

INVITATION FOR BIDS (IFB)

**NTPC LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)**

(CORPORATE CONTRACTS, NOIDA)

INVITATION FOR BIDS (IFB)

FOR

**DEVELOPMENT OF 15 MW FLOATING SOLAR PV PROJECT AT MARODA
RESERVOIR-1, OF NSPCL IN BHILAI, CHHATTISGARH**

(Domestic Competitive Bidding)

GEPNIC Tender Ref. No: 2023_NTPC_82783_1

Date: 05.01.2024

Bidding Document No: CS-0230-004-9

1.0 NTPC Limited on behalf of NTPC-SAIL Power Company Limited (A Joint Venture of NTPC & SAIL) (NSPCL) invites on-line bids at Government e-procurement portal of NIC (GePNIC) at website-<https://eprocurentpc.nic.in/> on **Single Stage Two Envelope Basis (i.e. Envelope-I: Techno-Commercial Bid and Envelope-II: Price Bid)** from eligible Bidders for **Development of 15 MW Floating Solar PV Project at Maroda Reservoir-1, of NSPCL in Bhilai, Chhattisgarh**, as per the scope of work briefly mentioned hereinafter.

2.0 BRIEF SCOPE OF WORK

The brief scope of work interalia includes the following:

The scope of the project shall be detailed design of Grid Interactive Solar PV Plant, civil, electrical & mechanical auxiliary systems including preparation of foundation drawings, single line diagrams, installation drawings, electrical layouts, design calculations etc. Design memorandum and other relevant drawings and documents required for engineering of all facilities within the scope to be provided under this contract, are covered under contractor's scope of work.

Scope covers development of Floating Solar PV plant along with power evacuation system including supply & installation of PV modules in the designated area. The scope also includes three (03) years Operation and Maintenance (O&M) of the solar PV plant as well as Annual Maintenance Contract (AMC) of critical equipment for the period specified in relevant part of the technical specification. The scope of work covers the following activities and services in respect of all the equipment & works specified and covered under the specifications and read in conjunction with "Scope of Supply & services" elaborated elsewhere in the technical specification.

All equipment, materials and services whether explicitly stated or otherwise and that are necessary for the satisfactory operation of the Solar PV system and its integration with the existing AC Systems as described in the specification shall be deemed to be included in the scope of work of the Contractor and shall not be limited to the following:

- 1) Basic Engineering of the plant and systems.
- 2) Detailed design of all the equipment and equipment system(s) including civil works.
- 3) Providing, Review and approval of engineering drawings, data, process.
- 4) Calculations, test procedures, Structural Design Calculations, Equipment Layout, Drawings / Data sheets of bought out items, Civil Structural / Architectural Drawings, OTGT/PG test etc.

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- 5) Providing Operation & Maintenance/ instruction manuals, as built drawings and other information
- 6) Providing training of Employer's personnel
- 7) Finalization of sub-vendors, manufacturing quality plans and Field quality plans.
- 8) Mandatory permission/ licenses/ statutory clearances from Competent Authorities for undertaking blasting related works, disposal of cutting material, etc. shall be carried out by the Bidder
- 9) Complete manufacturing including conducting all type, routine and acceptance tests; Civil, Structural and Architectural works to the extent applicable, including construction facilities and construction power distribution.
- 10) Packing and transportation from the manufacturer's works to the site including customs clearance & port clearance, port charges, (if any).
- 11) Receipt, storage, preservation and conservation of equipment at the site; Fabrication, pre-assembly, (if any), erection, testing, pre-commissioning and commissioning and putting into satisfactory operation all the equipment including successful completion of initial operation.
- 12) Topographical survey & Geo-Technical investigation of land/waterbody and bathymetry survey of water body (if required).
- 13) Site - Grading & Clearing of Vegetation (if required), dredging works, if required, for floater blocks, inverter platform, access ways etc.
- 14) Supply of floaters, Installation, anchoring, fixing of floaters for SPV panels, pathways for the floating system, including fixing of PV Modules on Floaters.
- 15) Launching platforms, O&M platforms with suitable road and water access as per requirement.
- 16) Arranging power supply and water supply for construction purposes.
- 17) Construction of Pre-Engineered type Inverter room/platform (if applicable) with Central/String Inverter along with associated LT and HT switchgear.
- 18) All associated electrical and civil works required for interfacing with grid i.e. transformers, Isolators, CTs, CBs, panels, protection system, cables, metering at 33 kV and 132 kV level, grid compliance study as per regulation etc.
- 19) All equipment, materials and services that are necessary for implementation of the reactive power compensations system as per the grid study with satisfactory operation of the Solar PV system and its integration with the existing AC Systems.
- 20) Evacuation of power as per tender drawing.
- 21) Construction of Central Monitoring and Control Station, with SCADA, PPC panel and associated equipment at identified location within Floating Solar Plant Premises,
- 22) Underground Cabling of 33 kV from Pooling Switchgears of FSPV to 132 kV NSPCL Bhilai Switchyard which includes multiple railway crossings, augmentation of 132KV bay with suitable bus bar extension with dedicated control from SAS and integration of SAS with Floating plant SCADA.
- 23) Module cleaning system Wet Method) including supply and installation of all accessories like monitoring system at CMCS and associated equipment and services at identified location.
- 24) SCADA system for remote monitoring and control of Inverters with all hardware & software and complete set of Weather Monitoring Station including cloud cover.
- 25) CCTV System for remote monitoring of the complete project including supply and installation of all accessories like monitoring system at CMCS and associated equipment and services at identified location.

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- 26) Comprehensive Operation & maintenance of SPV Plant along with electrical equipment, consumables, and spare parts for a period of Three years from the date of commissioning.
- 27) Reliability and Functional guarantee tests after successful commissioning of full capacity
- 28) Supply of Mandatory Spares.
- 29) Satisfactory completion of the contract.
- 30) Special tools and tackles if any required for maintenance of the plant.
- 31) Detailed system wise scope is elaborated in respective part of the technical specification.

The work to be carried out as per the above scope shall be all in accordance with the requirements, conditions, appendices etc. given in Technical Specifications together with those stated in other Sections/Sub-sections of Bid Documents which shall be considered as a part of this volumes completely as if bound herewith. It is not the intent to specify herein all aspects of design and construction nevertheless, the equipment and civil works shall conforming all aspects to high standard of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in a manner acceptable to the Employer, who will interpret the meaning of the specification and drawings and shall have a right to reject or accept any work or material which in his assessment is not complete to meet the requirements of this specification and/or applicable Indian / International standards mentioned elsewhere in this specification

The detailed scope of work shall be as per specifications and scope defined in the Bidding Document for Development of 15 MW Floating Solar PV Project at Maroda Reservoir-1, of NSPCL in Bhilai, Chhattisgarh.

3.0 NSPCL intends to finance the aforesaid Package through equity funds and loans

4.0 Detailed specification, scope of work and terms & conditions are given in the Bidding Documents, which are available at the GePNIC (e-tender) portal at <https://eprocurrentpc.nic.in/>. The Bidding Schedule* for the Tender is as under:

Issuance of IFB	05.01.2024
Documents Download Dates and Time	From 10.01.2024, 1300 Hrs (IST)
Pre Bid Conference and Last date for receipt of queries from bidders (if any)**	24.01.2024
Bid (both Techno-Commercial and Price) receipt date & time	Upto 09.02.2024 by 1400 hrs. (IST)
Date & Time for opening of Envelop-I (Techno-Commercial bid)	09.02.2024 at 1500 hrs. (IST)
Date & Time for opening of Envelop-II (Price bid)	Shall be intimated after opening of Techno-Commercial Bid.
Cost of Bidding Documents in INR	INR 22,500.00 (Indian Rupees Twenty-Two Thousand Five hundred only)

****Bidders are advised to visit the GePNIC (e-tender) portal of NTPC for updated bidding schedule of the Tender.***

**It is to be noted that "No Queries from Bidders, whatsoever, shall be entertained by the Employer beyond the last date of receipt of Queries/ Pre-Bid Conference (if applicable) as specified at GePNIC portal of NTPC".

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5.0 All bids must be accompanied by Bid Security for an amount of Rs. **1,00,00,000/- (Indian Rupees One Crore only)** in the form as stipulated in the Bidding Documents.

ANY BID NOT ACCOMPANIED BY AN ACCEPTABLE BID SECURITY IN A SEPARATE SEALED ENVELOPE SHALL BE REJECTED BY THE EMPLOYER AS BEING NON-RESPONSIVE AND SHALL NOT BE OPENED. IN CASE, THE BID SECURITY IS SUBMITTED THROUGH ELECTRONIC FUND TRANSFER (EFT), BIDDER TO SUBMIT THE PROOF OF E-PAYMENT OF BID SECURITY EITHER IN SEPARATE SEALED ENVELOPE OR IN THE E-TENDERING PORTAL.

(Bidders who are unable to send the Original Bank Guarantee in physical form at the tender opening location, may adopt procedure given in Bidding documents or may opt for Online Transfer of Bid Security through NEFT/RTGS to NTPC's Bank whose details are provided in the Bidding Document).

6.0 A complete set of Bidding Documents may be downloaded by any interested Bidder from the e-Tender Portal as per specified schedule. The tender is invited under e-tendering process. The bidders can enroll themselves on the website <https://eprocurementpc.nic.in/>. The use of Digital Signature Certificate (DSC) Class-3 key is mandatory for e-tendering activities. Accordingly, bidders should have Digital Signature Certificate (DSC) key of Class 3 to participate in e-tendering. Bidders, if required, can obtain DSC Class-3 key from agencies authorized by Govt. of India. The e-Tender Portal also has the user manuals with detailed guidelines on enrolment and participation in the bidding process.

No hard copy of Bidding Documents shall be issued. Bids shall be submitted ONLY at the e-Tender Portal i.e., <https://eprocurementpc.nic.in/>

7.0 QUALIFYING REQUIREMENTS FOR BIDDERS

Qualifying Requirement (QR) for subject package is Attached as **Appendix-1**

8.0 The bidder shall be mandatorily required to certify their compliance on "Non-Disclosure Agreement".

9.0 NTPC reserves the right to reject any or all bids or cancel/ withdraw the Invitation for Bids without assigning any reason whatsoever and in such case no bidder/ intending bidder shall have any claim arising out of such action.

10.0 Downloading/Issuance of Bidding Documents and /or submission of Bid shall not construe that bidder is considered qualified.

11.0 Transfer of Bidding Documents purchased by one intending Bidder to another is not permissible.

12.0 'Class-I local suppliers' and 'Class-II local suppliers' only are eligible to participate in this tender, as defined in the bidding documents/ Public Procurement (Preference to Make in India), Order 2017 and its subsequent amendments/ revisions issued by DPIIT. The bidders may apprise themselves of the relevant provisions of bidding documents in this regard before submission of their bids."

13.0 Any 'Bidder from a country which shares a land border with India', as specified in the Bidding Documents, will be eligible to bid in this tender only if bidder is registered with the Competent Authority as mentioned in the Bidding Documents.

Further, any bidder (including bidder from India) having specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India, will be eligible to bid only if the bidder is registered with the same competent authority.

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However, the said requirement of registration will not apply to bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects.

14.0 ADDRESS FOR COMMUNICATION

Additional General Manager (CS)/ Sr. Manager (CS)

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7, Institutional Area, Lodi Road,
New Delhi – 110003

Corporate Identification Number: L40101DL1975GOI007966,

Website: www.ntpc.co.in

QR for Development of 15 MW Floating Solar PV Project at Maroda Reservoir-1, Bhilai

In addition to the requirements stipulated under section Instruction to Bidder (ITB), the Bidder should also meet the qualifying requirements stipulated hereunder in Clause 1.0 and Clause 2.0.

1.0 TECHNICAL CRITERIA

1.1 The Bidder should have designed, supplied, erected/ supervised erection and commissioned/ supervised commissioning of Solar Photo Voltaic (SPV) based grid connected power plant(s) of cumulative installed capacity of **12 MW_p** or higher, out of which at least one plant should have been of **10 MW_p** or higher capacity. The reference plant of **10 MW_p** or higher capacity must have been in successful operation for at least six (6) months prior to the date of techno-commercial bid opening.

OR

1.2 The Bidder should be a developer of Solar Photo Voltaic (SPV) based grid connected power plant(s) of cumulative installed capacity of **12 MW_p** or higher, out of which at least one plant should have been of **10 MW_p** or higher capacity. The reference plant of **10 MW_p** or higher capacity must have been in successful operation for at least six (6) months prior to the date of techno-commercial bid opening.

OR

1.3 (a) The Bidder should have executed in the last ten (10) years an industrial project either as developer or as EPC Contractor in the area of power/ steel/ oil and gas/ petro-chemical/ fertilizer/cement/coal mining including coal handling plant and/ or any other process industry, of a value of Rs. **93 Crore** (Indian Rupees Ninety-Three Crore only) or more in a single project or single work and the same should be in successful operation for at least one (1) year prior to the date of techno-commercial bid opening.

AND

(b) The Bidder should have executed at least one (1) Electrical Sub-station of 33 kV or above voltage level, consisting of equipment such as 33kV or above voltage level circuit breakers and Power transformer, either as developer or as EPC Contractor which should be in successful operation for at least one (1) year prior to the date of techno-commercial bid opening.

The works referred at clause 1.3 (a) & 1.3 (b) can be in same or different projects.

OR

1.4 The bidder should be an Indian company registered in India and should be Group company/Holding Company/Subsidiary company of a firm meeting the requirement (s) of Clause 1.1 or 1.2 or 1.3 above. In such a case, Bidder shall furnish an Undertaking jointly executed by the

firm qualified as per clause 1.1 or 1.2 or 1.3 and the Bidder along with its bid for complete performance of the contract jointly and severally as per format enclosed in the bid document failing which the Bidder's bid is liable to be rejected.

Notes for Clause 1.0

- a. The reference SPV based grid-connected power plant of **10 MWp** or above capacity should be at a single location developed by Bidder for itself or any other client.
- b. SPV based Roof-top/Floating solar power projects, which are grid connected, shall also be considered eligible for QR purposes.
- c. For clause 1.1 & 1.3, bidder shall submit certificate of successful completion and operation from the Owner. However, if bidder in clause 1.3 is a developer, certificate of successful commissioning of the project issued from Government Renewable Nodal Agency/Government Enterprise/ Discom/ Electricity Board etc. and evidence of successful operation from intermediary procurer/ procurer/Discom/ Electricity Board etc. shall be submitted.
- d. For Clause 1.3, bidder shall submit a documentary evidence for the value of the project certified by a Chartered Accountant.
- e. Direct/Indirect Order
The bidder shall also be considered qualified, in case the award for executing the reference work has been received by the bidder either directly from the owner of the plant or any other intermediary organization. In such a case, a certificate from such owner of plant or any other intermediary organization shall be required to be furnished by the bidder along with its techno-commercial bid in support of bidder's claim of meeting the qualification requirement as per clause 1.1 and 1.3 above. Bidder shall also submit a certificate of successful completion and operation from the Owner.
- f. For Clause 1.2, bidder shall submit certificate of successful commissioning of the project issued from Government Renewable Nodal Agency/ Government Enterprise/ Discom/ Electricity Board etc.
- g. For Clause 1.2, bidder shall submit evidence of successful operation from intermediary procurer/ procurer/Discom/ Electricity Board etc.
- h. Developer means an entity who has either executed or got executed the work/ project as owner of industrial projects.
- i. The execution of industrial project as EPC Contractor under Clause No. 1.3 means, such EPC Contractor is responsible for all the activities i.e. Design/Engineering, Procurement, Construction (with/without civil works) and Commissioning of a project/work.
- j. The portion of work related to power transformer such as supply and or installation mentioned at cl. no. 1.3 (b) can either be done by EPC contractor by themselves or by the owner.
- k. EPC projects with solar PV module supplied by developer/owner as free issue item to EPC contractor shall also be considered eligible for route 1.1 of QR.

2.0 FINANCIAL CRITERIA

- 2.1 The average annual turnover of the Bidder should not be less than **Rs. 93 Crore (Indian Rupees Ninety-Three Crore Only)** during the preceding three (3) financial years as on date of techno commercial bid opening.

In case a Bidder does not satisfy the annual turnover criteria, stipulated above on its own, its Holding Company would be required to meet the stipulated turnover requirements as above, provided that the Net Worth of such Holding Company as on the last day of the preceding financial year is at least equal to or more than the paid-up share capital of the Holding Company. In such an event, the Bidder would be required to furnish along with its techno-commercial bid, a Letter of Undertaking from the Holding Company, supported by the Holding Company's Board Resolution, as per the format enclosed in the bid documents, pledging unconditional and irrevocable financial support for the execution of the Contract by the Bidder in case of award.

- 2.2 Net Worth of the Bidder as on the last day of the preceding financial year should not be less than 100% (hundred percent) of bidder's paid-up share capital. In case the Bidder does not satisfy the Net Worth criteria on its own, it can meet the requirement of Net worth based on the strength of its Subsidiary (ies) and/or Holding Company and/or Subsidiaries of its Holding companies wherever applicable, the Net worth of the Bidder and its Subsidiary (ies) and/or Holding Company and/or Subsidiary (ies) of the Holding Company, in combined manner should not be less than 100% (hundred percent) of their total paid up share capital. However individually, their Net worth should not be less than 75% (seventy-five percent) of their respective paid up share capitals.

Net worth in combined manner shall be calculated as follows:

Net worth (combined) = $(X1 + X2 + X3) / (Y1 + Y2 + Y3) \times 100$ where X1, X2, X3 are individual Net worth which should not be less than 75% of the respective paid up share capitals and Y1, Y2, Y3 are individual paid up share capitals.

- 2.3 In case the Bidder is not able to furnish its audited financial statements on standalone entity basis, the unaudited unconsolidated financial statements of the Bidder can be considered acceptable provided the Bidder further furnishes the following documents on substantiation of its qualification:

(a) Copies of the unaudited unconsolidated financial statements of the Bidder along with copies of the audited consolidated financial statements of its Holding Company.

(b) Certificate from the CEO/ CFO of the Holding Company, as per the format enclosed in the bidding documents, stating that the unaudited unconsolidated financial statements form part of the consolidated financial statement of the Holding Company.

In case where audited results for the last financial year as on date of techno commercial bid opening are not available, the financial results certified by a practicing Chartered Accountant shall be considered acceptable. In case the Bidder is not able to submit the Certificate from a practicing Chartered Accountant certifying its financial parameters, the audited result of three consecutive financial years preceding the last financial year shall be considered for evaluating financial parameters. Further, a certificate would be required from the CEO/CFO as per the format

enclosed in the bidding documents stating that the financial results of the company are under audit as on techno-commercial bid opening and the Certificate from a practicing Chartered Accountant certifying the financial parameters is not available.

Notes for Clause 2.0

- a. Net worth means the sum total of the paid up share capital and free reserves. Free reserves means all reserves credited out of the profits and share premium account but does not include reserves credited out of the revaluation of the assets, write back of depreciation provision and amalgamation. Further, any debit balance of Profit and Loss account and miscellaneous expenses to the extent not adjusted or written off, if any, shall be reduced from reserves and surplus.
- b. Other income shall not be considered for arriving at annual turnover.
- c. "Holding Company" and "Subsidiary" shall have the meaning ascribed to them as per Companies Act of India.
- d. For the value of industrial project in clause 1.3(a) and/or the annual turnover indicated in foreign currency, the exchange rates as on seven (7) days prior to the date of Techno-commercial bid opening shall be used.

SALIENT TECHNICAL FEATURES FOR “Development of 15MW Floating Solar PV Project at Maroda Reservoir-I, Bhilai”

SALIENT TECHNICAL FEATURES

“Salient Technical Features of the systems /equipment/ services are mentioned below. These Salient Technical Features are mentioned only to facilitate the prospective bidders to prima-facie understand the requirements under the tender and shall not in any way limit or alter the scope of work and technical features/specification of equipment/ systems/ services covered in the Bidding Documents. Detailed provisions in regard of scope of work and technical features/specification of equipment/ systems/ services, contained in the Bidding Document shall be final and binding.”

Salient technical features of the proposed project are as follows:

Name of the Package	Development of 15MW Floating Solar PV Project at Maroda Reservoir-I, Bhilai
Type of Project	Floating Solar PV Project
Plant Capacity	15MW at Grid connection Point
Grid connection Point	132kV switchyard of Bhilai steel Plant, Sail
Location	Maroda Reservoir-of Bhilai Steel Plant, Sail, Chattisgarh
Time for the project.	12 Months

- 15 MW of Grid connected Floating Solar PV Power projects - EPC Package.
- Type of PV Modules- Open category
- All EPC works required for Development of Solar PV Project including power evacuation system following statutory compliance, Grid connectivity, telemetry etc. along with comprehensive O&M for Three (3) years of solar PV Plant as well as Annual Maintenance Contract (AMC) of critical equipment for Ten (10) years as per scope of work.