



सोलर एनर्जी कॉर्पोरेशन ऑफ इंडिया लिमिटेड

(भारत सरकार का उपक्रम)

Solar Energy Corporation of India Ltd.

(A Government of India Enterprise)

स्वच्छ भारत - स्वच्छ ऊर्जा



Service Order

Buyer:

Solar Energy Corporation of India Limited

6th Floor, Plate-B,  
NBCC Office Block Tower-2,  
East Kidwai Nagar,  
New Delhi-110023

Supplier

IIT GUWAHATI

,Guwahati-781039,Assam

Email.:

Details :

Sales Order (SO) No. : 0045000922

SO Date : 05.08.2025

Service Provider /Supplier /Vendor No. 0050000161

Subject :

1.0 Service Order for Geotechnical Consultancy Services for the 700 MW Solar PV Project at Radhaneshda, Gujarat.

1.1 File No. PS-11011(11)/12/2025-PS (Computer No. 7711)

Sr. No.	Service / Material No.	Description of Item	HSN/SAC Code	UOM	Qty. Reqd.	Unit Price (Rs.)	CGST	SGST/UGST	IGST	Total Amount (Rs.)
10		Geotechnical Consultancy Works by IITG		AU	1	2,656,000.00	0.00	0.00	0.00	2,656,000.00
10	3500000	Consultancy Service		LS	1	2,360,000.00				2,360,000.00
20		Technical Site Visit Fee		LS	1	2,36,000.00				2,36,000.00
30		Travel Reimbursement		LS	1	60,000.00				60,000.00
Grand Total						2,656,000.00				2,656,000.00

In Words : Twenty Six Lakh Fifty Six Thousand Rupees Only.

Contract Agreement (CA):

References:

- 1) Proposal submitted by Institute of Technology Guwahati (IITG) dated 16/07/2025.
- 2) Revised proposal submitted by IITG dated 24.07.2025.

1. Objective

To undertake comprehensive geotechnical investigations, analyses, and conceptual foundation design recommendations for the development of a solar photovoltaic (PV) plant and associated infrastructure in a marshy terrain. The study shall inform rational and cost-effective foundation strategies, addressing the site's soft subsoil conditions, high groundwater table, and potential for seismic and liquefaction hazards.

2. Detailed Scope of Work

The consultancy services to be delivered in two parts:

Part 1: Site Characterization and Geotechnical Assessment

Reconnaissance Survey



Conduct a preliminary site visit to review and document:

- General topography and accessibility
- Visual indicators of soft ground, water-logging, and surface drainage patterns
- Existing infrastructural or natural features affecting geotechnical planning

Review of Existing Data:

Assess and interpret:

- Borehole logs and standard penetration test (SPT) data
- Laboratory test results (grain size analysis, Atterberg limits, shear strength parameters, consolidation, etc.)
- Groundwater level data and seasonal variation
- Seismic hazard data relevant to the project site

Liquefaction Susceptibility Assessment

Perform a zone-specific liquefaction potential analysis using:

- Soil profile and groundwater data
- Peak Ground Acceleration (PGA) based on IS 1893 or site-specific studies
- Empirical or numerical methods (e.g., Seed & Idriss, Youd et al.)

Geotechnical Zoning and Design Soil Properties

Classify the site into geotechnical zones based on:

- Soil stratigraphy
- Engineering properties (bearing capacity, settlement, stiffness)
- Depth to competent stratum

Recommend design soil parameters for each zone (e.g., cohesion, friction angle, modulus of subgrade reaction, etc.)

Part 2: Foundation Feasibility and Conceptual Solutions

Evaluation of Foundation Alternatives

Identify technically and economically viable foundation systems appropriate for varying subsoil conditions, including but not limited to:

- Shallow footings (with or without ground improvement)
- Stone columns, vibro-compaction, or preloading for ground improvement
- Pile foundations (bored, driven, or precast)
- Raft or mat foundations for specific structures

Infrastructure-wise Foundation Recommendations

Propose conceptual foundation solutions for the following elements:

- Module Mounting Structures
- Inverter Transformers
- Inverter Platforms (1.5 m above NGL)
- Control Room Building (Single-storey)
- 220 kV Transmission Line Towers
- Pooling Substation Components: Power Transformers, Gantry Towers, Equipment Support Structures

Design Basis Report and Conceptual Sketches:

Submit a Design Basis Report (DBR) comprising:

- Summary of investigations and key findings
- Zonal design soil parameters
- Rationale for foundation typologies adopted
- Typical conceptual foundation sketches (plan, section) with indicative dimensions and construction notes

Recommendations for Marshy/Wet Ground Conditions:

Provide guidance on:

- Site dewatering techniques or surface drainage management
- Temporary construction measures in water-logged areas
- Ground improvement methods to mitigate buoyancy and differential settlements





Note: Detailed structural design and element-wise foundation detailing are excluded from the present scope.

### 3. Deliverables

- Inception Report post-reconnaissance
- Interim Report with interpreted geotechnical findings and liquefaction analysis
- Final Geotechnical Report including Design Basis and Conceptual Foundation Solutions
- CAD sketches of proposed typical foundation systems.
- Summary presentation (PPT format) for review meeting.

### B. Service Order Price:

The Service Order price for Engagement of Indian Institute of Technology Guwahati (IITG) for Geotechnical Consultancy Services for the 700 MW Solar PV Project at Radhaneshda, Gujarat under CPSU Phase II Tranche III Scheme is INR 23,60,000.00 (Indian Rupees Twenty-Three Lakhs Sixty Thousand Only). Further the site visit fees and tentative travel expense (if site visit conducted) will be reimbursed as follows:

- a. Technical Site Visit Fees - INR 2 Lakhs + applicable GST
- b. Tentative Travel expense - INR 60,000 (on reimbursement basis)

### C. Payment Milestone:

Milestone Payment Milestone %  
Advance Payment along with applicable GST 50%  
Submission and Acceptance of Final Report 50%

### D. Timeline of the work:

The complete timeline of the work will be 45 days from the issuance of this service order.

### E. Terms and Conditions:

#### 1. OBLIGATIONS OF CONTRACTOR

a) Contractor shall perform the services, as agreed to between Contractor and SECI and carry out their obligations with all honesty, due diligence, efficiency, and economy in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe methods. Contractor shall always act, in respect of any matter relating to the Services, as faithful advisers to SECI, and shall at all times support and safeguard SECI and its legitimate interests in any dealings with the third parties.

b) Neither Contractor nor their Personnel shall engage, either directly or indirectly, in any such activities which conflicts with their role under the assignment.

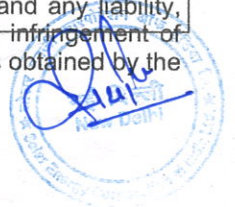
2. The service Order price shall be firm and binding with no escalations whatsoever. Any statutory variation with respect to existing GST or imposition of new tax/levies in respect of the subject matter of this Work Order shall be to the account of SECI and to the extent paid by the Contractor reimbursed by SECI to the Contractor at actual. Where any such tax is assessed on SECI in substitution for the Contractor, the Contractor shall pay to or allow SECI to deduct, from its payments, the amount of such tax paid by the SECI.

#### 3. ACCEPTANCE

SECI shall have the right to reject the services in whole or in part whether or not paid for in full or in part within a reasonable time of delivery if the Contractor does not conform to the requirements of this Service Order. SECI shall be entitled to cancel the service Order and execute the nearest equivalent services elsewhere. In the event of cancellation under this condition, Contractor shall promptly repay any moneys paid under the Service Order without any retention or offset whatsoever. Cancellation of the Service Order under this condition shall not affect any other rights SECI may have.

#### 4. INDEMNITY CLAUSE

The Contractor shall indemnify SECI from and against any demands, claims, suits and causes of action and any liability, legal cost, expenses, settlements, etc. arising from or incurred by reason of any infringement or alleged infringement of patent, design, copyright, trade mark or trade name by the use or possession of part or whole of the services obtained by the





SECI.

#### 5. RISK PURCHASE CLAUSE

In case the Contractor is not able, in the judgment of SECI, to maintain satisfactory work progress and it appears that he will not be able to render the services within the time schedule and achieve the target completion date, SECI shall be at liberty to either:

- a) Continue as per the Service Order with due liquidated damages (if applicable) for late delivery; OR
- b) Engage any other Contractor, parallel to existing Contractor, to complete part of the balance work at the risk and cost of the existing Contractor; OR
- c) Cancel the Service Order and get the balance work done from third party at the risk and cost of the existing Contractor.

#### 6. DEFAULT IN CONTRACT OBLIGATION

In case of any default or delay in performing any of the contract obligation, SECI reserves the right to Recover the actual damages/loss from Contractor but in any case, indirect, consequential, remote or unforeseeable losses shall not be recoverable.

In addition to above clause, SECI may, without prejudice to any other remedy for breach of contract, by written notice of default sent to Contractor, terminate the Contract in whole or part as following:

- If Contractor fails to deliver any or all of the Work as required by SECI, except for reasons attributable to SECI.
- If Contractor fails to perform any other obligation(s)/duties under the Contract, except for reasons attributable to SECI.
- If Contractor, in the judgment of SECI has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

Notwithstanding the foregoing, the aggregate liability of Contractor under the contract shall be limited to the net fees payable by SECI to Contractor under the contract for the relevant tender/ auction.

#### 7. CORRUPT OR FRAUDULENT PRACTICES

SECI requires that Contractor should follow the highest standard of ethics during the execution of contract. In pursuance of this policy, SECI defines, for the purposes of this provision, the terms set forth as follows

a. "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the bid process or in contract execution; and

b. "fraudulent practice" means a misrepresentation of facts in order to influence a bid process or the execution of a contract to the detriment of the SECI Tender, and includes collusive practice among Bidder (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the SECI of the benefits of free and open competition.

c. will declare a firm ineligible/debarred, either indefinitely or for a specific period of time, a GOVT contract if at any time it is found that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a SECI Tender.

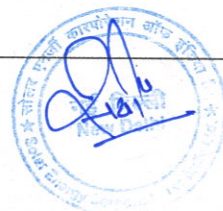
#### 8. NON-DISCLOSURE

The Contractor shall safeguard and keep the Confidential Information of SECI in confidence. The Contractor shall not, without the prior written consent of the owner (SECI), disclose Confidential Information to any person or entity except to Contractor's employees, officers and directors who have a need to know such Confidential Information for the Purpose and who are bound by the confidentiality obligations. The Contractor shall ensure that each of such employees, officers and directors are made aware of the nature of the confidential information and shall at all times remain liable for the wrongful disclosure by such persons. Further, the Contractor shall ensure not to disclose the Confidential Information to its affiliates, Holding Company/ Parents as well as Group Companies.

#### 9. CONTRACTOR INTEGRITY

The Contractor is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state-of-the-art methods and economic principles and exercising all means available to achieve the performance specified in the Contract.

Kindly receive and acknowledge the Service Order as a token of your acceptance.



IN WITNESS WHEREOF the Owner and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

**Copy To:**

- 1.Indenting Department
- 2.Fin Department
- 3.C&P Department

For and on behalf of

**IIT GUWAHATI**

Signature.....

Title

in the presence of



For and on behalf of

**SOLAR ENERGY CORPORATION OF  
INDIA LIMITED (SECI)**

Signature.....

Title

in the presence of

05.08.2022