# Individual/Service centre O&M agreement • Template

**OPERATION AND MAINTENANCE**

**CONTRACT AGREEMENT FOR** *[capacity]* **kWP**

**SOLAR MINI-GRID SYSTEM**

***[Legal name of the individual/service centre]*** (hereafter referred to as company or service provider), having its residence/office at ***[Location of individual/service centre]*** hereby places a contract agreement with ***[Legal company name of client]*** (hereafter referred to as the client) for operation and maintenance contract of solar mini-grid system.

This operation and maintenance agreement (this “Agreement”) is entered into as ***[Date]*** ***[dd/mm/yyyy]*** (the “effective date”) between ***[Individual/Service centre]*** and ***[Client name]***.***[Client name]*** hereby engages ***[Individual/Service centre]***, and ***[Individual/Service centre]*** hereby accepts such engagement, to perform certain in accordance with the terms and conditions set forth below.

# Maintenance site

***[Site location of the solar mini-grid project]***

# Term

The term of this agreement begins on the commencement date for each system and ends ***[Years]*** after the commencement date for each system unless terminated in accordance with the provisions hereof. This agreement may be extended or renewed only upon mutual written agreement of the parties.

# Scope of services

The scope of the services includes the operation and maintenance of the solar mini-grid system installed. Following shall be the general services provided by the ***[Individual/Service centre name]*** under the heading of operation and maintenance service.

1. General check-up of solar mini-grid system
2. Attend to complaints of the client under the scope of this operation and maintenance
3. Check electrical parameters such as voltage, current, and frequency as needed
4. To check the status of the battery which includes refilling of distilled water as per requirement by technicians, except in the case of VRLA batteries
5. A report of scheduled operation maintenance shall be submitted to the client and proper records shall be maintained at the client’s premises

# Terms and conditions

On the terms and conditions outlined in this agreement, the customer elects to receive, and ***[Name of individual/service centre]*** agrees to provide, system services at the level indicated below:

**Check one to indicate the system services provided by *[Name of individual/service centre]***

|  |  |  |  |
| --- | --- | --- | --- |
| **System service** | **Performance monitoring** | | |
| **Yes** | **No** | **Custom** |
| Customer technical support |  |  |  |
| Performance monitoring |  |  |  |
| Annual reports |  |  |  |
| Preventive maintenance, inspection and testing |  |  |  |
| Performance review |  |  |  |
| Corrective maintenance |  |  |  |
| Major maintenance |  |  |  |
| Module cleaning |  |  |  |
| Energy billing settlement |  |  |  |

## Customer technical support

Detailed technical support will be provided by the individual/service centre for the issues arising at the project site. The service provider shall be required to arrange the entire skilled, semi-skilled, and unskilled manpower required for the smooth operation of the system.

## Performance monitoring

The online monitoring shall be updated every hour to monitor the operational and environmental performance of the solar power system. All site data shall be downloaded to the customer’s computer in Excel format.

## Performance report

Actual vs. expected performance of the system on both a monthly and annual basis with a comparison of performance to a typical weather year. Annual operation and maintenance records will be provided to the customer upon request.

## Preventive maintenance, inspection and testing

* + Array
    - Inspect PV Modules for damage, discoloration or de-lamination
    - Inspect the mounting system for damage or corrosion
  + Inverters
    - Clean all filters and fans
    - Inspect the inverter pad and container
    - All other preventive maintenance is required by OEM warranty.
  + Electrical Balance of Systems
    - Inspect ground braids, electrodes, and conductors for damage.
    - Perform thermo-graphic (if available only) analysis of combiner boxes, inverters, transformers, and conductor connections to buses, breakers, or disconnects
  + Meteorological Station
    - Inspect weather measurement equipment for damage
    - Clean pyranometers and reference cells, if any
  + Site Conditions
    - Inspect drainage conditions
    - Inspect vegetation for array shading or fire hazards
    - Inspect safety conditions and proper signage
  + Maintenance Reporting
    - Record results of all inspections
    - Take photographs of any damage or defects identified
    - Inform owner and warranty providers of all deficiencies identified
    - Provide the customer with corrective action plans.

## Performance review

* + Review the following system performance data with a ***[Name of individual/service centre]*** performance engineer and provide a corrective action plan where applicable.
    - Expected vs actual system production(kWh)
    - System availability
    - Recoverable degradation
    - Performance index
    - Operation and maintenance records
    - Safety, accidents and environmental reporting

## Corrective maintenance includes

* + On-site troubleshooting and diagnostics of all system components
  + Inverter and data acquisition system resets
  + Processing of OEM warranty claims on behalf of customer and verification of replaced equipment

## Major maintenance

* + Full-scope repair and replacement of equipment components
  + Transport the equipment from the site to the maintenance centre for repair and re-transport it back to the site after repair
  + Arrange temporary replacement equipment with no any down time of the system for the smooth operation of the system

Unless this major maintenance is agreed upon by the replacement cost of the equipment in a written agreement, customers shall be responsible for any replacement costs or material costs incurred by the individual/service centre after the major maintenance term expires.

## Module cleaning

* + Surface washing of all modules
  + Pressure washer settings not to exceed the standard PSI
  + Before and after photographs will be provided
* Energy billing and settlement
  + - ***[Name of individual/service centre]*** will calculate energy billing as per the project operational arrangements and send a summary to the customer for their feedback.

The following non-exhaustive list of services is not included in the system services:

1. On-site spare parts inventory
2. System training
3. Engineering service
4. Security services

## Duty hours

1. Both electrical technicians shall visit and attend their duty ***[daily/weekly/monthly/quarterly]*** to provide the services to the client.
2. On request from the customer, ***[Name of individual/service centre]*** shall provide the technician(s) at the earliest possible time.
3. The customer shall provide a notice in advance to request technicians from the service centre during off hours, weekends, and holidays for additional services. The client shall pay Rs. ***[Amount]*** per visit to the company for the additional services.

## Period of service

The *[****Name of individual/Service centre]*** shall provide services to the customer for a period of *[year]* year, countable from the date of signing this operation and maintenance contract agreement on behalf of both the company and the client. The period of service can be extended later based on mutual agreement.

## Contract price

The cost of the operation and maintenance agreement will be Rs. ***[Amount]*** per month, payable by the customer to ***[Name of individual/service centre]***.

## VAT is included in the above amount.

## Working conditions

Deputed manpower shall adequately cover personal accident and medical insurance by the ***[Name of individual/service centre]*** at its cost. This agreement shall not account for any sort of leave for the supplied manpower.

## Contract responsibility

Any conflict, dispute, or discrepancy of intention between the***[Name of individual/service centre]*** and the client shall be settled amicably.

We hereby accept and agree with the terms and conditions mentioned here in this contract agreement.

|  |  |
| --- | --- |
| On behalf of the customer  Date:  Signature: | On behalf of the company/individual  Date:  Signature: |