rectified on contractor/ bidder cost and the cost will be recovered by contractor/ bidders pending claims what so ever and appropriate action as per non compliance etc of agreement will be considered/taken.	contractor/ bidder will have to rectify the same to make/ restore the system to working position within 72 hours in the warrantee period of 5 years, failing which the system may be get rectified on contractor/ bidder cost and the cost will be recovered by contractor/ bidders pending claims what so ever and appropriate action as per non compliance etc of agreement will be considered/taken.

2. Page No. 28 of NIB, Annexure -9: Price Bid amended and read as below

Annexure-9: Price Bid

NIB No: 13/JREDA/SHMLS/17-18

Sub: Design, Supply, Installation, Testing & Commissioning of 75 nos. LED Based Solar High Mast Lighting System including 5 years Comprehensive Maintenance Contract (CMC) at Public places & Government Campuses in the state of Jharkhand.

S. No.	Description	Max. Qty.	Offered Qty.	Unit rate including all taxes & charges (in Rs.)	
				In Figure	In Words
1	2	3	4	5	6
1	Design, Supply, Installation, Testing & Commissioning of 75 nos. LED Based Solar High Mast Lighting System including 5 years Comprehensive Maintenance Contract (CMC) at Public places & Government Campuses in the state of Jharkhand	30			

1 Above quoted price for SHMLS are complete in all respect as per Technical Specifications inclusive of all Central/State/Local taxes & duties, packing, forwarding, transit insurance, loading & unloading, transportation & other charges etc. FOR destination at any site in Jharkhand and inclusive of installation, testing, commissioning, performance testing and training.

2 Certified that rates quoted for SHMLS are as per specifications, terms & conditions mentioned in the bid document.

(Signature of Authorized Signatory)

Name:
Designation:
Company Seal:

(This bid Performa must be submitted duly signed in case separate sheet is submitted)

3. Changes made as above in NIB may be read accordingly for similar changes in related technical specification.
4. The Corrigendum shall form the integral part of the tender documents.

Sd/-
Director,
JREDA, Ranchi