

Owner: India Synthetic Rubber Pvt. Ltd. (ISRPL), Panipat, Haryana

Project Type: Corporate Social Responsibility (CSR) Project — CAPEX Model

SECTION 1: BID INFORMATION SHEET & PROJECT SCHEDULE

- **Project Scope Title:** Supply, packaging, forwarding, transportation, unloading, Storage, installation, Erection, termination, fitting, testing & Commissioning of Solar High Mast LED Light Pole along with all associated accessories.
- **Commissioning & Completion Schedule:** The complete supply, construction, erection, and final commissioning of the project must be fully completed within **Three (3) months** from the effective date of the Project Contract.
- **Location for installations:**
 - 1) Village Kawi: 02 Poles
 - 2) Village Jitgarh: 03 Poles
 - 3) Village Nohra: 02 Poles
 - 4) Village Mehmampur: 03 Poles
 - 5) Village Baljattan: 02 Poles
 - 6) Village Kabdi: 03 Poles

SECTION 2: SCOPE OF WORK FOR THE BIDDER

The Bidder or Contractor is explicitly responsible for, but not limited to, the following scope items:

- Complete supply, sourcing, procurement, transportation, installation, erection, and commissioning.
- Submission of detailed engineering drawings and documents agreed between the Bidder and Owner for formal approval. Civil Foundation Design Calculation and Drawing to be submitted for approval before construction.
- **Procurement Restriction:** The bidder is strictly prohibited from proceeding with procurement of Solar High Mast Light Pole components until formal written approval of drawings is granted by the Owner's representative.
- The scope completely includes everything required for successful implementation, commissioning, and operations. No variations or extra financial claims on this account will be entertained by the Owner.
- The boundary of work initiates from the point of supply up through final testing and commissioning of all systems, equipment, and materials.
- Supply of a complete, all-inclusive package: Solar High Mast LED Light Poles, LED lights, earthing electrodes, structural supports, and all associated items or accessories.
- Site shall be handed over 'As is where is basis'. Before quoting the bidder may visit the site to familiarize with the site.
- On-site handling including loading, lifting, and shifting of equipment using chain pulleys, cranes, and specialized labour.

- Provision of all special tools, test equipment, commissioning spares, and active consumables.
- Execution of supply, installation, earthing strip laying, junction box installation, earth pit installation, cable glanding, wire terminations, and all piping types.
- Supply, fabrication, and physical erection of all structural and supplementary materials for the High Mast Pole.
- **Civil Infrastructure Scope:** Full execution of excavation, removal of surplus earth, Reinforced Cement Concrete (RCC), Plain Cement Concrete (PCC), structural shuttering work as per the approved drawing. This includes backfilling & compaction of the excavated area as per drawing.
- Supply, installation, testing, and commissioning of the targeted earthing pit according to detailed engineering layouts.
- **Surface Protection:** Mandatory anti-corrosive painting of all structural supports for cable trays, panels, junction boxes, instruments, ducts, and supporting structural steel elements.
- Provision and strict mandatory usage of all necessary Personal Protective Equipment (PPEs) required for the execution of the entire job.
- High Mast Foundation Design with Detailed design calculations to be submitted.
- Painting & Stencilling on HM, Earth Pit as per relevant IS.

SECTION 3: BILL OF QUANTITIES (BOQ)

The following exact specifications and quantities must be provided under this contract:

1. **Solar High Mast Light Pole:** 15 Nos
2. **Integrated LED Fixture:** 100W, Efficiency >150 lm/W, Luminous Flux > 15,000 lumens, CCT 5500–6500K: 60 Nos (4 fixtures configured per high mast pole).
3. **Integrated Solar Station Unit:** Atleast 320Wp / 36V Monocrystalline Solar Panel ($\geq 21\%$ efficiency), including integrated battery box with bypass diodes, inbuilt Lithium Ferro Phosphate Battery Pack (LiFePO_4) rated at 25.6V / 72Ah, embedded Battery Management System (BMS) with full safety protections, and an integrated MPPT Solar Charge Controller: 60 Nos. (4 per high mast pole).
4. **Chemical Earth Electrode:** Supply and fixing of chemical earth systems: 30 Nos(2 per high mast pole).

SECTION 4: TECHNICAL SPECIFICATIONS

A. Mechanical & Structural Specifications of the 10M High Mast Pole

- **Pole Structure Type:** Swaged type Steel Octagonal pole profile configured with a mild steel base plate.
- **Overall Pole Length:** 10 Meters.
- **Shaft Assembly:** Fabricated in two independent sections, dynamically designed to safely withstand a basic wind speed of **47 meters per second**.

- **High Mast Hardware Components:** Outfitted with a high mast head frame, a dedicated winch mounting bracket, and a luminaire carriage built for symmetrical mounting of 4 separate Integrated 100W light fixtures.
- **Dimensions & Structural Thickness:**
 - Top Diameter: atleast 150 mm
 - Bottom Diameter: atleast 310 mm
 - Overall Plate Thickness: atleast 5 mm
- **Foundation Hardware:** Supplied with foundation bolts manufactured from galvanized special steel conforming to relevant IS Standards, complete with heavy-duty nuts, flat washers, anchor plate, and a matching common template.
- **Corrosion Resistance Coating:** Hot-dip galvanized (Zn 98 to 98.5%) to meet **BS EN ISO 1461** specifications, ensuring an absolute minimum average coating thickness of **65 microns**.
- **Governing Structural Standards:**
 - Design Standard: **PLG 07 OF ILP**
 - Basic Wind Speed Design Standard: **IS: 875 Part III: 2015**
 - Design Life: 25 Years
 - Terrain Category: 2A
 - Topography Factor: Flat terrain profile
- **Material Quality Standards:**
 - Shaft Fabric: Hot Rolled Steel Plate conforming strictly to **IS 2062 / BS EN 10025** or certified equivalent grade.
 - Flanges, Gussets, & Door Stiffeners: Built to **IS-2062 / BS EN 10025** or equivalent grade.
 - Base Plate: Hot Rolled Steel Plate of **Grade E250** as per **IS 2062** or equivalent.
 - Foundation Bolts Tensile Strength: Rated at **600 N/Sq.mm**.
 - Nuts & Bolts: Hexagonal Heads, minimum grade 5.6
- **Fabrication Tolerances:**
 - Across Flats (A/F) Dimension Tolerance: ± 3 mm (measured outside-to-outside).
 - Material Thickness Tolerance: $\pm 5\%$.
- **Security & Service Door:** An adequate door opening shall be provided at the base of the mast and the opening shall be such that it permits clear access to equipment like winches, cables, plug and socket, etc. and also facilitate easy removal of the winch. The door opening shall be complete with a close fitting, vandal resistant, weatherproof door, provided with a heavy-duty double internal lock with special paddle key.
- **Lifting & Lowering Mechanism:** High mast up & down operations are strictly manual. The winch design shall have factor of safety design of not less than 2. The high strength stainless steel flexible wire rope with factor of safety not less than 5 times of the safe working load of winch. The winch drums shall be grooved to ensure perfect seat for stable and tidy rope lay, with no chances of rope slippage. The winch shall be type tested in a reputed test lab/ Institution and

the test certificates shall be furnished before supply of materials. Test certificate shall be furnished by the bidder from the original equipment manufacturer, for each winch in support of the maximum load operated by the winch. Recommended make Reliance, Apollo Rope and Alloys India Pvt. Ltd., or an approved equivalent make.

- **Stainless Steel Wire Ropes:** The suspension system shall essentially be without any intermediate joint and shall consist of only non-corrodible stainless steel of AISI - 316 or better grade. The design shall have a factor of safety over 5 for the system at full load. Two continuous lengths of stainless-steel wire ropes are used in the system and no intermediate joints are acceptable in view of the required safety. No intermediate joints, either bolted or else, shall be provided on the wire ropes between winch and lantern carriage.

B. Integrated Solar Module, MPPT, & Battery System

- **System Architecture:** It shall be integrated Solar LED light consisting of solar panel, battery and charge controller into a unified structural mount.
- **System Performance:** Shall be designed for automated "Dusk to Dawn" operations.
- **Solar Panel Component:** atleast 320Wp (-0/+4W variance tolerance) Monocrystalline silicon module. Operates at 36V with a high cell efficiency $\geq 21\%$ and a high Fill Factor (FF) up to 80%. Includes built-in bypass diodes within an IP65 rated junction box.
- **Battery Pack Component:** 1843Wh Lithium Ferro Phosphate (LiFePO_4) battery pack rated at 25.6V / 72Ah. Features BIS Certification. Life cycle shall be greater than **2000 cycles at a deep 90% Depth of Discharge (DoD)**. Shall include an integrated Battery Management System (BMS) with Negative Temperature Coefficient (NTC) thermal sensors.
- **Charge Controller (MPPT):** Intelligent micro-controller-based design with an on-board DC-DC LED driver. System energy conversion efficiency shall be greater than 90% (up to 95% maximum charge/discharge conversion). Charging efficiency shall be greater than 20% higher than conventional PWM controllers.
- **System Autonomy & Charging Requirements:** Shall be built to support **24 hours / 2 days minimum autonomy** (keeps the LED load active without solar charging for 2 consecutive days). To ensure compliances for 24 hours / 2 days minimum autonomy (keeps the LED load active without solar charging for 2 consecutive days), the project implementor required to submit the following documents & design calculation for review and approval.
 - LED Load profile
 - Battery sizing calculation
 - Solar PV sizing
 Technical data sheet to be submitted for the same.
- **Integrated Protective Guarding:**
 - *Solar Panel / PV Input:* Overvoltage, Reverse Polarity, and minimal current charging safety.
 - *Battery Protection:* Deep discharge, overcharge, overvoltage, low-temperature cutoff, reverse polarity protection, and a system wake-up function to activate the system from Low Voltage Disconnect (LVD) when BMS power shuts off.
 - *Load Protection:* Overload, open circuit, short circuit, and automatic dimming activation if battery voltage drops dangerously low. Includes Back-feed Current Protection.
- **Environmental Protection Ratings:** Ingress Protection rating of **IP65** and Mechanical Impact Resistance rating of **IK07**.

C. LED Flood Light Fixtures

- **Fixture Power & Efficacy:** 100W per fixture with a luminaire efficacy greater than 150 lumens/Watt.
- **Optical Characteristics:** Correlated Color Temperature (CCT) shall be in between 5500K – 6500K.
- **Housing & Environmental Build:** Shall be housed in a heavy-duty single-piece pressure die-cast aluminium housing for high thermal heat dissipation. Shall be certified to IP66 ingress protection and IK08 impact resistance.
- **Visual Diagnosis Indicators:** Shall be outfitted with ground-visible, high-brightness smart LED self-diagnosis indicators to display real-time status for battery charging (Green indicator), deep discharge status, and load cut-off errors even during direct daytime light. Features highly efficient mid-power white dimmable LEDs.
- **Factory-Set Solar Dimming Profiles:** Dual control profile managed automatically via an intelligent Dusk-to-Dawn sensor mechanism:
 - First 5 Hours of operation: **100% continuous light output.**
 - Remaining 7 Hours of operation: **30% baseline output.** It shall include an integrated **PIR Sensor** to instantly ramps the fixture up to full glow upon detecting physical movement.

D. Engineering Compliance Standards

The supplied products and technologies must conform strictly to the following certified compliance frameworks:

- **LED Fixtures:** IEC 60598-1, LM79, and LM80 compliance for the primary light source.
- **Solar Panels:** IEC 60529 (IP65), IEC 61215, IEC 61730-1 & 2, IEC 61701, IS 16077, and IS 14268.
PV modules must conform to the latest edition of the following standards also - IEC 62804 & IEC 61853.
- **Battery Pack:** IEC 62133 for the complete assembly, and IEC 62960 for individual lithium cells.
- **Solar Charge Controller:** Dynamic MPPT efficiency tracking under varying weather parameters tested to EN 50530, alongside system certifications to IEC 62109-1, IEC 62509, IEC 61547, and CISPR 15.

Fig-1

Chemical Earth Pit Engineering

- **Electrode Dimensions:** Exact length of **3 Meters (3000 mm)** vertically oriented.
- **Material Construction:** Options include high-grade **pure copper** or heavy **copper-bonded steel** featuring a strict **250 to 500 microns** external coating thickness.
- **Electrode Sizing:** Outer pipe diameter must be a minimum of **50 mm** for pipe configurations, or ranging from **16 mm to 25 mm** for solid metal rod configurations. Outer pipes must have a structural wall thickness of **2 mm to 3 mm**.
- **Backfill Compound (BFC):** Each individual earth pit must utilize a **25 kg to 50 kg packed bag** of advanced Backfill/Earth Enhancement Compound. The compound must exhibit low electrical resistivity, non-corrosive chemical profiles, high conductivity, and specialized moisture-retention properties that prevent washing away.
- **Installation Layout:** Pits must be bored or augured slightly deeper than 3 meters to ensure the entire 3000 mm electrode length is buried completely vertical. The very top edge must remain accessible for earthing strip connections.
- **Interconnection Layout:** Pits must be interconnected utilizing Galvanized Iron (GI) strips measuring **25 mm x 6 mm**.
- **Earth Pit Chamber:** A concrete chamber measuring exactly **500 mm x 500 mm**, outfitted with a secure surface access cover.
- Earth Pit value to be maintained. (Maximum 2ohm per earth pit).
- The earthing design shall comply to latest IE rules and CEA guidelines

SECTION 6: WARRANTIES, SERVICE LIFESPAN, & TECHNICAL EVALUATION RULES

- **System Lifespan:** Designed for a **5-year minimum continuous glow life** without needing any physical system maintenance.
- **Contract Warranties:**
 - A minimum **5-Year full parts replacement warranty** covering the LED Fixtures, the 10M High Mast Pole, and the Integrated Solar Module/Battery assembly.
 - A **25-Year performance warranty** specifically covering the Monocrystalline Solar Module.
- **Bidder site visit:** The bidder is required to visit the sites for the high mast installation and supplier.
- **Documentation Submission Requirements:** Bidders must submit detailed schematic drawings displaying all components, product data sheets, and comprehensive manufacturing equipment catalogues. Submissions must include full material test records, physical inspection reports, and all relevant compliance certificates verifying power, CRI, CCT, lumens, and system thresholds. Offers failing to supply these verified test reports will be disqualified from technical evaluation.



Indian Synthetic Rubber Private Limited

(Joint Venture of Indian Oil, TSRC- Taiwan)

Contact Address:

Opposite Naptha Cracker Polymer Terminal Gate.

P.O.: Panipat Refinery, Panipat-132140

Tel.: +91-180-252-9100,9200 & Fax: +91-180-252-9138

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Request for Quotation

Vendor Code : 10000232 Vendor Name: INSTALLATION OF SOLAR HIGH MAST LED POLE Vendor Address: X . 000000 Contact Person: Phone: Email: Vendor GST No.:	RFQ No: 4100025181 RFQ Date: 14.10.2026 PR No.: 2000002854 Purchase Group: Service Contact Person: Sachin Verma ISRPL GST NO.: 06AACCI3980J1ZE Service to be delivered at: Indian Synthetic Rubber Private Limited Opposite Naptha Cracker Polymer Terminal Gate P.O. Panipat Refinery, Panipat
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Quotation Deadline Date : 25.10.2026 **Time :** 1300 Hrs

Financial Qualification Criteria for Bidders: -

1. Bidders must have an Average Turnover of at least Rs 1.65 CR during last 3 financial years.
2. Bidders must have experience of having successfully carried out and completed similar work during last 3 financial years ending last day of the month previous to the month in which bids are invited, of which experience should be any one of the following
 - a. Three similar completed works, each costing not less than the amount equal to Rs 28.81 Lacs.
 - or
 - b. Two similar completed works, each costing not less than the amount equal to Rs 37.04 Lacs.
 - or
 - c. One similar completed work costing not less than the amount equal to Rs 61.73 Lacs.
3. The Bidder must have a positive Net Worth for the last three financial years (Audited Annual accounts statements are required to be submitted)
4. The Bidder's business should not be into continuous cash losses for last three financial years.

Item	Service	Quantity	UoM	Delivery date
00010	INSTALLATION OF SOLAR HIGH MAST LED POLE	1	Activ.unit	09.11.2026

Please refer the attached RFQ document for details & specifications.

Scope: Supply, Installation, Erection & Commissioning of Solar High Mast Pole under CSR Project at villages in Panipat at strategic locations.

Regd. Office: 10th Floor, Core 2, Scope Minar, District Centre, Laxmi Nagar, Delhi #92. Tel. :+91-11- 43130000 Fax: +91-11-43130007

Corporate Office: 1st Floor, IGL Complex, Plot No. 2B, Sector 126, Noida-201304, U.P. Tel. :+91-120- 4871000 Fax: +91-120-4871030

Plant Address: Opposite Naptha Cracker Polymer Terminal Gate, P.O.: Panipat Refinery, Panipat-132140, Tel.: +91-180-252-9100 & Fax: +91-180-252-9138

Tax Details: GST No.: 06AACCI3980J1ZE PAN No.: AACCI3980J Corporate Identity Number: U25190DL2010PTC205324



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Vendor Code : 10000232

Vendor Name: INSTALLATION OF SOLAR

4100025181 / 14.10.2026

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Item	Service	Quantity	UoM	Delivery date
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A) Bidder Technical Pre-Qualification Criteria:

The bidders should have the experience of having successfully installed at least 8 nos of solar high mast in last 5 years.

Bidder must be OEM or If the bidder is not the Original Equipment Manufacturer (OEM), they must provide a valid Authorized channel partner (SI) of OEM.

#In case of Authorized dealer /channel partner: Bidder are requested to submit an authorization letter from the OEM in original/ channel partnership certificate issued by the OEM. ISRPL reserves the right to ask for further support documents like certificate of incorporation / manufacturing license, etc. of OEM or other supporting of Authorized dealer or channel partner to verify the authenticity.

JV partners shall not be entertained.

Similar Works is defined as Supply, Installation, erection and Commissioning of High Mast light poles.

Documents required:

Signed Agreement/PO copy/Work order/LOI or any other valid document which shows value of awarded works along with BOQ. The work order for similar work(s) shall be in the name of the bidder. In case of combined works, clear calculations showing the bifurcated cost towards the similar work.

Completion Certificate/Final Bill certified by the client or any other document which conclusively proves completion of the awarded work. This document shall clearly mention Name of the client, Name of the job, Work Order / Purchase order / LOI No. and date, Value of Completed work, and Date of completion and satisfactory completion of work.

All other documents as mentioned in the tender specification.

ISRPL may ask additional documents during evaluation and vendor should submit the same immediately as per requirement.

B) Vendor can do the necessary site visit to study the location & requirement before submission of technical and financial proposal.

C) Contractor to mobilise Supervisor for overall coordination, supervision and safety during execution of site activities for every site of work

Regd. Office: 10th Floor, Core 2, Scope Minar, District Centre, Laxmi Nagar, Delhi #92. Tel. :+91-11- 43130000 Fax: +91-11-43130007

Corporate Office: 1st Floor, IGL Complex, Plot No. 2B, Sector 126, Noida-201304, U.P. Tel. :+91-120- 4871000 Fax: +91-120-4871030

Plant Address: Opposite Naptha Cracker Polymer Terminal Gate, P.O.: Panipat Refinery, Panipat-132140, Tel.: +91-180-252-9100 & Fax: +91-180-252-9138

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Vendor Name: INSTALLATION OF SOLAR

4100025181 / 14.10.2026

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Item	Service	Quantity	UoM	Delivery date
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D) Contractor shall make own arrangements for proper transportation, storage and security of the materials supplied to site.

E) Support and After-Sales Service

Service Network: Proof of a robust after-sales service network.

The item covers the following services:

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INSTALLATION OF SOLAR HIGH MAST LED POLE			

Supply, Installation, Erection & Commissioning of Solar High Mast LED light. Please refer attached document for further details.

Validity: This is one time contract & will be valid for Three Months.

Earnest Money Deposit: The amount of EMD is Rs 2 Lakh which to be submitted along with Techno-Commercial Un-priced bid (on and before the last date of submission of offer). EMD shall be accepted in the form of pay order or Demand Draft or BG (format enclosed). Demand Draft or Pay Order shall be made in favour of "Indian Synthetic Rubber Private Limited" payable at Panipat. EMD of unsuccessful bidders will be returned upon award of Contract. However, EMD of the successful Bidder will be returned upon the Bidder executing the Contract, and furnishing the Security Deposit as specified in the General Conditions of Contract.