**Query 109- Each Solar Compact Substation shall be designed in such a way that the loss of 30% of the inverter modules in a given Solar Compact Substation shall not affect the guaranteed delivered powered at the POD i.e. 8MWac , without overloading any of the healthy inverter modules.**
- Requirement may pls be further detailed. Does this mean the inverters shall over sized by 30%

**Reply 109-**
Kindly refer to reply 98 of Clarification No.6

**Query 110- Inverters shall have the ability to reconnect automatically to the grid following restoration of grid supply, subsequent to grid failure condition within a minimum time delay of three (3) minutes.**
- Inverters shall have the ability to reconnect automatically to the grid following restorating of grid supply, subsequent to grid failure condition within a minimum time delay of five (5) minutes

**Reply 110-**
The original requirement of the bid document shall be maintained.

**Query 111- Technical Specification for Medium Voltage Dry Type Transformer, Requirement - Low voltage system short circuit current - At least 50 kA**
- Shall be 25 kA for 1 sec

**Reply 111-**
The original requirement of the bid document shall be maintained.

**Query 112- The cables on the DC side of the plant shall be single core and have double insulation (class II) so as to minimize the risk of earth faults or short circuits in accordance with IEC 60364-7-712**
- DC Cables shall be as per EN 50618 or TUV 2PfG 1169/09.07

**Reply 112-**
Kindly refer to reply 50 of Clarification No.5

**Query 113- Commencing the reduction of the output power within 2 seconds of receiving the curtailment signal and complete the reduction not later than 30 seconds.**
- Curtailement is possible inverter wise

**Reply 113-**
The Curtailment signal will be for the output of the PV Farm as a whole. In this respect, the signals received shall trigger curtailment at the level of the inverters through the Plant Controller.

MRD.

**Query 114- Poles shall be manufactured from galvanised steel. Poles for exterior lighting shall support the lanterns at a minimum 8 meters above ground level.**
- Proposed height shall be 5 mtr from the ground level

**Reply 114-**
Bidders are informed that the height of 5m above ground level is acceptable.

**Query 115- The CEB through its CEB (Green Energy) Company Limited (hereinafter referred to as the "Employer") intends to set up a Solar PV Farm with an AC power output of 8MWac measured at 22kV in CEB's Henrietta Substation, the Point of Delivery (POD).**
- Kindly Confirm the DC Capacity to be installed.

**Reply 115-**
Kindly refer to reply 106 of Clarification No.6

**Query 116- The Solar PV Farm will be connected to the 22 kV busbar of the Henrietta Substation via a combination of overhead and underground cables to an existing 22kV switchgear panel in Henrietta Substation**
- we understand that Henrietta Substation side energy meter , Current Transformer, Potential Transformer ,HT cable termination are in CEB scope. Kindly Clarify.

**Reply 116-**
Bidders are confirmed that this is within CEB scope.

**Query 117- The Solar PV Farm will be connected to the 22 kV busbar of the Henrietta Substation via a combination of overhead and underground cables to an existing 22kV switchgear panel in Henrietta Substation. For the purpose of sizing of the Solar Farm the Contractor shall assume an interconnection overhead line of 150 mm2 bare AAAC of 6 km and 240 mm2 Al XLPE underground cables of 500 m.**
- Kindly clarify the scope of Grid Connectivity Approval, approval of Transmission Line, Right of Way (ROW ) Approval, transmission line survey etc.

**Reply 117-**
Bidders are informed that the connection from the Solar PV Farm to the 22kV busbar of the Henrietta Substation shall be under the responsibility of CEB

MLD.

**Query 118- The Contractor shall also provide costing for a support and maintenance contract for a period for 3 years (renewable on a yearly basis, subject to satisfactory performance). Support and maintenance contract shall abide to the Service Level Agreement provided in the Technical Schedules.**

- Kindly suggest, the Costing for Providing suppport and Maintenance contract for period of 3 years is to be quoted tender Stage? If yes, then Kindly Provide the Format and also suggest on consideration of the same for evaluation of Successful Bidder.

**Reply 118-**

Kindly refer to reply 71 of Clarification No.5

**Query 119- Design, supply, install, test and commissioning of the Compact Solar Stations, complete with civil works. Each Compact Solar Station shall not exceed 2.5 MVA.**

- With Max. rating of each inverter of 1.5 MVA @ 1.5 kV DC, there shall be very limited manufacturer for the same.

Hence, we propose following inverter rating options to minimize the power losses as well as BOS cost of Plant.

Option-1:.single central inverter rating 2.5 MVA and transformer rating 2.5 MVA and 500KVA with string inverter .

(3X2.5+0.5=8 MWac).

Option-2: in Single CSS Two central inverter rating 2.5 MVA, one CSS with central inverter 2.5 MVA and 500KVA with string inverter

(2X2.5MVA+1X2.5 MVA+0.5=8 MWac).

Option-3: Inverter type string and compact substation rating 500KVA to 2.5 MVA .

**Reply 119-**

The original requirement of the bid document shall be maintained.

**Query 120- Supply, install, test and commissioning of the communication equipment (multiplexes and patch panel among others) at both the Henrietta Substation and the PV Farms for tele-protection and tele-measurement.**

- Kindly clarify data communication protocol at receiving end. Also provide drawing of communication scheme at Tender stage.

**Reply 120-**

Refer to chapter 10 of Appendix A -Employer Requirement.

MLD.

**Query 121- Design, install, test and commissioning of the interface required to allow monitoring and controlling of the Solar PV farm system from the local SCADA system to be located in the local Control Room**

-We presume that internet facility for SCADA system shall be in CEB scope. Kindly Clarify.

**Reply 121-**

The SCADA system shall be as per the requirement of Section 8 of the Employer Requirement.

**Query 122- Construction of a dedicated 22kV Feeder from the point of delivery up to Henrietta substation will be done by a third party.**

- Kindly elobrate aboit Third party and Scope.

**Reply 122-**

Connection to the Solar PV Farm to the 22kV busbar of the Henrietta Substation shall be under the responsibility of CEB.

**Query 123- Provide the Dynamic Model of the PV Farm in DIgSILENT Powerfactory format.**

- Kindly provide list of simulation module required. Also we propose ETAP software for modeling the same. Kindly Clarify.

**Reply 123-**

The original requirement of the bid document shall be maintained.

**Query 124- The Contractor is required to submit, along with his base bid, the cost for the installation of additional capacity in the range of 0.2MWac up to 1.8 MW ac. The price shall be in step of 0.2MWac of additional installed capacity and shall not be included in the Contract Price. This pricing is Mandatory and shall be quoted separately but will not be considered for evaluation purposes.**

- Kindly Clarify:

1. This capacity shall be the Part of Existing System or it shall be the Separate system with DC & AC Side both as Cost of the options are different with each other. Kindly elabaorate and Clarify the actual requirement.
2. For Quoting, there is NO Format Provided in the Tender Documents. Kindly Clarify and Provide.

**Reply 124-**

Bidders are informed that the capacity shall be part of the existing system.

Bidders shall quote in their own format for the additional capacity in step of 0.2MWac upto 1.8MWac.

HLD.

**Query 125- The supporting structures shall be able to withstand gusts of at least 280 km/hr.**
- PV Module Supporting structure can be design upto 280kM/hr, but the module frame take max. wind speed upto 225 km/hr as per standard PV module with frame available in industry. Kindly Accept the same.

**Reply 125-**
Kindly refer to reply 85 of Clarification No.5.

**Query 126- The Contractor shall ensure that the new earth system shall provide safe touch and step voltages designed in accordance with the latest edition of IEEE 80.**
- According to IEEE-80 touch and step voltages calculation to be designed for AIS/GIS outdoor AC substations only but not for Solar power Plant Yard. In case indoor system to be provided, the floor rubber mat shall assures an effective insulation from earth potentials. So, we proposes earthing in DC yard and AC Side CSS equipment protective earthing as per BS7430 and IS 3043 code. Kindly Accept the request.

**Reply 126-**
The original requirement of the bid document shall be maintained.

**Query 127- The Contractor shall design, supply, install and commission a lightning protection system, materials and components fully in compliance with IEC 62305**
- We propose ESE type lightning protection NFC 17-102, to cover the entire Lightening protection of plant. Kindly accept the same.

**Reply 127-**
The original requirement of the bid document shall be maintained.

**Query 128- The inverters in a given Solar Compact Substation shall be of modular type to ensure redundancy and continuity of supply. Each Solar Compact Substation shall be designed in such a way that the loss of 30% of the inverter modules in a given Solar Compact Substation shall not affect the guaranteed delivered powered at the POD i.e. 8MWac , without overloading any of the healthy inverter modules.**
- Kindly suugest the inverter Manufacturer with same Technical Specification.

**Reply 128-**
Kindly refer to reply 98 of Clarification No.6.

MRD.

**Query 129- The inverter DC input shall be designed for at most 1500 Vdc and the inverter AC power shall be at most 1500 kVA**
- Central inverter 1500kVA with 1.5 kV DC configuration have limited manufacturere. So. Request up to amend the rating of inverter at most 2500 kVA single Inverter. kindly amend the same.

**Reply 129-**
Kindly refer to reply 11 of Clarification No.4.

**Query 130- The type-test evidence shall show that the circuit-breakers have been tested in their cubicles and that all current carrying parts of these cubicles (busbars, isolating connections, current and voltage transformers, cable termination chambers, etc.) have been included for all tests required by IEC 62271-200 Clause 6 and IEC 60694 Clause 6.**
- The availbility of the same is rare. So, request you to kindly suggest the manfuacturer.

**Reply 130-**
The original requirement of the bid document shall be maintained.

**Query 131- Conductors shall be constructed of either compacted, plain annealed copper strands conforming to IEC 60228 (Class 2).**
- In Clauses 2 GENERAL DESCRIPTION OF WORKS :
MV underground cable mentioned 240 mm2 Al XLPE wherever 6.10 type of conductor copper . Kindly clarify the same.

**Reply 131-**
Bidders are informed that the 240 mm2 Al XLPE is applicable for the 22kV underground cable that will be implemented by the CEB to connect PV Farm to Henrietta Substation. On the other hand Requirement of Section 6.10 is applicable for the Contractor.

**Query 132- Conductors shall be constructed of either compacted, plain annealed copper strands conforming to IEC 60228 (Class 2).**
- Kindly specify the MV cable core Multi core (3 Core)/ single core

**Reply 132-**
Kindly refer to reply 101 of Clarification No.6.

**Query 133- Ground rods shall be 20 mm minimum diameter by 3 meters long, copper clad steel, molecular bonded with minimum 27 percent of the rod weight in the copper cladding.**
- we propose ESE type lightening arrestor to cover the entire area of PV plant without casting the shadow on PV module . It is difficult to lightining protection of entire PV plant with 3 mtr Rod . The total no. of rod quantity is huge and also it will cast the shadow on PV module. Kindly suggest and clarify.

**Reply 133-**
We are referring to buried ground rods so that they do not have any shadow effect.

**Query 134- communication equipment forming part of the complete communication system between the PV farm Facility to System Control via CEB Henrietta Substation shall be procured, installed, tested and commissioned**
- Kindly confirm the fiber cable laying methodology between PV farm to CEB Henrietta Substation.

**Reply 134-**
Bidders are confirmed that this is within CEB scope. Also note that all CEB's cables entering the PV Farm's site will be undergrounded. The Contractor shall provide the necessary trenches for accommodating those cables.

**Query 135- Poles shall be manufactured from galvanised steel. Poles for exterior lighting shall support the lanterns at a minimum 8 meters above ground level**
- We suggest pole height shall be not more than 3 meter and average lux level 10. As mentioned 8 meters pole shall cast shadow on PV module. Also to achieve the 60 lux level the quantity shall be huge and energy consumption shall be high during the night time operation. Kindly confirm.

**Reply 135-**
Kindly refer to reply 114 of Clarification No.6.

**Query 136- Their participation should be confirmed with a letter of intent between the parties, as needed.**
- Kindly elaborate and consideration during Bid response submission.

**Reply 136-**
Bidders shall confirm through a letter of intent the subcontractors and manufacturers to be involved in the project.

MD.

**Query 137- The inverters in a given Solar Compact Substation shall be of modular type to ensure redundancy and continuity of supply. Each Solar Compact Substation shall be designed in such a way that the loss of 30% of the inverter modules in a given Solar Compact Substation shall not affect the guaranteed delivered powered at the POD i.e. 8MWac , without overloading any of the healthy inverter modules.**
- Bidder understanding for this clause is that "30% additional Inverter, PV Modules are required" for meeting a guaranteed delivered powered at the POD i.e. 8MWac,

Please confirm the same or clarify this statement

**Reply 137-**
Kindly refer to reply 98 of Clarification No.6.

**Query 138- The rating of the solar compact station shall be at most 2500 kVA.**

**The inverter AC power shall be at most 1500 kVA.**
- Both statements are contradicting. Kindly confirm which statement is to be considered.

**Reply 138-**
There shall be more than one inverter per compact station (depending on the design) each rated not more than 1500KVA. However the total output per compact station shall be at most 2500KVA.

**Query 139- The modules shall be capable of resisting damage when subjected to hailstorms of a maximum diameter of 28 mm with impact speed of 86 km/h. The module supplier shall have to furnish a certificate to ensure that the front glass surface is capable of withstanding such impact.**
- As most of Indian reputed PV Module Manufaturers are tested with 25mm Ice ball, we request you to kindly accept the same.

**Reply 139-**
The original requirement of the bidding document is maintained.

**Query 140- No spoil, rubbish or surplus materials are to be dumped anywhere other than at a public or private disposal site controlled or appropriately licensed by a Local Authority.**

**The Contractor is to comply with all legislation governing the controlled disposal of contaminated material and of rubbish, and he shall state in writing to the Employer the location, for each contaminating substance, of the proposed disposal site areas and the means of transport to be adopted.**
- 1. Please provide information pertaining to local authority for public disposal sites, location of dump sites, distance from the project site and procedure to secure the dump area along with estimated costs.

MD.

2. Please confirm if contractor can independently identify private disposal site and use them for dumping of spoil, rubbish or surplus material.

**Reply 140-**
Kindly refer to reply 92 of Clarification No.6.

**Query 141- The Contractor shall make his own arrangements for a suitable and adequate supply of water to cover all requirements in connection with the execution of the Works and he shall issue all notices and pay all fees, dues, charges and other costs incurred thereby.**

**The Contractor will be required to supply water for construction and also for drinking purposes.**
- It is assumed that securing a water connection for the control room facilities and other water requirements of the site after completion of construction works is in the employer's scope, please confirm.

**Reply 141-**
Bidders are required to design the water distribution system within the PV Farm premises. Supply of water during the operational phase to site shall be the responsibility of CEB/CGE.

Kindly acknowledge the receipt of this letter addressed to the Mauritius High Commission New Delhi at mhcnewdelhi@gmail.com at latest by the 30th September 2019.

If you have any query please do not hesitate to contact us,

Yours faithfully,

**Maheshwur Raj Dayal**
CEng MEng(Hons) MIET RPEM
**General Manager**

cc.
**EXIM Bank**
**Mauritius High Commission in New Delhi**
**SBMIDCL**
**SICDC**

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CEB
GREEN ENERGY

26 September 2019

**Ref: OAB-CGE-005/Minutes of Pre-Bid Meeting**

Attention: All Bidders

Dear Sir/Madam,

**OAB-CGE-005 – Design, Supply, Installation, Testing and Commissioned of 8MWac Solar PV Farm at Tamarind Falls, Henrietta (Phase II), Mauritius.**

**Minutes of Pre-Bid Meeting**

Please find enclosed Minutes of Pre-Bid Meeting held on 5th September 2019 with regards to the above mentioned project.

Kindly acknowledge the receipt of this letter addressed to the Mauritius High Commission New Delhi at mhcnewdelhi@gmail.com at latest by the 30th September 2019.

Yours faithfully,

**Maheshwur Raj Dayal**
CEng MEng(Hons) MIET RPEM
**General Manager**

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**cc.**
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**Mauritius High Commission in New Delhi**
**SBMIDCL**
**SICDC**

**Enc.**
**Minutes of Pre-Bid Meeting for OAB-CGE-005 held on 5th September 2019.**

# CEB (GREEN ENERGY) CO LTD.

**Minutes of Pre-Bid Meeting**

**OAB-CGE-005 – Design, Supply, Installation, Testing and Commissioning of 8 MWac Solar PV Farm at Tamarind Falls, Henrietta (Phase II), Mauritius**

**Date and Time of Meeting** : Thursday 5th September 2019 at 10:00

**Venue** : Conference Room, Central Electricity Board, Curepipe

CGE welcomed all the bidders who attended the pre-bid meeting and presented all Officers from CEB and CGE present during the pre-bid meeting. CGE also presented apologies from the General Manager of CEB (Green Energy) Ltd, who was not able to attend this meeting.

**Matters Arising:**

CGE/CEB presented the following main points of this bidding exercise:

- Introduction of the Company
- Project Background
- Project Scope
- Project Site & Layout
- Expected Energy Yield
- Overview of the Bid Evaluation Process

CEB/CGE explained the procurement procedures and requested the bidders to be cautious while putting their bids because on account of small mistakes, many bids are rejected for non-responsiveness. To support the statement, the latter emphasised on the following areas which are not exhaustive:

- The Financial Proposal and Technical Proposal shall be submitted separately in sealed envelope, each clearly Marked "Financial" and "Technical". Both envelopes shall be sealed in a single envelope.
- The Technical Proposal shall include a Bid Security issued by a Commercial Bank operating in Mauritius as per format enclosed in the Bidding document.
- The Technical Proposal shall be opened first and evaluated for responsiveness of their bids. Only bids achieving the Pass Mark in the Technical evaluation process shall be opened and only technically qualified bidders shall be invited to attend the financial opening of the bids.

MD.

- The bidders have to ensure that the validity of the Bid Security is correct and as per the requirement of the bidding document, Extension Letter etc., following extension of the Bid closing date. Bidders were also requested to ensure that whenever the closing date for submission of bids is extended, the bid validity and the corresponding Bid Security validity shall also be extended.
- To read the Instruction To Bidders carefully
- To ensure that the Bid Submission Form is signed
- To sign the Bid Submission Form and other documents wherever applicable
- To ensure that the bidders deposit their bids well before the deadline.

A summary of key issues raised and addressed during the pre-bid meeting are presented in the table below:

| Item | Queries from Bidders | CGE/CEB's Stand |
|---|---|---|
| 1 | **PV Panels** | |
| | Bidders requested amendment to the type of PV Panels from "Mono-crystalline type" to Mono-crystalline or Multi Crystalline type | As per OAB-CGE-005/Clarification02 issued the requirements for the Mono-crystalline type PV Panels shall be maintained. |
| 2 | **Mobile automated cleaning solution for PV panels** | |
| | As per Section 2.37.2.3. Optional Tools and Equipment Appendix A Employer's Requirements, Bidders queried on the pricing of the mobile automated cleaning solution for the solar farm that shall be proposed for the safe, fast and efficient cleaning of the PV panels under minimum supervision. | Bidders are hereby informed this requirement is optional, however bidders shall be required to submit the price separately as an annexure. This shall not be considered for evaluation of the bid. |
| 3 | **Defects Notification Period** | |
| | Bidders queried on the Defects Notification period of 12 or 24 months. | Appendix to Bid, Defects Notification Conditions of Contract 1.1.3.7 shall be corrected as follows: Defects Notification Period for the whole Installation shall be **twenty four (24)** months as from the date of issue of taking over certificate |
| 4 | **Defects liability in building and civil works** | |
| | Bidders queried on the requirement for the defects liability in building and civil works which shall not be less than 10 years. | Note that all building and civil works shall be guaranteed for a period of not less than 10 years also referred to as Decennial Guarantee |
| 5 | **75% value of the contracts covered under the Line of Credit, must be sourced from India** | |
| | Bidders requested clarifications whether 75% of all items need to be sourced from India or it is allowed that 75% procurement are performed through Indian companies however raw | As per the GOI guidelines, goods and services for minimum 75% value of the contracts covered under the LOC, must be |

MRD.

| Item | Queries from Bidders | CGE/CEB's Stand |
|---|---|---|
| | materials are originated from other countries. | sourced from India. Bidders are advised to refer to the GOI guidelines mentioned above for details available at:<br>http://www.eximbankindia.in/assets/pdf/loc/GOI-Guidelines-on-LOC.pdf.<br>Certificate of Origin issued at the time of shipment will be required to confirm the origin of the machines and equipment. |
| 6 | **Required Energy Yield** | |
| | Bidders queried on the expected energy yield for the 8MWac Solar PV Farm | This Solar PV Farm, once operational, is expected to generate more than **15 GWh** annually |
| 7 | **Requirement for MWp on DC Side** | |
| | Bidders queried on the requirements for MWp on DC Side for the 8MWac of the farm. | Bidders shall size their system based on an output of 8MWac (STC conditions) at the POD. It shall be pointed out as per section 14.8.1. Guaranteed PV Farm Net Electrical Output (MWac), Contractor shall specify in Sheet 20 of the Technical Schedule the Guaranteed Net Electrical Power Exported at POD to the CEB's grid in $(MWac)_G$ at site conditions |
| 8 | **Taxation** | |
| | Bidders queried on the taxation process in Mauritius with regards to Indian companies and sub-contracting of works to local companies | The goods and services provided under this contract to be funded under an LOC shall be free from all kinds of taxes and duties of any nature levied in Republic of Mauritius and no tax is liable to be paid from the LOC.<br><br>The Contract Agreement shall be signed between the Project Authority/Buyer and Indian Contractor, after the bidding process.<br><br>Payment by the Exim Bank to the Contractor will be made only at the request of the Borrower, and upon approval by the Exim Bank in accordance with the terms and conditions of the LOC Agreement, and will be subject in all respects to the terms and conditions of that agreement. No party other than the Borrower shall derive any rights from the LOC Agreement or have any claim to the proceeds of the LOC.<br><br>Bidders to refer the payment terms provide in the tender document. |

MRD.

| Item | Queries from Bidders | CGE/CEB's Stand |
|---|---|---|
| 9 | **Delay Damages and Performance Liquidated Damages** | |
| | Bidders requested clarifications on the delay and performance damages | Bidders are informed that Delay Damages (liquidated Damages) is a penalty for late completion of the Project as clearly specified in Sub-Clause 8.7 Delay Damages.<br><br>For Performance Damages, Bidders to refer to section 14.8.1. Guaranteed PV Farm Net Electrical Output (MWac). |
| 10 | **Structural Engineering** | |
| | Bidders informed that PV modules structures with regards international standards, the PV modules structure will not be able to support wind gust of 280 km/h | The requirements for the PV modules mounting structures shall be able to withstand gusts of at least 280 km/h as specified in the Bid document.<br>. |
| 11 | **PV module shall perform satisfactorily in humidity up to 100%** | |
| | Bidders informed that no PV modules manufacturer shall be able guarantee their performance at a relative humidity of 100% | Mauritius has a relative humidity above 95% as per Section 1.2 of the Employer Requirement. In this respect the PV Module shall perform satisfactorily for the relative humidity in Mauritius |
| 12 | **Solar Compact Station** | |
| | Bidders requested that requirements of the inverter AC power of at most 1500 kVA be lifted up to 2500 kVA due to limited sources of supply of SCS with 1500 V system DC voltage. | The requirements for the inverter AC power of at most 1500 kVA shall be maintained, however it shall be pointed that DC link voltage range shall be within the range of 0 to 1500V |
| 13 | **Payment Schedule** | |
| | Bidders queried on the payment schedule | Project progress/payment milestones are provided in the bidding document. |
| 14 | **CIDB Requirements** | |
| | Bidders queried on the requirements for CIDB registration of their companies. | Requirement of CIDB certificate is not a technical qualification criteria as per the bidding document.<br><br>However, bidders are advised to refer the website of the CIDB of Mauritius www.cidb.govmu.org for further details concerning registration requirement for EPC/CC contractors. |
| 15 | **22 kV Connection to Henrietta Substation** | |
| | Bidders requested for additional information at the Henrietta Substation and Right of Way for installation of the 22 kV Cables. | Bidders are informed that the interconnection for the Solar PV Farm to the 22 kV busbar of the Henrietta Substation shall be performed by the CEB and do not fall under the scope of the contractor. |
| 16 | **Service Level Agreement** | |
| | Bidders requested for a price schedule for the 3 years' Service Level Agreement. | Bidders are informed that they submit their pricing on a yearly basis. |

| Item | Queries from Bidders | CGE/CEB's Stand |
|---|---|---|
| 17 | **Cable Sizing** | |
| | Bidders queried on the principle to be respected with regards to cable sizing for this PV Farm | The size of each type of cable shall be selected such that the maximum voltage drop is limited to 2%. |
| 18 | **Extension of Bid Closing Date** | |
| | Bidders requested to extend the Bid Closing Date. | Bidders are informed that any request for extension shall be sent officially. |

Meeting ended at 11hr 30 and bidders were brought at Tamarind Falls, Henrietta (Phase II), Mauritius for a site visit and overview of the Phase I project.

MRD.

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CEB
GREEN ENERGY

07 October 2019

**Ref: OAB-CGE-005/Addendum No.2**

Attention: All Bidders

Dear Sir/Madam,

**OAB-CGE-005 – Design, Supply, Installation, Testing and Commissioned of 8MWac Solar PV Farm at Tamarind Falls, Henrietta (Phase II), Mauritius.**

**Addendum No.2**

We refer to the above mentioned bidding exercise and wish to inform bidders that the Bidding Forms, in Section IV Form ELI 1.1 has been amended to read as follows:

The following wordings ***"The following form is in addition to Form CON-1 to 3 (in case the Bidder is a JV)"*** have been deleted and shall not form part of the attached form. Please refer to attached amended Form ELI 1.1.

Kindly acknowledge the receipt of this letter addressed to the Mauritius High Commission New Delhi at mhcnewdelhi@gmail.com at latest by the 10th October 2019.

Yours faithfully,

**Maheshwur Raj Dayal**
CEng MEng(Hons) MIET RPEM
**General Manager**

**cc.**
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**Mauritius High Commission in New Delhi**
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07 October 2019

**Ref: OAB-CGE-005/Clarification07**

Attention: All Bidders

Dear Sir/Madam,

**OAB-CGE-005 – Design, Supply, Installation, Testing and Commissioned of 8MWac Solar PV Farm at Tamarind Falls, Henrietta (Phase II), Mauritius.**

**Clarification No.7**

Please find below CGE's reply to the queries from bidders in respect of the above mentioned bidding exercise.

**Query 142- [The following form is in addition to Form CON-1 to 3 (in case the Bidder is a JV)], and shall be completed separately to provide information relating to each JV member.**
- Format of CON-1 to 3 not provided in the tender document. Please provide the same.

**Reply 142-**
Bidders are informed to refer to Addendum No.2

**Query 143- On-Site Roads**
- We understand Contractor's scope would be to build approach roads within the plots specified and any perimeter roads along plant boundaries would be taken care by CEB. Kindly Confirm.

**Reply 143-**
Please find hereunder extract from the document under section 13.8.2. Access Roads:

***"Track road all around the fencing and across the plots (as indicated in guide drawing CEB Drwg No: S-5159)This track road shall be at least 3m wide, shall consist of stoning and kerbs on both sides and shall be accessible to vehicles."***

Track road all around the fencing refers to the perimeter roads along plan boundaries.
Hence, the bidder should include same in the bid price.

**Query 144- The actual output (metered output) of the Solar Facility shall be within a tolerance of +/-10% of the revised forecast at any instant and this shall be tested during the reliability testing period.**

MLD .

- The actual output (metered output) of the Solar Facility shall be within a average tolerance of +/- 10% of the revised forecast at any instant and this shall be tested during the reliability testing period.

**Reply 144-**
The original requirement of the bid document shall be maintained.

**Query 145- The PV module shall perform satisfactorily in humidity up to 100%**
- As per IEC 61215-2 module Humidity freeze test& Damp heat type test max. relative humidity is 85 % and same has been confirmed by module manufacturer. So request CEB to amend the same as per availability.

**Reply 145-**
Mauritius has a relative humidity above 95% as per Section 1.2 of the Employer Requirement. In this respect the PV Module shall perform satisfactorily for the relative humidity in Mauritius

**Query 146- In the case of solidly earthed neutral systems, the design shall be such that in the case of an earth fault current of 65 kA for 1 second the final temperature shall not exceed 150 °C.**
- It is difficult to design the MV cable to withtand earth fault shortcircuit current up to 65 kA for 1 second. As per tender the fault current of system is 25 kA. Hence, the earth fault current not exceeding 200 A in Armoured. Kindly Clarify the same.
-3 ph short circuit fault current given is 25KA. As per our understanding earth fault current is always less than short circuit fault current but in tender it is given 65KA for 1 sec please clarify.

**Reply 146-**
In the case of solidly earthed neutral systems, the design shall be such that in the case of an earth fault current of 25 kA for 1 second the final temperature shall not exceed 150 °C.

**Query 147- Conductors shall be constructed of either compacted, plain annealed copper strands conforming to IEC 60228 (Class 2).**
- Kindly confirm MV cable voltage grade 22kV soild earthed or 22kV unearthed cable.

**Reply 147-**
It is the responsibility of the Contractor to design the system to meet the provisions of the Employer Requirements.

**Query 148- Only multi-stranded copper wires with XLPE insulation, of appropriate size and of reputed make shall be used. Aluminium cables shall not be accepted for low voltage installations within the PV farm.**

MRD.

**Reply 148-**
The original requirement of the bidding document is maintained.

**Query 149- 6.8 Underground MV Power Cables**
**In the case of solidly earthed neutral systems, the design shall be such that in the case of an earth fault current of 65 kA for 1 second the final temperature shall not exceed 150 °C.**
- 3 ph short circuit fault current given is 25KA. As per our understanding earth fault current is always less than short circuit fault current but in tender it is given 65KA for 1 sec please clarify.

**Reply 149-**
Kindly refer to reply 146 of Clarification No.7

**Query 150- Optical Cable for TL**
- Please clarify Optical Cable for TL - in whose Scope

**Reply 150-**
Please abide to the Employer's requirements of the Bid Document.

**Query 151- The subject says "Experience on Interconnection to the Medium Voltage Network " whereas in the form 4 Part B it says "Experience on Interconnection to the High Voltage Network"**
- Request clarify medium or high voltage

**Reply 151-**
We confirm that it should be medium voltage.

**Query 152- The PV module shall perform satisfactorily in humidity up to 100% with temperature between 0 degree C to 55 degree C. Since the modules shall be used in a high voltage circuit, the high voltage insulation test shall be carried out on each module and a test certificate to that effect provided.**
- Most of the standard Module is tested as per IEC 61215 - 85% humidity, we request you to kindly accept the same.

**Reply 152-**
Kindly refer to reply 145 of Clarification No.7

**Query 153- Training/ Design Review Meeting**
- Kindly advise the subsistence costs payable to CEB's officials.

**Reply 153-**
Bidders are informed that a reasonable amount shall be considered for the subsistence cost.

MRD.

**Query 154- However, all goods and services provided under this contract to be funded under a LOC from Exim Bank shall be free from all kinds of taxes and duties of any nature levied in the Employer's country and no tax is liable to be paid from the Line of Credit.**
- Please clarrify wether CIDB (Constrution Industry Development Board) registration is mandotry or not for Bidders.

**Reply 154-**
Requirement of CIDB certificate is not a technical qualification criteria as per the bidding document.
However, bidders are advised to refer the website of the CIDB of Mauritius www.cidb.govmu.org for further details concerning registration requirement for EPC/CC contractors.

**Query 155- Allow for the provision of reinforced concrete retaining wall as and where required (near rivers and stream) to protect against flash floods. Concrete grade 30 to be used for all concrete works**
1. The clause does not mention the distance from the water body (stream of flowing water or lake/pond) at which the bidder must consider the provisioning of the retaining wall. As per the above clause, the bidder must consider retaining walls on the boundaries of the 3 plots where it is next to water bodies. We have assumed that wherever our designed boundary fence touches the Contour line brown in colour depicting the water stream line, a Retaining wall is to be considered. Accordingly, the Retaining wall is considered as shown in Blue colour in the attached Appendix '1' (A-A, B-B, C-C, D-D & E-E).

2. It is therefore requested to confirm the requirement of Retaining wall as per the above assumption for us to take into account the necessary costing for the same.

**Reply 155-**
Bidders are responsible for the design of the plant and hence shall determine the scope of work for the retaining wall as per their design and ensure that the design is appropriate considering the close proximity of rivers, streams and storm drains to protect against flash floods.

**Query 156- 1. Contour plan**
**2. Slope sections**
We kindly request you to send all AutoCAD files for the contour plan and slope sections.

**Reply 156-**
Bidders are informed that these drawings are available only in the format provided.

MAD.

**Query 157- However, all goods and services provided under this contract to be funded under a LOC from Exim Bank shall be free from all kinds of taxes and duties of any nature levied in the Employer's country and no tax is liable to be paid from the Line of Credit.**
- Bidder understanding here is they also don't have to pay any tax/VAT to subcontractor.
Please confirm the same or clarify this statement

**Reply 157-**
The goods and services provided under this contract to be funded under an LOC shall be free from all kinds of taxes and duties of any nature levied in Republic of Mauritius and no tax is liable to be paid from the LOC.

The Contract Agreement shall be signed between the Project Authority/Buyer and Indian Contractor, after the bidding process.

Payment by the Exim Bank to the Contractor will be made only at the request of the Borrower, and upon approval by the Exim Bank in accordance with the terms and conditions of the LOC Agreement, and will be subject in all respects to the terms and conditions of that agreement. No party other than the Borrower shall derive any rights from the LOC Agreement or have any claim to the proceeds of the LOC.

Bidders to refer the payment terms provide in the tender document.

MLD.

**Query 158- The clause brings Out the requirement of the containerized "Solar Compact Station" for the solar project, It states the following "The Solar Compact Station (SCS) shall be of containerized type and shall enclose the low voltage DC-distribution, the inverter modules, the low voltage AC distribution, the medium voltage step up dry type transformers, the medium voltage switchgear and the control and monitoring system, ventilation system."**

- 1. No reputed manufacturer of Inverters is offering the Solar Compact Station in Indian market as per the tender requirements. The Indian market has still not matured in terms of this kind of requirement for its solar plants installed in the country.

2. We have contacted reputed manufacturer of the SCS in India like, ABB, Schneider, Ingeteam, TMIC, GE, Siemens etc. along with the tender specifications. They have all expressed their inability to supply the same from India as per the tender specifications.

3. However, there are manufacturers of containerized Inverters (mostly by Inverter manufacturer's) and separate manufacturers of containerized dry type transformers & MV switchgear in a separate container. All the above containers will be suitably ventilated as per the tender requirement. Hence multi containers shall be supplied instead of one single container and same shall be integrated by us at the site.

4. In view of the foregoing, it is requested to consider allowing usage of separate containers lieu of one single container for Solar Compact Station.

**Reply 158-**

Bidders are informed that the Solar Compact Station can be designed and assembled in such a way that a maximum of two containers can be used per compact station instead of a single container.

MLD.

**Query 159- The solar compact station (SCS) shall be of containerized type and shall enclose the low voltage DC-distribution, the inverter modules, the low voltage AC distribution, the medium voltage step up dry type transformers, the medium voltage switchgear and the control and monitoring system, ventilation system. The rating of the solar compact station shall be at most 2500 kVA. The inverters in a given Solar Compact Substation shall be of modular type to ensure redundancy and continuity of supply. Each Solar Compact Substation shall be designed in such a way that the loss of 30% of the inverter modules in a given Solar Compact Substation shall not affect the guaranteed delivered powered at the POD i.e. 8MWac , without overloading any of the healthy inverter modules**

- Bidder is not able to find any standard product available in Indian Markect so please allow either.
1) Outdoor inverter with oil type transformer and outdoor RMU mounted on platform cabling and termination can be done at site.

OR

2) Solar compact station with oil type transformer (without radiator) instead of dry type treansformer.

OR

3) Allow 1000 Vdc Inverter in compact station with oil type transformer.

OR

4) Indoor inverter with dry type transformer and Indoor RMU inside PEB building cabling and termination can be done at site.

Max. Capacity 2500 KVA also not avalable please allow to use upto 5000KVA capacity.

**Reply 159-**
Kindly refer to reply 158 of Clarification No.7 and reply 61 of Clarification No.5

Kindly acknowledge the receipt of this letter addressed to the Mauritius High Commission New Delhi at mhcnewdelhi@gmail.com at latest by the 9 October 2019.

If you have any query please do not hesitate to contact us,

Yours faithfully,

**Maheshwur Raj Dayal**
CEng MEng(Hons) MIET RPEM
**General Manager**

**cc.**
**EXIM Bank**
**Mauritius High Commission in New Delhi**
**SBMIDCL**
**SICDC**

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CEB
GREEN ENERGY

07 October 2019

**Ref: OAB-CGE-005/Clarification08**

Attention: All Bidders

Dear Sir/Madam,

**OAB-CGE-005 – Design, Supply, Installation, Testing and Commissioned of 8MWac Solar PV Farm at Tamarind Falls, Henrietta (Phase II), Mauritius.**

**Clarification No.8**

Please find below CGE's reply to the queries from bidders in respect of the above mentioned bidding exercise.

**Query 160- Advance Payment Security shall be provided in the form of a Bank Guarantee from a commercial bank operating in Mauritius as per format enclosed.**
- Request CEB to confirm the followings:
1. There is no mentioning of governing laws in BG text. We understand that Advance Payment Security will be govern by the Uniform Rules for Demand Guarantees, ICC Publication No. 758.
2.Standard NWC clause generally added by our banks in BG text is as under:

the liability of the bank under this guarantee shall not exceed _____ (amount in figures) _____(amount in words)

this guarantee shall be valid upto _____and unless the purchaser serves upon the bank a written claim or demand on or before_____all the rights of the purchaser under this guarantee shall be forfeited and we shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the bank)

**Reply 160-**
1. This Advance Payment Security will be governed by the Uniform Rules for Demand Guarantees, ICC Publication No. 758.
This guarantee shall be subject to the jurisdiction of the Courts of the Republic of Mauritius.

2. Bank will be relieved from its responsibilities as from the date stated or condition stated. If condition not met on stated date bank should be advised to extend guarantee.

MRD

**Query 161- Performance Security will be from a commercial bank operating in Mauritius in the format attached as annexed in the amount of Ten percent (10%) of the Accepted Contract Amount, payable in the currencies and proportions of the Accepted Contract Amount.**

- Request CEB to confirm the followings:

1. There is no mentioning of governing laws in BG text. We understand that Advance Payment Security will be govern by the Uniform Rules for Demand Guarantees, ICC Publication No. 758.
2. Standard NWC clause generally added by our banks in BG text is as under:

the liability of the bank under this guarantee shall not exceed _____ (amount in figures) _____(amount in words)

this guarantee shall be valid upto _____and unless the purchaser serves upon the bank a written claim or demand on or before_____all the rights of the purchaser under this guarantee shall be forfeited and we shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the bank)

**Reply 161-**

Kindly refer to reply 160 of Clarification No.8

**Query 162- Please provide is the beneficiary bank details urgently with bank name, account name, address, swift code etc. This is urgent as it takes time to issue the Bid security BG**

**Reply 162-**

Bidders are requested to refer to Section 1 clause 19 and to ITB 19.1. In ITB 19.1, it states that the ***"Bid Security issued by a commercial Bank operating in Mauritius"*** and therefore the request in the mail below to provide swift code, bank branch name etc. are not applicable.

Company Name: **CEB (Green Energy) Co. Ltd**

MLD