INVITATION FOR EXPRESSIONS OF INTEREST (EOI)

CONSTRUCTION OF 2 ×100 MW FLOATING SOLAR PHOTOVOLTAIC (PV) POWER PLANTS IN THE WATER SURFACE OF SAMANALAWEWA RESERVOIR ON LEAST COST BASIS

REFERENCE NO. : TR/REP&PM/ICB/2023/008/C

1. Introduction

Ceylon Electricity Board (CEB) is a body corporate established by the Act No.17 of 1969, having its head office at No. 50, Sir Chittampalam A. Gardiner Mawatha, Colombo 2, Sri Lanka.

CEB was established by GOSL for development and coordination of generation, transmission, and distribution of electrical energy in the country. The Ministry of Power and Energy is the government entity overseeing the activities of CEB.

2. Scope of the Proposal

Expression of Interest (EOI) are invited from prospective project proponents for the CONSTRUCTION OF 2 ×100 MW FLOATING SOLAR PHOTOVOLTAIC (PV) POWER PLANTS IN THE WATER SURFACE OF SAMANALAWEWA RESERVOIR ON LEAST COST BASIS. It is envisaged to invite detail feasible technical proposals to supply energy separately by TWO number of 100 MW projects and to connect the power plant to the national Grid.

The primary objective of this EOI is to invite proposals from experienced and qualified firms to participate in the development of a floating solar power plant project in the water surface of Samanalawewa Reservoir. This project aims to leverage the reservoir's existing hydroelectric power generation capabilities by complementing it with daytime solar energy production.

The project's significance lies in its potential to enhance energy diversification and grid stability by introducing a clean and sustainable energy source that operates during daylight hours. It further emphasizes the efficient utilization of the Samanalawewa Reservoir, allowing it to serve as a dual-purpose energy resource—sustaining hydroelectric power generation during peak hours while harnessing solar energy to meet daytime energy demands.

By inviting expressions of interest, we seek to foster collaboration with reputable firms that share our vision of environmental sustainability, energy innovation, and community engagement. Together, we aim to contribute to Sri Lanka's energy transition, reduce carbon emissions, and ensure a reliable and eco-friendly energy supply for the region.

This project represents a pioneering effort that embraces the nexus between renewable energy and responsible water resource management. It signifies our commitment to a sustainable energy future, benefiting the environment, the local community, and the nation as a whole.

The proposal shall consist of the power plant with its grid interconnection (construction of transmission line, capacity enhancement of existing transmission line, construction of substation, etc.). The basic technical specifications of the power plant such as capacity, technology and grid interconnection, etc. shall be specified by the project proponent. CEB will facilitate the technical inspection and the technical inspection has been scheduled as follows

Schedule 1: November 21, 22 and 23, 2023. Clarification on the EOI - November 24, 2023.
Schedule 2: November 28, 29 and 30, 2023. Clarification on the EOI – December 1, 2023

A tentative grid connection arrangement for 2x100 MW solar PV plants is attached as Annex I.

The envisaged contract period will be for 20 years and expected to connect as early to the system.

One project proponent can submit only one proposal for 100 MW capacity.

Based on the final outcome of evaluation as per Section 8, CEB intends to short list the least cost, technically feasible project proposals and invite detailed project proposals from the respective project proponents for a restricted competitive bidding process. Substantially responsive least cost project will be selected and finally, CEB will sign Power Purchase Agreement (PPA) with this project proponent.

3. The Responsibilities of the Project Proponent

The project proponent shall have sole responsibility for the design, construction, commissioning, operation, and maintenance of the floating solar power plant in the water surface of Samanalaweva Reservoir. This includes all activities related to the power plant's infrastructure, equipment, and facilities. Additionally, the project proponent shall be responsible for the supply and management of all equipment specific to the floating solar power plant, including photovoltaic panels, floating platform structures, mooring systems, inverters, and associated electrical systems.

The project proponent is also responsible for ensuring a continuous supply of solar energy through optimal orientation and maintenance of the photovoltaic panels. This entails routine cleaning, repair, and replacement of solar panels as needed to maximize energy generation. Furthermore, the project proponent is accountable for the management of any liquid waste generated during the operation of the floating solar power plant, ensuring compliance with all environmental regulations. The project proponent shall also develop and implement environmental impact mitigatory measures to safeguard the Samanalawewa Reservoir's ecosystem.

In addition to the solar power generation infrastructure, the project proponent shall provide and maintain step-up transformers, switchgear, control and protection systems specifically related to the floating solar power plant, as well as transmission facilities up to the interconnection point.

The project proponent will take measures to ensure that the water body is not adversely affected by the project, and any alterations necessary for the project's installation shall be the responsibility of the proponent, following the guidelines and regulations stipulated by relevant authorities.

Further, the reservoir faces seepage issues arising from vulnerabilities in its banks and riverbed, necessitating recurrent wet blanketing procedures, which involve boat operations for inspections, and future plans to lower water levels in 2025 for leak remediation, highlighting the importance of the Floating Solar System's capacity to withstand complete reservoir drawdown.

The project proponent is also responsible for the augmentation of the existing Samanalawewa grid substation and construction of grid interconnection line to evacuate power from the proposed Solar PV plant in the water surface of Samalaweva reservoir for which the costs of such facility development will be paid for the project proponent through semi – annuity basis. CEB will supply and install the standard metering equipment at the project proponent’s cost. The metering equipment are allowed to install only at the respective CEB grid substations.

The project proponent shall obtain and remain in compliance with all governmental and other approvals, licenses, permits, and certificates necessary for the construction and operation of the power plant; specifically, conducting Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) as applicable in terms of the National Environmental (Amended) Act, No. 47 of 1980 and any amendments thereto, and such other relevant acts and provincial statutes.

4. The Proposal

The proposal shall comprise of two envelopes, submitted simultaneously, one called 'Technical Proposal' and other called 'Price Proposal' and both envelopes enclosed together in an outer single envelop. Project proponents shall submit their proposal in hard copies as two separate packages, i.e. 'The original' and 'The Copy' as follows;

i) The Original : one original each from the 'Technical Proposal' and 'Price Proposal' (each envelop clearly marked as 'Original'); and

ii) The Copy : one copy each from the 'Technical Proposal' and 'Price Proposal' (each envelop clearly marked as 'Copy');

Envelop 1 - Technical Proposal

The Technical Proposals shall include the following basic information.

1. Description of the company and its current business, experience in setting up of plants of similar nature and capacity in the past;
2. Creditworthiness / profitability of the company (provide details of yearly turnover and profit for the last 3 years with supporting documents);
3. Proposed locations, schematic/layout diagrams of plant, size and specifications of units, details of effluent management, logistics, etc.
4. Details of grid interconnection including interconnection voltage, length of transmission line, required modifications in the existing grid substation and Transmission lines for the evacuation of power.
5. Proof of availability of project proponents' equity.
6. Action plan for project implementation, time schedule, etc.
7. Anticipated social and environmental impacts to the water and the area
8. Economic/financial viability of the proposed project.
9. Durability of the total plant and future operation & maintenance suitability.

Please use the following format along with the submission of detailed requirement and information

A	**General Information**	
A1	Name of the Project/Power Plant	
A2	Project/Plant Location	
A3	Name & Designation of the Applicant	
A4	Mailing Address	
	Telephone, Fax and Email	
B	**Details of the Proposed Power Generation**	
B1	Installed Capacity of Plant (MW)	
B2	Guaranteed Energy output / day (MWh)	
B3	Availability (Average hours per day)	
B4	Interconnection Point	
B5	Interconnection Voltage (33kV, 132kV, 220kV)	
B6	Transmission facility requirements (length of transmission line, required switchgears, etc.)	
B7	Time taken to achieve full load after synchronization	

B8	Expected number of days for commercial operation since signing of contract	
C	**Indicative Breakup of the Project Cost**	
C1	Cost of the proposed Plant	
C2	Cost of the interconnection	
C3	Means of Finance	
C4	Equity	
C5	Term Loan	
C6	Any other source	
D	**Any Other Relevant Information**	

Envelop 2 - Financial proposal

E1	Expected financial proposal with breakup (capacity cost, energy cost, etc.)	

5. Closing Date and Time

The deadline for the submission of proposals is December 13, 2023 at 10:00 Hrs. Proposals received after this time shall not be accepted, regardless of the reasons for late submission, including circumstances outside the control of the project proponent.

6. Request for Clarification & Facilitate Technical Inspection

Project Proponents desiring any explanations or clarifications regarding this EOI may submit their written requests by facsimile, e-mail or by registered post to:

C/O, Deputy General Manager (REP&PM)
Ceylon Electricity Board,
No. 6-1/2, 1st Floor, Kalinga Place, Off Suleiman Avenue,
Colombo 00500, Sri Lanka.
Fax: +94 11 2583344
E mail: kamal.perera@ceb.lk

Such requests shall be received no later than five working Days (excluding Saturday, Sunday and Public holidays) before the deadline for submitting Proposals. Replies to such clarification requests will be made available by CEB through email within four working days.

7. The Place of Submission of Proposals

The proposal shall be delivered to the following address on or before the closing time specified in Section 5 above. The '**Reference No.**' and the '**Title of the EOI**' shall be clearly marked at the top-left hand corner of each envelope. Proposals can be sent by registered post, courier or submitted in person.

Chairman (CEB)

C/O, Deputy General Manager (REP&PM)
Ceylon Electricity Board,
No. 6-1/2, 1st Floor, Kalinga Place, Off Suleiman Avenue,

Colombo 00500, Sri Lanka.
Fax: +94 11 2583344

8. Evaluation of the Proposals

The primary objective of this EOI is to invite proposals from experienced and qualified firms to participate in the development of a floating solar power plant project at the Samanalawewa Reservoir. This project aims to leverage the reservoir's existing hydroelectric power generation capabilities by complementing it with daytime solar energy production.

8.1 Evaluation of the Technical Proposal.

The technical proposals will be evaluated and short listed based on the following criteria.

1. Project proponent's past experience in similar projects
2. Financial strength of the project proponent
3. Financial and technical capability of project proponent to deliver continuous and reliable power supply.
4. The time taken for implementation of the power plant and grid interconnection line
5. CEB may invite further clarifications if required.
6. Based on this evaluation, CEB intends to short list technically feasible project proposals.

At the end of the evaluation of the technical proposal, CEB will invite the project proponents who have been short listed as having submitted technically feasible project proposals and have been determined as qualified to attend opening of the price proposal.

8.2 Evaluation of the Price Proposal

All proposals, which have been short listed as having passed the technical evaluation, will be proceeded to the second stage of evaluation, i.e. price evaluation. The following criteria will be considered at the price evaluation.

1. The total cost of delivering an energy unit by the power plant.
2. The cost of construction of grid interconnection

Based on the final outcome of this evaluation, technically feasible project proposals with lowest unit costs and competitive cost given for grid interconnection line will be short listed. Subsequently, those short-listed project proponents will be invited to submit a detailed project proposal for a restricted competitive bidding process. The sealing price for this bidding shall be derived from the prices of short-listed project proposals. Finally, CEB will sign Power Purchase Agreement (PPA) with project proponent who will be selected through this process.

Chairman
Ceylon Electricity Board.

Conceptual Connection Arrangement of 200MW Samanalawewa Floating Solar Plant