

SCOPE OF WORK FOR OPERATIONS & MAINTENANCE FOR SOLAR PV POWER PLANTS

A. Services:

1. **Cleaning** - Periodic cleaning of the modules shall be conducted, as per provided schedules and SOP. Minimum 24 Cycles / Year is considered. Any cleaning over and above 24 cycles shall be payable separately by the Client.
2. **Vegetation:** Periodic clearing of all vegetation of plant as per site requirement. All tools required for vegetation control like, grass cutting tools, PPE's, tools, and tackles shall be part of the scope of Intello Team.
3. **Preventive maintenance-** Preventive maintenance consists of the performance of the scheduled maintenance of PV equipment's as per below table and the checks shall be done in accordance with the attached check sheet.

Equipment	Frequency
PV Module	Semi Annually (2 times a year)
SMCB	Semi Annually (2 times a year)
Inverters	Semi Annually (2 times a year)
AC Combiner Box & LT Panel	Semi-Annually (2 times a year)
DC / AC Cables	Semi-Annually (2 times a year)
Structure	Annually (1 time a year)
Sensors, UPS & Loggers	Semi Annually (2 times a year)
Earth Pits	Semi Annually (2 times a year)
MCS	Semi Annually (2 times a year)
Fire Extinguishers refilling	Annually (1 time a year)

4. The Intello Team's representative shall be present and coordinate during all internal & external audits and/or visits, if any.
5. Dedicated technician (Electrical degree holder with min 2 years of experience in Solar field and shall have knowledge of HT maintenance) shall be available for all ground mount plants mentioned in the plant list.

B. Tools, Tackles & PPE's

1. All required Tools & Tackles with PPE Kits shall be provided by the Intello Team to all its cleaning and technical staff- as per the list below:

S.N.	Items per Kit
1	Bag pack
2	Safety Reflector Jacket
3	Safety harness (5Mtrs) with safety Belt
4	Helmet
5	Electrical Gloves 1100V
6	Clamp Meter AC/DC 1000V
7	Plier
8	Wire Cutter /Stripper
9	Crimping Tool
10	PV Tape Set
11	Screw Driver Set
12	Allen Key Set

13	Line Tester
14	Air Blower
15	Cleaning cloth
16	First Aid Kit
17	Cleaning brush (Telescopic brush) with flexible hose pipes 19mm (30Mtrs)

C. Spares & Consumables:

1. All spares & consumables during preventive maintenance and corrective maintenance shall under the scope of Intello Team - as per the list below. (Detailed consumables list can be sought from the Intello Team at the time of signing the contract).

S.N.	Items per Kit
1	DC Fuses 15A
2	DC/AC Cables up to 6 Sq.mm
3	MC4 Connectors
4	Glands/ Thimbles/ Lugs, Sleeves
5	Paints & Zink spray
6	UV Cable ties (300mm)
7	Fuse holders up to 30 amps, MCB up to 63 amps
8	PU Foam
9	PV Structure hardware & fasteners
10	PV Module M6/25 & M8/25 Hardware

2. All other spares like Inverter, DCDB/SMB, ACDB, Energy Meters, MCCB's, Transformers, VCB /ACB, PV Modules, PV structures, Loggers, SIM cards, WMS Sensors, AC cables is under client scope.
3. Service Level Agreement for Corrective Maintenance

Description	SLA	Details
PV Module cleaning	2 Days	Intello Team shall complete the PV module cleaning as per schedule and levy of 2 days allowed for attending plant cleaning as per schedule.
Preventive Maintenance	7 Days	Intello Team shall complete the Plant equipment's Preventive Maintenance as per schedule and levy of 7 days allowed for attending plant preventive Maintenance as per schedule.
Corrective Maintenance		
Critical: Tickets leading to generation loss (Including failures resulting in replacement of inverters and beyond).	Critical:	Attending: 12 hours Rectification: 2 Days
Major: Tickets which results in generation loss at below inverter level (One or Multiple strings,	Major:	Attending: 36 hours Rectification: 7 Days
Loss of communication of entire plant)	Minor:	Attending: 96 hours Rectification: 15 Days
Minor: Any tickets		Intello Team shall close all corrective maintenance activities as per defined SLA.

related to the partial loss of communication of the plant or suggested improvement		The time for attending starts once the Intello Team exercise a notice in writing on email about the fault. Attending time includes reaching the site and reporting the nature of fault, including spares requirement from the Client The time period for rectification starts immediately on receipt of the required spares for the Corrective Action.
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Equipment	SLA	Corrective Activity Description
PV Modules & SCB/ DCDB	Major	<ul style="list-style-type: none"> ▪ PV Module Replacement (damaged PV modules) ▪ String cable repair/ replacement ▪ MC4 connectors repair / replacement ▪ SMCB repair / Replacement
PV Structure	Minor	<ul style="list-style-type: none"> ▪ PV structure repair / replacement
MCS	Minor	<ul style="list-style-type: none"> ▪ All MCS system (Pipe, Pump/ Motor, Valves) to be ▪ Repair / Replace as per requirement.
Roof Leakages	Minor	<ul style="list-style-type: none"> ▪ Provide the expert to attend all roof leakages mentioned by client.
Cables (AC/DC)	Critical	<ul style="list-style-type: none"> ▪ Cable Repair (Cable termination/ crimping) ▪ Cable Replacement ▪ Cable tray repair / Replacement
DG Synchronization	Major	<ul style="list-style-type: none"> ▪ All DG synchronization repair / rectification w.r.t SPV plant will be done, if any.
Inverters	Critical	<ul style="list-style-type: none"> ▪ Inverter Repair / Replacement activity as per OEM and Client.
ACDB Panel	Minor	<ul style="list-style-type: none"> ▪ ADCB panel repair
Communication	Major	<ul style="list-style-type: none"> ▪ Data logger errors repair/replacement as per OEM and Client instructions.
Walkway	Minor	<ul style="list-style-type: none"> ▪ Walkway rope repair
Sensor	Minor	<ul style="list-style-type: none"> ▪ Sensor repair/Replacement
Meters	Critical	<ul style="list-style-type: none"> ▪ Energy Meter replacement

D. Other requirements

1. **Reporting & Scheduling:** As Intello Team we maintain the O&M scheduling along with downloadable Cleaning Reports and Technical reports which is well recorded at our online portal <http://portal.intellotechsolutions.co.in/>. All necessary time stamps, signatures and pictures are uploaded by our O&M staff through their mobile apps
2. **Compliances:** ESI/Medical Insurance, PF, Medical fitness certificate & Govt ID proof will be provided to clients and the end customer, as required.
3. **Joint Meter Readings:** As per client instructions we provide support to note all JMR's at designated sites.
