ODISHA POWER GENERATION CORPORATION LIMITED
IB THERMAL POWER STATION
AT/ PO- BANAHARPALI, JHARSUGUDA
ODISHA
PIN-768234

OPGC Invities

"Expression of interest (EOI)"

for

"Appointment of consultant for Feasibility Study & preparation of Detailed Project Report for setting up of Floating Solar PV Plant in Hirakud Reservoir"

Odisha Power Generation Corporation Ltd

(A Government company of the States of Odisha)

NIT No. ITPS/CC-22/2023-24/11, Date: 17/09/2023						
S/N	**Name of the work/Description**	**Tender cost**	**EMD (Rs.)**	**Contract Period**	**Bid Sale/ Issue date**	**Date of receipt & submission /Opening of Bid**
2	**Expression of Interest (EOI):** For Engagement of a consultant for feasibility study of floating solar PV plant at Hirakud Reservoir.	--	--	As per Bid Document	25.09.23 to 10.10.23	Up to 15:00 Hrs on 11.10.23/ 15:30 Hrs onwards on 11.10.23

Expression of interest (EOI)

Expression of interest (EOI) for "Appointment of consultant for Feasibility Study & preparation of Detailed Project Report for setting up of Floating Solar PV Plant (Capacity of 100MW or above) in Hirakud Reservoir"

1. Brief Introduction:

Odisha Power Generation Corporation Ltd. (OPGC) is a Government Company of the State of Odisha. It operates state of the art thermal power plants at Banharpalli, Jharsuguda. It has a total generation capacity of 1740 MW (2x210 MW in first phase and 2x660MW in second phase). OPGC draws raw water from Hirakud Reservoir through intake channel. Hirakud Dam is built across the Mahanadi River, which comes under Sambalpur district under state of Odisha.

Hirakud is one of the first major multi-purpose river valley project in India. The reservoir, commissioned in the year 1957, is created across the river Mahanadi, a little below the confluence with its tributary, the river lb. Situated within the geographical ordinates of 21°30' N to 21°50' N Latudude and 83°30' E to 84°05' E longitude, the reservoir has a water spread area of 71 963 ha at FRL.

2. Expression of Interest:

OPGC invites "Expression of Interest (EOI)" from interested parties for "Appointment of consultant for Feasibility Study & preparation of Detailed Project Report for setting up of Floating Solar PV Plant (Capacity of 100MW or above) In Hirakud Reservoir. Interested parties may clearly indicate the inputs required from OPGC.

OPGC is looking for interested parties having experience in similar assignments i.e. Feasibility Study & preparation of Detailed Project Report for setting up of Floating Solar PV Plant having capacity of 100MW or more as a main contractor in last three FY.

Note: The Bidder must submit Copy of Work Orders/Letter of Award or Intent from the Client, Self-Attested copy of satisfactory completion certificates from the Client for the said Consultancy Work(s) as the supporting documents for credentials.

3. ***Brief Scope of Work: Feasibility Study (Part-A)***

The intent of the proposed study is to evaluate the feasibility of developing floating solar PV plant (Capacity of 100MW or above) at Hirakud reservoirs. Briefly the scope of work shall include;

3.1. Collection of relevant data and satellite imagery for reservoirs and carrying out a preliminary study for assessing the suitability of FSPV installations.

3.2. Site visit as per requirement.

3.3. Meeting with States authorities.

3.4. Collection of Historical and Relevant Data:

a) Prime purpose of the reservoir / water body (irrigation, hydro power generation, multi-purpose, etc.) / storage type.

b) Age of the existing dam / reservoir project, remaining life of the reservoir based on the previous sedimentation analysis reports.

c) Design reservoir levels (maximum water level [MWL], full reservoir level [FRL], minimum draw down level [MDDL]), flood cushion etc., any change in these levels as per current siltation in the reservoir, safety etc.

d) Past occurrence of flood and its magnitude, number of events at which dam gates were required to be opened, occurrence of extreme weather conditions for preceding 20 years or since the commissioning of the reservoir, whichever is higher.

e) Collection and review of design Area – Elevation – Capacity curve of reservoir available with the regulator of reservoir.

f) Collection of Sedimentation analysis / hydrographic analysis /Bathymetry data and open-source data.

g) Collection and review of historical daily water levels - MWL, FRL, MDDL, inflow and outflow data, water velocity for preceding 20 years (or since the commissioning of the reservoir, whichever is higher) from regulator of reservoir, Central Water Commission (CWC), state and local authorities, if available. An assessment of water body surface area at various water levels (such as FRL, MDDL

etc.) and average water body surface area during the above-mentioned period to be presented.

h) Regional geological setup, seismicity of the region and site area and past occurrences of earthquake.

i) Based on the data collected and opensource data the Variation of water level has to be estimated and maximum possible capacity of all reservoirs has to be estimated.

3.5. Assessing the site suitability for FSPV installations including:

a) Solar resources, local climate conditions, Shading, soiling, and other site conditions

a) Subsurface soil conditions likely to be encountered.

b) To derive Solar Plant Capacity based on above factors.

3.6. Environmental considerations (sanctuary, migratory birds' zone, forest areas, etc., to be identified and excluded from project area).

3.7. Social considerations include the potential impact on the livelihood.

3.8. Grid access, substation location, power evacuation scenario and construction power availability.

3.9. Access rights, permits, and regulations.

3.10. Economic viability - cost estimation.

3.11. Cognizance of earlier study, if any.

3.12. Policy and Regulatory due diligence.

3.13. Gathering of all forms of data/ resources and co-ordination with state authorities

3.14. Draft Feasibility Report is to be discussed with OPGC time to time and the changes as suggested are to be incorporated.

3.15. Submission of Draft Feasibility Report & deliver presentation on draft Feasibility Report at OPGC office.

3.16. Review & comply OPGC observations of draft Feasibility Report.

3.17. Submission of Final Feasibility Report & deliver presentation of final Feasibility Report at OPGC office.

4. ***Brief Scope of Work: Detailed Project Report (Part-B)***

4.1. Bathymetry Survey, Hydrological Survey, Contour Survey, geo-technical investigation (on shore/off shore), Flood Vulnerability Assessment & Mitigation

measures.

4.2. Environmental & Sociological impact assessment.

4.3. Selection of technology for PV modules, Floaters, Inverters, Transformers etc., Project execution & Timelines.

4.4. Power Evacuation Feasibility

4.5. Methodology of infrastructure development

4.6. Business Model, Risk assessment & mitigation measures

4.7. Preparation of DPR as per statutory guideline and for approval of Govt. Statutory Body/Authority

4.8. The Consultant shall carry out the detailed site survey including bathymetric study, water body characteristics, geo-technical investigation (on shore/off shore) etc. and shall apprise OPGC regarding information such as water properties (such as TDS content etc), depth of reservoir i.e Full Reservoir Level (FRL), Minimum Drawdown level (MDDL), Dead Storage level etc., variation in the depth of water reservoir, water flow rate/current, climatic conditions, requirement of statutory approvals etc., as a part of DPR. Any other activity requires to prepare detailed project report shall be carried out by the bidder.

4.9. DPR to be prepared by the consultant shall include energy yield calculation and calculate Performance Ratio, production forecasts, cost estimate, Soil test report (Onshore/Offshore).

4.10. Financial Model shall be developed in order to provide the financial projections; it shall cover the standard modules including capital expenditure, financing plan, O&M costs, Preoperative/Preliminary cost, IDC Financial Assumptions, Working Capital, Rental (if any), depreciation and financial statements. These models shall have Sensitivity Analysis developed to understand the impact of variations in major inputs parameters (such as cost, various capital structures, revenue, rate of interest etc.) on the output parameters/ project returns (such as LCOE, IRR, Cash balance, Contingencies, Debt Servicing etc). Also suggest the possible area i.e. technical and/or financial interventions through which cost of the project and tariff can be minimized.

4.11. DPR shall consist of Project cost break-up and Financial Model for Determination of tariff u/s 62 of EA 2003 or latest amendment (if any) for Sale of Power.

4.12. DPR shall consist detailed Bill of Materials, Layout, Single line diagrams, Power Evacuation Arrangements, safety aspects of the projects, different options for operation and maintenance.

4.13. DPR shall include details of all statutory clearance/approval required including details of concern authority & procedure to be followed for getting clearance/approval.

4.14. DPR shall include various options of low-cost finance, capital assistance and incentive schemes available & details of agency and procedure to avail the same.

4.15. DPR should include present and future market trend of PV modules, PCU, MMS, Module Washing Arrangements & major Balance of Systems with brief list of major reputed suppliers.

4.16. Business models shall be developed and sensitivity analysis shall be carried out with different options & combinations of capital structures, incentives & finances.

4.17. Draft DPR is to be discussed with OPGC time to time and the changes as suggested are to be incorporated.

4.18. Submission of Draft DPR & deliver presentation on draft DPR at OPGC office.

4.19. Review & comply OPGC observations of draft DPR.

4.20. Submission of Final DPR & deliver presentation of final DPR at OPGC office.

5. ***Brief Scope of Work: Bid Process Management (Part-C)***

Preparation of RFQ document (Technical & Commercial) for selection of EPC turnkey contractors for floating Solar PV plant including power evacuation & balance of plants.

6. ***Required Information***

6.1. The prospective agencies are required to submit particulars of the firm with the background of operation & business.

6.2. The party submitting the EOI shall be bearing all costs associated with the preparation and submission of the EOI and OPGC will, in no case be responsible or liable for these costs, regardless of the conductor outcome of the assessment/evaluation process.

7. ***Bid Document & Instruction to Bidders:***

The bid complete in all respect must be submitted in sealed envelope super scribed with EOI number, Name of the work. The bid documents are not transferable.
The bidder must submit the following documents:

i. Signed & Stamped Bid Documents (all pages) as a token of acceptance.
ii. Photo copies of GST Registration Certificate, IT PAN, Provident Fund and ESI Registration Certificate.
iii. Filled in and signed formats as specified in Annexure – I & II.

iv. Credentials and other supporting documents as per requirement

8. Submission of EOI:

Interested parties are required to submit all the documents as per the attached format complete in all respect through courier, registered post or hand delivered to the following address.

GM- Contract Cell
ITPS, Banharpali, OPGC,
District- Jharsuguda,
Odisha,
Pin- 768234

NOTE:

I. Each page of the documents submitted shall be duly authenticated by the applicant.
II. The language of submission of applications shall be in English.

For any further clarification/queries the following personnel may be contacted:

- For Commercial queries:
  Sri Sanjit Mohanty;
  G.M. (Contract Cell);
  E-Mail Id. sanjit.mohanty@opgc.co.in
  Mob no : +91- 9437347215

- For Technical queries:
  Sri Pradipta Mohanty
  AGM (Mechanical)
  E-Mail Id. pradipta.mohanty@opgc.co.in
  Mob no :+91- 9338715412

ANNEXURE-I

Standard Format for Expression of Interest

Date: _____

To,
GM- Contract Cell
ITPS, Banharpali,
OPGC,
District- Jharsuguda,
Odisha
Pin- 768234

Subject: Expression of interest (EOI) for "Appointment of consultant for Feasibility Study & preparation of Detailed Project Report for setting up of Floating Solar PV Plant In Hirakud Reservoir"

Dear Sir,

In response to your public advertisement in [Insert the names of the newspaper and/or website] on [Insert date of the advertisement] inviting EOI for "**Appointment of consultant for Feasibility Study & preparation of Detailed Project Report for setting up of Floating Solar PV Plant in Hirakud Reservoir**"; we hereby submit our EOI.

We have also attached information according to the standard form as per attached Annexures. The information furnished by us in this EOI is true, correct and accurate to the best of our knowledge.

Sincerely yours,
On behalf of the firm/company/organization:

Signature: _____

(Person signing the EOI and supporting documents should be an Authorized Signatory supported by necessary Board resolutions)

Name of signatory; Designation; Company Seal/stamp

ANNEXURE-II
CREDENTIALS

1. Name and address
   i. Name of the Firm/Company/Organization:
   ii. Corporate Address:
   iii. Registered Address:
   iv. Telephone No:
   v. Fax:
   vi. Email:

2. Contact Person:
   i. Name:
   ii. Designation:
   iii. Telephone No:
   iv. Email:

3. Company Profile:
   i. Core area of expertise:
   ii. Date of Incorporation:
   iii. CIN No.:
   iv. GST No.:
   v. PAN No.:
   vi. Share holding Pattern:
   vii. Financial Capability (Including Turnover, Reserve and Surplus etc.)

4. Key Operating parameters for Last three Financial Years:
5. Supporting Documents: [Provide copy of the registration, copy of PAN of the firm; with their latest renewals where applicable, Audited Financials for last three Financial years]
6. Experience/ Details of similar work executed (Along with supporting documents /credential issued by the client company) in Last three FY:
7. Any other details: