



# CENTRAL ELECTRICITY BOARD

## CEB CARBON NEUTRAL INDUSTRIAL SECTOR (CNIS) RENEWABLE ENERGY (RE) SCHEME

### INTERCONNECTION AGREEMENT

*for Solar PV Generator of Capacity above 10 MWac Connection at 66 kV*

Between

**CENTRAL ELECTRICITY BOARD**

and

---

*[Insert the Name of the Facility Owner<sup>1</sup> as per the Certificate of Incorporation]*

for the grid interconnection of a \_\_\_\_\_ MW

*[Insert solar PV capacity as mentioned in the CEB Letter of Intent]*

**Solar PV Farm**

at \_\_\_\_\_

*[Insert site address]*

**Date:** \_\_\_\_\_

---

<sup>1</sup> If the name of the Facility Owner, **who should be the Industrial Customer applying for the setting up of the Facility**, in the CNIS RE Scheme Application Form is different to the one recorded in the CEB Information System (refer to Industrial Customer existing electricity bill), contact a CEB Customer Services Office for making all necessary amendments prior to filling this Interconnection Agreement.

---

*[Insert the name of the Facility Owner as per the Certification of Incorporation]*

**MW Solar Photovoltaic System**

*[Insert solar PV capacity as mentioned in the CEB Letter of Intent]*

**Interconnection Agreement**

This Interconnection Agreement (the **“Agreement”**) is made on \_\_\_\_\_ *[leave blank]*  
at the Central Electricity Board, Corporate Office, Rue Du Savoir, Cybercity, Ebène, Republic of  
Mauritius.

BETWEEN

The **CENTRAL ELECTRICITY BOARD (“CEB”)**, duly established under the Central Electricity Board  
Act and represented by **Mr.** \_\_\_\_\_ (National  
Identity Card No.: \_\_\_\_\_), its \_\_\_\_\_

AND

The \_\_\_\_\_ *[Insert  
Facility Owner as per the Certification of Incorporation]*, duly represented by **Mr./Mrs./Miss/Ms.**  
\_\_\_\_\_ (National Identity Card No.:  
\_\_\_\_\_), its \_\_\_\_\_ *[Insert full name, NIC  
number and designation of Facility Owner (Industrial Customer) designated representative]*

(Each a **“Party”** and collectively the **“Parties”**)

- (i) WHEREAS CEB is the owner and operator of the 66 kilovolts (kV) Transmission system (the **“Transmission System”**).
- (ii) WHEREAS \_\_\_\_\_ *[Insert Facility  
Owner (Industrial Customer) name]* owns and will operate a Solar PV Farm (the **“Facility”**)  
as shown in the schematic diagram given in the **Annex 1**. The Facility, registered by CEB  
with the reference number **LSIPP/CNIS/**\_\_\_\_\_ *[Leave blank]*, has been installed on  
\_\_\_\_\_’s *[Insert Facility Owner  
(Industrial Customer) name]* premises at  
\_\_\_\_\_ *[Insert site  
address]*, Republic of Mauritius.
- (iii) WHEREAS \_\_\_\_\_ *[Insert Facility Owner  
(Industrial Customer) Name]* has connected or wishes to connect its Facility to the  
Transmission System and CEB has connected or has agreed to connect the Facility to the  
Transmission System; both, in accordance with the **Specific Terms and Conditions of the**

**CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme** set out in the **Annex 2** of this Agreement.

- (iv) WHEREAS CEB has previously reviewed and accepted \_\_\_\_\_'s [*Insert Facility Owner (Industrial Customer) Name*] application for the grid interconnection of the Facility under the **CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme**, launched in January 2023, based on related materials that were submitted to CEB and in accordance with the provisions of the **Technical Schedules** (given in the **Annex 6**).
- (v) And WHEREAS in accordance with the Electricity Act, the **Technical Schedules (Annex 6)**, and the terms & conditions set out in this Agreement, CEB has agreed to offer through its Transmission System, and \_\_\_\_\_ [*Insert Facility Owner (Industrial Customer) Name*] has agreed to avail itself of the Transmission service in relation to the Facility.

NOW THEREFORE in consideration of the foregoing, and of the mutual covenants, agreements, terms and conditions herein contained, the Parties, intending to be legally bound, hereby agree as follows:

## 1. Definitions

- 1.1. Words and phrases contained in this Agreement (whether capitalized or not) that are not defined in this Agreement have the meanings given to them in the Electricity Act, the Central Electricity Board Act, the Utility Regulatory Authority Act, the Interpretation and General Clauses Act, Electricity Regulations, the **Technical Schedules (Annex 6)**, and relevant regulations including subsequent amendments.
- 1.2. “**Facility Owner**” is the CEB Industrial Customer who has applied for the setting up of the Facility and whose designated representative is signing this Agreement.
- 1.3. “**Grid Integration**” refers to the continuous management by the CEB of the influence of the Facility on the grid.
- 1.4. “**Gross metering**”, for the purpose of this Agreement, is the process of measuring and recording the total energy exported from the Facility to the CEB grid; thereafter, the total quantity of energy exported, which would be valued at the allocated unbundled time-of-use tariff, shall be credited to the Prosumer(s)' electricity contract account(s) in the order of priority and percentage share(s) as provided in the **Annex 4** of this Agreement.
- 1.5. “**Facility**” means a solar PV power generation facility having an installed capacity of \_\_\_\_\_ MW<sub>p</sub> [*Insert nameplate DC capacity of the solar PV farm*] and comprised of the solar PV panels, inverters, the access tracks and internal access platforms and fire-fighting facilities, the mechanical and electrical ancillary equipment, the step-up transformers, the administrative buildings, the workshops, the Facility Owner Interconnection Facilities and any equipment and auxiliary facilities necessary to operate the solar farm, as more generally described in the **Technical Schedules (Annex 6)**.

- 1.6. “**Prosumer**” is as defined in the General Notice 114 of 2016 and in this Agreement a Customer whose electricity contract account has been provided by the Project Owner and is listed in **Annex 4** to this Agreement is a Prosumer.
- 1.7. “**RE**” stands for Renewable Energy.
- 1.8. “**COD**”, which means commercial operation date, is the Business Day after the issuance of the Completion Certificate and the grant of a Permanent Generation Licence.
- 1.9. “**CEB Interconnection Facilities**” means the facilities required to interconnect the Facility to the CEB Transmission System located on the CEB side of the Point of Delivery.
- 1.10. “**Facility Owner Interconnection Facilities**” means all the facilities installed by Facility Owner to supply the Contract Energy from the Facility to the Point of Delivery, including transformers, and associated equipment, relay and switching equipment, protective devices and safety equipment and transmission lines.
- 1.11. “**Construction Start**” means the date notified by the Facility Owner to CEB, with supporting documentary evidence, when the Facility Owner shall have issued a full notice to proceed under the EPC Contract to its Contractor.
- 1.12. “**Technical Schedules**” means all the schedules set forth in **Annex 6** of this Agreement.

**2. Management and Control of the Facility**

- 2.1. The Parties have agreed that as from the commissioning date of the Facility, the Facility Owner shall be the sole entity responsible for the operation of the Facility.
- 2.2. Prior to signing this Agreement, the Facility Owner shall make all necessary arrangements to take over all responsibilities from any third party in respect of the operation of the Facility, if applicable.

**3. Description of the Facility**

3.1. The Facility is a Solar PV Farm of \_\_\_\_\_ *[Insert solar PV capacity as mentioned in CEB Letter of Intent]* **Megawatt (MW) AC** installed capacity and is registered initially under the electricity Contract Account bearing number \_\_\_\_\_ *[Insert Contract Account Number of Facility Owner as on its electricity bill]* and now under the Contract Account bearing number \_\_\_\_\_ *[Leave blank]*. The Facility comprises, among others, the following:

<b>Equipment</b>	<b>Make/Model</b>	<b>Rating (MW)</b>	<b>Quantity</b>
Solar Photovoltaic Modules			
*Inverter			

*[Fill in the above table for solar PV modules and inverters]*

\* The output power of the Solar PV Farm has a total rated capacity of \_\_\_\_\_ **MW** and will be capped at \_\_\_\_\_ **MW** <sup>[Leave blank]</sup>, and same shall not be altered under any circumstances.

**3.2.** More details on the Facility are given in the **Annex 1** of this Agreement.

#### **4. Standards of the Facility**

**4.1.** The Facility Owner shall ensure that the Facility meets all applicable requirements of the Electricity Act, the Technical Schedules, the CEB Act and the prevailing Electricity Regulations.

**4.2.** The Facility Owner shall ensure that the Facility is installed, constructed, operated and maintained in conformity with this Agreement, the CEB's offer to connect and the Certificate of Compliance, and meets the technical and operating requirements described in the Technical Schedules.

#### **5. Incorporation of the Technical Schedules and Application of Conditions of Service and Other Contracts**

**5.1.** The Technical Schedules are hereby incorporated in its entirety by reference to, and forms part of, this Agreement. Unless the context otherwise requires, all references to this Agreement include a reference to the Technical Schedules.

**5.2.** CEB hereby agrees to be bound by and at all times to comply with the Technical Schedules, and the Facility Owner acknowledges and agrees that CEB is bound at all times to comply with the Technical Schedules in addition to complying with the provisions of this Agreement.

**5.3.** The Facility Owner hereby agrees to be bound by and at all times to comply with the Technical Schedules, and CEB acknowledges and agrees that the Facility Owner is bound at all times to comply with the Technical Schedules in addition to complying with the provisions of this Agreement.

**5.4.** In addition to this Agreement, whenever applicable, the relationship between CEB and the Facility Owner will be governed by the Technical Schedules, CEB's Conditions of Service, Electricity Act, Electricity Regulations, and relevant regulations that have been and shall be decreed.

**5.5.** In the event of a conflict or an inconsistency between a provision of this Agreement and a provision of the CEB's Conditions of Service, the provision of this Agreement shall govern.

**5.6.** The **Specific Terms and Conditions of the CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme**, detailed in the **Annex 2** of this Agreement, forms part of this Agreement.

## 6. Tariff, Charges, Billing and Settlement

- 6.1** Both Parties agree that the CNIS RE Scheme operates under the principle of off-setting of energy imported from the CEB grid against energy exported by the Facility with the mandatory application of the unbundled time-of-use tariff<sup>2</sup> applicable under the Scheme.
- 6.2** Pursuant to the Specific Terms and Conditions of the CNIS RE Scheme, given in the **Annex 2**, the unbundled time-of-use electricity tariff, which may be amended/restructured under relevant legislation(s), as and when required, applicable on a monthly basis to the electricity contract account(s), as provided by the Facility Owner, linked to the Facility, shall be as defined in the Unbundled Time-of-Use Electricity Tariff Schedule given in the **Annex 3**.
- 6.3** The Facility Owner hereby confirms that all necessary actions / measures were taken and accordingly agreement of the Customer(s) whose electricity contract account is (are) listed in the **Annex 4** has (have) been received for the change of the existing electricity tariff of the electricity contract account(s) to the unbundled time-of-use tariff whose structure has been defined in the Schedule given in the **Annex 3** and also that the provided electricity contract account(s) shall not be used for the purpose of energy offsetting, net-metering and/or gross-metering in other SSDG/MSDG application(s), unless CEB's prior approval has been obtained.
- 6.4** **The Facility Owner hereby commits to give to the CEB a true copy of the written agreement(s), in the standard format given in the Annex 5, of the Industrial Customer(s), whose electricity contract account is (are) listed in the Annex 4, prior to this Agreement. Otherwise, the value of the energy exported will not be credited to the relevant electricity contract account(s).**
- 6.5** Under the terms and conditions of this Agreement, as from the COD, all energy (kWh) generated, after adjusting for energy losses, from the Facility shall be considered as exported to the CEB grid for offsetting energy (kWh) imported from the CEB by the Customer(s) whose electricity contract account(s) has (have) been listed in the **Annex 4**. The energy exported shall be apportioned in the percentage share(s) mentioned in the **Annex 4** and the equivalent calculated monetary value, denominated in Mauritian rupees, shall be credited to the listed electricity contract account(s).
- 6.5.1** Where applicable, for the purpose of calculating the monthly bill, the total monthly electricity (kWh) consumption of the Customers of the electricity contract accounts listed in the **Annex 4** shall be calculated by the formula below: -

$$C = P + I - E$$

---

<sup>2</sup> The unbundled time-of-use tariff is subject to the approval of the Utility Regulatory Authority (URA) after its filing by the CEB to the URA. The procedure to seek the approval of the URA for the said unbundled time-of-use tariff will be undertaken in due course.

*Where,*

**C** is the total monthly electricity (kWh) consumption;

**P** is the total energy (kWh) production by the RE facility;

**I** is the total energy (kWh) imported from CEB; and

**E** is the total energy (kWh) exported to CEB.

- 6.6** Incidental excess energy exported (energy remained after offsetting) shall be processed pursuant to the terms and conditions of the Scheme.
- 6.6.1** The rate for the purchase of incidental excess energy (if any), which shall be valid during the initial four years of operation of the RE facility, shall be Rs 1.86 per kWh. After the initial four years, excess energy generated will be banked and rolled over to successive billing periods. However, the counter of the banked energy shall be reset to zero on 1st January every year thereafter.
- 6.7** Any energy exported to the CEB grid prior to the COD shall be considered as free energy.
- 6.8** Credit balance (Rs), if any, in the Prosumer(s) electricity contract account(s) linked to the Facility, shall be carried forward for next and successive billing periods, as the case will warrant, and be used to net off charges raised by CEB for its electricity services to the Prosumer(s)' premises.
- 6.9** The credit balance (Rs), if any, in the Prosumer(s)' electricity contract account(s), may be encashed once per year, after the cycle of twelve billing periods has been completed, or upon the permanent closing of the electricity contract account(s) or in exceptional cases upon mutual agreement.
- 6.10** All related charges, which include rental of meters, telecommunication, connection and disconnection of electricity supply and the Facility, as determined by the CEB, shall be at the cost of the Prosumer(s).
- 6.11** Other electricity services related charges, as defined in the Schedule in the **Annex 3**, shall be applied to the Prosumer(s) electricity contract account(s). Demand Charge, Minimum Charge, Security Deposit, TV licence, etc., as would be applicable to the Prosumer(s)' electricity contract account(s), shall be billed in accordance with the CEB prevailing billing principles, which may be changed, as and when required, and communicated thereof.
- 6.12** Billing and settlement activities, unless otherwise specified, shall be in accordance with the procedures set out in the Electricity Act and/or relevant Electricity Regulations, including as per future amendments.
- 6.13** Payments of all payable charges shall be made within given due dates to avoid disconnection of the Facility, including the electricity supply to the premises, from the grid.

- 6.14** In case of default, failing to remedy after a period of cure of not more than 30 days, which is subject to change, as and when required, the relevant electricity contract account will be permanently closed entailing either the cancellation of the present Interconnection Agreement or the share of the energy exported to the CEB grid be considered as free energy.
- 6.15** Any settlement of payment, if applicable, will be made within a period of 30 days as from the date of receipt of a signed VAT invoice, if applicable, except for situation of dispute or force majeure.
- 6.16** The Prosumer(s) shall implement energy efficiency (EE) measures identified following the completion of an energy audit exercise in line with prevailing regulations. Evidence(s) in relation to the implementation of EE measure(s) should be produced prior to the commissioning of the Facility.

## **7. Metering**

- 7.1** For the purpose of the Gross-metering principle, under which the Facility will be managed in the CEB grid, the Facility shall be equipped with production and import-export meters, as applicable and in accordance with Technical Schedules.
- 7.2** The meters will be supplied by CEB who will keep full administrative and technical control on and of the meters and their associated metering equipment.
- 7.3** The meters, which will be programmed and installed by CEB, shall be used for registering, monitoring and billing, as applicable, of the power generation output, electricity import and electricity export by and from the Facility.
- 7.4** The power generation output of the Facility shall be measured by the production meter and also via the Inverters.
- 7.5** The Prosumer(s), including the Facility Owner, shall at all times ensure that the meters are fully accessible to CEB and/or its associates and are properly secured on its premises.
- 7.6** All related costs for metering shall be borne by the Facility Owner and/or the Prosumer(s).

## **8. Access to Information**

- 8.1** All information recorded by the Inverter, including the power generation output of the Facility, shall be read through the internet using a web link that the Facility Owner (Facility Owner) has agreed to provide to CEB upon the commissioning of the Facility.

- 8.2 The Facility Owner also commits to provide CEB a free copy of the operating software and application(s) for the data downloading from the Facility.
- 8.3 If required, CEB may validate the power generation output recorded by the Inverter of the Facility with the meter readings of the CEB's production meter.
- 8.4 Where necessary, as and when required, the Facility Owner shall give full access to the CEB for downloading data series directly from the Inverter of the Facility.
- 8.5 If required by CEB, the Facility Owner shall also unconditionally provide CEB access to related web tools, webpages and databases of the Facility.
- 8.6 The Facility Owner undertakes to provide CEB with all necessary information, which would include, among others, facts, figures and readings of the Facility.
- 8.7 The Parties agree that no third party shall hold access to the web tools, webpages and databases of the Facility.

## 9. Representations and Warranties

- 9.1. The Facility Owner represents and warrants to CEB as follows and acknowledges that the CEB is relying on the following representations and warranties without independent inquiry in entering into this Agreement:-
  - (a) the Facility is as described in the **Section 3** above;
  - (b) it has read and taken full cognizance of all information relating to the Scheme and all information submitted by the Facility Owner is true and correct;
  - (c) the Facility is in compliance with all applicable technical requirements and laws, including safety rules as provided in CEB's safety manual;
  - (d) that the Facility Owner associates, employees and/or contractors, as and when applicable, at all times have complied and shall comply with CEB prevailing safety procedures (including in relation to clearing, switching, isolation, testing, earthing and work permits) applicable to CEB's system, substations, premises, facilities and other equipment as may be notified to the Facility Owner by CEB from time to time;
  - (e) The Facility Owner has been given warranty information and operation manuals for the Facility, as applicable;
  - (f) The Facility Owner responsible technical personnel has been adequately instructed in the operation and maintenance of the Facility and the Facility Owner has developed and implemented an operation and maintenance plan based on those instructions;
  - (g) The Facility Owner resources including but not limited to, its personnel, agents, partners, representatives and subcontractors, as may be deployed from time to time for the fulfilment of its obligations in terms of the present Agreement, possess the relevant professional adequacy, know-how and expertise;

- (h) The Facility Owner delegated officer has all necessary power, authority and capacity to enter into this Agreement and to perform the former's obligations under this Agreement;
- (i) The Facility Owner is acting on its own account, and its decision to enter into this Agreement is based on its own judgement, not in reliance upon the advice or recommendations of the other Party and it is capable of assessing its merits and understanding, and understands and accepts the terms, conditions and risks of this Agreement;
- (j) The Facility Owner has not relied on any promises, representations, statements or information of any kind that are not contained in this Agreement in deciding to enter into this Agreement;
- (k) this Agreement is legally binding on and enforceable against the Facility Owner and/or its associates in accordance with its terms;
- (l) The Facility Owner holds all permits, licences, agreements, consents, and other authorizations that may be necessary to enable it to engage in the construction of the Facility;
- (m) during the term of this Agreement, as may be from time to time extended, the Facility Owner shall not dispose of the whole or any part of its rights over the Facility, whether proprietary or otherwise, in any manner whatsoever, without the prior consent in writing of CEB; and
- (n) any individual signing this Agreement on behalf of the Facility Owner has been duly authorized by the latter to sign this Agreement and has the full power and authority to bind the Facility Owner.

**9.2.** CEB represents and warrants to the Facility Owner as follows and acknowledges that the latter is relying on the following representations and warranties without independent inquiry in entering into this Agreement:-

- (a) CEB's resources including but not limited to, its personnel, agents, partners, representatives and subcontractors, as may be deployed from time to time for the fulfilment of CEB's obligations in terms of the present Agreement, possess the relevant professional adequacy, know-how and expertise;
- (b) CEB is duly incorporated under the laws of the Republic of Mauritius;
- (c) CEB has all necessary power, authority and capacity to enter into this Agreement and to perform its obligations under this Agreement;
- (d) this Agreement is legally binding on and enforceable against CEB in accordance with its terms; and
- (e) any individual signing this Agreement on behalf of CEB has been duly authorized by CEB to sign this Agreement and has the full power and authority to bind CEB.

## **10. Construction, Operation, Maintenance and Monitoring of the Facility**

- 10.1.** The CEB shall appoint an Independent Engineer construction of the Facility. The appointment, duties and functions of the Independent Engineer shall be in accordance with the Technical Schedules.
- 10.2.** The Facility shall be constructed, commissioned, operated and maintained in compliance with the Technical Schedules.
- 10.3.** The Facility Owner shall, as from the Commercial Operation Date, operate of the Facility in accordance with the procedures provided by the Installer and the Operating Procedures of the Technical Schedules. The Procedures of the Installer and/or CEB should be mandatorily affixed on the Facility Owner's side of the Transmission System.
- 10.4.** The Operating Procedures shall be as follows:-
  - 10.4.1.** Facility Owner shall procure, at all times during the Operation Period, that the Facility be operated in accordance with the operating procedures set forth in **Schedule G ("Operating Procedures")** as may be amended or supplemented by **Sections 10.4.2 and Sections 10.4.3**Error! Reference source not found..
  - 10.4.2.** No later than 30 (thirty) days prior to the scheduled Commercial Operation Date, the Facility Owner shall, in consultation with the Independent Engineer, review the Operating Procedures and shall carry out the necessary modifications in the Operating Procedures as may be reasonable in the circumstances.
  - 10.4.3.** The Operating Procedures shall be revised and updated as and when required and the provisions of this **Section 10.4** shall apply, mutatis mutandis, to such revision.
- 10.5.** The Facility shall be accessible at all times, located for ease of access to CEB's personnel, and shall be capable of being locked in the open position, as defined in the Technical Schedules.
- 10.6.** CEB shall be free to disconnect the Facility from the Transmission System should the Facility affect the operation of the Transmission System.
- 10.7.** The Facility Owner shall follow the CEB's procedures for switching, clearance, tagging, and locking of the Facility.
- 10.8.** The Facility Owner shall delegate a representative who shall provide assistance to CEB in respect of the Facility whenever requested by CEB. The Facility Owner shall communicate officially the name and provide the contact details of its delegated representative prior to the signing of the Agreement. The Facility Owner shall promptly inform CEB of change of representative, if any.

**10.9.** The Facility Owner delegated representative shall also be responsible to report promptly security issues to CEB and to the former regarding the Facility. All security issues shall be recorded into a logbook.

**10.10.** The Maintenance Programme shall be as follows:-

**10.10.1.** On or before the COD and no later than 45 (forty-five) days prior to the beginning of each Contract Year during the Operation Period, as the case may be, the Facility Owner shall provide to CEB, its proposed annual programme of preventive and other scheduled maintenance ("**Maintenance Programme**") complying with the Guaranteed Operating Characteristics, Operating Procedures and Safety Requirements.

**10.10.2.** Within 15 (fifteen) days of receipt of the Maintenance Programme, CEB shall review the same and convey its comments to the Facility Owner with particular reference to its conformity with the Guaranteed Operating Characteristics, Operating Procedures and Safety Requirements.

**10.10.3.** The Facility Owner may modify, as may be reasonable in the circumstances, the agreed Maintenance Programme pursuant to **Section 10.10.2**, subject to and the approval of the CEB upon submission by Facility Owner of a prior notice of at least 30 (thirty) days. The procedures specified in **Sections 10.10.1 and Sections 10.10.2** shall apply *mutatis mutandis* to such modifications.

**10.11.** The Facility Owner shall effect and maintain at its own cost such insurances for such maximum sums as may be required under the financing agreements and the applicable laws, and such insurances set forth in the Technical Schedules.

## **11. Modification to the Facility**

**11.1** The Facility Owner shall not make, without CEB's prior consent, any modification or addition to the Facility, which includes modification of connection assets, except where the modification will not increase the maximum electrical output of the Facility. In such case, the Facility Owner shall give the CEB no less than 15 working days' prior notice before the modification will be made.

**11.2** Where the modification will increase the maximum electrical output of the Facility, the Facility Owner shall submit a new application for connection. CEB reserves the right to accept or reject the application.

**11.3** If the application is admissible, CEB shall process the application for connection in accordance with **Section 5** of this Agreement, the prevailing or other relevant Schemes, if any, and other conditions that will be in force at the time of the new application.

- 11.4** The Facility Owner shall not commence any modification until all necessary procedures have been duly completed.
- 11.5** In the event the Facility Owner applies for relocation of the Facility to another location during the lifetime of this Agreement, the request may be entertained subject to a network impact assessment or survey in the area where the Facility will be relocated.
- 11.6** In respect of the relocation of the Facility, the Facility Owner shall fulfil all required procedures and shall sign an addendum to the Interconnection Agreement, which will last only for the remaining number of years.

## **12. Indemnity**

- 12.1** In relation to the Facility, the Facility Owner shall indemnify CEB for damages claimed by third parties where the cause of the loss or damage is due to acts and/or omissions of the Facility Owner or its representative or any of its associates.
- 12.2** In relation to the Facility, CEB shall indemnify the Facility Owner for damages claimed by third parties where the cause of the loss or damage is due to proven acts and/or omissions of CEB or its representative or any of its associates.

## **13. Liability**

- 13.1** Each Party shall have a duty to mitigate any losses relating to any claim for indemnification from the other Party that may be made in relation to that other Party. Nothing in this section shall require the mitigating Party to mitigate or alleviate the effects of any strike, lockout, restrictive work practice or other labour dispute.
- 13.2** Each Party shall give prompt notice to the other Party of any claim with respect to which indemnification is being or may be sought under this Agreement.
- 13.3** Neither Party shall be liable to each other for any damage caused during cyclonic/surge/lightning or any other adverse conditions beyond its control which may prevail during the installation and operation of the Facility.
- 13.4** Provided it has been proven, the Facility Owner shall not be held liable in case of tampering of any of the meters including associated equipment.
- 13.5** Where tampering is detected, all CEB's obligations, under this Agreement, would be suspended, except for accepting energy injection to its network at zero cost. The party responsible for any tampering shall bear all liabilities, as shall be determined by CEB, thereof and promptly initiate and execute remedial action(s).

#### **14. Access to the Facility**

- 14.1.** Each Party shall ensure that its respective facilities are secured at all times.
- 14.2.** The Facility Owner shall permit and, if the place on which the Facility is located is not owned by the latter, cause such landlord/owner/management agent to permit the CEB's employees and agents to enter the site on which the Facility is located at any reasonable time.
- 14.3.** Such access shall be provided for the purposes of inspecting and/or testing the Facility as and when permitted by this Agreement, the Technical Schedules or the CEB's Conditions of Service or as required to ensure the continued safe and satisfactory operation of the Facility, to ensure the accuracy of the CEB's meters, to establish work protection, or to perform work.
- 14.4.** CEB shall have access to and be at liberty to remove, test, inspect and replace its meter(s) at all reasonable times. In case of damage to the meter(s), the Facility Owner shall be held liable to refund the cost of damaged meter(s) and pays the full cost of new meter(s) including the installation cost.
- 14.5.** Any inspecting and/or testing referred to in **Subsection 14.2** shall not relieve the Facility Owner from its obligation to operate and maintain the Facility and any related equipment owned by the Facility Owner in a safe and satisfactory operating condition and in accordance with this Agreement.
- 14.6.** Any access and intervention by CEB, its personnel and/or respective representatives in terms of the present Agreement shall be proceeded with all due diligence and care and as expeditiously as possible. CEB shall not, in proceeding as aforesaid, unduly or unreasonably interfere with the conduct of any activities and business lawfully carried on the Facility Owner's premises.

#### **15. Disconnection of the Facility to Permit Maintenance and Repairs**

- 15.1.** To the extent possible and practicable, CEB will inform the Facility Owner of any planned power outage in the Transmission System which may impact the Facility or its connection.
- 15.2.** CEB will make reasonable efforts to ensure that the outages referred to in **Subsection 15.1** will be of minimal duration and cause minimal inconvenience.
- 15.3.** In connection with any planned power outage, either Party shall be free to disconnect or isolate, or require the disconnection or isolation of the Facility or system to allow its employees, contractors or agents to construct, maintain, repair, replace, remove, investigate or inspect the Facility in accordance with the terms of this Agreement and good utility practices.

**15.4.** Where practical, prior to temporarily isolating or disconnecting the Facility from the Transmission System, the Facility Owner shall give CEB a prior notification.

## **16. Dispute Resolution**

**16.1.** If any dispute of whatever nature in relation to this Agreement arises between the Parties and so notified in writing by either Party to the other party, shall, in the first instance, be attempted for an amicable resolution.

**16.2.** If a dispute cannot be resolved pursuant to **Subsection 16.1**, either Party may require such dispute to be referred to an expert, having competence in the dispute field, agreed by both Parties for amicable settlement.

**16.3.** Any dispute which is not resolved amicably shall be finally decided by reference to arbitration in accordance with the International Arbitration Act 2008 of the Republic of Mauritius.

**16.4.** This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the award in the arbitration proceedings.

**16.5.** The Parties agree that this Agreement shall be governed by the laws of Mauritius and that any dispute, controversy or claim arising in respect thereof shall be resolved amicably between the authorised representatives of both Parties within a mutually agreed period of time.

**16.6.** At all times, the Parties agree to use their best efforts for resolving all disputes arising in respect of this agreement promptly, equitably and in good faith, and further agree to provide each other to with reasonable access during normal business hours to non-privileged record, information and data pertaining to any such disputes.

## **17. Data Protection**

**17.1.** All personal data contained in the Agreement shall be processed in accordance with the Data Protection Act 2017 on the protection of individuals with regard to the processing of personal data. Such data shall be processed solely in connection with the implementation and follow-up of the Agreement by the CEB, without prejudice to the possibility of passing the data to the bodies responsible for inspection and audit in accordance with Data Protection Act 2017. The Prosumer may, on written request, gain access to his/her personal data and correct any information that is inaccurate or incomplete. He/she should address any questions regarding the processing of his/her personal data to the CEB.

## 18. Amendments

- 18.1.** The Parties may by mutual agreement amend this Agreement to reflect changes that may occur during the term of this Agreement.
- 18.2.** Any amendment to this Agreement shall be made in writing and duly executed by both Parties.
- 18.3.** In the event the Facility Owner wishes to transfer the Facility to another party during the lifetime of this Agreement, the other party shall undertake the necessary procedures to transfer the electricity contract account and the Facility onto his/her/its name.
- 18.4.** Pursuant to the **Subsection 18.3**, the other party of the Facility shall fulfil all required procedures and shall sign an addendum to the Interconnection Agreement, which will last only for the remaining number of years.
- 18.5.** In the event the Facility Owner intends to sell the Facility, along with his/her/its premises to another party, during the lifetime of this Agreement, he/she/it shall seek the prior written consent of the CEB.
- 18.6.** The new owner of the Facility, after having completed all necessary procedures and opened a new electricity contract account in his/her name, shall sign the addendum to the Interconnection Agreement, which will include the terms and conditions of the most appropriate scheme available at that point in time. The new Interconnection Agreement will have a duration not exceeding the remaining number of years of the initial Interconnection Agreement.

## 19. Terms of Agreement and Termination

- 19.1.** This Agreement shall become null and void if all terms and conditions, as required by the CEB's Conditions of Service, **Annex 2** of this Agreement, Technical Schedules, Electricity Act, Electricity Regulations and **Section 21**, are not duly met.
- 19.2.** This Agreement shall become null and void provided the construction of the Facility has been started no later than 11 (eleven) months from the date of execution of this Agreement, except if CEB has agreed otherwise.
- 19.3.** This Agreement shall become effective as from the Commercial Operation Date ("**COD**") subject to the fulfilment of the **Section 21** of this Agreement and shall continue in effect for a period of **20 (twenty) years** as from the date of the COD, unless terminated in accordance with **Subsections 19.5** or **19.6**.
- 19.4.** This Agreement may be extended for a period to be mutually agreed by the Parties provided a notice of extension by either Party is issued before the expiry of the Agreement or, by mutual covenant, any other times deemed appropriate.

**19.5.** CEB may terminate this Agreement upon any material breach of this Agreement by the Facility Owner (the “**Default**”); if the latter fails to remedy the Default within the applicable cure period referred to in **Subsection 19.7** after receipt of a written notice of the Default and the intended termination from CEB.

**19.5.1.** The Parties to this Agreement acknowledge and agree that any breach of the representations and warranties, as sets out at **Subsection 9.1** of this Agreement, by the Facility Owner shall render this Agreement null and void to all intents and purposes.

**19.6.** The Facility Owner may terminate this Agreement upon any material breach of this Agreement by CEB (a “**CEB Default**”); if CEB fails to remedy the CEB Default within the applicable cure period referred to in **Subsection 19.7** after receipt of a written notice of the CEB Default and intended termination from the Prosumer.

**19.6.1.** The Parties to this Agreement acknowledge and agree that any breach of the representations and warranties, as sets out at **Subsection 9.2** of this Agreement, by the CEB shall render this Agreement null and void to all intents and purposes.

**19.7.** The relevant Party shall cure a default within a reasonable period of time, which shall not be longer than 90 (ninety) working days, except for force majeure.

**19.8.** Termination of this Agreement for any reason shall not affect the liabilities of either Party that were incurred or arose under this Agreement prior to the time of termination or that expressly applies in relation to the disconnection of the Facility following termination of this Agreement.

**19.9.** Subject to **Section 16** above, termination of this Agreement for any reason shall be without prejudice to the right of the terminating Party to pursue all legal and equitable remedies that may be available to it, including injunctive relief.

**19.10.** The rights and remedies set out in this Agreement are not intended to be exclusive but rather are cumulative and are in addition to any other right or remedy otherwise available to a Party at law or in equity.

**19.11.** **Subsections 19.7 to 19.9** shall survive termination of this Agreement.

## **20. Entire Agreement**

**20.1.** Except as expressly provided herein, this Agreement constitutes the entire agreement between the Parties with respect to the subject-matter hereof and supersedes all prior oral or written representations and agreements of any kind whatsoever with respect to the subject-matter hereof.

## **21. Conditions Precedent for Effectiveness of the Agreement**

**21.1.** As may be required by laws and regulations, the Facility Owner has obtained all relevant and related licence(s), permits, and authorization(s) for the Facility. The Conditions Precedent required to be satisfied by the Facility Owner shall be deemed to have been fulfilled when Facility Owner shall have:

- (a) procured all the Applicable Permits including an EIA License, a Building Land Use Permit and a Generation Licence (if applicable) unconditionally or if subject to conditions, then all such conditions required to be fulfilled by the date specified therein shall have been satisfied in full and such Applicable Permits are in full force and effect, and delivered to CEB true copies of all the Applicable Permits in hard as well as electronic forms including the EIA report prepared for the purpose of procuring the EIA License;
- (b) provide a project implementation plan with relevant dates and duration from date of signature till Effective Date;
- (c) procured the Site, obtain all relevant easements or rights in real estate reasonably necessary for construction, operation and maintenance of the Facility. The Facility Owner shall provide documentary evidence of the clear title and possession of the Site in the name of Facility Owner and right of way for the 66kV Interconnection Line in the name of the Facility Owner;
- (d) executed the Financing Agreements and delivered to CEB the true copies thereof, duly attested by a Director of the Facility Owner; and
- (e) achieved Financial Close and delivered to CEB true copies of the Financial Package and the Financial Model, duly attested by the Lead Lender(s) and a Director of the Facility Owner, along with soft copies of the Financial Model in MS Excel Version acceptable to CEB.

**21.2.** The Facility Owner shall make all reasonable endeavours to satisfy the Conditions Precedent within the time stipulated and CEB shall provide the Facility Owner with such reasonable cooperation as may be required to assist the Facility Owner in satisfying the Conditions Precedent.

**21.3.** The Facility Owner shall notify CEB in writing at least once in a month on the progress made in satisfying the Conditions Precedent. The Facility Owner shall, within 3 (three) Business Day, inform CEB when any Condition Precedent for which it is responsible has been satisfied.

**21.4.** The Facility Owner has submitted the true copy of the relevant agreement(s), in the format given in the **Annex 5**, of the Customer(s) whose electricity contract account(s) has (have) been listed in the **Annex 4** to this Agreement prior to the commissioning of the Facility.

- 21.5.** The Facility Owner has executed all recommendations of the Network Survey and/or Network Impact Assessment carried out by CEB and has made all payments requested by CEB in relation to the grid interconnection of the Facility.
- 21.6.** The Facility Owner has submitted the duly signed proof of order and implementation schedule prior to the start of the construction of the Facility.
- 21.7.** The Independent Engineer has issued the Certificate of Installation and the Facility Owner has achieved the Commercial Operation Date.
- 21.8.** The Facility Owner has fulfilled any other relevant conditions, including those required under this Agreement to the satisfaction of CEB.

**22. Notices**

**22.1.** Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated under this Agreement shall be in writing and shall:

- (a) in the case of the Facility Owner, be given by facsimile or electronic mail and by letter delivered to the address given below and marked for the attention of the persons set out below or to such other person(s) as the Prosumer may from time to time designate by notice to CEB;

Republic of Mauritius	Republic of Mauritius
Mobile: _____	Mobile: _____
Email : _____	Email : _____

*[Fill in the above with designation of contact persons, name of the Facility Owner, office/postal address, mobile phone number and email address of contact persons]*

- (b) in the case of CEB, be given by facsimile or electronic mail and by letter delivered to the address given below and marked for attention of the persons set out below or to such other person(s) as CEB may from time to time designate by notice to the Prosumer.

**General Manager**

Central Electricity Board  
CEB Corporate Office  
Rue Du Savoir, Cybercity, Ebène  
Republic of Mauritius  
Phone: (230) 404 2000  
Fax: (230) 454 7630 / 7632  
e-mail: [ceb@ceb.mu](mailto:ceb@ceb.mu)

**Renewable Energy and Strategic  
Project (RESP) Manager**

Central Electricity Board  
CEB Corporate Office  
Rue Du Savoir, Cybercity, Ebène  
Republic of Mauritius  
Phone: (230) 404 2000  
Fax: (230) 454 7630 / 7632  
e-mail: [ceb@ceb.mu](mailto:ceb@ceb.mu)

- 22.2.** Any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been and shall be deemed properly given upon date of receipt if delivered by hand or sent by courier, if mailed by registered or certified mail at the time of posting, if sent by fax when dispatched (provided if the sender's transmission report shows the entire fax to have been received by the recipient and only if the transmission was received in legible form).
- 22.3.** The Prosumer shall notify CEB of the identities and contact details of its responsible officers, who shall be responsible for general communications and contract management.

**23. Commissioning Tests and Commercial Operation****23.1. Commissioning Tests**

- 23.1.1.** At least 30 (thirty) days prior to the likely date of commissioning of the Facility, the Facility Owner shall notify the Independent Engineer and CEB of its intent to subject the Facility to Commissioning Tests. The date and time of each of the tests shall be determined by the Independent Engineer in consultation with the Facility Owner and notified to CEB who may designate its representative(s) to witness the Commissioning Tests. The Facility Owner shall provide such assistance as the Independent Engineer may reasonably require for witnessing the Tests. In the event that the Facility Owner and the Independent Engineer fail to mutually agree on the dates for conducting the tests, the Facility Owner shall fix the dates by not less than 10 (ten) days' written notice to the Independent Engineer and CEB.
- 23.1.2.** All Commissioning Tests shall be conducted in accordance with the testing procedures specified in the Technical Schedules. The Independent Engineer shall observe, monitor and review the results of the tests to determine compliance of the Facility with this Agreement, and if it is reasonably anticipated or determined by the Independent Engineer during the course of any test that the performance of the Facility or any part thereof does not meet the provisions of this Agreement, it shall have the right to suspend or delay such test and require the Facility Owner to

remedy and rectify the defects or deficiencies. Upon completion of each test, the Independent Engineer shall provide to the Facility Owner and CEB copies of all test data including detailed test results. For the avoidance of doubt, it is expressly agreed that the Independent Engineer may, at the cost of the Facility Owner, require the Facility Owner to carry out or cause to be carried out additional tests, in accordance with Good Industry Practice, for determining the compliance of the Facility with the Specifications and Standards and the Guaranteed Operating Characteristics as detailed in the Technical Schedules.

### **23.2. Completion Certificate**

Upon successful completion of the Commissioning Tests and submission of the test reports thereof by the Facility Owner, the Independent Engineer shall forthwith issue to CEB and the Facility Owner a certificate stating that the Facility has been successfully commissioned and tested in accordance with this Agreement and certifying that the Facility is fit to commence Commercial Operation (“**Completion Certificate**”).

### **23.3. Commercial Operation Date**

CEB shall issue a Commercial Operation Certificate to Facility Owner stating the date of the commercial operation of the Project (“**Commercial Operation Date**” or “**COD**”), which shall be the Business Day after the issuance of the Completion Certificate and the grant of a Permanent Generation Licence.

### **23.4. Rescheduling of Tests**

If the Independent Engineer certifies to CEB and the Facility Owner that it is unable to issue the Completion Certificate, as the case may be, because of events or circumstances on account of which the tests could not be held or had to be suspended, the Facility Owner shall be entitled to re-schedule the tests and hold the same as soon as reasonably practicable.

## **24. Forecasting**

**24.1.** During the Operation Period, the Facility Owner shall have the capability to produce and submit to CEB a forecast in MW, at every interval of 30 minutes, for the following week of the Facility (“One Week Ahead Production Forecast”). The One Week Ahead Production Forecast shall be submitted by 16.00 Hours each Monday for the period from 00.00 Hours on the next following Tuesday to 24.00 Hours on the immediately following Monday. The Facility Owner shall submit the One Week Ahead Production Forecast in writing and e-mail to the CEB.

**24.2.** Notwithstanding the provisions of Clause 24.1, the Facility Owner shall also have the capability to produce and submit to the System Control Centre a forecast in

MW, at every interval of 30 minutes, for the following day of the Facility (“One Day Ahead Production Forecast”). The One Day Ahead Production Forecast shall be submitted by 17:00 hours on the previous day. The One Day Ahead Production Forecast shall be submitted by means of an electronic interface and in a format reasonably acceptable to CEB.

**24.3.** In addition to the One Day Ahead Production Forecast, the Facility Owner shall also submit to CEB at every interval of 30 minutes, a revised forecast for the next half hour from the Facility (“**Revised Forecast**”).

**24.4.** The Facility Owner shall submit the One Day Ahead Production Forecast and the Revised Forecast through a communication system to be approved by CEB no later than 3 (three) months prior to the Scheduled Commercial Operation Date. The Facility Owner shall successfully commission the communication system no later than 1 (one) month prior to the Scheduled Commercial Operation Date.

**24.5. Forecasting Penalties**

In the event that the electrical power generated by the Facility and metered by the CEB Meter at the Point of Delivery is not within the Forecast Tolerance of the Revised Forecast, the Facility Owner shall be liable for penalties calculated in accordance with Clause 24.5.

**24.5.1. The following data shall be used for the assessment of forecasting penalties:**

- (a) average power at 30 (thirty) minutes interval as recorded by the metering procedures set forth under Section 7; and
- (b) Revised Forecast submitted by the Facility Owner in accordance with Clause 24.3.

**24.5.2. The penalty for forecasting error shall be determined as follows:**

$$P_A = 0.15 \times FEH \times P_{Err}$$

**where:**

$P_A$  = applicable penalty for each event of forecasting error;

$FEH$  =duration of each event of Forecasting Error in Hours; and

$P_{Err}$  = difference between the metered power output of the Facility in accordance with Article 7 and the Forecast Tolerance expressed in kW as a positive number.

For the avoidance of doubt and by way of example only, Forecasting Penalties shall be calculated as per the examples set forth under the Technical Schedules of this Agreement.

The monthly applicable penalty for forecasting error, if any, shall be set off against monthly energy produced.

**24.5.3.** In the event that the Facility Owner does not submit the Revised Forecast, the One Day Ahead Production Forecast shall be used for the calculation of penalties in accordance with this **Section 24.5**. Error! Reference source not found.

**24.5.4.** In the event that the Facility Owner does neither submit the Revised Forecast nor the One Day Ahead Production Forecast, the One Week Ahead Production Forecast shall be used for the calculation of penalties in accordance with this **Section 24.5**. For avoidance of doubt, the Revised Forecast for the purpose of calculating the Forecasting Penalty shall be OMW in the event no forecast is submitted by the Facility Owner.

**IN WITNESS WHEREOF THE PARTIES HERETO, INTENDING TO BE LEGALLY BOUND, HAVE CAUSED THIS AGREEMENT TO BE EXECUTED IN TWO ORIGINALS BY THEIR DULY AUTHORISED REPRESENTATIVES, AND ONE ORIGINAL DELIVERED TO EACH PARTY, AS OF THE DAY, MONTH AND YEAR AS WRITTEN HEREUNDER.**

[Insert Name of the Facility Owner, official registered address and contact details]

**By:** \_\_\_\_\_

**Witnessed by:** \_\_\_\_\_

**its Chief Executive Officer**

**its** \_\_\_\_\_

**Date:**

**Date:**

**CENTRAL ELECTRICITY BOARD**

**By:** \_\_\_\_\_

**Witnessed by:** \_\_\_\_\_

**its Chief Executive Officer**

**its** \_\_\_\_\_

**Date:**

**Date:**

## Annex 1: Detailed Description of the Facility

---

### Part 1: Description of the Facility

**1.1.** The Facility shall consist of \_\_\_\_\_ [NUMBER OF INVERTER UNITS] Inverter Units, each of capacity of \_\_\_\_\_ [CAPACITY in kVA], of make \_\_\_\_\_ [MAKE]. The Maximum Installed Capacity of the Facility shall be \_\_\_\_\_ [INSTALLED CAPACITY IN MW<sub>p</sub>].

**1.2.** The main components forming part of the Facility and their expected characteristics are as follows:

#### 1.2.1. Foundation (mounting structure)

[Prosumer TO PROVIDE IN PROPOSAL]

#### 1.2.2. Modules

Quantity:	pieces
Producer:	
Type:	
Output Power under STC:	

#### 1.2.3. Strings

Quantity per inverter:	pieces
Quantity in summary:	pieces
Output Power per String:	kW <sub>DC</sub>
Output Power per inverter:	kW <sub>DC</sub>
Output Power in summary:	MW <sub>DC</sub>

#### 1.2.4. Arrays

Quantity per inverter:	pieces
Quantity in summary:	pieces
Producer:	
Type:	
Lightning protection:	
Fuse:	

#### 1.2.5. Inverter

Quantity:	pieces
Producer:	
Type:	
Output Power:	
Power factor at rated power:	
Adjustable shift factor:	
Lightning protection:	

### 1.2.6. Transformer

Quantity:	pieces
Producer:	
Type:	
MVA Rating:	
Connected Inverter:	
Primary Voltage:	
Secondary Voltage:	
Short-circuit impedance:	

### 1.2.7. Facility Owner Distribution and Transmission Assets

#### 1.2.7.1. Medium Voltage System

*[As provided in the Project Proposal Document]*

##### **Secondary side XX kV**

*[As provided in the Project Proposal Document]*

##### **Primary side 22 kV**

*[As provided in the Project Proposal Document]*

#### 1.2.7.2. Substation

*[As provided in the Project Proposal Document]*

### 1.3. 66kV Transmission Line

The length of the 66 kV Interconnection line shall be of approximately [.....] *[Please insert distance in km]* km from the Facility to [.....] *[Please insert name of CEB Substation]* CEB Substation.

### 1.4. Instrumentation and Control

Sensors shall be used in the Facility for the purpose of measurement, control, and electric safety *[As provided in the Project Proposal Document]*.

### 1.5. Environmental Standards

The Facility shall be designed, produced, constructed, tested, commissioned, operated and maintained as per the Environment Protection (Amendment) Act 2008, the National Development Strategy & Planning Policy Guidance 2004 (as amended from time to time) and the Occupational Safety and Health Act 2005 as be amended and updated from time to time by the Government of the Republic of Mauritius.

## 1.6. Internal Communication System

*[As provided in the Project Proposal Document].*

## 1.7. Data Collection

The Facility shall include inter-alia the following Sensors:

- CT's in the array box for each string
- 2 Meteo Station included the follow measurement
  - Pyranometer
  - Air temperature
  - Air pressure
  - Relative air humidity
- All imported measured data of the Inverter (e.g. power, failure, operation mode, voltage, current)

## 1.8. Lightning and Surge Protection

The lightning protection on the Facility shall be designed according to IEC 60634-7-712 and EN 62305-3. The lightning protection shall consist of the following:

- Interior lightning protection
- Equipotential bonding system
- Earthing system

## 1.9. Forecasting

*[As provided in the Project Proposal Document].*

Information on the characteristics of the main components of the Facility is as follows:

### Part 2: Facility Site

1. The Location of the Site, the Location of the Facility on the Site and physical lay-out of the Facility shall be as illustrated in **Annexure A.1 and A.2.**
2. The single-line diagram of the Facility shall be as illustrated of **Annexure A.3.**
3. The Facility Owner Interconnection Facilities shall be as illustrated in **Annexure A.4.**

### Part 3: Point of Delivery

The Point of Delivery shall be as identified in **Schedule D (Annex D.1)**

**ANNEXURE A.1: The Location of the Site and the Facility**

*[FACILITY OWNER TO SUBMIT]*

**ANNEXURE A.2: The Physical Layout of the Facility**

*[FACILITY OWNER TO SUBMIT]*

**ANNEXURE A.3: Single Line Diagram of the Facility**

*[FACILITY OWNER TO SUBMIT]*

**ANNEXURE A.4: RE Generator Interconnection Facilities**

*[FACILITY OWNER TO SUBMIT]*

## **Annex 2: Specific Terms and Conditions of the CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme**

---

The following are specific terms and conditions, amongst others, of the **CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme**: -

- (1) The CNIS RE Scheme is opened to all Industrial Customers involved in economic activities other than the sugar production and energy generation.
- (2) The RE project of a party who is in litigation with the CEB will be kept into abeyance, until the litigation is effectively settled.
- (3) An eligible Industrial Customer holding an Agreement under another RE Scheme for the same electricity Contract Account Number will have to either open a new electricity contract account or request to cancel the existing Agreement and thereafter submit an application under the new CNIS RE Scheme.
- (4) Only duly filled Application Form for RE projects of capacity up to 2 MW or Project Proposal Document for RE projects of capacity above 2 MW accompanied with all required documentation for an intended RE projects (solar or wind) will be processed.
- (5) For safety and quality reasons, it is advisable that Industrial Customer (the ultimate Project Owner) seek the support of a qualified person in the field of RE technology to assist the former in the preparation of the application.
- (6) Payment of the applicable non-refundable processing fee is mandatory. Payment of the processing fee does not guarantee registration into the Scheme.
- (7) The Customer(s) premises', whose electricity contract account(s) has (have) been listed in the **Annex 4**, electrical load should be effectively declared to CEB. If required, CEB will perform a site survey to ascertain the accuracy of the declared load. For this purpose, the Customer(s) would authorize and provide CEB's personnel necessary permission and access to carry out the detailed load survey.
- (8) The declared or assessed electrical load of the Customer(s)' premises, whose electricity contract account(s) has (have) been listed in the **Annex 4**, shall be updated in the CEB's Information System for managing the electricity services and for billing purposes.
- (9) Upon request from the Industrial Customer, future electrical load may be considered in the sizing of a solar PV system only if there is remaining capacity (MW) in the Scheme.
- (10) The capacity of Facility is to be determined based on the most recent annual electricity (kWh) consumption of the Customers whose electricity contract account(s) has (have) been listed in the **Annex 4**. In general, the most recent twelve normal billing periods will be considered for the calculation. Where available data is insufficient, extrapolation will be applied.
- (11) The final capacity (size) of the Facility shall be determined after the network impact assessment and/or network survey has/have been carried out by CEB and the declared electrical load of the active electricity contract account(s) listed in the **Annex 4** has been effectively updated in the CEB Information System.

- (12)** In any case, the maximum capacity of an RE facility under this Scheme should not exceed fifteen (15) megawatts (MW) AC. For RE facility of capacity above 2 MW, the CEB will provide the grid interconnection and network expansion requirements.
- (13)** The RE facility can be located on-site and/or off-site to generate up to 150 percent of the annual electricity requirements, based on latest monthly consumption. Each RE facility will be identified by a unique electricity contract account number assigned by CEB.
- (14)** The rate for the purchase of incidental excess energy (if any), which shall be valid during the four initial years of the RE facility, shall be Rs 1.86 per kWh. After the initial four years, excess energy generated will be banked and rolled over to successive billing periods. However, the counter of the banked energy shall be reset to zero on 1st January every year thereafter.
- (15)** For RE facility of capacity up to 2 MW, the Industrial Customer (IC) shall complete the construction of the facility within a period of 12 months as from the date of the signing of the Connection Agreement (CA), except if CEB agreed otherwise.
- (16)** For RE facility of capacity above 2 MW, the IC (Project Developer) shall complete the construction of the facility within a period of 17 months as from the date of the signing of the Interconnection Agreement (IA), except if CEB agreed otherwise.
- (17)** Only RE facilities (projects) initiated before the end of June 2023 will benefit from the advantages of the Scheme. A Letter of Commitment (LOC) as proof of the RE Project's implementation shall be provided two weeks after the issue of the Letter of Intent (LOI).
- (18)** The Facility shall at all times comply with all requirements of the relevant applicable Grid Codes and Technical Schedules including its subsequent amendments.
- (19)** The Facility Owner shall provide CEB with the web-link access, free of charge, for the downloading of the power output of the Facility.
- (20)** Where necessary, as and when required, the Facility Owner shall give full free access to CEB for downloading data series directly from the inverter and/or energy management system of the Facility. For the on-site and/or off-site data downloading, the Facility Owner shall provide CEB a free copy of the required operating software and application(s).
- (21)** Whenever required, following a notice from CEB, the Facility Owner shall give full and free access to CEB personnel and/or its associate(s) to the RE facility.
- (22)** The Facility Owner shall pay all relevant charges and costs, including the connection fee, for the setting up of the RE system.
- (23)** Until properly remedied, RE facility not complying with the applicable Grid Code/ Technical Schedules and not satisfying all terms and conditions of this Scheme and other regulatory requirements, will not be considered for the grid interconnection.
- (24)** The Project Owner shall obtain all necessary applicable authorizations, licences, agreements, consents, permits, etc. prior to the commissioning of the RE facility.
- (25)** Where applicable, the total monthly electricity (kWh) consumption of the concerned Prosumer shall be calculated by the formula below.

$$C = P + I - E$$

Where,

C is the total monthly electricity (kWh) consumption;

P is the total energy (kWh) production by the RE facility;

I is the total energy (kWh) imported from CEB; and

E is the total energy (kWh) exported to CEB.

**Note:** Where an electricity contract account linked to a Prosumer is in a third-party name, prior to the signing of the Connection Agreement, the concerned Prosumer shall obtain the written acceptance of the third party for the above formula and for reclassifying the account in a specific CEB Customer Category for the purpose of billing and invoicing of the monthly electricity consumption of the account.

- (26) Further to the network impact assessment and/or network survey, whichever would be warranted, the Facility Owner and any of its associates would have no objection to the addition of other necessary terms and/or conditions for the grid interconnection of the RE facility.
- (27) As notified by CEB, the Industrial Customer (Facility Owner) shall implement all recommendations of the network impact assessment and/or network survey, whichever would be applicable, and settle all payments thereof in time.
- (28) The Facility Owner should submit the Certificate of Installation confirming compliance to the applicable Grid Codes, Technical Schedules, CEB's network impact assessment's and/or network survey's recommendations and terms & conditions of the Scheme for the RE facility. The Certificate of Installation shall be certified by an independent qualified technical officer for RE capacity not involving installation of HT switchgear or an independent registered engineer for RE system involving installation of HT switchgear, whichever would be applicable, after the latter has performed all technical and non-technical verifications.
- (29) The Facility Owner shall sign the legally binding CA for RE facility up to 2 MW or the relevant IA for capacity above 2 MW as per given deadline.
- (30) By submitting an application under the Scheme, the Industrial Customer and its associates (the parties) unreservedly authorize CEB and/or its associates, suppliers, contractors, etc. to share the submitted information given in the application. In addition, any of the parties would have no objection that any of the mentioned CEB's parties contacting it for administrative or non-administrative matters in respect of the setting up of the RE facility.
- (31) The application of an Industrial Customer who is in litigation with CEB - unless the litigation is effectively settled - will not be considered.
- (32) The application of an Industrial Customer who is already operating an SSDG or MSDG for the same electricity contract account(s) under another Scheme - unless the existing agreement is terminated - will not be considered.
- (33) To avoid delays in the implementation of the RE facility, the Industrial Customer applying for the Scheme should submit all required documentation as instructed.
- (34) Securing a Connection Agreement (CA) of Interconnection Agreement (IA), whichever would be applicable, for the grid interconnection of an intended RE facility is

mandatory. Make sure that the CA or IA has been agreed and signed prior to the setting up of the facility. It is strongly advised that payment(s) for equipment of the RE facility be initiated only after all agreements, licenses and permits, as applicable, have been properly secured.

- (35)** The Facility Owner should ensure full compliance, at all times, with the applicable Grid Codes, Technical Schedules and its amendments and with the provisions of the CA or IA.
- (36)** Modification of the setup of RE Facility, without prior CEB's authorization, will result in an automatic disconnection of the RE facility from CEB's network and the suspension of the CA or IA and thereof all CEB's therein obligations.
- (37)** The location of the meters and metering equipment within the electrical setup of each concerned RE facility will be determined during the mandatory network impact assessment and/or mandatory network survey, whichever would be warranted. On a case-to-case basis, special consideration will be given to ensure the optimal solution for the metering of the RE facility to ensure best practices.
- (38)** In accordance with the gross-metering principle, applicable under this Scheme, all energy produced by the RE facility shall be injected or shall be considered as injected into the grid.
- (39)** Consideration will be given to eligible Industrial Customers willing to transfer their applications from other CEB RE Scheme operating under the gross-metering principle, especially the MSDG Scheme, to this Scheme subject to payment of a new processing fee.
- (40)** Eligible Industrial Customers applying for this Scheme will have to implement energy efficiency (EE) measures identified following the completion of an energy audit exercise. Evidence(s) in relation to the implementation of EE measure(s) will have to be produced prior to the commissioning of the RE facility.
- (41)** In order to maximizing the benefits expected under the Scheme, the Industrial Customers undertake to engage actively and invest continuously in energy savings, energy management, demand management and response activities, load management actions to avoid peak-hours energy usage and smart technologies.
- (42)** Not complying with the terms and conditions of the CA or IA, whichever would be applicable, would entail automatic rejection of the RE project under the Scheme.

### Annex 3: The Unbundled Time-of-Use Electricity Tariff<sup>3</sup> Schedule

- (a) The general structure, charges for the different electricity services and associated rates of the mandatory applicable unbundled time-of-use electricity tariff, which may be amended, as and when required, unless are restructured, redefined and /or reviewed in the future, applicable on a monthly basis to the Prosumer(s)' electricity contract account(s) listed in the **Annex 4** and linked to the renewable energy (RE) Facility pursuant to the terms and conditions of the CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme, shall be as defined in the table hereunder.

Running (Energy) Charge	Import Tariff		Export Tariff
	Identifier	Rate (Rs per kWh)	Rate (Rs per kWh)
Day period (06.00 to 18.00 hours)	[A]	Maximum revised Running Charge rate of existing Tariff as per <b>General Notice No. 1804 of 2022</b>	Same as [A]
Evening (Peak) period (18.00 to 21.00 hours)	[B]	48.2 percent higher than [A]	Same as [A]
Night period (21.00 to 06.00 hours)	[C]	35.4 percent lower than [B]	Same as [C]
<b>Other Charges<sup>4</sup></b>			
System Operator Service	Rs 0.040 per kWh consumed		-
Transmission Service	Rs 0.400 per kWh consumed		-
Single Buyer Service	Rs 0.015 per kWh consumed		-
<b>Demand Charge</b>	Rs 242 per kVA (apparent power supplied) subject to a minimum of 20 kVA		-
<b>Service Charge</b>	Rs 427.00 per month		-

- (b) For the purpose of calculating the monthly bill, the total monthly electricity (kWh) consumption of the concerned Prosumer shall be calculated by the formula below:

$$C = P + I - E$$

Where,

C is the total monthly electricity (kWh) consumption;

P is the total energy (kWh) production by the RE facility;

I is the total energy (kWh) imported from CEB; and

E is the total energy (kWh) exported to CEB.

- (c) The payable Minimum Charge, Power Factor Clause, Security Deposits and Meter Rentals, where and as applicable, associated to the unbundled time-of-use electricity tariff assigned to the relevant electricity contract account(s), listed in the **Annex 4**,

<sup>3</sup> The unbundled time-of-use tariff is subject to the approval of the Utility Regulatory Authority (URA) after its filing by the CEB to the URA. The procedure to seek the approval of the URA for the said unbundled time-of-use tariff will be undertaken in due course.

<sup>4</sup> The Other Charges will be lumped into and appear as a single-line item on the electricity bill.

unless are restructured, redefined and /or reviewed in the future shall be applied and billed in accordance with the General Notice No. 1804 of 2022. The Minimum Charge is payable also in the case of net export of energy.

- (d) Until further notice, the rates (Rs per kWh) of the Running (Energy) Charge, mentioned above, for the different time of the day shall have the differentials whereby the evening (peak) rate shall be 48.2% higher than the day rate and the night rate shall be 35.4% below the evening (peak) rate.
- (e) For the present, the relative rates of the Running (Energy) Charge of the unbundled time-of-use tariff for mapped existing tariffs applicable to Industrial Customer Subcategories are given in the table below.

Existing Industrial Tariffs	Mapped Equivalent Running (Energy) Charge Rates (Rs per kWh)		
	Day 06.00 to 18.00 hours	Peak 18.00 to 21.00 hours	Night 21.00 to 06.00 hours
313	5.95	8.82	5.70
315	6.44	9.54	6.17
317	6.47	9.59	6.19
320	6.05	8.97	5.79
323	5.61	8.31	5.37
325	5.98	8.86	5.73
330	5.63	8.34	5.39
340	6.31	9.35	6.04
350	5.88	8.71	5.63

- (f) The structure / rates of the unbundled time-of-use (ToU) tariff shall be subject to future revision, as and when necessary. Nonetheless, as far as possible, consideration will be given to ensure that the Running Charge (energy import) rates for the different time of the day shall have the differentials whereby the evening (peak) rate shall be 48.2% higher than the day rate and the night rate shall be 35.4% below the evening (peak) rate.
- (g) The rate for the purchase of incidental excess energy (if any), which shall be valid during the four initial years of the RE facility, shall be Rs 1.86 per kWh. After the initial four years, excess energy generated will be banked and rolled over to successive billing periods. However, the counter of the banked energy shall be reset to zero on 1st January every year thereafter.

**Annex 4: List of approved Electricity Contract Account(s) to be supplied with the renewable energy exported from the Facility**

The energy exported from the RE facility can be apportioned to multiple electricity contract accounts, provided the accounts are registered in CEB Industrial Customer Category and belong to the group of companies of the Facility Owner, to off-set energy (kWh) imported from the CEB pursuant to the terms and conditions of the CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme.

Under the present Interconnection Agreement, the Facility Owner has provided the list of electricity contract account(s) for apportioning the net energy exported in the apportionment order of priority and percentage share(s) mentioned in the table below. The list of electricity contract account(s), apportionment order of priority and respective percentage shares should not be changed, except with the prior approval of CEB.

<b>List of Electricity Contract Account(s) for Allocation of Net Energy Exported</b>		
<b>Apportionment Order of Priority</b>	<b>Electricity Contract Account Number</b>	<b>Percentage Shares of Net Energy Exported for offsetting Energy Imported</b>
1 <sup>st</sup>		
2 <sup>nd</sup>		
3 <sup>rd</sup>		
4 <sup>th</sup>		
5 <sup>th</sup>		
6 <sup>th</sup>		
7 <sup>th</sup>		
8 <sup>th</sup>		
9 <sup>th</sup>		
10 <sup>th</sup>		
...	...	...
n <sup>th</sup> -1		
n <sup>th</sup>		
<p>I, <b>Mr./Mrs./Ms.</b> _____, designated representative of the Facility Owner, has been officially authorized to provide the above list of electricity contract account(s) for offsetting the net energy exported by the Facility pursuant to the terms and conditions of the CNIS RE Scheme in the apportionment order of priority and percentage shares mentioned thereat.</p>		
<b>Signature:</b>		<b>Date:</b>

*Company seal required*

## Annex 5: Standard Format of Electricity Contract Account Holder's Agreement

---

<b>Name of the Organization as per Certificate of Incorporation</b> <i>(Attach a copy of the Certificate of Incorporation)</i>		
<b>Name on Electricity Contract Account</b> <i>(Attach a copy of the latest electricity bill)</i>		
<b>Electricity Contract Account Number</b>		
<b>Authorized Representative Full Name and Designation</b> <i>(Provide official letter of authorization and a copy National Identity Card)</i>	<b>Mobile Number:</b>	<b>Email Address:</b>

I, **Mr./Mrs./Ms.** \_\_\_\_\_ *[Insert full Name]*, \_\_\_\_\_ *[Insert Designation (should not be below the rank of Managing Director)]* of the above-mentioned Organization, hereby confirm that we have agreed to the following: -

1. Our participation in the development of the Facility under the CEB Carbon Neutral Industrial Sector (CNIS) Renewable Energy (RE) Scheme launched in January 2023.
2. Provide our electricity contract account listed in the **Annex 4** of the Connection Agreement which will be signed between the CEB and the Facility Owner \_\_\_\_\_ *[Insert Name of the Facility Owner]*.
3. Change of the existing electricity tariff, assigned to our above-mentioned Electricity Contract Account, to the unbundled time-of-use electricity tariff defined under the CNIS RE Scheme pursuant to the terms and conditions of the Scheme.
4. In the event of any change, the Facility Owner shall inform the CEB for appropriate action(s). In any situation, the CEB shall not carry any liability towards us.
5. The Percentage Share of Net Energy Exported for offsetting Energy Imported, mentioned in the **Annex 4** of the aforementioned Connection Agreement, which shall be used to offset, to the extent possible, the energy (kWh) consumed under our above-mentioned Electricity Contract Account Number.

**Signature of Authorized Representative:**  
*(Should not be below the rank of Managing Director)*

*Company seal required*

**Date:** \_\_\_\_\_

## **Annex 6: Technical Schedules**

---

### **Schedule A: Independent Engineer (APPLICABLE FOR PROJECTS ≥ 4MW)**

#### **1.1. Appointment of Independent Engineer**

- (a) CEB shall seek and evaluate offers from the firms or bodies corporate in line with its internal procedures.
- (b) CEB shall identify and rank the firms and/or bodies corporate. The highest ranked substantially responsive firm or body corporate shall be appointed by the CEB as the independent consultant under this Agreement (“Independent Engineer”).
- (c) The appointment shall be made no later than 9 (nine) months from the date of this Agreement and shall be valid till the Independent Engineer discharges all of his functions under this Agreement.

#### **1.2. Duties and functions**

- 1.2.1.** The Independent Engineer shall discharge its duties and functions substantially in accordance with the terms of reference set forth in the Technical Schedules.
- 1.2.2.** The Independent Engineer shall submit regular periodic reports (at least once every month) to CEB and the Facility Owner in respect of its duties and functions set forth in Technical Schedules.

#### **1.3. Remuneration**

- 1.3.1.** The remuneration, cost and expenses of the Independent Engineer, appointed pursuant to Clause 1.1 of this schedule shall be borne by CEB.
- 1.3.2.** In the event that any Project Milestones during the Construction Period is delayed other than due to any reason solely attributable to CEB, the Facility Owner shall bear the additional remuneration, cost and expenses of the Independent Engineer.

#### **1.4. Termination of appointment**

If the CEB has reason to believe that the Independent Engineer is not discharging its duties and functions in a fair, efficient and diligent manner, it may seek termination of the appointment of the Independent Engineer. In case of such termination, CEB shall appoint another Independent Engineer from the list established under Clause 1.1(b) within 10 (ten) Business Days from the date termination of the appointment.

## TERMS OF REFERENCE FOR INDEPENDENT ENGINEER

### 1. Scope

**1.1.** These Terms of Reference for the Independent Engineer (“**TOR**”) are being specified pursuant to Clause 1.2.1 (Annex 6: Schedule A) to this Interconnection Agreement dated [.....] [*Insert date of Agreement*] (“**Agreement**”), which has been entered into between CEB and [.....] [*Please insert name of the facility owner*] (“**facility owner**”) for development of a solar farm having an Installed Capacity of [.....] MW<sub>p</sub> (Please *insert Installed Capacity*), located at [.....] [*Insert address of Facility*] and to be interconnected at [.....] [*Insert name of Substation*] and the facility owner Interconnection Facilities.

**1.2.** This TOR shall apply to construction, testing and commissioning of the Facility.

### 2. Definitions and Interpretation

**2.1.** The words and expressions beginning with or in capital letters used in this TOR and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.

**2.2.** References to Articles, Sections, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Sections, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.

### 3. Role and functions of the Independent Engineer

**3.1.** The role and functions of the Independent Engineer shall include the following:

- i. review of the Drawings and the documents as set forth in Paragraph 4 of this Schedule;
- ii. review, inspection and monitoring of Construction Works as set forth in Paragraph 4 of this Schedule;
- iii. propose and finalise appropriate testing procedures as per IEC norms and other relevant standards with CEB and facility owner at least 3 (three) months prior the Scheduled Commercial Operation Date of the Facility in addition to the procedures in Schedule H;
- iv. ensure all tests are conducted with respect to the Facility, including independent tests on completion of Construction Works and tests mentioned in Schedule H and Paragraph 3.1 (iii) of this Schedule;

- v. issue the certificate of installation and the Completion Certificate ;
  - vi. determine, as required under the Agreement, the costs of any works or services and/or their reasonableness;
  - vii. determine, as required under the Agreement, the period or any extension thereof, for performing any duty or obligation;
  - viii. approve the design of the Facility as per Schedules A, C, D and E of this Agreement;
  - ix. certify that the civil and structural designs of the Facility are cyclone resistant;
  - x. review and approve the Operating Procedures of this Agreement;
  - xi. certify, pursuant to Schedule D, that the behaviour shown by the DlgSILENT Powerfactory dynamic model of the Facility under simulated conditions, is representative of the behaviour of the Facility; and
  - xii. undertaking all other duties and functions in accordance with the Agreement;
- 3.2. The Independent Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

#### 4. Construction Period

- 4.1. The Independent Engineer shall review the monthly progress report furnished by facility owner and send its comments thereon to CEB and facility owner within 7 (seven) days of receipt of such report.
- 4.2. The Independent Engineer shall inspect the construction of the Facility once every month, preferably after receipt of the monthly progress report from facility owner and prepare a report of such inspection (“**Inspection Report**”) setting forth an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources. In a separate section of the Inspection Report, the Independent Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Facility. The Independent Engineer shall send a copy of its Inspection Report to CEB and facility owner within 7 (seven) days of the inspection.
- 4.3. In the event that facility owner carries out any remedial works for removal or rectification of any defects or deficiencies as identified in the Inspection Report, the Independent Engineer shall inspect same and provide his report in an additional Inspection Report.
- 4.4. In the event that facility owner fails to achieve any of the Project Milestones during the Construction Period, the Independent Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Independent Engineer

determine that completion of the Facility is not feasible within the time specified in the Agreement, it shall require facility owner to indicate within 15 (fifteen) days, the steps proposed to be taken to expedite progress, and the period within which the completion shall be achieved. Upon receipt of a report from facility owner, the Independent Engineer shall review same and send its comments to CEB and Facility Owner forthwith. The Independent Engineer shall propose any extension of time, required to complete the Facility during the Construction Period.

- 4.5.** If at any time during the construction, the Independent Engineer determines that Facility Owner has not made adequate arrangements for the safety of workers in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers, Facility Owner shall suspend whole or part of the construction for ensuring safety in respect thereof.
- 4.6.** In the event that Facility Owner carries out any remedial measures to secure the safety of the workers, it may, by notice in writing, require the Independent Engineer to inspect such measures, and within 3 (three) days of receiving such notice, the Independent Engineer shall inspect the works and make a report to CEB forthwith, recommending whether or not such suspension may be revoked by Facility Owner. CEB shall communicate the findings of the Independent Engineer in respect of such disconnection to Facility Owner.
- 4.7.** If suspension of construction is for reasons not attributable to Facility Owner, the Independent Engineer shall determine the extension of Scheduled Commercial Operation Date to which the Facility Owner is reasonably entitled and shall notify CEB and Facility Owner of the same.
- 4.8.** The Independent Engineer shall witness the successful completion of all the Commissioning Tests and issue a Completion Certificate for the Facility. For carrying out its functions under this Paragraph 4.8 and all matters incidental thereto, the Independent Engineer shall act under and in accordance with the provisions of this Agreement.

## **5. Other duties and functions**

- 5.1.** The Independent Engineer shall perform all other duties and functions specified in the Agreement.

## **6. Miscellaneous**

- 6.1.** The Independent Engineer shall notify its programme of inspection to CEB and to Facility Owner, who shall depute their respective representatives to be present during the inspection.

- 6.2.** A copy of all communications, comments, instructions, drawings or documents sent by the Independent Engineer to CEB pursuant to this TOR, and a copy of all the test results with comments of the Independent Engineer thereon shall be furnished by the Independent Engineer to Facility Owner through CEB forthwith.
- 6.3.** The CEB shall obtain, and Facility Owner shall furnish in 2 (two) copies thereof, all communications and reports required to be submitted by it under this Agreement to the Independent Engineer, whereupon the Independent Engineer shall send one of the copies to Facility Owner through CEB along with its comments thereon.
- 6.4.** The Independent Engineer shall retain at least 1 (one) copy each of all drawings and documents received by it, including as-built Drawings, and keep them in its safe custody.
- 6.5.** Upon completion of its assignment hereunder, the Independent Engineer shall duly classify and list all drawings, documents, results of tests and other relevant records, and hand them over to CEB or such other person as CEB may specify and obtain written receipt thereof.

## **Schedule B: Construction of the Project**

### **1.1. Obligations prior to commencement of construction**

**1.1.1.** Prior to commencement of the Construction Works and in any event not later than 15 (fifteen) Business Days after the Construction Start, the Facility Owner shall:

- (a) appoint and notify its representative duly authorised to deal with CEB in respect of all matters under or arising out of or relating to this Agreement;
- (b) undertake, do and perform all such acts, deeds and things as may be necessary or required before commencement of construction under and in accordance with this Agreement, the Applicable Laws and Applicable Permits; and
- (c) submit to CEB and the Independent Engineer its detailed design, construction methodology, quality assurance procedures, and the procurement, engineering and construction time schedule for completion of the Facility in accordance with the Project Completion Schedule set forth in Schedule F.

### **1.2. Drawings**

In respect of the Facility Owner's obligations relating to the Drawings of the Project, the following shall apply:

- (a) Facility Owner shall prepare and submit, with reasonable promptness and in such sequence as is consistent with the Project Completion Schedule set forth in Schedule F, 3 (three) copies each of all Drawings to the Independent Engineer for review;
- (b) By submitting the Drawings for review to the Independent Engineer, Facility Owner shall be deemed to have represented that it has determined and verified that the design and engineering, including field construction criteria related thereto, are in conformity with the Scope of the Project and the Specifications and Standards;
- (c) Within 15 (fifteen) days of the receipt of the Drawings, the Independent Engineer shall review the same and convey its observations to Facility Owner with particular reference to their conformity or otherwise with the Scope of the Project and the Specifications and Standards. Facility Owner shall not be obliged to await the observations of the Independent Engineer on the Drawings submitted pursuant hereto beyond the said 15 (fifteen) days period and may begin Construction Works at its own discretion and risk;
- (d) If the aforesaid observations of the Independent Engineer indicate that the Drawings are not in conformity with the Scope of the Project and the Specifications and Standards, such Drawings shall be revised by Facility Owner and resubmitted to the Independent Engineer for review. The Independent Engineer shall give its observations, if any, within 7 (seven) days of receipt of the revised Drawings; and
- (e) No review and/or observation of the Independent Engineer and/or its failure to review and/or convey its observations on any Drawings shall relieve Facility Owner of its

obligations and liabilities under this Agreement in any manner nor shall the Independent Engineer or CEB be liable for the same in any manner.

### **1.3. Construction of the Project**

**1.3.1.** The Facility Owner shall enter into an EPC Contract on or before the Construction Start Longstop Date set forth below and notify the CEB of same.

**1.3.2.** Facility Owner shall ensure that the Construction Start is achieved no later than 11 (eleven) months from the date of execution of this Agreement (“**Construction Start Longstop Date**”).

**1.3.3.** The Facility Owner shall undertake the construction of the Facility in conformity with the Specifications and Standards set forth in Schedule C and in accordance with the Project Completion Schedule set forth in Schedule F. The Facility Owner undertakes to complete the Project within eight (8) months from the Effective Date (“**Scheduled Commercial Operation Date**” or “**SCOD**”). The Facility Owner shall achieve the Commercial Operation of the Project on or before the SCOD.

### **1.4. Monthly Progress Reports**

During the Construction Period, the Facility Owner shall, no later than 7 (seven) days after the close of each month, furnish to CEB and the Independent Engineer a monthly report on the progress of the Construction Works and shall promptly furnish such other relevant information as may be required by CEB.

### **1.5. Inspection**

During the Construction Period, the Independent Engineer shall inspect the Facility at least once in a month and make a report of such inspection (“**Inspection Report**”) stating in reasonable detail the defects or deficiencies, if any, with particular reference to the Scope of the Project and Specifications and Standards. It shall send a copy of the Inspection Report to CEB and the Facility Owner within 7 (Seven) days of such inspection and upon receipt thereof, the Facility Owner shall rectify and remedy the defects or deficiencies, if any, stated in the Inspection Report. Such inspection or submission of Inspection Report by the Independent Engineer shall not relieve or absolve the Facility Owner of its obligations and liabilities hereunder in any manner whatsoever.

### **1.6. Tests**

**1.6.1.** The Facility Owner shall provide to CEB, certificates of the Factory Tests in relation to the equipment specified in Schedule A duly certified by an Independent Third-Party Classification Society. For certifying the certificates of the Factory Tests, the Independent Third-Party Classification Society shall require the Facility Owner to carry out or cause to be carried out tests, at such time and frequency and in such manner as may be specified by the Independent Third-Party Classification Society from time to time, in accordance with Good Industry Practice for quality assurance. For the avoidance of doubt, the costs

incurred on such tests and the costs to be incurred on any test which is undertaken for determining the rectification of any defect or deficiency shall be borne solely by the Facility Owner.

- 1.6.2.** CEB and the Independent Engineer will be allowed such access rights as are necessary for it to be able to ascertain any inspections during the Construction Period, provided that it minimizes any interference with work being undertaken and complies with the health and safety rules of the Facility Owner, the EPC Contractor, the supplier or any subcontractor of either of them. Such inspection by CEB and the Independent Engineer shall not reduce Facility Owner's obligations under this Agreement or relieve Facility Owner of any liabilities or obligations under this Agreement.
- 1.6.3.** CEB may inspect and/or cause the Independent Engineer to inspect the construction and testing of the Facility during the Construction Period and notify the Facility Owner in writing of any deficiencies, discrepancies or non-conformity with the Specification and Standards and testing requirements specified in Schedules C, D, E and H. Facility Owner shall comply with all reasonable requests of CEB and shall ensure uninterrupted access to CEB for such purpose. The Facility Owner shall ensure access to the Facility during their construction and commissioning to the Independent Engineer for such inspection. Such inspection by CEB or the Independent Engineer shall not relieve or absolve the Facility Owner of its obligations and liabilities under this Agreement in any manner whatsoever.
- 1.6.4.** The Facility Owner provide to CEB and the Independent Engineer with a copy of the manufacturer's testing and commissioning procedures of the equipment installed in the Facility not later than 3 (three) months prior to the Scheduled Commercial Operation Date of the Facility and to commencement of the Pre-commissioning Test and Commissioning Test specified under Schedule H, whichever is earlier.

### **1.7. Notice for Initial Energisation of the Interconnection Line**

After the submission of the certificate of installation in respect of the Facility and the Facility Owner's Interconnection Facilities from the Independent Engineer certifying that the Facility and, the Facility Owner Interconnection Facilities has been built in accordance with Schedule A and Schedule D of this Agreement, the Facility Owner shall give CEB not less than 5 (five) Business Days' notice of the time it wishes to first energise the 66 kV interconnection line from CEB to the Facility.

### **1.8. Notice for Initial Synchronisation**

The Facility Owner shall give CEB not less than 7 (seven) Days' notice of the time it wishes first to synchronise the Facility to the CEB System following successful completion of the Pre-commissioning tests under Schedule H, as certified and notified by the Independent Engineer.

### Schedule C: Specifications and Standards

Facility Owner shall develop, design, construct, commission, test, operate, and maintain the Facility in accordance with the Specifications and Standards mentioned in the table below.

<b>PV Modules</b>	
IEC TS 62804-1	Photovoltaic (PV) modules – Test methods for the detection of potential-induced degradation – Part 1: Crystalline Silicon
EN 50380	Datasheet and nameplate information of photovoltaic module.
IEC 61215 -1	Terrestrial photovoltaic (PV) modules - Design qualification and type approval- part 1: Tests Requirements
IEC 61215 -2	Terrestrial photovoltaic (PV) modules - Design qualification and type approval- part 2: Tests procedures
IEC 61701	Salt mist corrosion testing of photovoltaic (PV) modules
IEC 61730-1/2	Photovoltaic (PV) module safety qualification Part 1: Requirements for construction Part 2: Requirements for testing
IEC 61853-1	Photovoltaic (PV) module performance testing and energy testing – Part 1: Irradiance and temperature performance measurements and power rating
IEC 62790	Junction Boxes for photovoltaic modules-Safety requirements and tests
IEC 62994	Photovoltaic PV modules through the life cycle- Environmental health and safety (EH&S) risk assessment- General principles and nomenclature
IEC TS 62915	Photovoltaic (PV) modules - Type approval, design and safety qualification - Retesting
IEC TS 62941	Terrestrial photovoltaic (PV) modules - Guideline for increased confidence in PV module design qualification and type approval
IEC TS 62782	Photovoltaic (PV) modules - Cyclic (dynamic) mechanical load testing
IEC 62979	Photovoltaic modules - Bypass diode - Thermal runaway test
<b>PV INVERTERS</b>	
IEC 62894	Data sheet and name plate for photovoltaic inverters
IEC 61683	Photovoltaic Systems – Power conditioners – Procedure for measuring efficiency
IEC 62109-1	Safety of power converters for use in photovoltaic power systems Part1: General Requirements
IEC 62109-2	Safety of power converters for use in photovoltaic power systems-Part 2: Particular Requirements for inverters
IEC 62109-3	Safety of power converters for use in photovoltaic power systems-Part 3: Particular Requirements for Electronic Devices in Combination with Photovoltaic Elements
IEC 62891	Maximum Power Point Tracking Efficiency of Grid Connected Photovoltaic Inverters
IEC TS 62910	Test Procedure of Low Voltage Ride-Through (LVRT) Measurement for Utility interconnected PV Inverter
IEC 62920	EMC Requirements and Test methods for Grid Connected Power Converters applying to Photovoltaic Power Generating units

IEC 62116	Test Procedure for islanding prevention measures for Utility connected photovoltaic inverters
<b>GRID-CONNECTED PV SYSTEM</b>	
IEC 60947	Connectors for photovoltaic systems - Safety.
IEC 61727	Photovoltaic (PV) systems - Characteristics of the utility interface
IEC 61836	Solar photovoltaic energy systems - Terms, definitions and symbols
IEC 62093	Balance-of-system components for photovoltaic systems
IEC 62446-1	Photovoltaic (PV) systems - Requirements for testing, documentation, and maintenance – Part 1: Grid-connected systems – Documentation, commissioning tests and inspection
IEC 61724 (all parts)	Photovoltaic System Performance Monitoring
IEC TS 63049	Terrestrial photovoltaic (PV) systems – Guidelines for effective quality assurance in PV systems installation, operation and maintenance
IEEE P1547	Series of Standards for Interconnection, May, 2003, NREL/CP-560-34003
<b>GENERAL ENGINEERING STANDARDS</b>	
BS 7354	Code of Practice for Design of high voltage open terminal stations
BS 7430	Code of Practice for Protective Earthing of electrical installations
EN 50521	Connectors for photovoltaic systems - Safety.
IEC 60068-2	Environmental testing of specimen to withstand specific severities of repetitive and non- repetitive nature
IEC 60076	Power transformers - ALL PARTS
IEC 60228	Conductors of Insulated Cables
IEC 60364-1	Electrical installations of buildings - Part 1: Scope, object and fundamental principles
IEC 60364-5-54	Electrical installations of buildings. Part 5: Selection and erection of electrical equipment. Chapter 54: Earthing arrangements and protective conductors
IEC 60364-5-55	Electrical installations of buildings
IEC 60502-1	Power Cables with extruded insulation and their accessories for rated voltages from 1 kV ( $U_m = 1.2$ kV) up to 30 kV ( $U_m = 36$ kV) Part 1 - Cables for rated voltages for 1 kV ( $U_m=1.2$ kV) and 3 kV ( $U_m=3.6$ kV)
IEC 60664-1	Insulation coordination for equipment within low-voltage systems –Part 1: Principles, requirements and tests
IEC 60909-1	Short circuit calculation in three-phase ac systems.
IEC 60840	Power cables with extruded insulation and their accessories for rated voltages above 30 kV ( $U_n = 36$ kV) up to 150 kV ( $U_n = 170$ kV)- Test methods and requirements.
IEC 62208	General requirements for empty enclosures for low voltage switchgear and control gear assemblies
IEC 62305-3	Protection against lightning, part 3 physical damage and life hazards in structures
IEEE C37.90	IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus
IEC 60529	Degree of protection provided by enclosures

Power Quality	
IEC 61000-3-2	Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)
IEC 61000-3-3	Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current $\leq 16$ A per phase and not subject to conditional connection
IEC 61000-3-7	Assessment of emission limits for the connection of the connection of fluctuating installations to MV, HV and EHV power systems
IEC 61000-3-11	Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current $\leq 75$ A and subject to conditional connection.
IEC 61000-6-1	Generic standard -EMC - Susceptibility - Residential, Commercial and Light industry
IEC 61000-6-3	Generic standard - EMC - Emissions - Residential, Commercial and Light industry
IEC 61000-6-5:	Electromagnetic compatibility (EMC) - Generic standards - Immunity for power station and substation environments
IEC TR 61000-3-6	Assessment of emission limits for the connection of distorting installations to MV, HV and EHV power systems
IEEE519	IEEE Recommended practice and requirements for harmonic control of electric power systems, Institute of Electrical and Electronic Engineers.

## Schedule D: Interconnection and Metering

### 1. Interconnection Facilities

#### 1.1. Introduction

(a) *Description of Interconnection Facilities*

The Interconnection Facilities shall consist of:

- (1) the “**CEB Interconnection Facilities**” which shall be the facilities required to interconnect the Facility to the CEB System located on the CEB Substation side of the Interconnection Boundary as shown in **Annexure D.1** to this Schedule, as described in detail in Paragraph 2.
- (2) the “**Facility Owner Interconnection Facilities**” which shall be the facilities required to interconnect the Facility to the CEB System located on the Facility side of the Interconnection Boundary as shown in **Annexure D.1** of this Schedule, as described in detail in Paragraph 3.

(b) *Responsibility and Cost of Installation of CEB Interconnection Facilities in an Outdoor Air Insulated Switchgear Substation (AIS)*

- (1) Facility Owner shall be responsible for the supply, construction, installation, testing and commissioning of the CEB Interconnection Facilities under the supervision of CEB. CEB shall own and be responsible for the operation, maintenance and repair of the CEB Interconnection Facilities as from COD.
- (2) CEB shall contribute up to MUR 5,600,000 (five million and six hundred thousand rupees) for Air Insulated Substation (“**AIS**”) for the cost of the construction, installation, provision of spare parts and testing of the CEB Interconnection Facilities (specified in Paragraph 2.1 of this Schedule).
- (3) Facility Owner shall within 3 (three) months after the date of this Agreement provide to CEB a schedule showing the date of commencement and completion of the CEB Interconnection Facilities.

(c) *Responsibility and Cost of Installation of CEB Interconnection Facilities in an indoor Gas Insulated Switchgear Substation (GIS)*

- (1) CEB shall be responsible for the supply, construction, installation, testing and commissioning of the CEB Interconnection Facilities. CEB shall own and be responsible for the operation, maintenance and repair of the CEB Interconnection Facilities as from COD.

- (2) Facility Owner must contribute 50% of the cost of the construction, installation and testing of the CEB Interconnection Facilities upon presentation by CEB to Facility Owner of reasonable evidence of the incurrence of costs by CEB in the installation and testing of the CEB Interconnection Facilities.
- (3) The cost of construction, installation, testing and spares of the CEB Interconnection Facilities to which Facility Owner is to contribute is estimated to be MUR 36,000,000 (thirty six million rupees) exclusive of all taxes. Actual cost payable by Facility Owner will be determined as per Paragraph [1.1 (c) (2)] of this Schedule and shall not exceed 115% of the amount referred above.

*(d) Responsibility and Cost of Installation of Facility Owner Interconnection Facilities*

- (1) Facility Owner shall within 3 (three) months after the date of this Agreement provide to CEB a schedule showing the date of commencement and completion of the Facility Owner Interconnection Facilities.
- (2) Facility Owner shall be responsible for the cost of the Facility Owner Interconnection Facilities.
- (3) Facility Owner shall own and be responsible for the operation, maintenance and repair of Facility Owner Interconnection Facilities.

**2. CEB Interconnection Facilities**

**2.1. Scope of CEB Interconnection Facilities**

Without limitation to Paragraph 1.1(a) (1) of this Schedule, the CEB Interconnection Facilities shall include the equipment described in this Paragraph 2.1.

*(a) CEB AIS Substation Equipment*

All electrical equipment shown on the single line diagram at **Annexure D.1** on the CEB Substation side shall be installed, tested and commissioned by Facility Owner under the supervision of CEB. This equipment shall include the followings:

(1) Surge Arrestors (IEC 60099-4)

Surge arrestors shall consist of sealed metal oxide blocks, located inside a polymeric housing of silicone. A surge counter shall be installed for a set of 3 (three) lightning arrestors.

Nominal system voltage:	66 kV
Class:	2
Operating Duty class:	10 kAp

MCOV:	48 kVrms
Quantity:	3

(2) 66 kV Current Transformers

The CTs shall be of the dry type (either epoxy resin or gas type) and shall have the following details:

- Each core output shall be via a separate, sealable box.
- 66 kV protection and measurement CTs shall be suitably matched with the protection cores to be installed at the Facility side to allow unit protection of the transmission line.

Ratio 1200/800/400/ 1A;

1 x protection, class X, and 2 x protection, 5P20 for Main 1, Main 2 and Back up

1 x Metering, Class 0.2, 15 VA (Ammeter, MWh, MVar)

Quantity: 3 Nos. plus 1 spare

- 66 kV Metering Current Transformers  
Ratio 400/200/100/1A;

3 x Metering, Class 0.2, 20 VA (for the purposes of CEB Main Meter, CEB Back-up Meter and Back-up Meter(if applicable)).

Quantity: 3 Nos. plus 1 spare

*Note: The burden of the above CTs shall be finalized at the design stage and approved by the CEB prior to installation.*

(3) Potential Transformers

The VTs shall be of minimum oil type and shall have 3 (three) cores. Each core output shall be via a separate sealable type sub-fuse box.

Ratio:  $66000/\sqrt{3}/110/\sqrt{3}$

Class: 0.2

Burden: 30 VA  
Quantity: 3 plus 1 spare

(4) Circuit Breaker (IEC 60056)

The circuit breaker shall consist of 3 (three) identical poles mounted on a single frame supported by a suitable galvanised steel structure. The operating mechanism shall operate the 3 (three) poles simultaneously via a motor driven spring charging mechanism. The breaker units shall be hermetically sealed and filled with SF<sub>6</sub> gas. The breaker unit insulators shall preferably be of glazed porcelain.

Nominal Voltage: 66 kV  
Normal load current: 2000 Amps  
Breaking Capacity: 31.5 kA  
Trip coils Main 30V DC, Back-up 230 VDC; or  
Main 110 V DC, Back –Up 110 VDC  
*(will be finalized at time of implementation)*  
Operating Duty O-0.3 s-CO-3mins-CO  
cycle:  
Manufacturer: Schneider Electric/ABB/Alstom or equivalent  
Quantity: 1 plus 1 set of spare parts

(5) Disconnectors (IEC 60129)

The disconnector shall be of the 3 (three) poles, manually operated type as well as motor operated type with centre-rotating (double break) operation, mounted on a single frame, supported by a suitable steel lattice structure (minimum 2500 mm height).

A common operating shaft shall open and close all 3 (three) poles simultaneously by means of a set of fully adjustable levers and linkages.

Sufficient auxiliary contacts (Type G =7, Type M =4, Type N =5), housed in a dust, vermin and weather-proof enclosure shall be provided.

The fixed contacts (spring-loaded fingers) shall be manufactured from high conductivity hard drawn copper, and silver-plated.

The moving contacts shall be of silver plated high conductivity extruded or hard drawn copper.

The insulators shall consist of glazed porcelain.

Nominal Voltage:	66 kV
Normal load current:	2000 Amps
Type of Terminals	Integral 4 matrix-hole aluminium pad to IEC 60518
Phase Spacing	1600 mm
Quantity:	2 sets
Manufacturer:	Schneider Electric/ABB/Alstom or equivalent

(6) Protection Relays and Panels

The control cubicle shall be of the swing frame type, floor mounted, suitable for controlling the 66 kV circuit breaker of the incoming feeder bay. The protection relays protecting the transmission line at both ends shall be suitably matched and equipped with a fibre-optic interface.

- Primary protection shall comprise 3-pole tripping, phase segregated line current differential protection relay. This primary line protection scheme shall utilize numerical line current differential protection relays communicating over optic fibre as the Main 1 protection. The relay shall include 4 (four) zones of phase and ground impedance protection elements, which are to be applied as Main 2 protection. This relay shall be of make Schweitzer Engineers Laboratories SEL-411L. The in-built distance impedance protection in the SEL 411L shall be used as second main protection and therefore must be enabled and configured.
- Back-up protection shall comprise one triple pole numerical type inverse/ definite, directional/non-directional overcurrent and earth fault relay equipped with instantaneous high set element (I/O). It must however, be possible to disable the high set elements.
- The inter-tripping control panel shall be designed for the protection of transformer/feeder and be such that tripping of any 66 kV circuit breaker (sending or receiving) results in inter-tripping of the corresponding 66 kV circuit breaker at the remote end of the feeder. In the case of manual opening of the 66 kV circuit breaker at the CEB

Substation, inter-tripping of the corresponding breakers at the Facility shall result. However, manual opening of the 66 kV circuit breakers at the Facility shall not trip the corresponding breakers at the CEB Substation.

Notwithstanding the above, it must be ascertained that each line trip shall be followed by a pre-determined synchronizing sequence at the Facility.

- The protection system shall provide for 2 (two) direct communication links to the remote relay via dedicated fibre optic links as shown in the line protection schematic diagram (Annexure D.2). The main protection (being the current differential protection) shall be using one communication channel dedicated to the main protection. In case of failure on this channel, the relay shall automatically switch to the second channel. The second main protection, (being the impedance protection) shall be using only the second channel for communicating with the far end relay.
- In order to ensure compatibility of the line protection scheme, the protection and control panels and relays at both remote ends of the 66 kV line shall be procured, installed, tested and commissioned by Seller's EPC contractor, after obtaining CEB's prior approval, which shall not be unreasonably withheld.

*(b) CEB GIS Substation Equipment*

In case of GIS, the CEB shall provide details of the CEB Interconnection prior to design and construction.

*(c) Panel Controls, Indication, Alarms and Instrumentation*

- (1) Breakers and isolators shall have local/remote controls for open/close facilities. Lamp test, AC/DC supply isolation and other accessories on such control panels
- (2) Panel indications shall include all relay operations (segregated actions, i.e. Differential, O/C, E/F, impedance (zones), inter-trip and other protection requirements), breaker and isolators status (open/close) inter-trip send and receive, AC/DC fail, breaker spring charged and other indication as required for other private generators.
- (3) The alarm and trip facilities shall have local indication and also one set of potential-free contacts for onward transmission of the alarm/trip signals to the System Control Centre.

(4) The following panel instrumentation and other fittings are required in addition to other standard equipment required or implied for the type of panel and scheme functionality:

- (i) transducer fed voltmeter, ammeter, , MW, MVA<sub>r</sub> indicating import and export and appropriate test blocks for current and voltage circuits; and
- (ii) suitable test facilities shall be provided for the secondary injection of current quantities/relay testing and for any other tests as reasonably required by CEB.

*(d) Communication Requirements*

Facility Owner shall procure, install, test and commission a complete communication system on both side of the Interconnection Boundary, to be interfaced with CEB's existing communication system (Annex D.3).

The complete communication system on each side of the Interconnection Boundary shall be maintained by Seller.

- (1) One-way communication from the CEB Substation to the Facility via the fibre-optic link of:
  - (a) 66 kV breaker status at the CEB Substation (open/close); and
  - (b) Active-Power Control (Signal for Curtailment) when required by the System Control Centre.
- (2) One-way communication from the Facility to the CEB Substation as per Paragraph 3.1(f) of this Schedule.
- (3) From the CEB Substation to the System Control Centre (SCC) the following:
  - (i) Remote control facilities shall be provided:
    - (a) 66kV Circuit breaker open; and
    - (b) 66kV Circuit breaker close;
  - (ii) information shall be made available:  
  
66 kV breakers' status, line fault, MW, MVA<sub>r</sub>, frequency and information as per Paragraph 3.1(f) of this Schedule.

Those information requirements shall be confirmed once it has been established whether the Facility shall be manned or unmanned.

CEB does not require operation on any of the Facility's 66 kV switching device. In the event of line faults requiring isolation, CEB shall use voice communications to arrange for line isolation and earthing.

(4) Electronic Messaging System

This system, if required, shall be implemented through PC to PC communication using a frame relay service to be secured through telecom services ("**Electronic Messaging System**"). All messages between CEB and the Facility shall be transmitted through the Electronic Messaging System. Messages shall be recorded for eventual use to help monitor/implement contractual conditions.

CEB shall acquire the despatch/messaging software for the Electronic Messaging System. However, each Party shall acquire its own PCs, bear the cost of the communication charges and pay the software user licence fee, (if any) in relation to its use of the Electronic Messaging System.

(5) Commissioning, Protection Settings and Training.

Facility Owner shall take full responsibility for protection settings, testing and commissioning of the interconnection between the Facility and the CEB System and any changes to settings for CEB equipment affected by the protection settings of Seller's protection equipment shall be agreed by the Parties.

Facility Owner shall provide training/assistance to up to 10 (ten) CEB personnel who shall familiarize themselves with "**overall system protection and operation**", i.e. of the Facility and the interconnection with the CEB System including setting, testing and commissioning of relays on CEB side of the Interconnection Boundary.

(6) Radio Communication

CEB may install a fixed, private radio operating on CEB's own network, to be used in case of emergencies.

*(e) Metering*

Refer to Schedule K: Metering.

CEB Meters shall have an accuracy class of 0.2 and shall measure the electrical energy delivered to CEB by Facility Owner as well as Energy imported by Facility Owner from the CEB System. A cubicle shall be ordered by CEB to house the CEB Meters and, if necessary, power recorder.

The CEB metering circuits shall be totally separate from Seller's metering circuits. This shall be achieved through cabling directly from the metering CTs and VTs.

CEB shall be fully responsible for the commissioning of the metering circuits associated with the CEB Meters, i.e. all pre-commissioning and final commissioning involving cabling and other circuit verification, CT and VT checks and certification, functional testing, as well as meter calibration, secondary injection and final documentation.

The cost of the metering panel shall be shared equally between both parties if the CEB Meters and Seller's Back-up Meter (if applicable) are located in the same panel. In addition, the panel shall also provide space for the accommodation of a digital 3-phase power recorder/monitor with remote communication capabilities, for power quality analysis, energy management, data transfer and supervisory control needs.

*(f) Miscellaneous Equipment*

In case of AIS Substation, Facility Owner shall install the following equipment in accordance with the provisions set forth in Paragraph 1.1(c) and Paragraph 1.1(d) of this Schedule, respectively:

- (1) supporting structures and gantry as per CEB standard;
- (2) conductors & insulators;
- (3) busbars & fittings;
- (4) control panel, circuit breakers & isolating switches; and
- (5) fibre-optic interfaces.

## **2.2. Scope of Interconnection**

Facility Owner shall provide Interconnection Facilities on the CEB side of the Interconnection Boundary up to [.....] MVA [*Facility Owner to provide*]. In the event of a material change or modification to the configuration and/or operation of the Facility, the Parties shall negotiate appropriate revisions to this Agreement and this Schedule as necessary to permit Facility Owner to provide Interconnection Facilities on the CEB side of the Interconnection Boundary in a secure and reliable manner after the implementation of such change or modification.

### 3. Facility Owner Interconnection Facilities

#### 3.1. Scope of Facility Owner Interconnection Facilities

Without limitation to Paragraph 1.1(a)(2) of this Schedule, the Facility Owner Interconnection Facilities shall include the equipment described in this Paragraph 3.1.

##### *(a) Transmission Facility*

All electrical equipment shown on the single line diagram at Annexure A.4 of Schedule A of the Facility side of the Interconnection Boundary shall be procured and installed by Seller.

##### (1) Transmission Lines

The 66 kV transmission line may be erected on concrete poles with the three All Aluminium Alloy supported by tie-top insulators and long rod porcelain insulators.

Where the 66 kV transmission line crosses or runs parallel to CEB's existing lines and have a clearance of less than 4 (four) meters, Facility Owner shall reimburse all costs incurred by CEB in connection with insulating or placing underground, the relevant portions of CEB's existing transmission or distribution lines to the extent necessary.

Seller's 66 kV transmission line shall be fitted with a fibre-optic ground wire ("**OPGW**") to allow data transmission and communication between the Facility and CEB Substation.

##### (2) 66kV Transformer Bay

At least one 66 kV transformer bay comprising [...] kV/66 kV step-up transformer(s) [*Facility Owner to provide*] of appropriate rating, lightning arrestors, current and potential transformers, circuit breaker, an isolator (preferably as specified in Paragraph 2.1 (a)) of this Schedule.

##### *(b) Protection and System Quality*

Facility Owner shall, at own its expense, install, maintain, and operate system protection facilities on the Facility side of the Interconnection Boundary, including such protective and regulating devices, or as otherwise necessary, to protect personnel and equipment and to minimize deleterious effects to CEB's electric service operation arising from the Facility. Any such protective or regulating devices that may be required on CEB's facilities in connection with

the operation of the Facility shall be installed by Facility Owner prior to the written approval of CEB.

*(c) Requirements for Protection*

- (i) For transmission line protection, Seller's installation shall comply with Paragraph 2.1 (a) (6) of this Schedule.
- (ii) Facility Owner shall provide, install, own, and maintain relays, circuit breakers, and all other devices necessary to remove promptly any fault or contribution of the Facility to any short circuit occurring on the CEB System not otherwise isolated by CEB equipment. Such protective equipment shall include a disconnecting device to be located between the Facility and the CEB System. Facility Owner shall be responsible for protection of the Facility and Seller's other equipment from such conditions but not limited to as negative sequence currents, over- or under-frequency, and over-voltage or under-voltage. Facility Owner shall be solely responsible for the provision of equipment to disconnect the Facility and Seller's other equipment when any of the above-described disturbances occur on the CEB System.

*(d) Panel Controls, Indications Alarm and Instrumentation*

Facility Owner shall comply with the requirement of Paragraph 2.1(b) of this Schedule.

*(e) System Quality*

Seller's facilities and equipment shall not cause excessive voltage excursions nor cause the voltage to drop below or rise above the range maintained by CEB. Seller's facilities and equipment shall not introduce excessive distortion to the sinusoidal voltage or current waves and be in accordance with IEC 61000-2-2, IEC 61800-3, IEC 60868, IEC 61400-21, IEEE 519 and any other applicable relevant latest standards.

*(f) Communications Equipment*

Facility Owner shall comply with the relevant requirements in Paragraph 2.1(c) of this Schedule.

The following information shall be made available at the CEB Substation via the fibre-optic link:

**Telesignals (Status)**

- (1) Open/close position of the Circuit Breakers of the Step-Up Transformer(s);
- (2) Open/close position of the 66kV circuit breakers at the Facility;
- (3) Open/close position of the 22kV circuit breakers, if required by the System Control Centre;
- (4) Open/Close position of the Low Voltage Circuit Breakers;
- (5) Communication equipment faulty;
- (6) Relay Auxiliary Supply Fault; and
- (7) Alarms – which shall be determined with CEB at design stage of the Facility.

**Telemeasurements/Teleprotection**

- (1) Protection systems health status;
- (2) Line protections;
- (3) Inter-trip send and receive
- (4) Energy, MW, MVAR, power factor and voltage level at the sending end terminals; and
- (5) MW, MVAR and voltage level at the sending end terminals.

**MW Curtailment Data**

Facility Owner shall make available the following signals at the SCC

- (1) Curtailment facility status indication (ON/OFF).
- (2) Curtailment in progress; and
- (3) Facility MW curtailment set-point value (MW feedback)

***(g) Data Storage***

Facility Owner shall store the followings data, which shall be made available to CEB on request:

1. Solar Irradiance; and
2. Temperature.

***(h) Miscellaneous***

Facility Owner shall comply with Paragraph 2.1(e) of this Schedule.

## 4. Joint Use Facilities

### 4.1. Scope of Joint Use Facilities

- (a) CEB and Facility Owner shall operate and maintain their respective communication systems with all associated interface equipment to facilitate the following:

Two-way communication modes:

- current differential protection;
- inter-trip send and receive; and
- single dedicated telephone circuit between the Facility's and System Control Centre / Substation.

- (b) In accordance with mutually-agreed procedures, CEB and Facility Owner shall jointly operate the items shown in Annexure D.2 (together, the "**Joint Use Facilities**") in accordance with Good Industry Practice, including:

- (1) closing breakers to accomplish interconnection, but not synchronization, of the Facility to the CEB System;
- (2) opening breakers to remove the Facility from service;
- (3) opening disconnectors;
- (4) in-service relay testing; and
- (5) battery system testing and maintenance

## 5. Modelling requirements

Facility Owner shall provide CEB with a detailed model complete with dynamic model of the Facility in DigSILENT Powerfactory format suitable for electrical studies and calculations. Details of the software version shall be provided by CEB.

CEB may request that the models be updated, during the operational period of this Agreement, to be compatible with changes in the CEB's computing environment. Upon such request, Facility Owner shall update such models without undue delay and shall submit the updated models to CEB.

### 5.1. Requirement to Provide Dynamic Models

Facility Owner shall provide CEB with validated dynamic models of the Facility. Appropriate data and parameter values shall be provided by Seller.

The models shall be able to calculate how quantities such as active Power output, reactive Power output, primary resource (e.g. irradiance etc.) vary as factors such as the voltage at the Interconnection Boundary measured at the Point of Delivery change. They shall take account of the inherent dynamic characteristics of the machines and the actions of their

control and protection systems, including the Low Voltage Ride Through (LVRT) and High Voltage Ride Through (HVRT) capabilities.

## **5.2. Features to be Represented in the Dynamic Model**

The dynamic model shall represent the features and phenomena likely to be relevant to angular, frequency and voltage stability. These features include but may not be limited to:

- (a) The electrical characteristics of the PV modules and Inverters;
- (b) The mechanical characteristics of the whole mechanical shaft;
- (c) Variation of electrical power output with the primary resource;
- (d) Active and Reactive Power controls and limiters;
- (e) Power plant controller
- (f) Reactive Power compensation Equipment;
- (g) Protection relays.
- (h) Saturation curves of power transformers and CTs
- (i) Damage curves of power transformers
- (j) Harmonic current injections
- (k) Any features required by CEB

## **5.3. Model Documentation**

The Facility Model shall be fully documented. The documentation shall describe in detail the model structure, inputs, outputs and how to set up and use the model in the simulation software environment that can be used by CEB to simulate the dynamic performance of the Facility, specifically voltage control, load ramping and frequency support within the design operating range of the Facility.

The document shall at least contain the following:

- (a) The operating parameters on which the model is based;
- (b) A model for the dynamic response of the Facility in block diagram form including Laplace transfer functions
- (c) A detailed list of gains, constants and parameters, with explanations of the derivations for each of the modelled functions.
- (d) Plant test data from which the model was derived.

CEB may, when necessary to ensure the proper running of its complete system representation or to facilitate its understanding of the results of a dynamic simulation, request additional information concerning the model, including the source code of one or more routines in the model. Facility Owner shall comply with any such request without delay. In the event that the information is confidential on the basis that it incorporates trade secrets, CEB shall not disclose the information so designated to any third party.

#### **5.4. Model Validation**

All models provided to CEB for use in dynamic simulations shall be validated against site measurements. The Independent Engineer shall certify that the behaviour shown by the model under simulated conditions is representative of the behaviour of the Facility under equivalent conditions.

For validation purposes, Facility Owner shall ensure that appropriate tests are performed and measurements are taken to assess the validity of the dynamic model. Facility Owner shall provide all available information showing how the predicted behaviour of the dynamic model to be verified with the actual observed behaviour of a prototype or similar PV modules/Inverter under laboratory conditions and / or actual observed behaviour of the real Facility as installed and connected to the CEB System.

If the on-site measurements or other information provided indicate that the dynamic model is not valid in one or more respects, Facility Owner shall provide a revised model whose behaviour corresponds to the observed on-site behaviour as soon as reasonably practicable.

The conditions validated should as far as possible be similar to those of interest, e.g. low short circuit level at Interconnection Boundary, large frequency and voltage excursions, primary resource variations.

#### **5.5. Parameters Monitoring**

In order to maintain the accuracy of the model, Facility Owner shall periodically submit to CEB the operating parameters to determine if there is any decay which should be modelled.

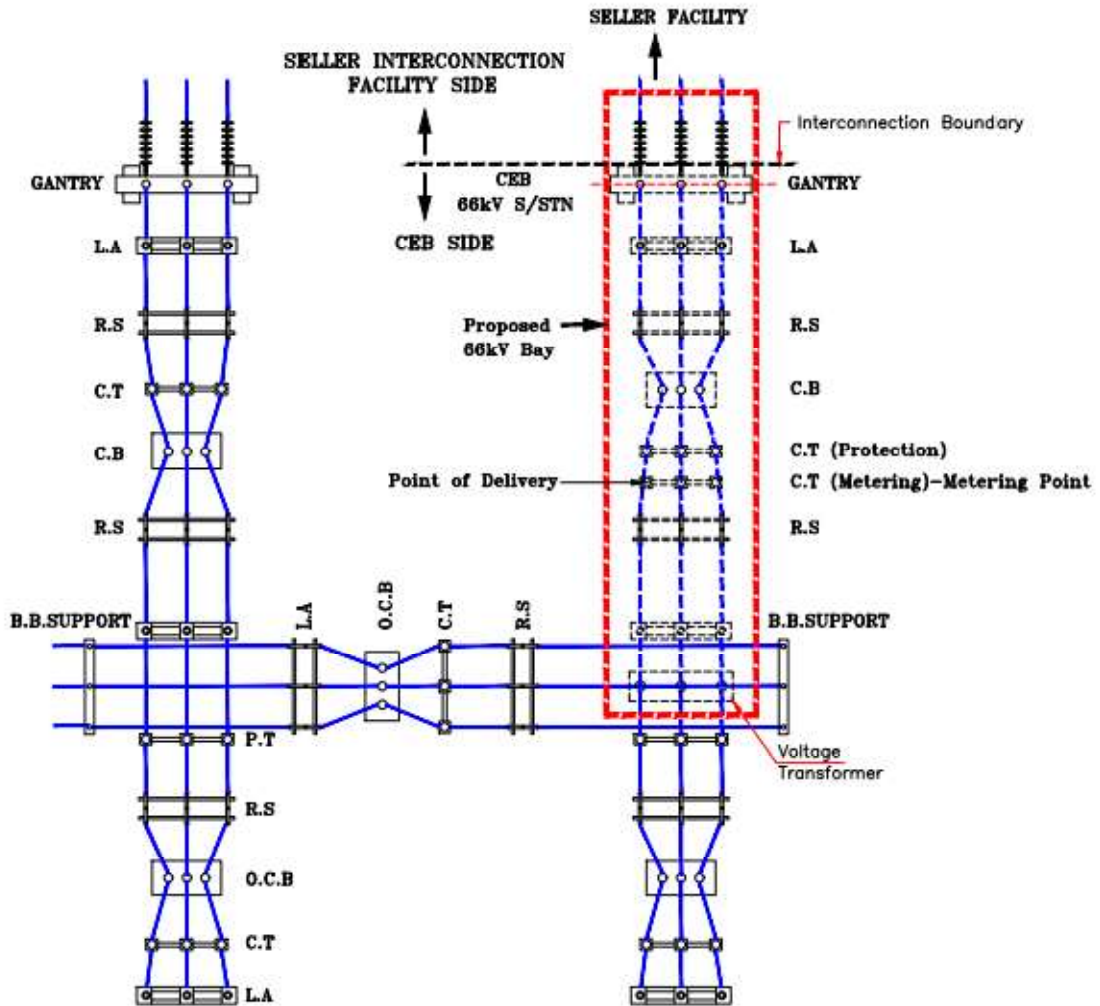
Facility Owner shall carry out routine and prototype response tests on voltage and power-frequency controls for the Facility at which major refurbishment or upgrades have taken place. Routine review is required at least once every 5 (five) years.

### **6. Weather Data**

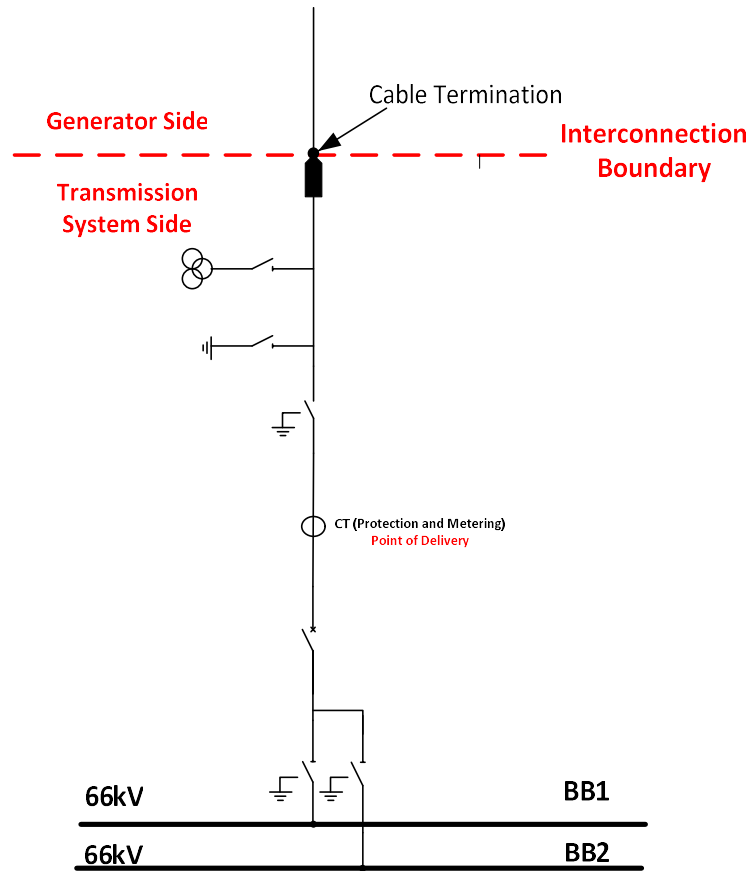
The weather data as measured by sensors as defined in Schedule A of this Agreement shall be made available to CEB upon request.

The sampling rate of the data to be of 60 seconds, unless otherwise agreed with the CEB.

Annexure D.1A: CEB Interconnection Facilities (AIS)

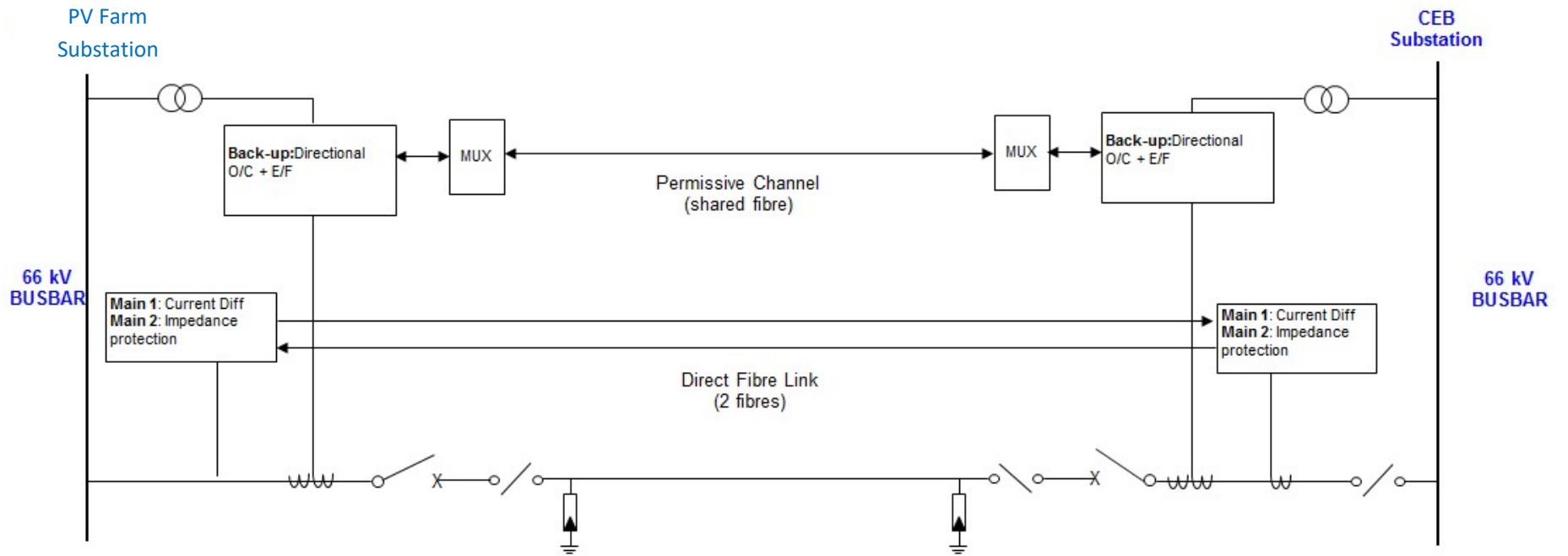


### Annexure D.1B: CEB Interconnection Facilities (GIS)

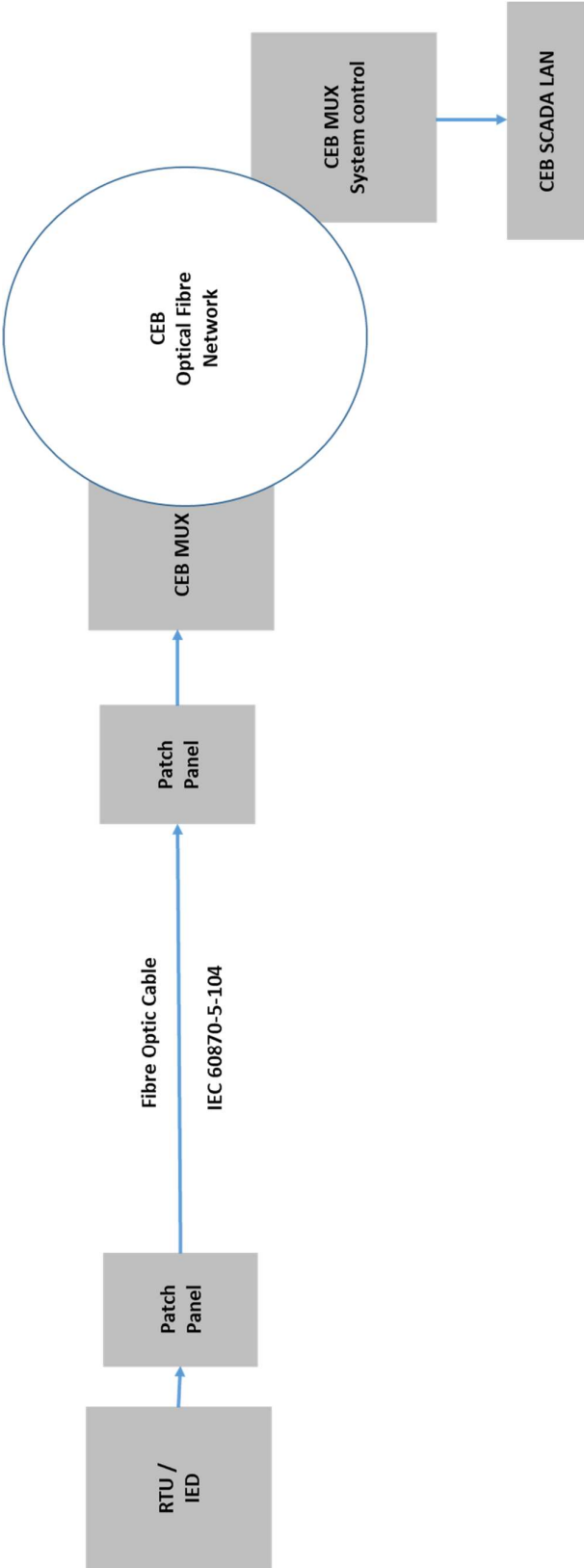


## Annexure D.2: Joint Use Facilities

# JOINT USE FACILITIES: PROPOSED LINE PROTECTION SCHEME FOR 66KV LINE FROM FACILITY TO CEB SUBSTATION



Annexure D.3: Communication Requirement



## Schedule E: Guaranteed Operating Characteristics

### Part 1: Guaranteed Operating Characteristics

1. The Maximum Capacity of the Facility shall be [...] MW<sub>ac</sub> at the Point of Delivery.

### Part 2: Tolerance to frequency variations

1. The Facility shall be capable of remaining connected to the CEB System and operate within the frequency ranges and time periods specified in Table 1 below unless otherwise instructed by CEB.

Table 1: Tolerance to frequency range

Frequency (F) range	Requirement
51.5 Hz < F ≤ 52.0 Hz	Operation for a period of at least 15 seconds is required
51.0 Hz < F ≤ 51.5 Hz	Operation for a period of at least 90 minutes is required
49.0 Hz < F ≤ 51.0 Hz	Continuous operation is required
47.5 Hz < F ≤ 49.0 Hz	Operation for a period of at least 90 minutes is required
47.0 Hz < F ≤ 47.5 Hz	Operation for a period of at least 20 seconds is required
F ≤ 47.0 Hz	Operation for a period of at 3 seconds is required

2. The Facility shall remain connected to the CEB System during a rate of change of system frequency of values up to and including 2.5 Hz per second measured as a rolling average over 500 ms.
3. No additional inverter shall be synchronized while the transmission system frequency is 50.5 Hz or above.

### Part 3: Tolerance to voltage requirements

1. The Facility shall remain continuously connected to the CEB System at their maximum available active power or curtailed active power output for normal system disturbance conditions when voltage is within prescribed range (for example: 66 kV -10% to + 12%).
2. Each Inverter of the Facility shall avoid introducing undue resonance leading to over voltage at grid connection point.

#### Part 4: Re-Connection time

Following a protection initiated disconnection, the Facility shall remain disconnected from the network until the voltage and frequency at the supply terminals has remained within the nominal limits for at least 3 minutes. The final setting shall be provided by Seller, at least 90 (ninety) Business Days prior to the SCOD.

Automatic reconnection shall only be allowed when disconnection was due to operating parameters being outside the normal operating range, not if disconnection was caused by malfunctioning of any devices within the Facility.

#### Part 5: Fault Ride Through Requirements

##### 5.1 Low Voltage Ride Through

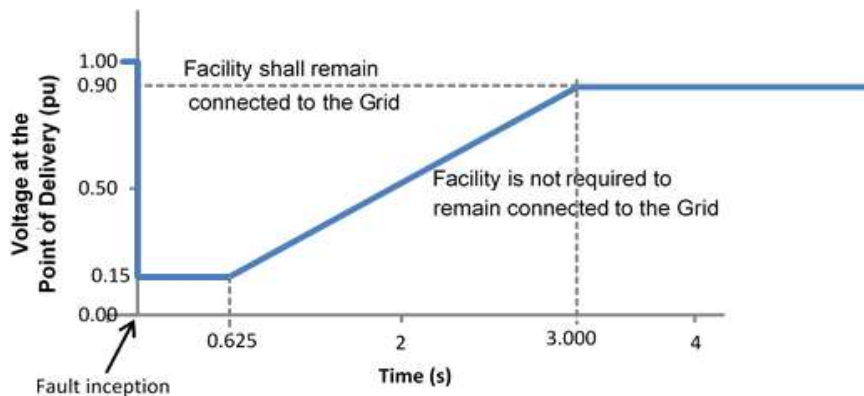


Figure 1. Low Voltage Ride Through Capability

In addition to remaining connected to the CEB System, the Facility shall have the technical capability to provide the following:

- During the CEB System voltage dip each inverter of the Facility shall provide active power in proportion to retained voltage and maximise reactive current to the CEB System without exceeding the inverter Limit. The maximisation of reactive current shall continue until the CEB System voltage recovers to within the normal operational range of the CEB System.
- The above Fault Ride Through curve shall be coordinated with the under-voltage protection settings scheme of the Facility to ensure grid support during fault conditions.
- A different LVRT curve may be required by the CEB, to ensure the CEB System reliability and security. In such case, the Facility Owner shall implement the new LVRT within two weeks from an official request made by the CEB.

## 5.2 High Voltage Ride Through

The Facility shall remain synchronised during and following any fault disturbance anywhere on the network which could result in a voltage rise at the Interconnection Boundary of magnitude and duration up to and including the curve in

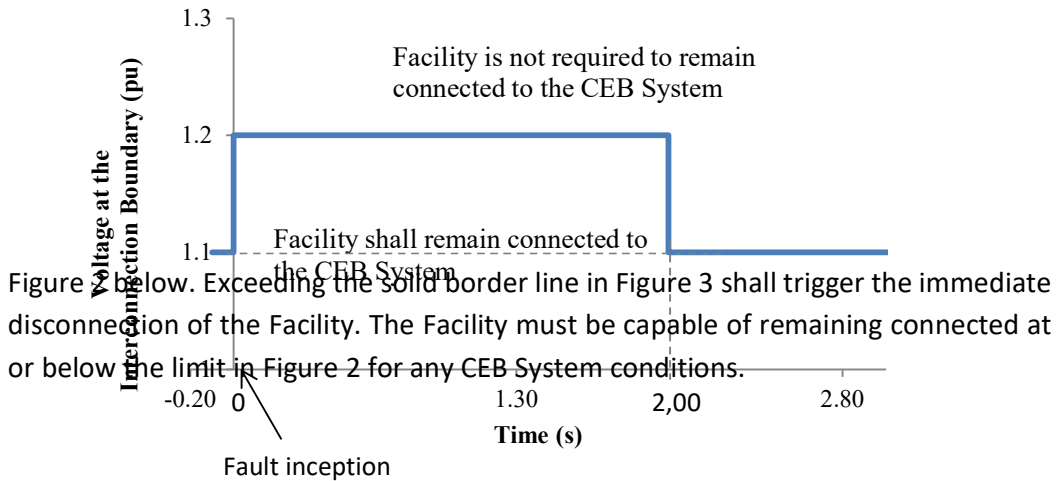


Figure 2. High Voltage Ride Through Capability.

## Part 6: Frequency Requirements

The Facility shall be fitted with a fast-acting proportional active power control system or equivalent control device to provide frequency response. The frequency or speed control device(s) may be on the Facility control station.

The Facility shall be able to provide at least the Active Power output response to frequency changes displayed in Figure 4. The active power output shall be only allowed to increase again as soon as the frequency is only 50.05 Hz. Above 52 Hz and below 47 Hz, the Facility shall be disconnected from the CEB System.



Figure 3. Frequency Response requirements

## Part 7.0: Power Quality

The Facility shall maintain the voltage waveform quality at the Interconnection Boundary measured at the Point of Delivery within the limits specified in this section.

### 7.1 Harmonic Voltage and Current Distortion

Harmonics measurement at the Interconnection Boundary measured at the Point of Delivery of the Facility shall be taken in accordance with methodologies of IEEE STD 519.

### 7.2 Voltage Fluctuations

Facility Owner shall ensure that the connection of the Facility to the CEB System does not result in the level of fluctuation of the supply voltage on the CEB System at the Interconnection Boundary, measured at the Point of Delivery, exceeding limits set out below.

#### 7.2.1 Voltage Flicker

Facility Owner shall take responsibility for limiting Voltage Flicker caused by their Facility to remain within the maximum values at the Interconnection Boundary, measured at the Point of Delivery, specified in IEC TR 61000-3-7.

#### 7.2.2 Voltage Changes

Facility Owner shall ensure that the disturbance levels introduced by the Facility do not promote rapid voltage changes at the Interconnection Boundary, measured at the Point of Delivery, above the limits specified in Table 2 below with the stated frequency of occurrence, where:

$$\% \Delta V_{\text{steadystate}} = \left| 100 \times \frac{\Delta V_{\text{steadystate}}}{V_0} \right|$$

$$\% \Delta V_{\text{max}} = 100 \times \frac{\Delta V_{\text{max}}}{V_0}, \text{ and}$$

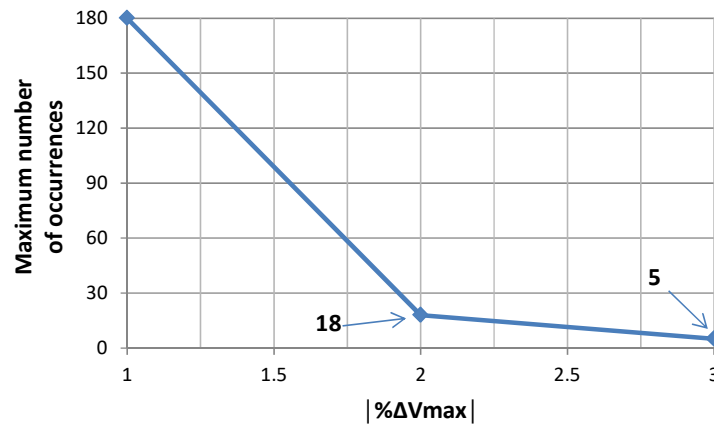
- i)  $V_0$  is the initial steady state voltage;
- ii)  $V_{\text{steadystate}}$  is the CEB System voltage reached when the rate of change of CEB System voltage over time is less than or equal to 0.5% over 1 second

- and  $\Delta V_{\text{steadystate}}$  is the absolute value of the difference between  $V_{\text{steadystate}}$  and  $V_0$ ;
- iii)  $\Delta V_{\text{max}}$  is the absolute value of the maximum change in the CEB System voltage relative to the initial steady state CEB System voltage of  $V_0$ ;
  - iv) All voltages are the root mean square of the voltage measured over one cycle refreshed every half a cycle as per IEC 61000-4-30;
  - v) The voltage changes specified are the absolute maximum allowed, applied to phase to ground or phase to phase voltages whichever is the highest change;
  - vi) Voltage changes in category 3 only occur for infrequent or unplanned operational activities due to commissioning, maintenance and fault restoration, and in circumstances notified to CEB, such as for example commissioning in accordance with a commissioning programme, implementation of a planned outage; and
  - vii) For connections where voltage changes would constitute a risk to the CEB System, then CEB may reasonably limit the number of voltage changes in category 2 or 3 to a lower number than specified in Table 2 below to ensure that the total number of voltage changes at the Interconnection Boundary remains within the limits of Table 2.

**Table 2. Limits for Rapid Voltage Changes**

Category	Maximum number of occurrences	$\% \Delta V_{\text{max}}$ and $\% \Delta V_{\text{steadystate}}$
1	No limit	$ \% \Delta V_{\text{max}}  \leq 1\%$ , and $ \% \Delta V_{\text{steadystate}}  \leq 1\%$
2	Occurrences per hour with events evenly distributed according to Figure 5 below, where*: 180 for $ \% \Delta V_{\text{max}}  = 1\%$ 18 for $ \% \Delta V_{\text{max}}  = 2\%$ 5 for $ \% \Delta V_{\text{max}}  = 3\%$	$1\% <  \% \Delta V_{\text{max}}  \leq 3\%$ , and $ \% \Delta V_{\text{steadystate}}  \leq 3\%$
3	No more than 4 per day for Commissioning, Maintenance and Fault Restoration	$\% \Delta V_{\text{max}} \leq 12\%$ for up to 80ms. $\% \Delta V_{\text{max}} \leq 10\%$ for up to 2s. $\% \Delta V_{\text{max}} \leq 5\%$ for up to 0.5s. $\% \Delta V_{\text{steadystate}} \leq 3\%$ .

(\* ) Occurrences for other voltage changes are obtained by linear interpolation



**Figure 4. Maximum allowed occurrences per hour for voltage changes within Category 3**

### 7.3 Phase Unbalance

The weekly 95 percentile of Phase (Voltage) Unbalance, calculated in accordance with IEC61000-4-30 and IEC61000-3-13, on the CEB System shall be less than or equal to 1.3% unless abnormal conditions prevail.

The Phase Unbalance shall be calculated from the ratio of root mean square (rms) of negative phase sequence voltage to rms of positive phase sequence voltage, based on 10-minute average values, in accordance with IEC 61000-4-30.

### Part 8.0: Reactive power capability

The Facility shall be at least capable of operating at any point within the P-Q Capability Diagram schematically shown in and defined in Figure 5 below, as measured at the Point of Delivery on CEB side of the Interconnection Boundary:

- a) At Maximum Effective Capacity between: 0.95 power factor leading to 0.95 power factor lagging; available from 20% of Maximum Effective Capacity
- b) At between 20% Maximum Effective Capacity and 5% Maximum Effective Capacity, MVAR capability to be not less than indicated by straight lines drawn between the requirement at 20% Maximum Effective Capacity and the origin of the plot of MVAR capability against MW output.
- c) When operating below 5% Maximum Effective Capacity, there is no Reactive Power capability requirement, however the Facility can only operate within the reactive power tolerance range not exceeding +/-5% of Maximum Effective Capacity; that is within the box in dashed lines in Figure 5.

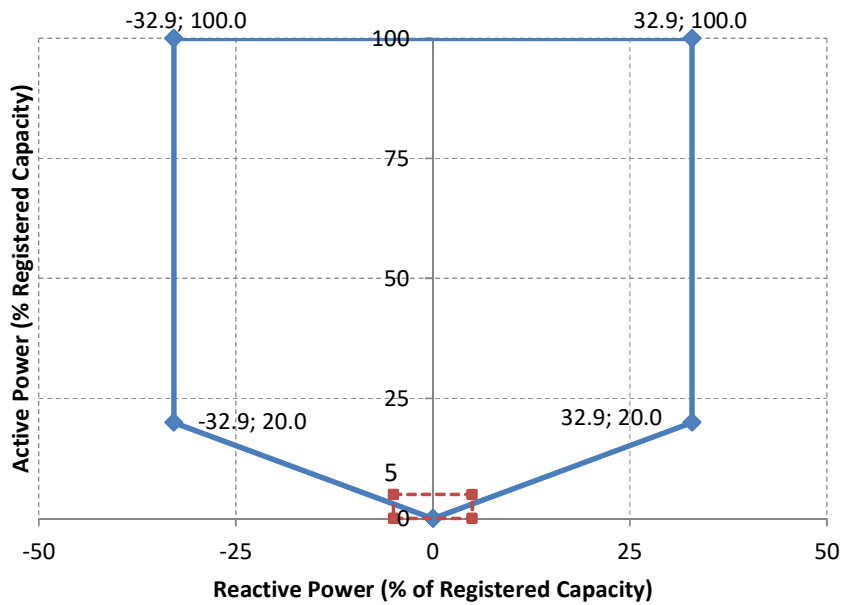


Figure 5. P-Q Capability Diagram

The Facility's Substation transformer shall be designed such that the Facility capability shall be possible over the full range of CEB System voltages specified in Part 3 of this Schedule.

#### Part 9.0 Reactive Power and Voltage Control Functions

The Facility shall be capable of contributing to voltage control by continuous changes to the reactive power supplied to the CEB System.

The Facility shall be equipped with reactive power control functions capable of controlling the reactive power supplied by the Facility at the Interconnection Boundary, measured at the Point of Delivery, as well as voltage control function capable of controlling the voltage at the Interconnection Boundary, measured at the Point of Delivery, via orders using set points and gradients.

The reactive power and voltage control functions shall be mutually exclusive, which means that only one of the 3 (three) functions mentioned below can be activated at a time:

- a) Voltage Control;
- b) Power Factor Control; and
- c) Reactive Power Control

The Facility shall control the voltage at its side of its Interconnection Boundary with a set-point of 1.00 per unit unless otherwise specified by CEB. The Facility shall not change the functional mode and set-point unless instructed by CEB.

### **9.1 Reactive Power Control**

Reactive Power control is a control function controlling the Reactive Power supply and absorption at the Interconnection Boundary independently of the active power and the voltage.

If the Reactive Power control set point is to be changed by CEB, the Facility shall update its set point value in response to the new value within two seconds. The Facility shall respond to the new set point within 30 seconds after receipt of an order to change the set point unless otherwise agreed with CEB.

The controlled Reactive Power set point shall not deviate from the given set point by more than  $\pm 2\%$  of the set point value or by  $\pm 0.5\%$  of maximum Reactive Power after stabilization following a change of setpoint, whichever yields the highest tolerance.

The Facility shall be able to receive a Reactive Power set point with an accuracy of at least 1 kVAR.

### **9.2 Power Factor Control**

Power Factor Control is a control function controlling the reactive power proportionally to the active power at the Interconnection Boundary measured at the Point of Delivery.

If the power factor set point is to be changed by CEB, Facility Owner shall update its set point value in response to the new value within 2 seconds. Facility Owner shall respond to the new set point within 30 seconds after receipt of an order to change the set point unless otherwise agreed with CEB.

The power factor at the Interconnection Boundary, measured at the Point of Delivery, shall not deviate by more than  $\pm 0.02$  of the set point.

### **9.3 Voltage Control**

Voltage control is a control function controlling the voltage at the Interconnection Boundary measured at the Point of Delivery.

If the voltage set point is to be changed, such change shall be commenced within 2 seconds and completed no later than 30 seconds after receipt of an order to change the set point unless otherwise agreed with CEB.

The controlled voltage shall not deviate from the set point by more than  $\pm 0.5\%$  of the nominal voltage. The control droop, defined as the voltage change (per unit) caused by a change in reactive power (per unit), shall be set accordingly.

When the voltage control has reached the Facility's design limits, the control function shall await possible overall control from the transformer on load tap changer or other voltage control functions.

#### **Part 10: Active Power Constraint Functions (Curtailment)**

For system security reasons it may be necessary for the CEB to curtail the Facility Active Power output. The Facility shall thus be capable of:

- (a) operating at a reduced level if active power has been curtailed by CEB for system security reasons; and
- (b) receiving a telemetered MW curtailment set-point sent from CEB.

The Facility shall be equipped with constraint functions, i.e. supplementary active power control functions. Activation of the Active Power Constraint Functions shall be agreed with CEB.

The required constraint functions are as follows:

- (a) Absolute production constraint

An Absolute Production Constraint is used to constrain the output active power from the Facility to a predefined power MW limit at the Interconnection Boundary measured at the Point of Delivery.

If the set point for the Absolute Production Constraint is to be changed, the Facility shall commence such change within two seconds and the change shall be completed no later than 30 seconds after receipt of an order to change the set point unless otherwise agreed with CEB.

The accuracy of the control performed and of the set point shall not deviate by more than  $\pm 2\%$  of the set point value or by  $\pm 0.5\%$  of the Maximum Capacity at the Point of Delivery, whichever yields the highest tolerance.

- (b) Power gradient constraint.

The Facility control system shall be capable of controlling the ramp rate of its Active Power output with a maximum MW per minute ramp rate of [*Maximum capacity at the Point of Delivery*/ 5] MW.

These ramp rate settings shall be applicable for all ranges of operation including positive ramp rate during start up, positive ramp rate only during normal operation and negative ramp rate during controlled shut down. They shall not apply to frequency regulation.

## **Schedule F: Project Completion Schedule**

### **1. Project Completion Schedule**

**1.1.** Facility Owner shall comply with the requirements set forth in this Schedule F for each of the Project Milestones. Within 15 (fifteen) days of the date of each Project Milestone, Facility Owner shall notify CEB of such compliance along with necessary particulars thereof.

### **2. Project Milestone I**

**2.1.** Facility Owner shall fulfill the Conditions Precedent specified in Clause 21.1 on or before 9 (nine) months from the date of execution of this Agreement.

### **3. Project Milestone II**

**3.1.** Facility Owner shall achieve the Construction Start no later than 11 (eleven) months from the date of execution of this Agreement.

### **4. Project Milestone III**

**4.1.** Facility Owner shall achieve Commercial Operation Date on or before 8 (eight) months after the Effective Date.

## Schedule G: Operating Procedures

### Part 1: Key Personnel List

- 1.1 Facility Owner shall notify CEB of:
  - 1.1.1 the identities of and contact details for the Plant Manager, who shall be responsible for general communications and contract management and the technical officer, who shall be responsible for technical and dispatching instructions and the maintenance of the Facility (“**Facility Owner Operator**”) at least 30 (thirty) days prior to the SCOD.
  - 1.1.2 any changes from time to time in the identities of and contact details for such persons.

### Part 2: Communications

#### 2.1 Day-to-Day Communication with Facility Owner

- 2.1.1. Facility Owner must notify CEB the identity (name, telephone number, e-mail and fax number) of the Facility Owner Operator on duty at the Facility.
- 2.1.2. Facility Owner may obtain the identity of the CEB technical officer on duty who shall be responsible for issuing dispatching instructions at the System Control Centre to Facility Owner (“**CEB Operator**”).
- 2.1.3. Notifications of the identity of each Operator shall be made through the Electronic Messaging System (EMS) referred to in Paragraph 2.1 of Part 2 of this Schedule or, if the Electronic Messaging System is unavailable, by telephone or radio.
- 2.1.4. If the Facility Owner Operator changes, the Facility Owner shall notify CEB accordingly in accordance with Paragraph 1.1 and 2.1 of this Schedule. Any instruction or communication issued by an operator to the other operator shall identify the Operator issuing the communication.
- 2.1.5. The daily communication shall be done through the EMS software. However, under any emergency conditions requiring an immediate action or response from either the Facility Owner Operator or the CEB Operator, then communication can be carried out through telephone. In cases the Electronic Messaging System is not operational; the communications shall be undertaken through telephone and mail.

- 2.1.6.** Notwithstanding the above and pursuant to Clause 2.1.5, any notice or other communication in connection with the operational matters contemplated by this Agreement shall be in writing and shall also be given to:

Principal Engineer System Control

P.O. Box 40,

Royal Road

Curepipe, Mauritius

Phone: 601 1100

Fax: 675 7958

e-mail: [ \_\_\_\_\_ ]

## **2.2 Operational Communications**

- 2.2.1** Facility Owner shall install and maintain the Electronic Messaging System and other telephony and communication equipment as is specified in Paragraphs 2.1(d) and 3.1(f) of Schedule D which shall be used for all operational communications between Facility Owner and CEB.
- 2.2.2** Facility Owner shall provide standard voice, e-mail and facsimile communications through use of the public telecommunications system. Facility Owner shall promptly inform CEB by facsimile or e-mail if the standard voice, e-mail and facsimile communications is not operating at any time.
- 2.2.3** CEB shall maintain the telemetry equipment and the circuits from the Point of Delivery to the System Control Centre, as set out in Schedule D, which shall be used for all operational communications between CEB and Facility Owner.
- 2.2.4** All information exchange and instructions pursuant to the dispatch procedures and all other operational information exchange for instance relating to system coupling or decoupling and scheduled and unscheduled shutdowns shall be made using the telephony and communication equipment as per Section 2.1(d) of Schedule D. All communications by way of the telephony and communication equipment shall take place between the Facility and the System Control Centre in accordance with the provisions of Schedule D and this Schedule G.

**2.2.5** All instructions and communications by way of the Electronic Messaging System or e-mail or facsimile shall be in English. If given by telephone or radio, instructions and communications shall be in English or French.

**2.2.6** The costs of maintaining and operating the telephony and communication equipment and the Electronic Messaging System required to be obtained by Facility Owner pursuant to Paragraph 2.1 of this Schedule in the Facility shall be borne by Facility Owner.

### **Part 3: Dispatch Procedures**

#### **3.1 Introduction**

The objective of these procedures is to:

**3.1.1** enable CEB to issue Dispatch Instructions to Facility Owner to ensure (as far as possible) the reliability and integrity of the CEB System and the security and quality of supply to consumers; and

**3.1.2** provide Facility Owner with sufficient certainty to enable Facility Owner to comply with its obligations under Section 10.4 in relation to Dispatch Instructions from CEB in accordance with the Guaranteed Operating Characteristics.

#### **3.2 Facility Owner Weekly, Daily and half hourly forecast**

**3.2.1** Facility Owner shall submit in writing by facsimile or e-mail to CEB in respect of the Facility by 16:00 hours each Monday, the One Week Ahead Production Forecast in MW which will run from 00:00 hours on the next following Tuesday to 24:00 Hours on the following Monday. This schedule shall describe the availability of each Inverter installed in the Facility during the period specified and the production forecast at every interval of 30 minutes.

**3.2.2** Facility Owner shall at 17:00 hours on the previous day, submit to CEB the One Day Ahead Production Forecast in MW of the Facility the following day for every interval of 30 minutes.

**3.2.3** Facility Owner shall at every interval of 30 minutes, submit to CEB the Revised Forecast in MW of the Facility.

### **3.3 Dispatch**

#### **3.3.1 Dispatch Instructions**

Dispatch Instructions:

- (a) shall be issued in respect of the Facility;
- (b) will be issued directly to the Facility Owner Operator in accordance with Paragraph 3.3.2 of this Part 3; and
- (c) subject to Paragraph 3.3.1(a) above of this Part 3, must be consistent with Facility Owner's Revised Forecast or the One Day Ahead Production Forecast or the One Week Ahead Production Forecast for the Facility and the Guaranteed Operating Characteristics.

#### **3.3.2 Scope of Instructions**

Dispatch Instructions may include:

- a) the power factor which will be maintained by the Facility at a set point given by CEB in accordance with the Guaranteed Operating Characteristics. The Facility Owner may take such action as is reasonably necessary to maintain the integrity of the Facility or to avoid injury to personnel or damage to plant;
- b) a reference to any implications for future dispatch requirements and the security of the CEB System;
- c) an instruction to switch into or out of service the Facility or an Inverter Unit(s) installed in the Facility; and
- d) notice and changes in notice to synchronise the Facility to the CEB System;

#### **3.3.3 Implementation of Dispatch Instructions by Facility Owner**

- a) Subject to Paragraph 3.3.3 (b) of this Part 3, Facility Owner shall comply with each Dispatch Instruction properly given by CEB in accordance with the Dispatch Instruction.
- b) Subject to the exception set out below in this Paragraph 3.3.3(b) and in Paragraph 3.3.5 of this Part 3, Facility Owner shall only couple or decouple the Facility pursuant to a Dispatch Instruction of CEB, for a Planned Outage or where it occurs automatically as a result of inter-trip schemes or low frequency relay operations. Decoupling may take place without CEB's prior agreement if it is done purely on safety grounds (relating to personnel or plant or

apparatus), provided that Facility Owner notifies CEB as soon as reasonably practicable thereafter that such decoupling has taken place by the Electronic Messaging System (or, if the Electronic Messaging System is unavailable, by telephone or radio, such notification to be confirmed by facsimile as soon as reasonably practicable)

#### **3.3.4** *Facility Changes*

- a) Facility Owner shall, without delay, notify CEB through the Electronic Messaging System (or, if the Electronic Messaging System is unavailable, by telephone or radio, such notification to be confirmed by facsimile or e-mail as soon as reasonably practicable) of any change or loss (temporary or otherwise) to the operational capability, including any changes to the Guaranteed Operating Characteristics, of the Facility, indicating the magnitude and the duration of the change.

#### **3.3.5** *Actions required by Facility Owner in Response to Changes in Frequency*

- a) If the CEB System frequency falls below 47.0 Hz, the inverters shall be disconnected from the CEB System after 0.5 sec.
- b) If the CEB System frequency is above 52.0 Hz the inverters shall be disconnected from the CEB System after 0.5 sec
- c) In the event of occurrence of circumstances specified in Paragraph 3.3.5 (b) of this Part 3, Facility Owner may take such action as is reasonably necessary to maintain the integrity of the Facility or to avoid injury to personnel or damage to plant.

### **3.4 Start and Stop Criteria**

- a) During the PV farm start-up, the Facility Owner Operator shall ensure that the reactive drawl shall not affect the grid performance as per Paragraph 2.1(a) of Schedule D.
- b) Facility Owner Operator and/or Facility automatic system shall ensure that the start-up and stopping of the inverters comply with the voltage quality requirements.
- c) During startup and shutdown, the Facility shall comply with the ramp rate at the Point of Delivery set forth in Schedule E.
- d) The Facility Start up and disconnection procedures shall need to be described in a separate document to be prepared by the Independent Engineer, after consultation from both CEB and Facility Owner.

### **3.5 Reactive Power and Voltage Control**

- a) The Reactive Power and Voltage Control of the Facility shall be in accordance with Schedule E.
- b) In line with Schedule E, the Facility shall be designed to supply power (MW) for power factors ranging between 0.9 lagging and 0.9 leading, available as from 20% form rated power, measured at the Point of Delivery. The Facility shall be equipped with reactive power control functions capable of controlling the reactive power supplied by the Facility at the POD as well as voltage control function capable of controlling the voltage at the POD via orders using set points and gradients. The reactive power and voltage control functions shall be mutually exclusive, which means that only one of the three functions mentioned below shall be activated at a time:
  - (i) Voltage Control
  - (ii) Power Factor Control
  - (iii) Reactive Power Control

Initially the Facility shall operate the Reactive Power function in reactive power control mode with a set-point of 2MVAR. Facility Owner shall not change the functional mode and set-point of the Facility unless instructed by CEB.

## **Part 4: Outage Scheduling**

### **4. Required Disconnection**

#### **4.1 Requirements on the Facility Owner to Effect Disconnection**

**4.1.1** Facility Owner shall open any electrical connection which it owns and operates between the Facility and the Interconnection Boundary if and when requested by CEB for any of the following reasons:

- a) to facilitate maintenance or repair of any of CEB's plant, apparatus or assets to the extent such maintenance or repairs and the requested interruptions are necessary as determined by CEB in the exercise of its reasonable engineering judgement provided that CEB diligently proceeds with the said repairs or maintenance;

- b) an Emergency exists on the CEB System which requires such open connection as determined solely by CEB in the exercise of its engineering judgement, and CEB diligently proceeds to correct or remedy the Emergency to such extent as is reasonable;
- c) inspection or testing of the Facility Owner's generating equipment and/or plant and/or protective equipment reveals a hazardous condition, which requires the immediate opening of a connection as reasonably determined by CEB in the exercise of its engineering judgement;
- d) Facility Owner's plant, apparatus or assets are operating in a hazardous manner or operating such that they are materially interfering with the operation of the CEB System or are affecting CEB System integrity or security to the extent that the immediate opening of the connection is required, as determined by CEB in the reasonable exercise of its engineering judgement, to restore or maintain CEB System integrity or security;
- e) the Facility interfering with the operation of the CEB System or affecting CEB System integrity or security, as determined by CEB in its reasonable exercise of its engineering judgement and operating outside the Guaranteed Operating Characteristics set forth in Schedule E; or
- f) upon termination of this Agreement by either Party in accordance with Article 19, as the case may be.

**4.1.2** In the circumstances specified in Paragraphs 4.1.1(c), 4.1.1(d) and 4.1.1 (e) of this Part 4, and provided that the conditions referred to therein are not caused by circumstances attributable to CEB or the CEB System, the Facility shall not be available for the purposes of this Agreement and Facility Owner shall declare the Reported Availability accordingly by issuing a Notice of Revised Availability. In the circumstances specified in Paragraphs 4.1.1(a) and 4.1.1(b) of this Part 4, Facility Owner shall declare the Reported Availability without regard to such circumstances by issuing a Notice of Revised Availability, provided that for the purposes of Paragraph 4.1.1(c) of this Part 4 and Clause 24 **Error! Reference source not found.** only, Facility Owner's Reported Availability and the Facility Forecast shall be deemed to be 0 MW.

## **4.2 Notice of Disconnection to be given by CEB**

While reasonable efforts will be made to provide as much prior notice as is practicable, CEB reserves the right to require opening of the electrical connection or to open the connection itself without prior notice for any

reason specified in Paragraphs 4.1.1(b) to 4.1.1(e) of this Part 4 provided that CEB subsequently shows that it was reasonable to require or make such opening of the connection without prior notice. Where prior notice is not given, CEB will promptly notify Facility Owner of all openings of the electrical connections. All openings of electrical connections shall (unless otherwise required in emergency circumstances) be made in accordance with the Guaranteed Operating Characteristics of the Facility. CEB's compliance with or breach of the provisions of this Paragraph 4.2 shall be determined by reference to the circumstances known or which should reasonably have been known to CEB's dispatchers or other operating personnel in the System Control Centre acting in accordance with practices commonly adopted by CEB for private generators at the time an immediate disconnection was ordered.

### **4.3 Notice of Unscheduled Disconnections and Outages**

Facility Owner shall likewise exercise all reasonable efforts to provide prior notice to CEB of all unscheduled openings of the interconnection with the CEB System and all unscheduled complete or partial outages of the Facility and, where prior notice is not given, shall promptly notify CEB of all such openings of the interconnection and all such partial or complete outages of the Facility. Once the cause requiring the opening of the electrical interconnection has been removed, then the Parties will co-operate promptly to close the electrical interconnection between the Facility and the Interconnection Boundary.

### **4.4 Requirements on CEB to Effect Disconnection**

**4.4.1** CEB shall open any electrical interconnection which it owns and operates between the CEB System and the Interconnection Boundary if and when requested by Facility Owner for any of the following reasons:

- a) to facilitate maintenance or repair of any of Facility Owner's plant, apparatus or assets to the extent such maintenance or repairs and the requested interruptions are necessary as determined by Facility Owner in the exercise of its reasonable engineering judgement provided that Facility Owner diligently proceeds with the said repairs or maintenance; or
- b) an emergency exists at the Facility which requires such open interconnection as determined solely by Facility Owner in the exercise of its engineering judgement, and Facility Owner diligently proceeds to correct or remedy the emergency to such extent as is reasonable; or
- c) inspection or testing of the CEB System reveals a hazardous condition, which requires the immediate opening of an

interconnection as reasonably determined by Facility Owner in the exercise of its engineering judgement;

- d) the Facility interfering with the operation of the CEB System or affecting CEB System integrity or security, as determined by CEB in the reasonable exercise of its engineering judgement and operating outside the Guaranteed Operating Characteristics set forth in Schedule E; or
- e) conditions on the CEB System are such that they are interfering with the operation of the Facility or are affecting system integrity or security to the extent that the immediate opening of the connection is required, as determined by Facility Owner in the reasonable exercise of its engineering judgement. Facility Owner's right to disconnect under the present sub-article is only allowed for situations where conditions at the POD are outside the Guaranteed Operating Characteristics.

**4.4.2** In the circumstances specified in Paragraphs 4.4.1(a) and 4.4.1(b) of this Part 4, and provided that the conditions referred to therein are not caused by circumstances attributable to CEB or the CEB System, the Facility shall not be available for the purposes of this Agreement and Facility Owner shall declare the Reported Availability of the Facility accordingly by issuing a Notice of Revised Availability. In the circumstances specified in Paragraphs 4.4.1(c) to 4.4.1(e) of this Part 4, Facility Owner shall declare the Reported Availability without regard to such circumstances provided that for the purposes of Paragraph 4.4.1(b) of this Part 4 and Clause 24 only, Facility Owner's Reported Availability and the Facility Forecast shall be deemed to be 0 MW.

#### **4.5 Notice of Disconnection to be Given by Facility Owner**

While reasonable efforts will be made to provide as much prior notice as is practicable, Facility Owner reserves the right to require opening of any electrical interconnection or to open the interconnection itself without prior notice for any reason specified in Paragraphs 4.4.1(b) to 4.4.1(e) of this Part 4 provided that Facility Owner subsequently shows that it was reasonable to require or make such opening of the interconnection without prior notice. Where prior notice is not given, Facility Owner shall promptly notify CEB of all openings of the electrical interconnections. Facility Owner's compliance with or breach of the provisions of this Paragraph 4.5 shall be determined by reference to the circumstances and operating records that led to disconnection.

#### **Part 5: Clearing and Switching Procedures**

Facility Owner shall ensure that its employees and contractors comply with the prevailing safety procedures (including in relation to clearing, switching, isolation, testing, earthing and work permits) of CEB, applicable to the CEB System and CEB's

substations, premises, facilities and other equipment as may be notified to Facility Owner by CEB from time to time.

## **Part 6: Measurement and Reporting**

### **6. Operating Records**

- 6.1** Each Party shall keep complete and accurate Operating Records and all other data necessary for the purposes of the proper administration of this Agreement, including such records as may be required by local or public sector entities or national regulatory authorities.
- 6.2** Facility Owner shall maintain:
  - 6.2.1** an accurate and up-to-date operating log, in electronic format, at the Facility with records of real and reactive power production for 15 (fifteen) minutes interval of each unit; and total Energy generated and exported by the Facility for every 15 (fifteen) minutes interval; change in operating status and any unusual conditions found during inspections;
  - 6.2.2** Accurate and up-to-date logs of dispatched and scheduled energy; and
  - 6.2.3** Hourly metering information.
- 6.3** Commencing on each Month following the Month in which Commercial Operation Date occurs, by the 10<sup>th</sup> Day of each Month, Facility Owner shall submit to CEB, in electronic format, a copy of the Operating Records for the previous Month.
- 6.4** All Operating Records shall be maintained by Facility Owner with back-up copies made in accordance with Good Utility Practice.

## **Part 7: Operation in Emergencies**

- 1. CEB may issue a Dispatch Instruction during an Emergency. Each Dispatch Instruction shall state that an Emergency is anticipated or subsists at the time of its issue.
- 2. Except in case of immediate danger for its Facility or its Personnel, Facility Owner shall comply with any Dispatch Instruction issued during an Emergency.
- 3. As far as possible, Facility Owner shall inform CEB prior to emergency disconnection.

## **Part 8: Curtail Instruction**

Curtail instructions shall be issued by CEB to Facility Owner, in accordance with the Guaranteed Operating Characteristics set forth in Schedule E, to ensure security of the CEB System and shall include the following instructions:

1. The CEB Operator shall send a formal request through the Electronic Messaging System to the Facility Owner Operator for a curtailment instruction. The curtailment instruction shall include the reason why curtailment is being requested, the duration of the curtailment period and the set points of the active and reactive power (or power factor) to be kept during the period of curtailment.
2. The Facility Owner Operator shall forthwith acknowledge the formal request of CEB and confirm the curtailment instructions.
3. In the event that Facility Owner does not comply with the Curtailment Instruction with 30 (thirty) seconds of the issued of such instruction, the CEB Operator shall disconnect the operation of the Facility at the Point of Delivery.
4. When the Curtailment Instruction shall have cease, the CEB Operator shall send a message through the EMS to the Facility and specify the stop of the curtailment instruction. The Facility Owner Operator shall acknowledge the stop of the Curtailment Instruction on the EMS. The Facility Owner Operator shall then take necessary actions to remove the curtailment from the Facility.

## **Part 9: Modifications**

This Schedule may be amended or supplemented according to Clause 10.4 of this Agreement.

## **Part 10: Data Storage**

Facility Owner shall keep records of the operating records as specified in Clause 6 of this Agreement.

## Schedule H: Testing and Commissioning of Facility

### Part 1: Introduction

Upon submission of a copy of the manufacturer's testing and commissioning procedures, the Independent Engineer shall propose and finalize appropriate testing and pre-commissioning procedures and plans as per applicable standards for the Facility with CEB and Facility Owner at least 3 (three) months prior to the Scheduled Commercial Operation Date of the Facility.

All tests of the Facility shall be performed by Facility Owner under the supervision of an Independent Engineer and CEB. The Independent Engineer, as the case may be, shall certify the test and results and confirm that the installation is compliant to the requirements of this ESPA.

### Part 2: Pre-commissioning Tests

The Pre-commissioning Tests shall include, inter alia, the following:

1. Earthing continuity of array frame to earth and connection to main earthing terminal;
2. Polarity of each module string;
3. PV string Open-circuit voltage ( $V_{oc}$ ) Test;
4. PV Short-circuit current ( $I_{sc}$ ) Test;
5. PV array insulation Test;
6. Operational Test-PV string current;
7. Functional Test;
8. Insulation resistance testing; and
9. Performance verifications

### Part 2: Commissioning Tests

Commissioning Tests are required in order to demonstrate that the electrical system is safe and ready for operation. The Commissioning Tests shall be performed based on the manufacturer's standard commissioning procedures, as mentioned in the manufacturer's commission checklist of the Facility. The Commissioning Tests for the electrical system shall include the following:

- (i) Demonstration of satisfactory operation of power and weather measurement equipment;
- (ii) Function tests of the relay protection and verification of settings;
- (iii) Demonstration of satisfactory operation of control equipment;
- (iv) Demonstration of satisfactory operation of 22 kV the internal electrical network of the Facility;
- (v) Demonstration of satisfactory operation of the Step-Up Transformer and its associated protections
- (vi) 24 hours voltage test on the 66kV cables;

- (vii) Reactive Power Capability;
- (viii) Power Quality Test as per IEC 61400-21;
- (ix) Anti-islanding Protection test;
- (x) Ramp Rate (Start-up and Shut-down) test
- (xi) Demonstration of satisfactory operation of the curtailment function;
- (xii) Demonstration of satisfactory operation of power limiters for ensuring maximum export capacity of [...] (to insert after finalization) MW<sub>ac</sub> at POD and
- (xiii) any other test found deemed necessary by the Independent Engineer.

### **Part 3: Power Quality**

Facility Owner shall perform Power Quality Test to confirm compliance of the requirements and recommendations contained in the standards specified in Schedules C, D and E and in any other applicable international standards. The tests and results of power quality shall be certified by the Independent Engineer or accredited testing institute.

## Schedule I: Insurance Coverage

### Part 1: Construction Insurance

Type of Insurance	Minimum Limits of Coverage
Contractors All Risks	<p><b>Cover:</b> The contract works executed and in the course of execution, materials and temporary works while on the Site, against physical loss or damage.</p> <p><b>Sum Insured:</b> [.....] MUR</p> <p><b>Insured:</b> Facility Owner, CEB Representatives, The Finance Parties and Facility Owner's Contractors</p>
Third Party Liability	<p><b>Cover:</b> Against legal liability to third parties for bodily injury or damage arising from construction, testing and commissioning of the Facility.</p> <p><b>Sum Insured:</b> For any one occurrence and any one period of occurrence [.....] MUR</p> <p><b>Insured:</b> Facility Owner, CEB Representatives, The Finance Parties and Facility Owner's Contractors</p>
Miscellaneous	Other Insurance required to comply with the Laws including Third Party Motor Insurances, Employer's Liability (cover to include any liability under civil law)

## Part 2: Operational Insurance

Type of Insurance	Minimum Limits of Coverage
Fire & Allied Perils	<p><b>Cover:</b> All buildings, contents, machinery, equipment, stock, fixtures, fittings and all other personal property forming part of the Project against “all risks” of physical loss or damage.</p> <p><b>Sum Insured:</b> [.....] MUR</p> <p><b>Insured:</b> Facility Owner, CEB Representatives and Facility Owner’s Contractors</p>
Public Liability	<p><b>Cover:</b> Against legal liability to third parties for bodily injury/property damage arising from ownership, maintenance and operation of the Facility.</p> <p><b>Sum Insured:</b> [.....] MUR</p> <p><b>Insured:</b> Facility Owner, CEB Representatives and Facility Owner’s Contractors</p>
Machinery Breakdown	<p><b>Cover:</b> All machinery, plant, and ancillary equipment forming part of the Project against sudden and unforeseen physical loss or damage arising from mechanical and electrical breakdown or derangement, explosion or collapse of pressure vessels.</p> <p><b>Sum Insured:</b> [.....] MUR</p> <p><b>Insured:</b> Facility Owner, CEB Representatives and Facility Owner’s Contractors</p>
Miscellaneous	<p>Other Insurance required to comply with the Laws including Third Party Motor Insurances, Employer’s Liability (cover to include any liability under civil law)</p>

## Schedule J: Examples of Calculation of Forecasting Penalties

### Example 1

Revised Forecast for 11 hrs	10.0	MW <sub>ac</sub>
Metered output for 11 hrs	9.5	MW <sub>ac</sub>
Forecast Tolerance	10 +/- 10%	MW <sub>ac</sub>
	9.0 – 11.0	MW <sub>ac</sub>

Since the metered output of the Facility is within the Forecast Tolerance, no penalty shall be applicable.

### Example 2

Revised Forecast for 09 hrs	8.0	MW <sub>ac</sub>
Metered output for 09 hrs	6.0	MW <sub>ac</sub>
Forecast Tolerance	8 +/- 10%	MW <sub>ac</sub>
	7.2 – 8.8	MW <sub>ac</sub>

Since the metered output of the Facility is outside the Forecast Tolerance, the Forecasting Penalty shall be calculated as follows:

$$P_A = 0.15 \times \left(\frac{30}{60}\right) \times [(7.2 - 6.0)] \times 1000]$$

### Example 3

Revised Forecast for 14hrs	5.0	MW <sub>ac</sub>
Metered output for 14hrs	6.2	MW <sub>ac</sub>
Forecast Tolerance	5 +/- 10%	MW <sub>ac</sub>
	4.5-5.5	MW <sub>ac</sub>

Since the metered output of the Facility is outside the Forecast Tolerance, the Forecasting Penalty shall be calculated as follows:

$$P_A = 0.15 \times \left(\frac{30}{60}\right) \times [(6.2 - 5.5)] \times 1000]$$

## Schedule K: Metering

### 1.1. Metering

**1.1.1.** CEB shall install a main electric metering device (“**CEB Main Meter**”) and a back-up electric metering device (“**CEB Back-up Meter**”) and the **Production Meter** (as applicable).

**1.1.2.** The CEB Meters shall be:

- (a) installed at the Point of Delivery on or before the Scheduled Commercial Operation Date, owned, operated and maintained by CEB;
- (b) used to measure the electrical energy delivered to CEB by Facility Owner and Import Energy made available to Facility Owner by CEB at the Point of Delivery;
- (c) secured in a locked enclosure; and
- (d) sealed and only CEB shall break the seal when such CEB Meter is to be inspected and tested or adjusted in accordance with Clauses 1.1.4 and 1.2.

**1.1.3.** Facility Owner may install on or before the Scheduled Commercial Operation Date, own and maintain, at its own expense, backup electric metering device (“**Facility Owner Back-Up Meter**”) in addition to the CEB Meters, which installation and maintenance shall be performed in a manner reasonably acceptable to CEB. The Facility Owner Back-Up Meter, if installed, shall be capable of recording both the export of electrical energy from the Facility and the import of electrical energy by the Point of Delivery. Facility Owner’s metering system shall be totally separate from the CEB Meters.

**1.1.4.** CEB, at its own expense, shall check the correctness of each CEB Meter by performing a load test not later than the earlier of the following:

- (a) 30 (thirty) Days after the CEB Meters are installed by CEB; or
- (b) the Day before the date of first delivery at the Point of Delivery of any Net Energy from the Facility.

CEB, at its own expense, shall inspect each the CEB Meter upon installation and at least once every year thereafter. CEB shall check the certification of the CEB Meters through an accuracy test at least once every 4 (four) years thereafter or at any time the readings of Net Energy from the CEB Meter and the Facility Owner Back-up Meter (if applicable) differ by an amount greater than 0.5% (one-half of one per cent) in accordance with the procedures mutually agreed by the Parties thereafter. CEB shall provide to Facility Owner with reasonable advance notice of, and permit representatives of Facility Owner to witness and verify, such inspections and tests,

provided, however, that Facility Owner shall not unreasonably interfere with or disrupt the activities of CEB and shall comply with all of CEB's safety standards.

**1.1.5.** Facility Owner, at its own expense, shall inspect the Facility Owner Back-Up Meter (if applicable) upon installation and at least once every year thereafter. Facility Owner shall check the certification of the Facility Owner Back-up Meter (if applicable) through an accuracy test at least once every 4 (four) years, or at any time the readings of Net Energy from the Facility Owner Back-up Meter (if applicable) and the CEB Meters differ by an amount greater than 0.5% (one half of one percent) in accordance with the procedures mutually agreed by the Parties. The Facility Owner Back-up Meter (if applicable) shall be sealed in the presence of CEB and Facility Owner and only CEB shall break the seal when the Facility Owner Back-up Meter (if applicable) is to be inspected, tested or calibrated or recalibrated in accordance with this Clause 1.1.5 and Clause 1.2.1.

## **1.2. Inspection and Calibration**

**1.2.1.** If a CEB Meter or the Facility Owner Back-up Meter (if applicable) is found to be defective or inaccurate, it shall be promptly adjusted, repaired, replaced, and/or recalibrated as near as practicable to a condition of zero error by CEB or Facility Owner, respectively, at its own expense. If Facility Owner believes that either the CEB Meter is inaccurate it shall inform CEB accordingly, requesting that the relevant CEB Meter's accuracy be tested, and CEB shall test the relevant CEB Meter within a reasonable time in the presence of Facility Owner's representative. Facility Owner shall bear the cost of such test requested if the relevant CEB Meter is not found to be defective on testing.

**1.2.2.** If a CEB Main Meter fails to register or if the measurement made by a CEB Main Meter is found upon testing to be inaccurate by more than 0.5% (one half of one per cent), an adjustment shall be made correcting all measurements by the inaccurate or defective CEB Main Meter for both the amount of the inaccuracy and the period of the inaccuracy, in the manner set forth in Clauses 1.3 and 1.4.

## **1.3. Procedure in the Event of Defective Meter**

**1.3.1.** In the event that the CEB Main Meter is found to be defective or inaccurate by more than 0.5% (one half of one percent) with respect to the Facility Owner Back-up Meter (if applicable) the Parties shall use the CEB Back-Up Meter for the purpose of the Agreement as from the later of:

- (a) the date on which the Parties accepted the meter readings; and
- (b) the date on which the Party were informed of the inaccuracy in writing,

up to the point when the CEB Main Meter has been removed, tested, replaced (if found to be inaccurate), reinstalled and functioning properly at the Point of Delivery provided that the CEB Back-up Meter has been tested or maintained in accordance with the provisions of Clause 1 of this schedule, failing which resort shall be made to Clause 1.3.2 or Clause 1.3.3, as the case may be.

**1.3.2.** In the event that the CEB Main Meter and the CEB Back-up Meter are both found to be defective or inaccurate by more than 0.5% (one half of one per cent) with respect to the Facility Owner Back-Up Meter (if applicable), the Parties shall use the Facility Owner Back-Up Meter (if applicable) for the purpose of this Agreement as from the later of:

- (a) the date on which the Parties accepted the meter readings; and
- (b) the date on which the Party were informed of the inaccuracy in writing, up to the point when the CEB Main Meter and CEB Back-up Meter have been removed, tested, replaced (if found to be inaccurate), reinstalled and functioning properly at the Point of Delivery, provided that the Facility Owner Back-up Meter (if applicable) has been tested or maintained in accordance with the provisions of Clause 1 of this schedule, failing which resort shall be made to Clause 1.3.3 of this schedule.

**1.3.3.** In the event that the CEB Main Meter, the CEB Back-up Meter and the Facility Owner Back-Up Meter (if applicable) are found to be defective or inaccurate by more than 0.5%(one half of one per cent), or have not been tested or maintained in accordance with Clause 1 of this schedule, CEB shall install a temporary CEB Meter at the Point of Delivery for the purpose of this Agreement. The temporary CEB Meter shall be used for the purpose of this Agreement as from the later of:

- (a) the date on which the Parties accepted the meter readings; and
- (b) the date on which the Party were informed of the inaccuracy in writing, up to the point when the CEB Main Meter, the CEB Back-up Meter and the Facility Owner Back Meter (if applicable) have been removed, tested, replaced (if found to be inaccurate), reinstalled and functioning properly at the Point of Delivery.

**1.4.** In the event that the Parties cannot agree pursuant to Clause 1.3 of this schedule on the actual period during which the inaccurate measurements were made, the period during which the measurements are to be adjusted shall be the shorter of:

- (a) the previous date on which CEB and Facility Owner accepted the meter readings to the test that found the CEB Meters and the Facility Owner Back-up Meter (if applicable) to be defective or inaccurate;
- (b) the last half of the period from the last previous test of the CEB Main Meter to the test that found the CEB Main Meter to be defective or inaccurate; and
- (c) the 90 (ninety)-Day period immediately preceding the test that found the CEB Main

Meter to be defective or inaccurate.

**1.5.** To the extent that the adjustment period covers a period of deliveries, CEB shall use the corrected measurements as determined in accordance with Clause 1.3 of this schedule to recompute the amount due for the period of the inaccuracy and CEB shall subtract this difference from previous months pertaining for this period from such recomputed amount. If the difference between the recomputed value and the value agreed previously is a:

- (a) positive number, the difference shall be paid by CEB to Facility Owner; and
- (b) negative number, the difference shall be paid by Facility Owner to CEB (ignoring the negative value).

**1.6.** The Parties acknowledge that the CEB Meters and the Facility Owner Back-up Meter (if applicable) shall be configured to measure output at 5 (five) minute intervals at the Point of Delivery, by reference to the average output of the Facility over the preceding 30 (thirty) minutes. The CEB Meters and the Facility Owner Back-up Meter (if applicable) internal clocks shall be synchronised with the GPS clock at least once every month or at any time the readings of the clock of each Meter differ by an amount greater than 1 (one) minute with the GPS time.