SECTION-VII

TECHNICAL SPECIFICATIONS (TS)

Scope of Work for Operation and Maintenance

The O&M Contractor (herein after referred to as Contractor) shall be responsible for the smooth day-to-day operation of the 1 MW Rooftop Solar Plant installed at 13 government offices in Port Blair as per list given at Annexure 2. (Herein after referred to as Plant Facility)

A. Project Description:

Sl. No.	Details	Input value	
1	Location	Port Blair	
2	Latitude	Annexure 2	
3	Longitude		
4	DC Capacity	1 MWp	
5	Design and drawing documents	The relevant documents shall be provided to the successful bidder. However, the interested bidders may visit the site and view the same at site.	
6	Commissioning date	30-06-2017	
7	Operational Acceptance	30-06-2017	
8	Nearest Airport	Port Blair Airport	
9	Power Procurer / DISCOM	Electricity Department, A&N Administration	
10	Connectivity voltage	415 V	
11	Grid	Andaman Grid	
Major Equipment details			
Sl. No.	**Name**	**Quantity & Rating**	**Make**
1	Module	Multi Crystalline, 3226 no. (310 Wp)	Waaree Energies
2	No. of modules / strings	22 nos.	
3	Inverter	33 Nos, (27 kW each)	Fronius
4	Data logger	13	HK Solar
5	WMS	01	
6	ESE type Lighting Arrester	13	

B. Scope of Work for Operation and Maintenance

- Regarding performance obligation, O&M contractor shall maintain minimum CUF of **13%.** The historical performance of the plant and guaranteed annual CUF is given at **Annexure 1** of SOW.
- Maximizing plant capacity utilization, (minimum CUF of the Plant facility should be 13%.)
- Reducing plant downtime. The contractor shall ensure the plant availability upto 99%.

However, the plant availability due to grid outages will be considered if the same are certified by the competent authority of Electricity Department, A&N Admin (ED-A&N) / DISCOM. Any other outages which are not attributable to the contractor and certified by Employer may also be considered.

- Linear degradation of the module output (i.e., 0.75% of DC capacity at STC per year) shall be considered for the calculation of CUF every year.
- Optimizing the useful life of the equipment of the power plant. The Contractor shall carryout out necessary routine**,** breakdown and preventive maintenance as per schedules provided by Employer.
- The Contractor shall perform periodic overhauls and preventive maintenance required for the Plant in accordance with the recommendations of equipment manufacturers and as per the O&M manuals Please refer **Annexure 3.**
- Contractor shall carry out the performance monitoring for the Plant Facility on continuous basis and in case of any deviation, the Contractor shall perform the due diligence appropriately to find out the actual root cause of such deviation. Any test or inspection required such as thermal imaging, IV characteristics test etc. to analyse such deviation will be the responsibility of the Contractor. Thereafter the corrective action required to mitigate such deviation shall be undertaken by the Contractor without any additional cost.
- The Contractor shall prepare the initial Annual Operating Plan for the Plant Facility and shall indicate the proposed resources (manpower, material**,** tools and tackles) that would be deployed for O&M subject to a minimum of following**:**

  Manpower:

  a. Project Manager: 1 No. (minimum Qualification: A relevant degree in engineering with at least 2 years of experience of working in O&M of Solar PV Plants or A relevant Diploma in engineering with atleast 3 years of experience of working in O&M of solar PV plants.
  b. 1 Nos. of Electrical Engineers – (minimum Qualification: Diploma in Electrical Engineering).
  c. Technicians/skilled/unskilled labor as per requirement

- The Contractor shall employ only such personnel who are adequately qualified and experienced for operating and maintaining such power generating sets.
- Tools/ Tackles/ Testing Equipment: As per site requirements.

Safety:

- The Contractor shall operate and maintain fire protection system and safety equipment for the plant.

- The contractor shall adhere to all labour laws which are applicable and as specified in this contract document.
- The Contractor shall develop and implement plans and procedures including those for firefighting, maintenance planning, procuring and inventory control of stores and spares, plan to meet emergencies, plant safety and security; and such other facilities and systems as may be necessary to commence Contractor's ongoing responsibilities.
- The Contactor shall conform to standard industry practices for Health, Safety and Environmental (HSE);
- The Contractor shall take necessary steps to prevent sabotage, theft, vandalism and malicious damage of the assets comprising the Plant and shall also coordinate and liaison with law enforcement authorities.The Contractor shall take all possible measures to keep the plant operational and secure.

Record Keeping:

- The Contractor shall maintain all accounting records regarding the facility in accordance with the generally acceptable accounting principles under the Laws of India.
- The Contractor shall maintain accurate and up-to-date operating logs, records and monthly reports regarding operation and maintenance of the Plant facility which shall include details of power output, other operating data, repairs performed and status of equipment. All such records to be maintained for a minimum of 60 (sixty) months after the creation of such record or data and for any additional length of time required by regulatory agencies with jurisdiction over the Parties. Upon expiry of term, the Contractor shall hand over all such records to Employer. However, Employer shall have access to all such records at any time**.**

Coordination:

- The Contractor shall be responsible for liasioning with statutory authorities and local authorities in order to ensure smooth operation of the Power Plant.
- The Contractor shall co-ordinate with SCADA OEM to implement software updates to control and monitoring systems including SCADA to meet the plant facility operating requirement in consonance with the grid operations and in compliance with the grid codes as applicable during the operation.
- Duly and timely provide the Employer (or parties designated by the Employer) with all notifications required under the Contract**.**
- Contractor shall Coordinate with ***<Electricity Department, A&N Admin. / DISCOM>*** and other related entities/departments as required for proper operation of the Plant Facilities.

- Contractor shall take appropriate approval from Employer, rooftop owner / A&NA before dismantling of any part of plant or any such work is carried out that may affect the roof / building. Also coordinate with SECI, Electricity Department, A&N Admin, other relevant agencies for monthly Joint Meter Readings, meter testing, and any other requirements such as any audit or inspection by the government agencies or authorities, financiers, any designated third-party agency etc. for the Project operations.
- Contractor will be responsible for coordinating with the OEMs for securing warrantee conditions and services from OEMs and provide status to the employer as per the warrantee of each equipment,

Data Access

- Contractor shall provide access to the Employer to all data for the Plant Facility from the SCADA system.
- Contractor shall at all times allow and provide Employer all necessary information for the operation of SCADA system (with no notification or approval of access being required unless specifically and otherwise agreed to by the Parties) full, free, unconditional, safe and complete access to the SCADA system. Contractor shall monitor and operate the Plant in accordance with the contract and shall ensure smooth operation of the plant.

Statuary & legal Compliances

- Water requirement for module cleaning arrangement and the cost for the same shall be borne by the Contractor. The Contractor shall arrange for water on it's own, by ensuring environment social impact assessment (ESIA) norms / relevant government norms of South Andaman district administration / A&N Administration for the use of water.
- Contractor shall be responsible to comply with all applicable National and International Standards as well as local statutory provisions related to Environmental Protection Regulations, Health and Safety requirement as notified by Govt. of India.
- Insurance of the Plant facility will be in the scope of Employer. Contractor will be responsible for providing necessary assistance to the Employer for availing insurance claims for the Plant facility.
- Availing Insurance for contractor's man, material, equipment etc., shall be the sole responsibility of the Contractor.

JMR

- Co-ordination with EDA&N/Discom as per the requirement on behalf of Employer for Joint

Metering Report (JMR), furnishing generations schedules as per requirement, revising schedules as necessary and complying with grid requirements.

- Submission of monthly JMR to EDA&N/Discom. Coordination for payment realisation, JMR reconciliations etc..

Spares

- The Contractor shall maintain required spare plant Equipment, Spare Parts, tools and tackles, consumables required for comprehensive operation and maintenance of the plant facility. The Contractor shall make arrangement to procure required spare parts, or equipment/s as required, overhauling of parts, tools and equipment, required to operate and maintain the Plant in accordance with the recommendations of individual original equipment manufacturer at his own cost. The list of mandatory spares is given at **Annexure 4.** Cost of Equipment & spare parts shall be included in the O&M quoted cost.
- The List of Consumables, Spare Parts, tools and equipment shall be finalised in consultation with the Employer or Employer's representative. List of recommended spare parts shall be submitted by the Contractor at the beginning of services, however the complete mandatory spares will be in the scope of contractor only.
- It is the responsibility of the Contractor to store the materials in appropriate stock yard or container at the site to ensure timely availability of the materials.

Employer supplied spares:

- Following spares shall be provided by Employer as per the site requirement:

Sl. No.	**Name of the equipment**
1	Module
2	Inverter
3	AC Cables

Reports and Other Deliverables:

The O&M Contractor shall be required to submit to SECI following Reports and deliverables. The Formats shall be finalized with SECI at the time of signing of Contract.

S. No.	Reports	Periodicity[1]
1.	Breakdown/Troubleshoot/Downtime Report	Every Month
2.	Failure Analysis/history/trouble shooting details of all the Equipment	Every Month
3.	RCA Report	Within 3 weeks of Breakdown Event
4.	Generation Report including – Roof top Wise	Weekly
5.	Spares Consumption and Inventory Report	Monthly
6.	PV Modules Cleaning Schedules (Scheduled and Actual)	Monthly
7.	PV Modules Thermal Imaging Report	Half Yearly
8.	Preventive Maintenance Schedules (Actuals)	Monthly
9.	Grid Interruptions Report	Monthly
10.	Vegetation Cleaning Report (to clear Shading Objects)	Monthly
11.	Warranty Claim Report	Half Yearly
12.	Preventive Maintenance Schedule for ensuing Month	Monthly

Employer's Responsibility

1. The Employer shall provide the complete set of Plant documentation, drawings, GTPs, Warranty Certificates to the Contracter.
2. Facilitate co-ordination with the Electricity Department, A&N Administration / DISCOM

[1]Note: To be updated to align with OEM requirements.

Annexure 1: Guaranteed CUF of the Plants

Name of the Site	Capacity	2017-18	Derated Capacity	2018-19	Derated Capacity	2019-20	Derated Capacity	2020-21	Derated Capacity	2021-22	Guaranteed CUF
Netaji Stadium	93	15.21%	92.3	13.61%	91.61	15.97%	90.92	13.52%	90.24	13.50%	14.50%
Fisheries Aquarium	31	6.20%	30.8	14.70%	30.54	14.74%	30.31	13.40%	30.08	13.69%	14.50%
	31	6.63%	30.8	16.17%	30.54	15.26%	30.31	14.79%	30.08	14.73%	14.50%
Police Office HQ	27.9	4.76%	27.7	11.21%	27.48	10.92%	27.28	7.52%	27.07	7.02%	10.00%
SP Office Port Blair	58.28	8.93%	57.8	8.28%	57.41	8.90%	56.98	9.37%	56.55	9.79%	10.00%
JNRM College	27.9	6.61%	27.7	11.83%	27.48	9.96%	27.28	8.81%	27.07	9.89%	10.50%
Bus Terminal, Transport Deptt.	55.8	12.42%	55.4	12.51%	54.97	12.78%	54.55	9.94%	54.14	11.03%	12.50%
Municipal Corporation	109.12	14.08%	108.3	14.09%	107.49	13.85%	106.68	12.29%	105.88	12.71%	13.50%
Secretariat	27.9	6.44%	27.7	16.03%	27.48	16.47%	27.28	12.83%	27.07	14.34%	15.00%
Zilla Parishad	60.14	14.88%	59.7	14.99%	59.24	15.17%	58.80	13.95%	58.36	13.81%	15.00%
DBRAIT, Port Blair	89.28	13.40%	88.6	14.36%	87.95	13.03%	87.29	11.42%	86.63	11.46%	14.00%
Science Centre	55.8	10.23%	55.4	10.64%	54.97	8.08%	54.55	8.21%	54.14	5.96%	10.00%
Electricity HQ Office	18.6	14.28%	18.5	14.33%	18.32	14.03%	18.18	12.30%	18.05	12.86%	13.50%
Maine store & Parking	55.8	13.97%	55.4	15.16%	54.97	11.69%	54.55	10.57%	54.14	9.85%	14.50%
Marine Fitting Shop	83.7	13.67%	83.1	11.84%	82.45	12.35%	81.83	12.02%	81.22	11.84%	13.00%
Marine Dockyard	174.84	10.45%	173.5	12.98%	172.23	14.03%	170.94	12.05%	169.65	12.09%	13.00%
Total Generation	**1000.06**	**1028200**	**992.56**	**1145995**	**985.12**	**1132687**	**977.73**	**986968.30**	**970.39**	**991228**	**13.00%**
Total	**1000**	**11.74%**		**13.18%**		**13.13%**		**11.52%**		**11.66%**	

Last five years generation data is given at Annexure C

ANNEXURE 2

Site Details: 1 MWp Grid Connected Rooftop Solar Project at Port Blair, A&N Islands

Sl. No.	Name of the Building	Capacity (kWp)	Number of Modules	Inverter (kWp)	Number of Inverters	GPS Coordinates
1	Netaji Stadium	93	300	108	4	Lat: 11.6692633, Log: 92.7454682
2	Fish Aquarium	62	200	54	2	Lat: 11.671850, Log: 92.746801
3	Police Headquarters	27.9	90	27	1	Lat: 11.6738854, Log: 92.7456979
4	SP Office	58.28	188	54	2	Lat: 11.663821, Log: 92.741987
5	JNRM college	27.9	90	27	1	Lat: 11.6649357, Log: 92.7513041
6	Bus Terminal, Transport Deptt	55.8	180	54	2	Lat: 11.6701843, Log: 92.7393136
7	Municipal Corporation	109.12	352	108	4	Lat: 11.6691136, Log: 92.7385455
8	Secretariat	27.9	90	27	1	Lat: 11.6633566, Log: 92.7388821
9	Zilla Parishad	60.14	194	54	2	Lat: 11.6621608, Log: 92.7385555
10	Polytechnic College	89.28	288	81	3	Lat: 11.6363335, Log: 92.7185801
11	Science Museum	55.8	180	54	2	Lat: 11.6550449, Log: 92.7563255
12	Electricity Headquarter	18.6	60	27	1	Lat: 11.6734326, Log: 92.7375879
13	Marine Dockyard (3 sites)	314.34	1014	324	12	Lat: 11.6764038, Log: 92.7359699
Total		**1000.06**	**3226**	**999**	**37**	

Make & Specifications of the key equipment at Site

Sl. No.	Description	Make	Capacity
1	Module	Waaree	310 Wp
2	Inverter	Fronius	27 kWp
3	Energy Meter	Schneider	

Available spares at site

Sl. No.	Description	Make	Specifications	Qty
1	Inverter	Fronius	27 kWp	01 nos
2	Cable	RR Kabel	3.5 C-50 SQMM	280 meters

ANNEXURE 3

A. In consideration for the payment of the O&M Price, from the Commencement Date until the end of the Term, the Contractor shall render O&M services as specified in the Scope of Work for Operation and Maintenance on the terms and conditions set forth in this contract.

B. The Contractor guarantees the schedule of services committed herein over the O&M Period from the date of issue of LOA.

C. The O&M Contractor shall guarantee to the Owner, minimum Plant Availability of 99%, where Plant Availability refers to the state of Plant injecting power into the grid (subject to grid availability). (unless otherwise agreed / approved by the owner for partial injection due to reasons such as repair of roof etc.)

D. In case the Project fails to generate any power continuously for 1 month any time during the O&M period, apart from the force majeure and grid outages as certified by competent authority from ED-A&N, it shall be considered as “an event of default”. In the case of default the entire Contract Performance Security will be forfeited.

E. For the purpose of Clause D above, the PM activities shall be inclusive of, but not limited to, the following PM activities:

Item	Scope of Maintenance Activity	Periodicity
Solar PV Panels	O&M Contractor shall inspect modules for: cracks, discoloration, broken glass, holes, bubbling, delamination, environmental seal deterioration, frame damage, excessive soiling, cord-plate separation/arching, position movement, loose or disconnected wires, proper panel affixation in the tracker or racking system, condition of electrical, grounding and mechanical connections (which should be clean, secure, undamaged, and free of corrosion), animal damage/nesting and vegetation overgrowth causing shading. Modules that are suspected of underperformance shall be inspected using infrared thermography and the results shall be included in the next monthly report. O&M Contractor shall clean the modules with water, soft sponge, isopropyl alcohol submit the cleaning report to SECI along with the proof of cleaning.	Once every month
String	O&M Contractor shall visually inspect all string level wiring and wire management for: strained wires, disconnected/separated connectors, crimped wire radii, unsecured wire harnesses/clips, animal damage/nesting, and grounding.	Once every month

	O&M Contractor shall verify that AC and DC disconnects are free of damage, corrosion or arc evidence and open and close freely. O&M Contractor shall test each string for proper open circuit voltage and proper operating current during normal inverter operations, replace fault DC cables (4 SQMM), if any. O&M Contractor shall inspect all conduit to ensure it is structurally supported and secure and that the points where any array wiring enters conduit are secure, properly sealed to prevent the entry of precipitation and moisture, and free of abrasion, breaks or gaps on or in wire insulation. O&M Contractor shall maintain and repair string and harness.	
String invertors	As per OEM Recommandation. O&M Contractor may use infrared thermography to inspect inverters during operation when irradiance is above 400 W/m2.	As per OEM recommandation.
Environnemental / Corrosive Protective Coatings	Epoxy coatings, if require	Once in every 2 years under the O&M Contract period, in consultation with the Employer
Rodent Entry Points	Application/re-application of Anti-rodent protection measures like PUF filling, sealant etc. at Checker/Gland Plates, Cable Entry Points (in PCU, LT Switchgear Panels)	Once every Six Months
All bolted / tightened structures	Tightening / fastening of bolts that are exposed to winds /vibrations like MMS members/foundation bolts	Once every Year before in consultation with the Employer
Enclosures of Equipment requiring Temperature and Dust Controlled environment for Normal Operation	Application/re-application of insulation/Dust-Filters /Temperature-control equipment at Enclosures/Buildings housing Inverter, Switchgear,	Once every 6 months, consultation with the Employer
Earth pits	Test of earth pits	Once in month
Any other	As per site requirements	

F. WARRANTY MANAGEMENT AND SUPPORT

O&M Contractor, on behalf of Employer, shall be responsible for pursuing compliance of all performance obligations owed to Employer pursuant to the Project Hardware Warranties and Balance of System (BoS) Warranty. O&M Contractor's obligations for pursuing such compliance are limited to

(a) labor for removal and replacement of hardware and equipment, as well as labor for preparing any defective hardware and equipment that needs to be shipped back to an OEM

(b) timely notification to the warranty provider of all such warranty claims pursuant to the terms of such Project Hardware Warranties and BOS Warranty;

(c) providing reasonable information to such warranty provider relating to the nature of such warranty claim;

(d) providing notice to Empoyer of such claim and requesting Employer support when necessary; provided that the foregoing shall not limit O&M Contractor's obligation to perform any maintenance required with respect to any of the Covered Equipment;

G. SPARE PARTS INVENTORY MANAGEMENT

1. O&M Contractor shall manage the Spare Parts Inventory in accordance with **Annexure 4** of the Tender, including Storage, organization, and inventory tracking.

2. O&M Contractor shall provide an inventory report to the Owner on a monthly basis.

3. The contractor has to use the mandatory spare(s) available at site for replacing défective part(s) of equipment for minimising system outage temporarily and top up the quantity of spares so that the required quantity of spares shall be made available at site at all the times and same shall be handed over to the Employer at the end of O&M period.

4. Contractor shall supply the Mandatory spares as per the list provided in the Scope of the tender document.

5. Contractor shall handover the list of Mandatory Spares (which are duly tagged and stored) and along with all the mandatory spares to the Employer at the time of completion of O&M contract of the project.

6. If Contractor shall not be able to maintain the required quantity of mandatory spares

as mentioned as per spare list at site while handing over the plant to the Employer, then Employer shall be entitled to deduct the cost of respective mandatory spare from the O&M charges.

Note : The Contractor shall ensure intimation and submission of requisite Reports to the owner at least 15 days prior to initiation of maintenance action for the activity.

7. **Recovery of Compensation :** The compensations, if any, shall be deducted from O&M charges to be paid by the Employer to the O&M contractor.

ANNEXURE 4: LIST OF MANDATORY SPARES

Sl. No.	Name of equipment	Qty
1	String Inverters (27 kWp Fronius)	
1.1	Fuses	10 nos.
1.2	All cards such as input / output card, power supply card, processor card etc.	5 nos.
2	SPV Modules (WS-310)	
2.1	MC4 connectors	100 nos.
2.2	MCCBs (Technical specifications are given at Annexure 5) 63amps - 2 nos. 100amps - 1nos. 160amps - 1nos 200amps - 1nos 250amps - 1nos	
2.3	DC Fuses	15amps,1000V—2 box (each box contains 10nos)
2.4	All other consumables/spares which are not included in Owner's supplied consumables as mentioned above and required for uninterrupted O&M of the plant	

Annexure -5

Location	Install Capacity (KWp)	No of modules	MCCB specifications
Netaji stadium	93	300	4 Pole,250 amps,440V
Fisheries aquarium	62	200	4 Pole,63 amps,440V (2 nos.)
Science centre	55.80	180	4 Pole,100 amps,440V
Dbrait	89.20	288	4 Pole,160 amps,440V
Zilla parishad	60.14	194	4 Pole,100 amps,440V
Secretariat	27.90	90	4 Pole,63 amps,440V
SP office	58.28	188	4 Pole,100 amps,440V
PBMC office	109.12	352	4 Pole,160 amps,440V
STS bus stand	55.80	180	4 Pole,100 amps,440V
Police HQ	27.90	90	4 Pole,63 amps,440V
Electrical HQ	18.60	60	4 Pole,63 amps,440V
Marine dockyard workshop	172.98	558	4 Pole,250 amps,440V-1nos 4 Pole,63 amps,440V-1nos
	57.66	186	4 Pole,100 amps,440V
	83.70	270	4 Pole,160 amps,440V
JNRM college	27.90	90	4 Pole,63 amps,440V

Annexure – 6

Schedule of Rate – 2 (SOR-2) – Removal & Reinstallation of Rooftop Solar PV Plant at Port Blair

a. The O&M contract shall require to take up the work for dismantling & reinstallation of the rooftop solar plants due to relocation (within Port Blair) or requirement of roof repair and maintenance by rooftop owner during the period of O&M contract.

b. This work shall be on chargable basis and O&M contractor shall require to submit the price for this work in the price bid.

c. SECI shall have full rights to accept or reject the price quoted by the O&M contractor for this additional work under optional scope.

d. The price quoted by the bidder for SOR-2 shall be required at the time of removal and reinstallation of SPV system which will be based upon the requirement raised by the rooftop owner / SECI due to relocation of SPV systems or roof repair by the rooftop owner. The bidder will be required to quote the price as per the SOR-2 of Schedule of Rates only.

e. The rates for dismantling & re-installation of each type of rooftop SPV installation will not be used for evaluation of submitted bid since the certainty of operating this item cannot be quantified at this moment. The rates would remain firm and valid for the entire duration of the contract. Whenever required, within the contract period, SECI can order the selected vendor to perform any item of the work in required quantity at the quoted rates.

Draft scope: Insurance Policy for 1 MW SPV plant at Port Blair

Bharat Sookshma Udyam Suraksha (covering an enterprise whose total value of insurable assets at a location does not exceed ₹ 5 Crore, against Fire and Allied Perils as per IRDAI)

Inbuilt Covers	Coverage	Sum Insured
1. Earthquake, volcanic eruption, or other convulsions of nature 2. Storm, Cyclone, Typhoon, Tempest, Hurricane, Tornado, Tsunami, Flood and Inundation, 3. Bush fire, Forest, Jungle Fire 4. Missile testing operations 5. Riot, Strikes, Malicious Damages 6. Subsidence of the land on which Your Premises stand, Landslide, Rockslide 7. Fire including due to its own fermentation, or natural heating or spontaneous combustion 8. Explosion 9. Lightening 10. Burglary 11. Theft 12. Collapse 13. Material Damage / Machinery Breakdown (MB)	Covered (As per the provision of Bharat Sookshma Udyam Suraksha policy notified by IRDA)	SFSP: Annexure A MB: Annexure B
Additions, Alternations, Extensions		
Temporary removal of stock		
Cover for specific contents		
Start-up Expenses		
Riot strike malicious damage		
Professional Fees		
Cost for removal of debris (including foreign / external)		
Architects, surveyors and consulting engineer's fees		

Cost compelled by Municipal Regulations		
Waiver of Underinsurance		
Business Interruption		
Business Interruption	Covered	FLOP*: Rs. 48 lakhs (total of all sites) MLOP* Rs. 48 lakhs (total of all sites)
Third Party Liability	Covered	Rs: 1 Crore

***FLOP/MLOP: Annual Average Generation * PPA tariff which is Rs. 4.64/kWh. Last five years generation data is given at Annexure C**

Annexure A				
1 MWp Grid Connected Rooftop Solar Plant, Port Blair -SUMINSURED -SFSP				
S No	**Location**	**Site Address**	**Plant Capacity (kWp)**	**Sum Insured in INR**
1	Netaji stadium	Netaji Stadium, Opposite Andaman Club, City-Port Blair Pin-744104	93	46,76,462
2	Fisheries Aquarium	Fisheries Aquarium, Near Rajiv Gandhi Water City- Port Blair, Pin-744104	62	31,05,642
3	Science Centre	Science Centre Corbyns Cove Road, Science City-Port Blair Pin- 744112	55.8	27,95,077
4	DBRAIT	DBRAIT Auditorium, Dr. B. R. Ambedkar City-Port Blair, Pin-744103	89.28	44,72,124
5	Zila Parishad	Zila Parishad office, Near Secretariat, VIP City- Port Blair Pin-744101	60.14	30,12,472
6	Secretariat	Secretariat AHW Colony, VIP Road, City- Port Blair Pin-744101	27.9	13,97,539
7	SP Office	SP Office, Opposite Office of Deputy City-Port Blair Pin-744101	58.28	29,19,303
8	Municipal Corporate Office	Municipal corporation Office, Mohanpura, City- Port Blair Pin-744101	109.12	54,65,929
9	STS Bus Stand	STS Bus Stand, Mohanpura, City-Port Blair Pin-744101	55.8	27,95,077
10	Police HQ	Police Headquarter, Atlanta Point, City-Port Blair Pin-744104	27.9	13,97,539
11	Electricity HQ	Electricity Headquarters, Mohanpura, City-Port Blair Pin-744101	18.6	9,31,692
12	Marine Dockyard Workshop	Marine dockyard, Phoenix Bay, Mohanpura, City- Port Blair, Pin-744101	172.98	86,64,740

13	Marine store Parking	Marine dockyard, Phoenix Bay, Mohanpura, City- Port Blair, Pin-744101	57.66	28,88,247
14	Marine Fitting Shop	Marine dockyard, Phoenix Bay, Mohanpura, City- Port Blair, Pin-744101	83.7	41,92,616
15	JNRM College	JNRM College, south point, City-port Blair Pin-744101	27.9	13,97,539
Total Plant Capacity in kWp			**1000.06**	**5,01,12,000**
Total Sum Insured in INR				

Annexure B				
1 MWp Grid Connected Rooftop Solar Plant, Port Blair -SUMINSURED -MB				
S No	**Location**	**Site Address**	**Plant Capacity (kWp)**	**Sum Insured in INR**
1	Netaji stadium	Netaji Stadium, Opposite Andaman Club, City-Port Blair Pin-744104	93	31,17,642
2	Fisheries Aquarium	Fisheries Aquarium, Near Rajiv Gandhi Water City- Port Blair, Pin-744104	62	20,70,428
3	Science Centre	Science Centre Corbyns Cove Road, Science City-Port Blair	55.8	18,63,385
4	DBRAIT	DBRAIT Auditorium, Dr. B. R. Ambedkar City-Port Blair, Pin-744103	89.28	29,81,416
5	Zila Parishad	Zila Parishad office, Near Secretariat, VIP City- Port Blair Pin-744101	60.14	20,08,315
6	Secretariat	Secretariat AHW Colony, VIP Road, City- Port Blair Pin-744101	27.9	9,31,693
7	SP Office	SP Office, Opposite Office of Deputy City-Port Blair Pin-744101	58.28	19,46,202
8	Municipal Corporate Office	Municipal corporation Office, Mohanpura, City- Port Blair Pin-744101	109.12	36,43,953
9	STS Bus Stand	STS Bus Stand, Mohanpura, City- Port Blair Pin-744101	55.8	18,63,385
10	Police HQ	Police Headquarter, Atlanta Point, City-Port Blair Pin-744104	27.9	9,31,693
11	Electricity HQ	Electricity Headquarters, Mohanpura, City-Port Blair Pin-744101	18.6	6,21,128
12	Marine Dockyard Workshop	Marine dockyard, Phoenix Bay, Mohanpura, City- Port Blair, Pin-744101	172.98	57,76,493

13	Marine store Parking	Marine dockyard, Phoenix Bay, Mohanpura, City- Port Blair, Pin-744101	57.66	19,25,498
14	Marine Fitting Shop	Marine dockyard, Phoenix Bay, Mohanpura, City- Port Blair, Pin-744101	83.7	27,95,077
15	JNRM College	JNRM College, south point, City- port Blair Pin-744101	27.9	9,31,693
Total Plant Capacity in kWp			**1000.06**	**3,34,08,000**
Total Sum Insured in INR				

ANNEXURE C

GENERATION OF 1 MW SPV PROJECT IN LAST FIVE YEARS

Name of the Site	Capacity	2017-18	2018-19	2019-20	2020-21	2021-22
Netaji Stadium	93	123903	110044.38	128146.6	107695.5	103989.5
Fisheries Aquarium	31	16848.4	39615.8	39421.9	35578.5	35372.1
	31	18017.3	43574.6	40830.6	39255.4	38151.3
Police Office HQ	27.9	11628.9	27190.7	26297.6	17961.5	15114
SP Office Port Blair	58.28	45601.2	41932.8	44740.8	46766.4	49880.8
JNRM College	27.9	16159.2	28695.8	23981.79	21048.2	22855.1
Bus Terminal, Transport Deptt.	55.8	60711.5	60686.46	61547	47500.9	48649
Municipal Corporation	109.12	134558.5	133674.6	130416.9	114819.4	115928.8
Secretariat	27.9	15727.8	38894.2	39653.8	30667.4	33123.3
Zilla Parishad	60.14	78385.2	78391.7	78745.6	71871.2	69879.6
DBRAIT, Port Blair	89.28	104762.9	111455.4	100382	87304.5	82883
Science Centre	55.8	50014	51610	38904.2	39221.8	25056.5
Electricity HQ Office	18.6	23268.9	23169.4	22523.32	19599.8	20058.5
Maine store & Parking	55.8	68269.8	73554.2	56301.1	50517.9	43188.5
Marine Fitting Shop	83.7	100249.9	86144.3	89194.8	86137.4	83665.4
Marine Dockyard	174.84	160093.4	197360.9	211598.7	180402.9	176226.4
Total Generation	1000.06	1028199.9	1145995.24	1132686.71	986968.3	964021.8
Total	**1000**	**11.737%**	**13.082%**	**12.930%**	**11.267%**	**11.005%**