

# **BOKARO POWER SUPPLY COMPANY (P) LTD.**

**(A Joint Venture of SAIL & DVC)**

**Hall No. – M 01, Old Administrative Building**

**ISPAT Bhawan, Bokaro Steel City – 827001.**

**Registered Office: ISPAT Bhawan, Lodhi Road, New Delhi – 110003**

**CIN: U40300DL2001PTC112074**

## **Invitation for Expression of Interest for**

**“Refurbishment of Solar PV Plants installed on various rooftops of Bokaro Steel Plant’s  
Non-residential buildings and subsequent Comprehensive O&M of the same for a  
period of two years”**

EOI Reference No.: BPSCL/MM/24-25/EOI-002 dated 09/08/2024

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**Section-I**

**Invitation for Expression of Interest**

Bokaro Power Supply Company (P) Ltd. (BPSCL), A Joint Venture Company of Steel Authority of India Ltd. (SAIL) and Damodar Valley Corporation (DVC), situated in Bokaro Steel City, Jharkhand, intends to undertake Refurbishment of Solar PV Units, installed on rooftops of various non-residential buildings of Bokaro Steel Plant at Bokaro Steel City, and Comprehensive Operation & Maintenance of all the units for a period of two years.

In this regard, BPSCL invites Expression of Interest to discover interested parties for the subject work, to find out the most suited technical specifications, estimated price implication etc.

1. A complete set of EOI Documents may be downloaded by the interested applicants from our web portal [www.bpscl.com](http://www.bpscl.com) or e-tendering site (<https://etenders.gov.in/eprocure/app>).
2. Applicant shall not tamper / modify the EOI document/form in any manner. In case the same is found to be tampered/modified in any manner, application will be rejected.
3. Applicants are advised to visit BPSCL Website [www.bpscl.com/](http://www.bpscl.com/) CPPP website <https://etenders.gov.in/eprocure/app> regularly till closing date of submission of EOI for any corrigendum / addendum/ amendment.
4. BPSCL reserves the right to accept or reject any or all applications, cancel/ withdraw the EOI process without assigning any reason whatsoever and in such case, applicant shall not have any claim against BPSCL arising out of such action. BPSCL bears no responsibility or liability of any kind in reference to the EOI.
5. Valid Digital Signature Certificate (DSC of Class 2 or, Class 3 category) is mandatory to participate in the EOI under CPP Portal (URL: <https://etenders.gov.in/eprocure/app>). The certificate may be obtained from any of the authorized agencies of CCA (Controller of Certifying Authorities)] on Applicant's own cost.
6. This EOI is non-committal.

**For and on behalf of  
Bokaro Power Supply Company (P) Limited**

**(A K Das)  
CGM (MM)**

## Section-II

### 1. Introduction:

- 1.1. Bokaro Power Supply Company (P) Ltd. (BPSCL) is a 50:50 Joint Venture of Steel Authority of India Ltd. (SAIL) and Damodar Valley Corporation (DVC) and owns and operates the Captive Power Plant of Bokaro Steel Plant.
- 1.2. The Power Plant of BPSCL comprises of nine High Pressure Boilers and seven Turbo-generators. Out of the nine Boilers, eight are operational at present. The present rated total steaming capacity of the Boilers is 1960 TPH while the rated total Power Generating capacity of the TGs is 338 MW. BPSCL caters to the captive steam and power requirements of Bokaro Steel Plant, SAIL.
- 1.3. BPSCL has also ventured into Solar Power Generation. In the first phase, BPSCL had installed two rooftop Solar PV Units, each of capacity 50 KWp, on the roofs of two buildings inside the Power Plant premises.
- 1.4. In the second phase, BPSCL installed Solar PV units on the rooftops of various non-residential buildings of Bokaro Steel Plant, both inside and outside the Bokaro Steel Plant premises. These buildings include ED (Works) Building, PPC Building, R&C Lab Building, etc. inside the Bokaro Steel Plant premises, and various buildings in Bokaro General Hospital, Administrative Building (ISPAT Bhawan), Bokaro Niwas, HRD Building, etc., outside the Bokaro Steel Plant premises in the Township area. The total installed capacity of these Solar PV Units is 2.0 MWp. These units were commissioned on 25.04.2019.
- 1.5. The 2.0 MWp Solar PV project was executed by M/s Lanco Solar Energy Pvt. Ltd. The Performance Guarantee Test of the project could not be carried out by the firm as the firm went into liquidation and various other factors. Operation & Maintenance of the Solar PV Units, for a period of 15 years after commissioning, was also there in the scope of the firm. However, the same could not be started.

### 2. Details of 2.0 MWp Solar PV Unit:

- 2.1. All the Solar PV Modules were manufactured and supplied by M/s Lanco Solar Energy Pvt. Ltd. Each panel has a rated capacity of 315 Wp.
- 2.2. All the Solar Inverters are of ABB make.
- 2.3. The Energy Metering system is Cloud based. The entire system has been supplied, installed, tested & commissioned by M/s Secure Meters Pvt. Ltd.
- 2.4. Apart from the above, each Solar PV Unit is also equipped with Array Junction Boxes, LT Switchgears, Protection Systems, Earthing Systems, Control & Monitoring Systems, Module Cleaning Arrangements, associated Cables & Conductors, Cable Trays / Trenches, Drainage System, proper approach (ladders, walkways, etc.), etc.
- 2.5. The location wise Solar PV Unit installed capacities, installed Inverter capacities, specifications of Inverters, details of Energy Metering system and other details are provided in the following sections.

#### 2.5.1. List of location-wise Solar PV Installed Capacities, Capacity & Number of Inverters:

Sl.	Location	Solar PV Unit Details		Installed Inverter Details						
		No. of Modules	Installed Capacity (KWp)	50 KW	33 KW	27.6 KW	20 KW	12.5 KW	10 KW	Total Inverter Capacity (KW)
1.	PPC Building	130	40.95	--	1	--	--	--	1	43.00
2.	R&C Lab Main Building	324	102.06	1	--	1	--	2	--	102.60
3.	R&C Lab Top Roof	324	102.06	1	--	1	--	2	--	102.60
4.	R&C Lab Extension Building*	1800	567.00	11	--	--	--	--	--	550.00
5.	ISPAT Bhawan - Block A	348	109.62	2	--	--	--	--	--	100.00

Sl.	Location	Solar PV Unit Details		Installed Inverter Details						Total Inverter Capacity (KW)
		No. of Modules	Installed Capacity (KWp)	50 KW	33 KW	27.6 KW	20 KW	12.5 KW	10 KW	
6.	ISPAT Bhawan - Block B	388	122.22	2	--	--	1	--	--	120.00
7.	ISPAT Bhawan - Block C	428	134.82	2	1	--	--	--	--	133.00
8.	HRD Building	170	53.55	1	--	--	--	--	--	50.00
9.	Bokaro Niwas - Block B	88	27.72	--	--	1	--	--	--	27.60
10.	Bokaro Niwas - Block C1	88	27.72	--	--	1	--	--	--	27.60
11.	Bokaro Niwas - Block C2	48	15.12	--	--	--	1	--	--	20.00
12.	BGH Administration Building	72	22.68	--	--	--	1	--	--	20.00
13.	BGH - Dhanwantary Ward	36	11.34	--	--	--	--	--	1	10.00
14.	BGH - Old OPD	492	154.98	3	--	--	--	--	--	150.00
15.	BGH - New OPD	36	11.34	--	--	--	--	--	1	10.00
16.	BGH - Block A	54	17.01	--	--	--	1	--	--	20.00
17.	BGH - Block B + Connecting Roof	78	24.57	--	--	1	--	--	1	37.60
18.	BGH - Block C	14	4.41	--	--	--	--	--	1	10.00
19.	BGH - CT Scan Building	192	60.48	1	--	--	--	--	1	60.00
20.	BGH - Casualty + O.T Block	92	28.98	--	--	1	--	--	--	27.60
21.	BGH - IBU	52	16.38	--	--	--	1	--	--	20.00
22.	BGH - Kitchen	92	28.98	--	--	1	--	--	--	27.60
23.	BGH - Laundry	60	18.90	--	--	--	1	--	--	20.00
24.	BGH - Maintenance Store	40	12.60	--	--	--	--	1	--	12.50
25.	BGH - Medicine Store	128	40.32	--	1	--	--	--	1	43.00
26.	BGH - MG Ward	112	35.28	--	1	--	--	--	--	33.00
27.	BGH - Nursing Unit	112	35.28	--	--	1	--	--	1	37.60
28.	BGH - Orthopedic OPD	170	53.55	--	--	--	2	1	--	52.50
29.	BGH - RT Unit	104	32.76	--	--	1	--	--	1	37.60
30.	BGH - Substation 2	96	30.24	--	1	--	--	--	--	33.00
31.	BGH - Substation 3	76	23.94	--	--	1	--	--	--	27.60
32.	Football Academy Mess	128	40.32	--	1	--	--	1	--	45.50
<b>Total:</b>		<b>6372</b>	<b>2007.18</b>	<b>24</b>	<b>6</b>	<b>10</b>	<b>8</b>	<b>7</b>	<b>9</b>	<b>2011.50</b>

\* **Note:** The Solar PV Units installed on the roof of R&C Lab Extension Building are divided in four groups, three groups with 490 Solar PV Panels (installed capacity being 154.35 KWp) in each group and one group with 330 Solar PV Panels (installed capacity being 103.95 KWp). Each group is connected to one ACDB, named ACDB 01 through ACDB 04.

#### 2.5.2. Solar PV Module Specifications:

- a) Power Max ( $P_{MPP}$ ) : 315 Wp
- b) Maximum System Voltage : 1000 V
- c) Voltage at  $P_{MPP}$  ( $V_{MPP}$ ) : 37.93 V
- d) Open Circuit Voltage ( $V_{OC}$ ) : 46.32 V

- e) Current at  $P_{MPP}$  ( $I_{MPP}$ ) : 8.32 A  
 f) Short Circuit Current ( $I_{SC}$ ) : 8.692 A  
 g) Make : Lanco Solar Pvt. Ltd.

### 2.5.3. Specification of Inverters:

Parameter	Inverter type (Outdoor Solar Inverter)					
	10 KW	12.5 KW	20 KW	27.6 KW	33 KW	50 KW
<b>Input Side:</b>						
Absolute maximum DC input voltage	900 V	900 V	1000 V	1000 V	1100 V	1000 V
Startup DC input voltage	360 V (ad. 250...500 V)	360 V (ad. 250...500 V)	430 V (ad. 250...500 V)	430 V (ad. 250...500 V)	610 V	360...500V (Default 420 V)
Rated DC input voltage	580 V	580 V	620 V	620 V	580 V	610 V
Rated DC input power	10,300 W	12,800 W	20,750 W	28,600 W	33,700 W	51,200 W
Number of independent MPPT	2	2	2	2	1	1
MPPT input DC voltage range	300 V to 750 V	360 V to 750 V	440 V to 800 V	500 V to 800 V	580 V to 850 V	480 V to 800 V
Maximum DC input current for each MPPT	36 A	18 A	64 A	32 A	58 A	110 A
Maximum input short circuit current for each MPPT	22 A	22 A	30 A	40 A	80 A	160 A
<b>Input Protection:</b>						
DC switch rating for each MPPT	25 A / 1000 V	25 A / 1000 V	40 A / 1000 V	40 A / 1000 V	58 A / 1000 V, 50 A / 1200 V	200 A / 1000 V
Fuse rating	15 A / 1000 V					
<b>Output Side:</b>						
AC grid connection type	Three phase 3W+PE or 4W+PE					
Rated AC power	10,000 W	12,500 W	20,000 W	27,600 W	33,000 W	50,000 W
Maximum apparent power	11,500 VA	13,800 VA	22,200 VA	30,670 VA	33,000 VA	50,000 VA
Rated AC grid voltage	400 V					
AC voltage range	320 V to 480 V					
Maximum AC output current	16.6 A	20 A	33 A	45 A	50.3 A	77 A
Contributory fault current	19 A	22 A	35 A	46 A	50.3 A	92 A
Rated output frequency	50 Hz / 60 Hz					
Output frequency range	47 Hz to 53 Hz / 57 Hz to 63 Hz					
<b>Output Protection:</b>						
Anti-islanding protection	According to local standard					
Maximum external AC over current protn.	25 A	25 A	50 A	63 A	80 A	100 A

Parameter	Inverter type (Outdoor Solar Inverter)					
	10 KW	12.5 KW	20 KW	27.6 KW	33 KW	50 KW
<b>Operating Performance:</b>						
Maximum efficiency	97.8%	97.8%	98.2%	98.2%	98.3%	98.3%
<b>Communication:</b>						
Remote monitoring	VSN300 Wi-Fi Logger Card	VSN700 Data Logger	VSN300 Wi-Fi Logger Card	VSN700 Data Logger	VSN700 Data Logger	VSN300 Wify Logger Card, VSN700 Data Logger
User interface	16 char × 2 lines LCD display	16 char × 2 lines LCD display	Graphical Display	Graphical Display	Detachable Graphical Display	LEDs
<b>Environmental:</b>						
Ambient temperature range	-25 to +60°C, derating above 55°C	-25 to +60°C, derating above 50°C	-25 to +60°C, derating above 45°C	-25 to +60°C, derating above 45°C	-25 to +60°C, derating above 45°C	-25 to +60°C, derating above 50°C
Relative humidity	0 to 100% condensing					
<b>Physical:</b>						
Environmental protection rating	IP 65	IP 65	IP 65	IP 65	IP 65 (IP 54 fans)	IP 65 (IP 54 for each cooling section)
Cooling	Natural	Natural	Natural	Natural	Forced	Forced Air
<b>Safety:</b>						
Isolation Level	Transformer less					
Make	ABB					

#### 2.5.4. Energy Meters & connectivity through Skyline 200:

2.5.4.1. The specifications of Energy Meters, installed at the various rooftops, are as follows:

**a) Secure Elite 440-445 Multifunction Digital Panel Meter**

- b) Make : Secure Meters Limited  
c) Model : Elite 440-445  
d) Type : D3B  
e) Operating Frequency : 50 / 60 Hz ± 5%  
f) Class : 0.5s  
g) Input Voltage : 57.7 - 240 V AC, 3Φ, 3 Wire / 3Φ, 4 Wire

#### 2.5.4.2. Skyline 200:

- a) Make : Secure Meters Limited  
b) MAC ID : 00:13:E1:0E:IF:C4  
c) Part no. : PMR000-187  
d) Operating Voltage : 230 V AC ± 15%  
e) Operating Frequency : 50 / 60 Hz

### 3. Intent of the EOI:

3.1. BPSCL intends to undertake Refurbishment of Solar PV Units, installed on rooftops of various non-residential buildings of Bokaro Steel Plant at Bokaro Steel City, as detailed at Para 2.5.1 above, and Comprehensive Operation & Maintenance of all the units for a period of two years.

#### 4. Scope:

4.1. The following is an outline of scope of work envisaged in the Refurbishment and subsequent Comprehensive Operation & Maintenance of Solar PV Units, installed on rooftops of various non-residential buildings of Bokaro Steel Plant at Bokaro Steel City, as detailed at Para 2.5.1 above:

##### 4.1.1. Scope of Refurbishment activities:

4.1.1.1. The Agency shall have to assess the present conditions of all equipment / components installed in the Solar PV Plants.

4.1.1.2. The Agency shall have to identify all defective components which require replacement / repair work. The following is a list of equipment / components installed in the Solar PV Units:

1. Solar PV Module (of M/s Lanco Solar Energy Pvt. Ltd. make)
2. Array Junction Box
3. Solar Inverters (of M/s ABB India Ltd. make)
4. Cables & conductors
5. LT Switchgears
6. Energy Meters (of M/s Secure Meters Ltd. make)
7. Cloud based Data Acquisition System (provided by M/s Secure Meters Ltd.)
8. Protection Systems
9. Earthing Systems
10. Control & Monitoring system
11. Module Cleaning Arrangement
12. Drainage system
13. Approaches to the respective rooftop Solar PV Plants
14. Cable Trays & trenches
15. Signage

The above list is only a tentative one and not exhaustive. Repair / replacement of any other equipment / components of the Solar PV Plants, which are not mentioned in the above list, but form an integral part of the Solar PV Units, shall have to be done by the bidder.

4.1.1.3. All the defective equipment / components shall either have to be repaired or replaced with equipment / components of reputed make.

4.1.1.4. The Agency shall also have to identify and carry out all required civil works, like cleaning of equipment, area cleaning, repair work in stairs / ladders or any other mode of access to the respective Solar PV units, arrangement of water for regular cleaning activities, ensuring proper drainage system such that water used in cleaning does not accumulate on the rooftops, painting works required to elongate the life of the Solar PV Module supporting structures, clearing of rank vegetation which might have grown in the vicinity of the Solar PV Units, trimming of trees, that might be casting shadows on the Solar PV Units, so as to maximize generation from the units, earthing systems, Solar PV Module Cleaning arrangements, etc.

4.1.1.5. Prior to arranging equipment / components to be replaced, the Agency shall have to submit such list to BPSCL, along with proposed quantities, makes, model, technical specifications, data sheets, etc. for approval of the same by BPSCL.

4.1.1.6. After completion of all refurbishment / repair / replacement activities, the Agency shall have to test and commission all the Solar PV Plants.

##### 4.1.2. Scope of Comprehensive Operation & Maintenance:

4.1.2.1. After commissioning, the Agency shall have to undertake Comprehensive Operation & Maintenance of the Solar PV Plants for a period of two years. The Agency shall have to repair / replace any and all equipment / components of the Solar PV Plants that may become defective during this period.

4.1.2.2. Both preventive / routine maintenance and breakdown / corrective maintenance shall have to be carried out by the Agency during the O&M period.

4.1.2.3. Preventive / routine maintenance shall include regular cleaning of the Solar Module surfaces to maximize power generation, checking of tightness of all electrical connections at regular intervals, area cleaning, clearing of water logging on rooftops and any other activities deemed necessary for proper upkeep of the Solar PV Plants for maximizing power generation in the units.



- 4.1.2.4. Cleaning of all Solar PV Modules shall be carried out at least twice a week. In case the site conditions demand a higher frequency of cleaning of the modules, the same shall be done by the Agency. All consumables, that may be required for cleaning of the Solar PV Modules, shall be supplied by the Agency.
- 4.1.2.5. In case any roof develops any water seepage / water leakage as a result of Solar PV Module cleaning activities, the bidder shall have to take corrective action to restrict / eliminate the same.
- 4.1.2.6. Breakdown / corrective maintenance shall include repair / replacement of any defective / malfunctioning equipment / components, identification & rectification of faults that may arise in the systems, attending leakages & other breakdowns in Module Cleaning systems, taking care of drainage issues, repairing of stairs / ladders or other approaches to the Solar PV plants, if required, attending to defects observed in the metering & Cloud based Data Acquisition Systems in consultation / coordination with M/s Secure Meters Ltd., etc.
- 4.1.2.7. The Agency shall have to maintain a healthy stock of all spares such that any fault in any equipment / component can be rectified through immediate replacement of the said equipment / component.
- 4.1.2.8. The Agency shall have to carry out calibration of all energy meters, multi-function meters, etc. through a reputed NABL accredited firm on yearly basis.
- 4.1.2.9. The license for the Cloud based Energy Monitoring system provided by M/s Secure Meters Ltd. is in place and will be renewed by BPSCL from time to time. Further, an Annual Maintenance Contract, comprising of four periodic maintenance visits per year and two breakdown related emergency visits per year, for a period of five years has also been awarded to M/s Thermo India, authorized by M/s Secure Meters Ltd. The Contract is valid till 26.12.2027. The Agency will have to coordinate with the aforesaid Contractor for timely maintenance visits and emergency breakdown visits for early rectification of faults.
- 4.1.2.10. **Data Logging & Reporting:** The following data pertaining to all the Solar PV Plants shall be recorded by the Agency and submitted to BPSCL:
1. Daily, monthly & annual power generation figures, of each Solar PV Plant separately and combined.
  2. Voltage (on both DC & AC sides), Current (on both DC & AC sides), Power Factor, Energy Output, etc. of each Solar PV Plant on daily basis.
  3. All preventive and breakdown maintenance records, down time records, fault / failure records, showing date of maintenance, down time, reasons for breakdown, fault codes, actions taken for rectification of fault, suggestions for avoiding such failures / faults in future, etc

**5. Guaranteed Parameters required after completion of Refurbishment of the Solar PV Plants:**

- 5.1. The Minimum Guaranteed Generation figures shall be decided after discussions with prospective Agencies during Pre-bid discussions and shall be included in the subsequent tender enquiry for the subject proposal.

**6. Battery Limits / Terminal Points:**

- 6.1. The Battery Limits / Terminal Points for Power, Cleaning Water & Drainage circuits are provided hereunder:

Sl.	System	Description
1.	Electrical system	The Agency's scope will start from the outgoing terminal of Bokaro Steel Plant's LT ACDB in the respective building and shall include all electrics, like cables, protection systems, BPSCL's LT Switchgears, LT ACDBs, earthing systems, Control & Monitoring systems, Array Junction Boxes, Solar Inverters, Solar PV Modules, connectors, Energy Meters, along with communication systems, etc. thereafter.
2.	Cleaning Water system	The Agency's scope shall start from the tapping point in Bokaro Steel Plant's service water network in the respective building and shall include all pipes, connectors, valves, etc. thereafter

**7. Timeline:**

- 7.1. The date of issuance of Letter of Intent (LOI) or the date of issuance of Work Order or the date of signing of Contract Agreement, whichever is earlier, shall be considered as the Zero Date.

- 7.2. The refurbishment activities shall be completed in all respects and all the Solar PV Plants shall be commissioned within 06 (six) months from the Zero Date.
- 7.3. The Operation & Maintenance of all the Solar PV Plants, as envisaged in the scope of work, shall commence immediately after successful commissioning of the project and will continue for a period of two years thereafter.

**8. Terms & conditions:**

**8.1. Engagement of sub-contractor:**

- 8.1.1. The successful Agency may engage one or more sub-contractors, for execution of the work, with due approval of BPSCL. For seeking such approval, the successful Agency shall have to submit a request letter mentioning the portion of the work it desires to sub-let to the said sub-contractor, approximate value of such work, duration for which the work shall be sub-let, along with credentials of the proposed sub-contractor for establishing its competence in performing the kind of work that is proposed to be sub-let.
- 8.1.2. The Agency shall, however, under no circumstances, be allowed to sub-let the entire work under its scope.
- 8.2. The Agency shall have to arrange all tools, tackles, measuring instruments, testing equipment, etc. that may be required for carrying out Comprehensive O&M of the Solar PV Plants.
- 8.3. The Agency shall have to lifting equipment, machinery, labour, etc. for repair / replacement of equipment / components of the Solar PV Plants in case of breakdowns.
- 8.4. The Agency shall have to deploy suitable manpower (supervisors, skilled workers & unskilled workers), with sufficient knowledge & experience of working in Solar PV Plants, for carrying out operation & maintenance of the electrical systems.
- 8.5. All cleaning activities of Solar PV Plants shall preferably be undertaken in the early hours of the morning so as not to affect and to maximize power generation from the units.
- 8.6. Security of all the Solar PV Plants, covered under the scope of this EOI, shall be the responsibility of the bidder. For this purpose, the Agency shall consider deploying sufficient numbers of security personnel on round-the-clock basis at all the Solar PV Plant locations. BPSCL shall neither be responsible nor be liable for any expenses to be incurred as a result of any theft, vandalism or any such other act resulting in loss of / damage to any equipment / components of the Solar PV Plants.
- 8.7. The Agency shall have to follow all statutory rules & regulations related to Labour Laws, Factory Act, Pollution Norms, etc. prevalent / effective at the area of work.
- 8.8. Repair of water pipe line if damage for cleaning of solar PV unit.
- 8.9. Necessary civil work for suitable approach for reaching roof top plant. Agency will make the suitable arrangement to approach solar plant.

## Section-III

### 1. Instruction to Applicants:

- 1.1. Interested parties may visit BPSCL for assessment of existing conditions of various Solar PV Plants, technical discussions with BPSCL officials, etc., before preparing their response. Accordingly, they shall have to submit a request to BPSCL mentioning details, such as proposed date of visit, details of persons visiting, etc., for arrangement of Gate Passes.
- 1.2. The applicant may participate as a Consortium of not more than two firms. However, if the applicant participates as a consortium, none of the consortium members shall be eligible for participating individually. In case the consortium and any one or more of the consortium members participate in the EOI, all the response, submitted by the consortium and the consortium members individually, will be rejected. Further, any one or more of the consortium members participating in this EOI shall not form consortium with any other firm for the purpose of participating in this EOI.
- 1.3. **Mode of operation of this EOI:**
  - 1.3.1. This document is being issued only to elicit an Expression of Interest from interested parties for the specified work and shall not constitute any binding commitment from BPSCL to proceed with the work.
  - 1.3.2. The purpose of issuing this EOI is to discover interested parties for the subject work, to discover the estimated price implication, to understand & find out the most suited technical specifications, etc.
  - 1.3.3. **Pre-Offer/bid Meeting:**
    - 1.3.3.1. Provision of Pre offer/bid meeting has been kept in this EOI for explaining the scope of the Contract to the prospective parties and to obtain their views, as part of ensuring transparency in the EOI process.
    - 1.3.3.2. It will serve as an opportunity for the prospective parties to get clarity on any ambiguous conditions that may be present in the EOI document.
    - 1.3.3.3. Interested parties shall submit their queries to BPSCL at least two days before the scheduled date for Pre-bid Meeting.
    - 1.3.3.4. Based on the outcome of the Pre-bid Meeting, BPSCL may, if required, issue Amendment / Corrigendum to the EOI for including any scope, terms & conditions, etc. which may be found relevant to the job.
    - 1.3.3.5. Applicants are advised to submit their response only after culmination of the Pre-bid discussions so as to prepare their offer in line with the scope and terms & condition specified herein, including any observations / decisions / conclusions made in the course of the Pre-Offer/bid Meeting and any Amendment / Corrigendum to the EOI issued by BPSCL thereafter.
  - 1.3.4. The response received from the interested firms shall be opened on the due date and scrutinized w.r.t the Eligibility Criteria set out in this EOI. The response to be submitted by the interested applicants shall comprise of the following:
    - I. Proprietorship Certificate / Partnership Deed / Certificate of Incorporation / Memorandum of Association & Articles of Association
    - II. A brief write-up including introduction of the firm, nature of business of the firm, etc.
    - III. Copies of PAN, GST Registration Certificate, Certificate of registration with EPFO, Certificate of Registration with ESI.
    - IV. Balance Sheet and Profit & Loss Account for the last three financial years prior to the one in which this EOI has been published.
    - V. Copy of Electrical License valid as on the date of opening of offers.
    - VI. Credentials for establishing eligibility as per Eligibility Criteria / Qualifying Requirements stipulated in this EOI.
    - VII. Technical proposal, describing the activities proposed to be undertaken, Bill of Quantities, preferred makes of spares / equipment to be used, complete technical specifications, tentative timeline for the work, post commissioning guaranteed unit-wise & total power generation parameters and efficiencies that will be achieved, etc.
    - VIII. Estimated expenditure anticipated in the work. A broad item-wise break-up of the estimated cost, indicating the prices involved in supply of materials, erection activities, testing & commissioning activities, etc. shall also be provided.

- IX. If the applicant is a Consortium, a Consortium Agreement, entered into between all the Consortium members, outlining the responsibility of each Consortium member, shall be submitted. Further, documents mentioned at Point 1.3.4 (I) through 1.3.4 (V), in respect of each Consortium member, shall be submitted.
- X. Any deviations from the terms & conditions of this EOI and any additional scope, terms & conditions, etc. desired by the applicants for consideration by BPSCL.
- 1.3.5. The applicants, whose response are selected based on the Eligibility Criteria, shall be invited for discussions on technical & commercial terms of their response in the Administrative Office of BPSCL at Bokaro Steel City. Such applicants shall have to put up a detailed presentation for the system being proposed by them. The presentation shall cover the following:
- I. Brief introduction about the participating firm / consortium, including past experience in execution of similar work, nature of business, etc.
  - II. Presentation on technical proposal, describing the activities proposed to be undertaken, tentative timeline for the work, post commissioning guaranteed unit-wise & total power generation parameters and efficiencies that will be achieved, etc.
  - III. A broad item-wise break-up of the estimated cost, indicating the prices involved in supply of materials, erection activities, testing & commissioning activities, etc.
  - IV. Any additions / deletions in scope, terms & conditions, etc. desired by the bidder for consideration by BPSCL.
- 1.4. Based on the information gathered through this EOI, BPSCL shall frame the technical specifications, scope, terms & conditions, cost estimate, etc. for the subject work and invite tenders for the same through issuing an Open Tender Enquiry.
- 1.5. Further, if, in the course of technical discussions & presentations, some changes / alterations are found necessary in any applicant's bid, which may have implication on the price quoted by the applicants, the applicant will be allowed to alter its price, if it so desires. The changes / alterations required to be done in the response of the applicant shall be firmed up through a Minutes of Meeting between BPSCL and the applicant. The said Minutes of Meeting shall be deemed to be a part of the applicant's response.
- 1.6. This EOI shall, in no way, be construed as a commitment from BPSCL to tender out the proposal only among the parties shortlisted against this EOI.

## 2. Other information / instructions:

- 2.1. Language of the responses to EOI or any query/ clarifications/ correspondences shall be in English only.
- 2.2. Financial Data, Project Costs shall be in INR only.
- 2.3. For any further clarification / queries the following persons may be contacted:
1. **Shri A.K. Das, CGM (Material Management): [a.k.das@bpscl.com](mailto:a.k.das@bpscl.com)**
  2. **Shri Arun K Behera, DGM (Material Management): [a.k.behera@bpscl.com](mailto:a.k.behera@bpscl.com)**
  3. **Shri T K Mantri, DGM (Ash Management): [t.k.mantri@bpscl.com](mailto:t.k.mantri@bpscl.com)**
- 2.4. **CORRIGENDUM:**
- 2.4.1. At any time before End Date of submission of EOI, BPSCL may, for any reason whatsoever, carry out amendments to this EOI document at its own initiative or in response to a clarification requested by an Applicant. The amendment will be made available in CPPP portal only and will be binding on the Applicants. BPSCL may, at its discretion, extend the deadline for the submission of proposal.
- 2.5. **VALIDITY OF THE RESPONSES:**
- 2.5.1. The applicant shall submit the responses which shall remain valid up to 180 days after the response Deadline ("Response Validity"). BPSCL reserve the right to reject any response, which does not meet the aforementioned validity requirement. BPSCL may solicit the applicant's consent for an extension of the period of validity of the response. The request and the response in this regard shall be in writing. In the event any Applicant refuses to extend its response validity as requested by BPSCL, BPSCL shall terminate processing of such applicant's responses. An Applicant accepting BPSCL request for validity extension shall not be permitted to modify its response.

**2.6. HOW TO APPLY:**

- 2.6.1. Interested participants are requested to upload their documents in CPPP portal (<https://etenders.gov.in/eprocure/app>) and all further correspondences after submission of their application on the referred portal need to be done in the referred portal only.

**3. Eligibility Criteria / Qualifying Requirement:**

**3.1. Technical Eligibility Criteria:**

- 3.1.1. Applicant should have experience of having completed "Similar Work" in India in any Public Sector Undertaking / Government / Semi Government organization or joint venture thereof / Company registered under Companies Act during last 7 years ending last day of month previous to the one in which offers are invited. "Similar Work" mentioned hereinabove is defined as follows:

- I. a) Design, Supply, Erection, Testing & Commissioning of Solar PV Plants of capacity not less than 2000 KWp  
OR  
b) Annual Maintenance of Solar PV Plants of capacity not less than 2000 KWp

- 3.1.2. For establishing its eligibility as per the Eligibility Criteria mentioned above, the applicant shall have to submit Work Order(s) / Purchase Order(s) / Contract Agreement document(s), along with Work Completion Certificate(s) issued by the order issuing authority, against Points 3.1.1 (I) (a) and / or 3.1.1 (I) (b) above.
- 3.1.3. If the applicant participates as a Consortium, a Consortium Agreement, entered into between all the Consortium members, outlining the responsibility of each Consortium member, shall be submitted.
- 3.1.4. If the applicant participates as a Consortium, the Consortium members shall either individually or jointly fulfill the Eligibility Criteria mentioned at Points 3.1.1 (I) (a) and / or 3.1.1 (I) (b) above.

**Annexure-I**

**Format for Undertaking**

(The undertaking should be on the Letter Head of the Applicant)

Date:  
Place:

To,

.....

Sub.: EXPRESSION OF INTEREST (EOI) FOR "Refurbishment of Solar PV Plants installed on various rooftops of Bokaro Steel Plant's Non-residential buildings and subsequent Comprehensive O&M of the same for a period of two years".

Ref.: EOI No. .... dated .....

Dear Sir,

1. We, the undersigned ..... [insert name of the "Applicant"] have read, examined and understood in detail the INVITATION FOR EXPRESSION OF INTEREST. We confirm that neither we nor any of our Parent Company/Affiliate/ Ultimate Parent Company has submitted response other than this response directly or indirectly in response to the aforesaid EOI.
2. We give our unconditional acceptance to the EOI, issued by BPSCL, as amended. In token of our acceptance to the EOI, the same have been signed & stamped by us and enclosed to the response. We hereby confirm that the provisions of the EOI shall be binding on us.
3. We have submitted our response strictly as per provisions of the EOI.
4. All document(s) submitted / information provided by us against referred EOI are authentic, genuine and true. No part of the document(s) / information is false, forged or fabricated.
5. I undertake to produce all documents in original for verification as and when asked for the same by BPSCL.

Yours sincerely

(Name, Designation and Signature of Authorized Person in whose name authorization is issued)

**Annexure-II**

**Format for Authorization**

(The undertaking should be on the Letter Head of the Applicant)

**TO WHOM IT MAY CONCERN**

This is to certify that {Name of DSC Holder} of M/s {Name of Participating Firm/Company} has the authority to sign the response/ offer using his digital signature and any document(s) in hardcopy pertaining to BPSCL EOI No. .... dated ..... using his official usual signature and the bid/offer/response shall be binding upon us during the full period of its validity.

Signature of {Name of DSC Holder} is duly attested hereunder.

Thanking you

Yours faithfully

.....  
Signature of the Competent Authority of the Company with seal

**Signature of** {Name of DSC Holder} of M/s {Name of Participating Firm/Company}

**Attested by** {Name of Competent Authority}

**Stamp**

\*DSC- Digital Signature Certificate

**Annexure-III**

**Project Cost**

The applicant shall submit Estimated expenditure anticipated in the work. A broad item-wise break-up of the estimated cost, indicating the prices involved in supply of materials, erection activities, testing & commissioning activities, etc. shall also be provided.