

# GREEN POLICIES OF YASHODA COLLEGE OF ARCHITECTURE

#### Introduction:

Our institute is committed to reducing our environmental impact and promoting sustainability through the implementation of various policies and practices. Our goal is to create a green campus that is energy-efficient, environmentally friendly, and promotes a healthy living and learning environment for our students, faculty, and staff.

# **Energy Conservation Policy:**

Institute recognizes the importance of reducing energy consumption and has implemented policies to achieve this goal. We encourage energy conservation by promoting the use of energy-efficient appliances and using renewable energy sources such as solar panels. Our buildings are designed to maximize natural lighting and ventilation while minimizing the use of artificial lighting and air conditioning. Students and Staff are encouraged to turn off the energy consuming appliances when not in use.

#### Waste Reduction Policy:

Yashoda College of Architecture is committed to reducing waste by promoting recycling, and reducing the use of disposable products on campus. In exhibitions students are encouraged to design all art installations from recycled materials. We have implemented policies to encourage students, faculty, and staff to adopt sustainable practices, such as using refillable water bottles and reducing paper use through the use of digital technologies. YCA has signed a MOU with RIDOFT agency to handover the recycle waste generated from studios. For single use plastics we have made it compulsory to each student to collect minimum 200 grams of plastic and submit it to the institute as a green initiative. This way students also encourage their family and friends to do so. The plastic then collected is submitted to the RIDOFT organization for recycling.

#### Water Conservation Policy:

YCA recognizes the importance of water conservation and has implemented policies to reduce water consumption. We have implemented rainwater harvesting systems, and promote water-efficient landscaping. We have also implemented policies to reduce the use of water in our operations and maintenance practices

#### Green Building Policy:

Our institute is committed to constructing and maintaining green buildings that are energyefficient, environmentally friendly, and promote a healthy indoor environment. We have



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implemented policies to achieve LEED certification for all new buildings, and we regularly perform energy audits to identify opportunities for energy savings.

#### Tree Plantation

To offset the Carbon footprint YCA organizes tree plantation program with in the campus and sometimes also with help of other organizations.

# Education and Outreach Policy:

Our institute promotes sustainability education and outreach to students, faculty, staff, and the wider community. We have implemented policies to educate our campus community about sustainability and encourage them to take actions that promote a more sustainable future. In exhibitions parents, other college students, people in nearby areas visit which spreads the message of designing art in everyday life from recycled materials. We try to inculcate sustainability in each and every student by making them incorporate sustainable design practices in their own Architecture designs, in order to make them responsible and sustainable Architects for the future buildings they build.

We organize regular sustainability events and offer sustainability-related courses and workshops. Our institute is committed to achieving a green campus and has implemented policies to reduce our environmental impact and promote sustainability. We will continue to evaluate and update our policies to ensure that we are doing our part to create a more sustainable future for all.



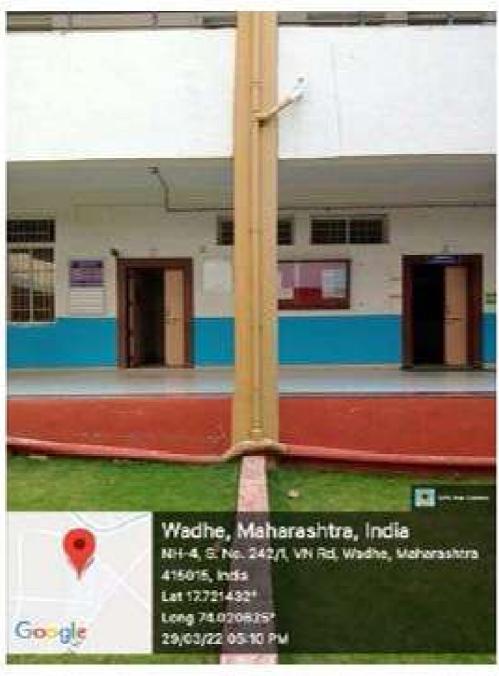
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# Rain Water Harvesting System:











Long 74.021612° Lat 17.722097° 05/5/2023 10:08 AM

Google







#### A REPORT ON

# 'YCA GREEN'

Title: YCA GREEN

Date: 15th April 2022

Time: 8.00 am to 02:45 pm

Type: Academic year 2021-2022

Venue: Yashoda College of Architecture

Faculty Cordinators: Ar. Snehal Shedge and Ar. Renuka Raut

Aim - The aim of this initiative is to achieve sustainable development goals

Objectives – To make society aware about waste management through college initiative. This initiative is for dry waste management to enhance, increase and establish more effective services with help of RIDOFT SUSTAINABLE ENVIRONS PVT.LTD

It is initiative taken by Yashoda College of Architecture in collaboration with RIDOFT SUSTAINABLE ENVIRONS PVT.LTD and sustainable development goals set by United States and Swachh Bharat Mission.

Purpose of this initiative to achieve sustainable development goals and to achieve this goal colleges and universities plays a vital role in preparing students to meet the sustainability challenges in future. This initiative is to be considered as a pilot project under swachh Bharat Mission. REUSE REDUCE RECYCLE is the motto of this initiative.

Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

This initiative is for dry waste management to enhance, increase and establish more effective services with help of RIDOFT SUSTAINABLE ENVIRONS PVT.LTD

For this Yashoda college of architecture is collecting dry paper and models within college campus by all students of YCA.200 gm of plastic will be collected from each student during registration week and tag it with students and registration ID, store it. Then handover it to RIDOFT SUSTAINABLE ENVIRONS PVT.LTD representative Ar.Shaunak Kadam.

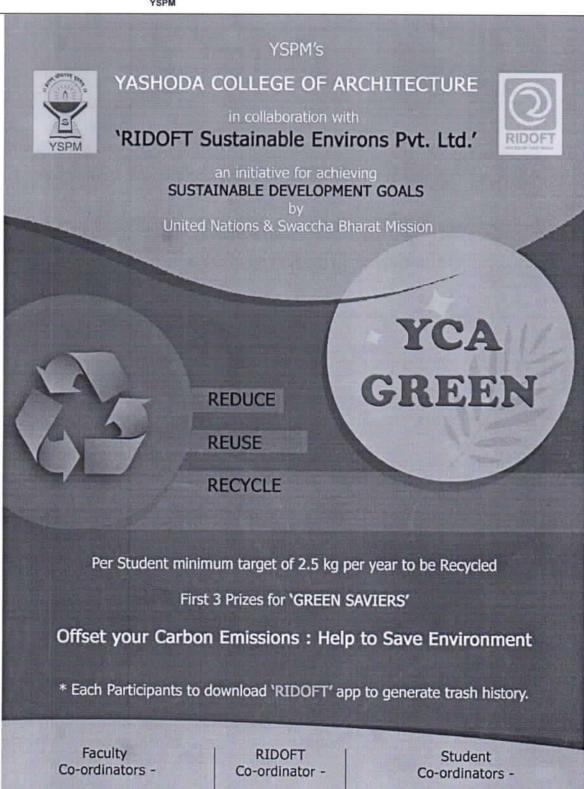


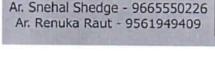


Also per student per year two and half kg of minimum plastic to be recycled and first three prizes will be given to students as green saviours. By engaging students, staff of YCA and their households in campaign to maximize on ground impact by using RIDOFT app.







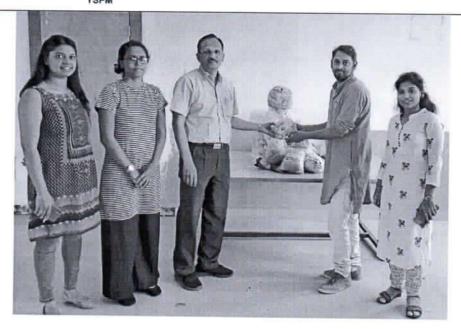


Ar. Shaunak Kadam 7588636234

Swapnil Dharmadhikari - 8983083383 Vaishnavi Mulik - 9767269257







Plastic waste is handed over to RIDOFT SUSTAINABLE ENVIRONS
PVT.LTD representative Ar.Shaunak Kadam by Principal of Yashoda College of
Architecture Ar.Suhas Talekar



Principal
Yashoda College of Architecture
Satara



# YASHODA SHIKSHAN PRASARAK MANDAL, SATARA

Regi. No. - Maharashtra/13056/Satara

Office-'Yashobal', Yashodanagar, Godoli, Near NH-4, Satara: - 415004.

Phone No: - 02162-237121, 271238/39/40, Fax: 02162-271239

E-mail id: - admin@yspmsatara.co.in, Website: www.yspmsatara.co.in

Prof. Dasharath Sagare
Founder President

Prof. Ajinkya Sagare
Vice-President

Secretary

Prof. Ajinkya Sagare
Vice-President

Secretary

Date - 29-12-2021

**PURCHASE ORDER** 

To,

**POLOTECH SERVICES** 

Pune-411039

Mob. No7350556447

**Subject** – Purchase Order for ETC solar hot water system. **Ref** – Your Quotation dated 28.12.21

Dear Sir,

With reference to the above subject and reference, we are pleased to place a purchase order for ETC solar hot water system

| Sr.<br>No. | Particulars                                | Qty.        | Rate      | Total      |  |
|------------|--|-------------|-----------|------------|--|
| 1          | Supply of ETC 5000 LPD system              | 1           | 475000    | 4,75,000/- |  |
| 17.50      | 5 years warranty                           |             | To a Want |            |  |
|            | [ support - Electric water heating system] | Total       |           | 4,75,000/- |  |
|            |  | G           | ST        | 0          |  |
|            |  | Grand Total |           | 4,75,000/- |  |

( ₹ Four Lakhs Seventy Five Thousand Only)

## Terms & conditions-

- 1. **Delivery**: within 1 week from the date of purchase order at our campus.
- 2. **Payment**: 2,00,000/- advance payment & balance after successful installation.
- 3. **Duties**<sub>n</sub>**Taxes**, **Transportation & plumbing work**: All inclusive.
- 4. Installation & Technical Support : All inclusive.

Please send acceptance of this purchase order as early as possible.

Thanking you,

SECRETARY

Yashoda Shikshan Prasarak Mandal, Satara

Secretary.

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www.solarsystemindia.com



#### **EVACUATED TUBE COLLECTOR (ETC) TECHNOLOGY**

- Get Average 50° to 60° C hot water at any time at almost zero recurring Coast.
- Once installed. No worry of frequent Maintenance
- · Reduction of fossil energy consumption
- Substantial savings on conventional heating bills

| <b>INNER TANK MATERIAL</b> | GI  | 55 304                                  |  |  |
|----------------------------|---|---|--|--|
| THICKNESS                  | 2 MM                                      | 0.7 MM                                  |  |  |
| COATING                    | EPOXY / CERAMIC                           | N.A                                     |  |  |
| OUTER CLADDING             | 0.5 MM PRE ZINC COA                       | TED SHEET                               |  |  |
| INSULATION                 | HIGH DENSITY 50 ± 5                       | MM PUF INSULATION                       |  |  |
| STRUCTURE                  | 2 / 1.5 MM GALVANIZE<br>POLY POWDER COATE |   |  |  |
| FASTENER                   | HOT DEEP                                  |   |  |  |
| SOLAR GLASS TUBE           | 1.6 MM BOROSILICATE                       | 1.6 MM BOROSILICATE 3 LAYER VACUUM TUBE |  |  |
| CONNECTION                 | 1" COUPLER / 1.25" CO                     | UPLER                                   |  |  |



## FLAT PLATE COLLECTOR (FPC) TECHNOLOGY

- · Thermosyphon & Forced Circulation Systems
- Custom made design to suit specific applications
- BIS Approved Copper Collector
- . Available in Various Sizes i.e. 100 Ltrs. Upto 10,000 Ltrs.
- Ideal for: Hotel, Luxuries Bunglows, Apartments, Hospitals, Resorts and Industries

|                     | NON PRES                             | SED                   |        |                   |
|---------------------|--------------------------------------|-----------------------|--------|-------------------|
| INNER TANK MATERIAL | GI                                   | 55 304                | 55 304 | MS                |
| THICKNESS           | 2 MM                                 | 0.7 MM                | 2 mm   | 5 MM              |
| COATING             | EPOXY/<br>CERAMIC                    | NA                    | NA     | EPOXY/<br>CERAMIC |
| OUTER CLADDING      | 0.5 MM PRE ZINC COATED SHEET         |                       |        |                   |
| INSULATION          | HIGH DENSITY 50 +5 MM PUF INSULATION |                       |        |                   |
| STRUCTURE           | M.S POWDER COATED                    |                       |        |                   |
| INTER CONNECTION    | HOSE PIPE                            | HOSE PIPE COPPER PIPE |        |                   |

## "Required Capacity wise Space & Members (ETC Non Pressurised)

| CAPACITY      | 100 LPD | 150 LPD | 200 LPD | 250 LPD | 300 LPD | 500 LPD |
|---------------|---------|---------|---------|---------|---------|---------|
| NO. OF PERSON | 1 to 2  | 3 to 4  | 1 to 5  | 5 to 6  | 6 to 8  | 8 to 12 |
| AREA REQUIRED | 5' x 7' | 6' x 7' | 7' x 7' | 8' x 7' | 9' x 7' | 9' x 9' |





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ETC GLASS TUBE SYSTEM





#### **ADVANTAGE OF ETC SYSTEM**

- . Easy to get Temp. In hard Water
- . No Need to Service for long Time
- Get Quick Result in Rainy & Cloudy Atmospheres
- Higher Temp. Than FPC System
- . No Clogging & No Choking
- ETC System is widely accepted in Cold Countries
- ETC System is Cheaper than FPC System















# Polotech Services

Add: Sr. No 19/2Shiv Ganesh Nagar, Dhawade Wasti, Bhosari, Pune - 411039 / Mob: - 7350556447 Email id: yashwantdarekar 1972@gmail.com GSTIN / UIN: 27VQPS148B1ZA

# QUOTATION

Date:-28/12/2021

To,

Secretary,

Yashoda Educational Campus Satara. (Hostel building)

Kind Attention : Mr Atul Sir

Dear Sir,

This has reference our personal discussion at your site for requirement of ETC solar hot-water system

our Solar work. we look forward a long term association with you.

| 1. Supply of ETC 5000 LPD system.  As per 4,97,700 reqir ment | Sr. No. | Particulars                    | Qty   | Rate     | Amount   |
|---|---------|--------------------------------|-------|----------|----------|
|   | 1.      | Supply of ETC 5000 LPD system. | reqir | 1,97,700 | 4,97,700 |
|   |         |                                |       |          |          |
|   |         |                                |       |          |          |
|   |         |                                |       |          |          |

Amount in word : Four lakh Ninty Seven Thousand & Seven Hundred rupees.

475

#### Terms and conditions

■ PAYMENTS : 80 % in advance along with PO, 10% before dispatch the material & 10% after completion of work.

Validity : Qtn valid for 7 days from given date

■ WORK PERIOD : Period & Time for completion of work 15 - 20 days from giving advance amount date

Taxes : + 5% GST extra applicable

**Important Note**: Cold water inlet & hot water outlet Piping in your scope. We take care for proper tooling at working but at the time of working any damage your building property we have not responsible pay for it.

Any other items not mentioned in above Quotation but required at the time of work will be charged extra.

We sincerely hope that this offer is in line with your requirement and if you have, any further clarifications please feel free to call on us and we will reply to the same at the earliest. We look forward for your esteemed order on us. Assuring you the best of our services at all times.

Thank you

Yours truly

Yashwant Darekar 7350556447

5 years gurander

# 2 mm GI Technical Details of 32Tube 500 LPD Compact Systems

# Model:500lpd FM32

| EVACUATED TUBE COLLEC<br>No of Tubes | TOR (TUBE)   |
|--------------------------------------|--|
| Materiel Of Tube                     | 32 Nos   |
| Tube thickness                       | Tube made of borosilicate Glass                                  |
| Tube size and length                 | 1.0 mm three Territory   |
| Stagnation Temperature               | Jo mm outer dia + 5 mm 00  |
|                                      | 58 mm outer dia + .5 mm -00 mm and 2100 mm length                |
| Coating                              | 4  |
|                                      | Grade AI-N/AI Outer surface of inner tube selective black chrome |
| Hail Resistance/impact resistance    | chrome chrome chrome   |
| vacuum of the tube                   | <25 mm dia   |
| Absorptivity (%ge) of the collector  | <=5 X 10Pa   |
|                                      | ▶ 92%  |
| Water Output                         |  |
| INNER TANK                           | Rated LPD At 60degree C.L.                                       |
| Tank                                 | Rated LPD At 60degree C Under normal sunny condition             |
| Welding                              | GI 2 mm Jindal From Cost 1/200                                   |
| Tank Inner coating                   | GI 2 mm Jindal Epoxy Coated (JSW)/ESSAR CO2 welding              |
| Tank Size                            | NA   |
| Tank Wight                           | L 2760mm X 560mm   |
|                                      | 90Kg   |
| INSULATION                           | •  |
| Thermal insulation Material          |  |
| Thickness Of insulation              | Puff   |
| ank cladding                         | 50 mm  |
| leat Loss                            | Pre Coated RAI 9002 off –white                                   |
| lectrical Heater                     | OVCI Might Tampanet  |
| HISCELANEOUS                         | OPTIONAL 1 1/4" SOUKET AVAILABALE zinc coated                    |
| tand                                 | 1 74 SOCKET AVAILABALE zinc coated                               |
| ur Bolt                              | GI 2 MM With Powder Coated                                       |
| terface Between Dissimilar Materials | SS/GI  |
| plours Available                     | Special Silicon Rubber - Dia 58                                  |
| 21 variable                          | Black and Red (Only Dish & stand)                                |

2 rom CI Technical Details of Struby 50s 1 FD Compact Systems

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# **KULKARNI SOLAR DYNAMICS**

Tax Invoice

Hirannyadeep,

Plot no- 7/8, Sangamnagar, Satara -415003 Mob: -8830250129 /8600009044

GST IN/UIN: 27AAVHA0945F1Z7 State Name: Maharashtra, Code: 27 E-Mail: kulkarnisolardynamics@gmail.com Customer company details:-

YASHODA SHIKSHAN PRASARAK MANDAL (YSPM), NH-4, S. No. 242/1, VN Rd, Wadhe, Maharashtra 415015

| Sr.no | Description of Goods  | HSN/SAC  | Quantity | Rate/unit | Amount       |
|-------|---|----------|----------|-----------|--------------|
| 1.    | 67KW SOLAR ROOFTOP SYSTEM<br>Inverter =60KW +10KW , make -Kirloskar | 85414011 | 1        | 459048=00 | 459048=00    |
| 2.    | 335 W panel, make -Kirloskar (67000W panel)                         | 85414011 | 200      | 10050=00  | 2010000=00   |
| 3.    | Other material like ACDB ,DCDB , EATHING MATERIAL ETC. , MAKE - ABB |          | 1        | 150000=00 | 150000=00    |
|       | OUTDUT COST - 2 FW  |          |          |           | CE47C 20, 00 |
| 1     | OUTPUT CGST = 2.5%  |          |          |           | 65476.20=00  |
| 1     | OUTPUT SGST = 2.5%  |          |          |           | 65476.20=00  |
| 1     | ROUND OFF   |          |          |           | -0.40        |
|       |   |          |          |           | 2750000=00   |

Amount Chargeable (in Words)

Twenty seven lakh fifty Thousand INR Only

E.& O. E

| HSN/SAC | Taxable value | Centra | l Tax        | State Ta | ЭX          | Total Tax Amount |
|---------|---------------|--------|--------------|----------|-------------|------------------|
|         |               | Rate   | Amount       | Rate     | Amount      |                  |
|         | 2619048=00    | 2.5%   | 65476.20=00  | 2.5%     | 65476.20=00 | 130952.40=00     |
| Total   | 2619048=00    |        | 365476.20=00 |          | 65476.20=00 | 130952.40=00     |

Tax Amount (in words): One lakh thirty Thousand nine Hundred fifty two rupees and fourty paise INR Only

Company's PAN

: AAVHA0945F

Company's Bank Details

Bank Name : CANARA BANK CA A/C

A/C NO : 120000138781

Branch & IFS Code: SATARA & CNRB0015414

# Hypothecated to Electronica Finance Limited

#### Declaration

We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.

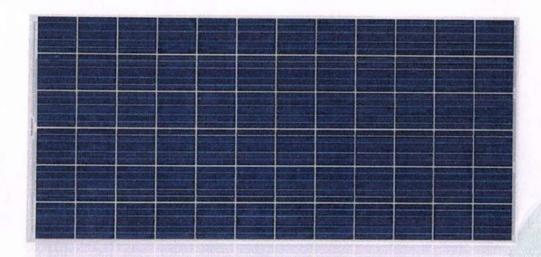
Customer's Seal and Signature

For KULKARNI SOLAR DYNAMICS

Authorised signatory



# **SOLAR MODULES**



Polycrystalline: 335Wp | Mono Perc: upto 400Wp

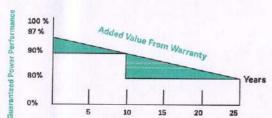
DCR: 335Wp | MonoPerc Halfcut: 535Wp

Designed For Optimal Use In Residental, Commercial & Utility Scale Installations

## **Product Features**

- High power module using Polycrystalline, Mono Perc Solar Cells with High Conversion Efficiency
- High-Transmissivity, Tempered glass for enhanced stiffness and Impact resistance
- · Robust, Anodized Aluminum Frame for extended outdoor use
- 10 years 90% Power output warranty;
   15 years 80% Power output warranty
- 100% Pre & Post lamination Electrouminescence inspection
- IP 67/IP68 Rated junction Boxes
- · Positive Tolerance
- · PID and saltmist corrosion resistance

# **Linear Performance Warranty**



12 Years : Limited Product Warranty

25 Years:

Inear Power Output Waranty



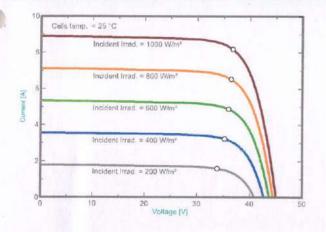
|                                    |              | KIRLOS           | SKAR SOLAR N | ODULES               |              |                   |
|------------------------------------|--------------|------------------|--------------|----------------------|--------------|-------------------|
|                                    | KS 36 Series | KS 60 Series     | PARAMETERS.  | KS 72 Series         |              | KS 144 Series     |
| Model No.                          | KS36P160     | KS60P265         | KS72P335     | KS72P335             | KS72MP400    | KS144MP535        |
| Cell Type                          |              | Multicrystalline |              | Multicrystalline DCR | Mono PERC    | Mono PERC Half cu |
| Pmax* (W)                          | 160          | 265              | 335          | 335                  | 400          | 535               |
| VOC (V)                            | 22.5         | 38.92            | 46.42        | 46.42                | 48.01        | 49.47             |
| Isc (A)                            | 8.9          | 9.10             | 9.41         | 9.41                 | 10.31        | 13.81             |
| Vmax (V)                           | 18.40        | 30.36            | 36.87        | 36.87                | 41.03        | 41.43             |
| Imax (A)                           | 8.7          | 8.59             | 9.10         | 9.10                 | 9.76         | 12.92             |
| Module Efficiency (%)              | 16.10        | 15.94            | 17.24        | 17.24                | 20.11        | 20.93             |
| Power Tolerence                    |              |                  | Positive     | Tolerence            |              |                   |
| Module Dimensions<br>(LxWxH) in mm | 1485x665x34  | 640x990x35       | 1960x990x35  | 1961X991X40          | 1985X1002X40 | 2256X1133X35      |
| Module Weight in Kg                | 15.2         | 17               | 21.5         | 21.5                 | 21.8         | 27.65             |

- \* Value @ Standard Test Conditions (STC): Temp. 25°C, Irridiance 1000 w/m², AM1.5\*
- \* Please confirm mounting dimensions with our sales team before ordering

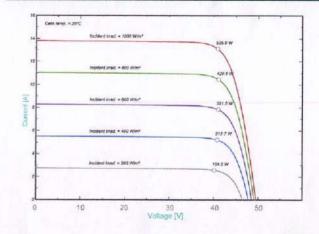
| Temp. Coefficients       | Multicrystalline<br>Modules | Monocrystalline<br>Modules |  |  |
|--------------------------|-----------------------------|----------------------------|--|--|
| Pmax                     | (-)0.3402%/*C               | (-)0.2778%/*C              |  |  |
| Voc                      | (-)0.2504%/*C               | (-)0.2523%/*C              |  |  |
| lsc                      | 0.0287%/*C                  | 0.076%/*C                  |  |  |
| NOCT                     | 45 + 2°C                    |                            |  |  |
| Operating<br>Temp. Range | (-)40 to 85°C               |                            |  |  |

| Mechanical Characteristics |  |  |
|----------------------------|--|--|
| Front Glass                | 3.2mm Low Iron Textured Toughened Glass  |  |
| Frame                      | Anodized Aluminum Frame  |  |
| Junction Box               | IP67 / IP68  |  |
| Cable &<br>Connectors      | 4 Sq. mm 1 meter long wire with MC4 connectors (for module 265 to 400 W) 4 Sq. mm 0.35 meter long wire with MC4 connectors (for module 535W & Above) |  |

# I-V Curve With Irradiance



# 535 I-V Curve With Irradiance



# Kirloskar Solar Technologies Pvt. Ltd. A Kirloskar Group Company

Training Centre Facility, Laxmanrao Kirloskar Road, Khadki, Pune – 411 003 (India). Call: 83088 00595, 88382 91322 (South India)

Email: solarenergy@kirloskar.com, sales1@kirloskar.com

Website: www.kirloskarsolar.com

"The Mark 'Kirloskar' used in any form as prefix or suffix is owned by Kirloskar Proprietary Limited and Kirloskar Solar Technologies Pvt Ltd is the permitted user"



| Model no                                 | KSG-III-40KN22-MC                           | KSG-III-50KN22-MX                   | KSG-III-60KN22-MC                     |
|--|---|-------------------------------------|---------------------------------------|
| Input Date(DC)                           |   |                                     |                                       |
| lax.recommanded PV power (For module STC | 60000W                                      | 75000W                              | 90000W                                |
| Max.DC voltage                           | 1100V                                       | 1100V                               | 1100V                                 |
| Start voltage                            | 250V  | 250V                                | 250V                                  |
| Nominal voltage                          | 600V  | 600V                                | 600V                                  |
| MPPT voltage range                       | 200V-1000V                                  | 200V-1000V                          | 200V-1000V                            |
| No. of MPP trackers                      | 3   | 3                                   | 3                                     |
| No. of PV strings per MPP tracker        | 3/3/3                                       | 4/3/3                               | 4/4/4                                 |
| Max. input current per MPP tracker       | 37.5A/37.5A/37.5A                           | 50A/37.5A/37.5A                     | 50A/50A/50A                           |
| Max. short-circuit current per MPP       | 45A   | 55A                                 | 55A                                   |
| Output data (AC)                         |   |                                     |                                       |
| AC nominal power                         | 40000W                                      | 50000W                              | 60000W                                |
| Max. AC apparent power                   | 44400VA                                     | 55500VA                             | 66600VA                               |
| Nominal AC voltage (range*)              | 220V/380V, 230V/400V (340-440V)             | 220V/380V, 230V/400V (340-440V)     | 220V/380V, 230V/400V (340-440V        |
| AC grid frequency (range*)               | 50/60Hz(45-55Hz/55-65Hz)                    | 50/60Hz(45-55Hz/55-65Hz)            | 50/60Hz(45-55Hz/55-65Hz)              |
| Max. output current                      | 64.4A                                       | 80.5A                               | 96.6 A                                |
| Adjustable power factor                  | 0.8leading-0.8lagging                       | 0.8leading-0.8lagging               | 0.8leading-0.8lagging                 |
| THDi                                     | <3%   | <3%                                 | <3%                                   |
| AC grid connection type                  | 3W+N+PE                                     | 3W+N+PE                             | 3W+N+PE                               |
| Efficiency                               |   | REPORT OF THE PARTY OF THE PARTY OF |                                       |
| Max.efficiency                           | 98.70%                                      | 98.70%                              | 98.80%                                |
| European efficiency                      | 98.50%                                      | 98.50%                              | 98.50%                                |
| MPPT efficiency                          | 99.90%                                      | 99.90%                              | 99.90%                                |
| Protection Devices                       |   |                                     |                                       |
| DC reverse polarity protection           | Yes   | Yes                                 | Yes                                   |
| DC Switch                                | Yes   | Yes                                 | Yes                                   |
| AC/DC Surge protection                   | Type III/Type II                            | Type III/Type II                    | Type III/Type II                      |
| Insulation resistance monitoring         | Yes   | Yes                                 | Yes                                   |
| AC short-circuit protection              | Yes   | Yes                                 | Yes                                   |
| Ground fault monitoring                  | Yes   | Yes                                 | Yes                                   |
| Grid monitoring                          | Yes   | Yes                                 | Yes                                   |
| Anti-islanding protection                | Yes   | Yes                                 | Yes                                   |
| Residual-current monitoring unit         | Yes   | Yes                                 | Yes                                   |
| AFCI protection                          |   |                                     |                                       |
| General Data                             |   |                                     |                                       |
| Dimensions(W/H/D)                        | 680/508/281mm                               | 680/508/281mm                       | 680/508/281mm                         |
| Weight                                   | 52kg  | 52kg                                | 52kg                                  |
| Operating temperature range              | -25_+ 60 degree C                           | -25+ 60 degree C                    | -25+ 60 degree C                      |
| Night time power consumption             | <iw< td=""><td>⊴W</td><td>&lt;1W</td></iw<> | ⊴W                                  | <1W                                   |
| Topology                                 | Transformerless                             | Transformerless                     | Transformeriess                       |
| Cooling                                  | Smart air cooling                           | Smart air cooling                   | Smart air cooling                     |
| Protection degree                        | IP65  | IP65                                | IP65                                  |
| Relative humidity                        | 0-100%                                      | 0-100%                              | 0-100%                                |
| Altitude                                 | 4000m                                       | 4000m                               | 4000m                                 |
| DC connection                            | HI/MC/(eptional)                            | 114/M04(optional)                   | 114/14/04(uptional)                   |
| AC connection                            | Cable gland+OT terminal                     | Cable gland+OT terminal             | Cable gland+0T terminal               |
| Display                                  | OLED+LED/WiFi+App                           | OLED+LED/WiFi+App                   | OLED+LED/WiFi+App                     |
| faces: RS485/USB/Wi-Fi/GPRS/RF/LAN       | Yes/Yes/Optional/Optional                   | Yes/Yes/Optional/Optional           | Yes/Yes/Optional/Optional/Optional    |
| Warranty                                 | - Parisin openin                            |                                     | - Sar rear optional optional optional |

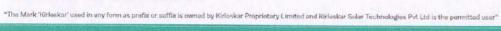
# Kirloskar Solar Technologies Pvt. Ltd. A Kirloskar Group Company

Training Centre Facility, Laxmanrao Kirloskar Road, Khadki, Pune - 411 003 (India).

Call: 83088 00595, 88382 91322 (South India)

Email: solarenergy@kirloskar.com, sales1@kirloskar.com

Website: www.kirloskarsolar.com







# YASHODA SHIKSHAN PRASARAK MANDAL, SATARA

Regi. No. - Maharashtra/13056/Satara

Office-'Yashobal', Yashodanagar, Godoli, Near NH-4, Satara: - 415004.

Phone No: - 02162-237121, 271238/39/40, Fax: 02162-271239

E-mail id: - admin@yspmsatara.co.in, Website: www.yspmsatara.co.in

Prof. Dasharath Sagare Founder President Prof. Ajinkya Sagare Vice-President Mrs. Sadhana Sagare Secretary

Ref. No.:- YSPM-YTC/ADMIN/

/2016-17

Date - 06-08-2021

# **PURCHASE ORDER**

To,

# KSD Kulkarni Solar Dynamics

Satara -415003 Mob. No. 8830250129

> **Subject** – Purchase Order for Solar rooftop system. **Ref** – Your Quotation dated 06.08.2021.

Dear Sir,

With reference to the above subject and reference, we are pleased to place a purchase order for Solar rooftop system.

Solar rooftop system, Solar Pumping, Led lights

# Calculation for solar rooftoprequirement

| MSEDCL CONSUMER NO                            | 190199026230     |
|---|------------------|
| CONSUMER NAME                                 | YSPMSATARA       |
| ADDRESS                                       | SNO-242/1,WADHE  |
| CONTACT NO                                    | 8390011111 NOW 1 |
| TOTAL SANCTIONED LOAD                         | 111KW            |
| YEARLY CONSUMPTION UNITS                      | 133076 UNITS     |
| MONTHLY COSUMPTION OF UNITS (AVG)             | 11089 UNITS      |
| YEARLY COSUMPTION OF UNITS (A+B+C) ZONE       | 97047 UNITS      |
| MONTHLY COSUMPTIONOFUNITS  (A+B+C) ZONE (AVG) | 8087 UNITS       |
| TOTALYEARLY AMOUNT PAID TO MSEDCL             | 1596912/-        |
| TOTALMONIHLYAMOUNTPAIDTO  MSEDCL              | 133076/-         |
| TOTALYEARLYAMOUNTPAIDTO  MSEDCL(A+B+C) ZONE   | 1164564/-        |

| AVG RATE PER UNIT           | 12/-   |
|-----------------------------|--|
| DAILYCOSUMPHONOFUNITS       | 270 UNITS  |
| (A+B+C) ZONE (AVG)          |  |
|                             |  |
| MINIMUM                     | 1440 UNITS   |
| MINIMUMGENRATIONFROMSOLAR   |  |
| ROOFTOP PER KWPER YEAR      | The state of the s |
| REQUIREMENTOF ROOFTOPSYSTEM | 67KW   |
| POWERPURCHASEAGREEMENTWITH  | 20 YEARS   |
| MSEDCL                      |  |

# Solar rooftop system, Solar Pumping, Led lights

# Commercials

| Sr.<br>No. | Particulars and the state of th | Qty.  | Rate    | Total       |
|------------|--|-------|---------|-------------|
| 1          | 67 kw solar rooftop system inverter =60KW+8KW  | 1     |         | 26,19,048/- |
| 2          | Fabrication and other work   |       |         |             |
|            | MSEB lessoning including 3 years service   | To    | otal    | 26,19,048/- |
|            |  | G     | ST      | 65,476/-    |
|            | and the state of t | Grand | l Total | 27,50,000/- |

# (₹Twenty Seven Lakhs fifty thousand Only)

## Terms & conditions-

- 1. **Delivery**: within 3-4 week from the date of purchase order at our campus.
- 2. **Payment**: 10% advance payment & rest payment payable as per process of work installation.
- 3. Duties & Taxes: All inclusive.
- 4. Installation & Technical Support : All inclusive.
- Turn key solar project shall be handed over to YSPM after completion.

Please send acceptance of this purchase order as early as possible.

Thanking you,

Received Payment = 2525000/
Total Receiveste = 2750000-2525000

= 225000/
Creneration + +27140/
meter = 252140/-

CHECK LIST FOR CHECKING OF GRID CONNECTED ROOFTOP SOLAR POWER INSTALLATION WITH NET METEING APPRIMENTS

Name of Consumer: Yashoda Shikshan Prasarak Mandal, Sadera:

Consumer number 190199026 Division Satura

· Sub-division Satura (R)

Sanction load 110.81CW

Sanction Demand 6716W Tariff 170 HT -VIII B

Consumer Contact details: 888885426

# Reference:

| Sr. No | Particulars  | Remarks  |
|--------|--|----------|
| 1      | Separate Lighting arrester provided before solar pnel as per IS 3043-1987                        | Yes      |
| 2      | Separate earthing provided for lighting arrester   | 445      |
| 3      | Separate earthing provided for solar modules and module mounting structure                       | 405      |
| 4      | DC fuse provided for protection after solar module   | 445      |
| 5      | Array junction box provided with built in surge protector device                                 | Yw       |
| 6      | Grid tie inverter provided with rated capacity of kWp  | 72 X W   |
| -7     | Protection provided after grid tie inverter with  MCCB/MCB with rated current A                  | Y65      |
| 8      | ACDB provided with built in surge arrester   | Y15.     |
| 9      | TOD meter provided for recording the solar power generation is as per standard                   | 14       |
| 10     | ELCB/RCCB of rated capacity provided for protection  | 4 15     |
| 11     | MCB provided before load side with rated current   | YIS      |
| 12     | Net metering cabinet with ELCB/RCCB protection of rated current A with sealing arrangement       | 45 160 A |
| 113    | Earthing provided to metering cabinet  | 416      |
| 14     | All metallic bodies are earthed  | Yes      |
| 15     | Net metering provided with specification as per MSEDCL and tested at lab                         | 42       |
| 16     | In event of grid or supply failure protection for islanding of roof top solar PV system operated | Y5       |
| 17     | In event of single phasing of grid protection for islanding of rooftop solar PV system operated  | Yes      |
| 18     | In case of battery and DG backup separate wiring done and change over switch is provided         | Yro      |

Consumer

Representative

Section Office-



PHONE NO: 02162-244640 FAX NO : 02162-245541 E-mail: sesatara@mahadiscom.in Website: www.mahadiscom.in

Administrative Building, Vidyut Bhavan, 1st floor, Krishnanagar, Satara - 415 003

SE/STRC/T/HTC-2623/New Solar Net Metering/(21-22)/ND

7.Dt. 8 NOV 2021,

To.

The Executive Engineer, MSEDCL, O & M Dn, Satara.

Sub:- Technical Feasibility Report in respect of M/s Yashoda Shikshan Prasarak Mandal at S. No. 242/1, Wadhe, Satara Tal. Satara, Dist. Satara for solar net metering arrangment with 67 KW, as existing HT consumer having connected load of 110.8 KW & Contract Demand of 125 KVA.(Consumer No-190199026230)

Ref: - 1] Commercial Circular No. 258 dated 25 Jan. 2016.

2] Consumers new application as detailed below dtd 28.10.2021.

In connection with the above M/s Yashoda Shikshan Prasarak Mandal at S. No. 242/1, Wadhe, Satara Tal. Satara, Dist. Satara has applied for solar net metering arrangment with connected load 67 KW vide ref. no.2. Existing HT consumer having connected load of 110.8 KW & Contract Demand of 125 KVA.

| Types of Generation       | Proposed Capacity (KW) |
|---------------------------|------------------------|
| Existing Soalar PV System | 000 KW                 |
| Proposed Soalar PV System | 67 KW                  |
| Total                     | . 67 KW                |

HTC Details: M/s Yashoda Shikshan Prasarak Mandal at S. No. 242/1, Wadhe, Satara Tal. Satara, Dist. Satara

Connected Load:110.8 KW Contract Demand:125 KVA Voltage Level: 22 KV Consumer No- 190199026230

The copy of application is enclosed herewith. It is requested to submit their project report (DPR), Technical Feasibility Report, item wise estimate, single line diagram solar panel installation plan/drawing neat sketch showing point of injection. TFR must include Consumer T/F capacity, Feeder name, source Sub station details, Source sub station power T/F capacity, cumulative solar load connected on P/T till date and neat sketch showing point of injection to this office. Metering specifications should be as per approval from EE Testing. The Net Meter & Solar generation Meter shall be installed at such location in the premise of the eligible consumer as would enable to easy access to the MSEDCL for meter reading & is to be shown on the point of supply drawing. Also give self explanatory note if required,

Encl- As above.

(Gautam N. Gaikwad) Superintending Engineer Satara Circle

Copy to-

(1) M/s Yashoda Shikshan Prasarak Mandal at S. No. 242/1, Wadhe, Satara Tal. Satara, Dist. Satara injection to The Executive Engineer, Satara division for needful compliance, along with The Executive Engineer Testing division Satara It is also requested to submit the technical specifications of PV module, Inverter & other allied equipmens along with their test report duly sign by competent authority Anx-II & Electical Contractors valid llence copy.

2) The Executive Engineer, Testing Dn. Satara. ...... Point of supply and metering details of above consumer may be fixed immediately.

3) The Dy. Executive Engineer, Satara R S/Dn....submission of estimate and TFR at an earliest.

# MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.

O & M DIVISION, SATARA

| А  | Details Of Applicant  |                     | SOLAR ROOF TOP PV SYSTEM                   |  |  |
|----|---|---------------------|--|--|--|
|    | NAME OF APPLICANT   |                     | M/S Yashoda Shikshan Prasarak<br>Mandai    |  |  |
| 2  | CONSUMER NO   |                     | 190199026230                               |  |  |
|    | CATEEGORY & TARIFF APPLICA  | BLE                 | HT-IXB                                     |  |  |
| 2  | ADDRESS OF APPLICANT  |                     | S. No. 241/1 A/P Wadhe Tal.Dist<br>Satarci |  |  |
| 1  | MOBILE NO. OF APPLICANT   | 1                   | 8390011111                                 |  |  |
| 5  | POLE NO.  | ,                   | Vaduth                                     |  |  |
| 6  | NAME OF SECTION OFFICE  |                     |  |  |  |
| 7  | PROCESSING / REGISTER FEE   | Amout Rs.           | 5900                                       |  |  |
|    | PAYMENT DETAILS   | Receipt No. & dt.   | 1599134944 DI. 21/10/2021                  |  |  |
| 8  | SPV GENERATION ALREAY CON IN KW/KVA)  | INECTED (CAPACITY   | 0 KW                                       |  |  |
| В  | Distribution Transformer Details  |                     |  |  |  |
| 1  | NAME OF THE DTC & DTC COD   | Yashoda DTC 1181071 |  |  |  |
| 2  | DTC CAPACITY IN KVA   | 200 KVA             |  |  |  |
| 3  | VOLIAGE RATIO   |                     | 22/0.40                                    |  |  |
| 4  | 10 FAL CONNECTED LOAD ON THE DTC (IN KW/KVA) 5 ADD. LOAD SANCTIONED SO FAR (IN KW/KVA) 6 ALREADY PROPOSED LOAD (IN KW/KVA) 7 TOTAL LOAD ON DTC X= 4+5+6 (IN KW/KVA) 8 SPV GENERATED ALREADY CONNECTED (CAPACITY IN KW/KVA) 9 PROPOSED SPV GENERATORS (CAPACITY IN KW/KVA) |                     | 111KW/125KVA                               |  |  |
| 5  |   |                     | 0  |  |  |
|    |   |                     | 0  |  |  |
| -  |   |                     | III KW                                     |  |  |
| -  |   |                     | 0  |  |  |
| 9  |   |                     | 67 KW                                      |  |  |
| 10 | TOTAL GENERATION Y= 8+9 (C)   |                     | 67 KW                                      |  |  |
| 14 | DIFFRENCE BETWEEN LOAD AND<br>CAPACITY Z=X-Y  | J CENERALION        | 44KW                                       |  |  |
| -  | FEEDER DETAILS  |                     | 1  |  |  |
|    | NAME OF THE 11 KV FEEDER  |                     | 22 KV Limb Feeder                          |  |  |
|    | NAME OF THE 33/11 KV S/S FRO<br>FEEDER EMANATING  | ,                   | 33/22 KV Wadhe Substation .                |  |  |
| 3  | TYPE & SIZE OF THE CONDUCTO   | R OF FEEDER         | 55 sqmm ACSR                               |  |  |
| .4 | CURRENT CARRING CAPACITY OF THE FFEDER  |                     | 160A                                       |  |  |
| 5  | TOTAL CONNECTED DTC CAPACIN KVA   | CITY ON THIS FEEDER | 25000 KŸA                                  |  |  |
| 6  | SPV GENERATORS CONNECTED ANY & THEIR CAPACITY   | ON THIS FEEDER IF   | 3 no.s 55KW capacity SPV                   |  |  |
|    | MAX, LOAD REACHED ON THE F<br>KVA   | eeder in amps. &    | 514  |  |  |
| 8  | REMARKS   |                     | Feasible                                   |  |  |

A. A. More
Assistan Engineer
W.S. Yes and Co. Ltc



PHONE NO: 02162-244640

Engineer FAX NO : 02162-245541

E-mail: sesatara@mahadiscom.in
Website: www.mahadiscom.in

Office of the Superintending Administrative Building, Vidyut Bhavan, 1st floor Krishnanagar Satara – 415 003

No. SE/STRC/T/HTC-2623/RT/Solar/ (21-2210)

9 7 4

Date: 8 FEB 2022

To,
The Executive Engineer
M.S.E.D.C.L.
O & M Division, Satara.

Sub:- Estimate for giving solar connectivity/installation of roof-top solar PV system new connection with connected load of 67 KW for solar roof top net metering in r/o M/S Yashoda Shikshan Prasarak Mandal, SataraAt S. No. 242/1, Wadhe, Satara Tal & Dist- Satara HTC- 190199026230.

Ref: - 1) Application No. Nil dtd 28.10.2021

2) SE/STRC/T/HTC-2623/Solar net metering/07027\_Dt. 08.11.2021.

3) EE/TD/STR/T/HTC/Net Meter/Solar/HTC--2623/02779 Dt. 31.12.2021 received (13.01.2022)

4) EE/STR/T/21-22/No. 05975 Dt. 25.11.2021

In accordance with the powers delegated to the undersigned vide C.S. no. 40 of GO-II Government of Maharashtra notification for new Renewable Policy dated 20.07.2015 and methodology for its implementation on dated 09.09.2015, MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) regulations, 2015 on 10th September, 2015, Commercial Circular No. 258 Dt. 25.01.2016 & 322 Dt. 21.01.2020 by MSEDCL for installation of Solar PV systems on Rooftop & Commercial Circular No. 291 Dt. 29 June 2017 the estimate as detailed below is technically sanctioned for giving solar connectivity / installation of roof-top solar PV system new connection with connected load of 67 KW for solar roof top net metering in r/o M/S Yashoda Shikshan Prasarak Mandal, Satara At S. No. 242/1, Wadhre, Satara Tal & Dist- Satara HTC- 190199026230

under DDF scheme 1.3% Supervision Charges.

Scheme

:- DDF. [By recovering 1.3% supervision charges]

Amount of Estimate

: - Rs 2,01,460/- [Rs. Two Lakh One Thousand Four Hundred & Sixty. only.]

Only] 1.3% Supervision Charges Rs 2,620/-

Est. Sanction No.

SE/STRC/T/HT-DDF/Solar Net/STR-Dn./ 11 / (21-22)/ dtd 02.02.2022.

Remarks

(Work by party)

Work should be started only after payment of total amount mentioned in Load Sanction order.

After completion of work, the Executive Engineer, Division office should certify that,

1) All the works are verified & construction is carried out as per MSEDCL standard method of construction.

2) Materials used are as per the sample approved & of standard quality.

3) The installation is inspected by the Electrical Inspector & permission /drawing approval is given.

4) All the original vouchers / certificates / documents of purchased & utilized material is to be verified and the same are to be preserved with your office & attested Xerox copies along-with completion report be forwarded to this office.

The work should be taken up on payment of necessary charges by the consumer at this office. The removed material is to be credited to MSEDCL store. This sanction is valid only for six months from the date of this letter.

(Gautam N. Gaikwad) Superintending Engineer O & M Circle, Satara

Encl . As above

Copy to

(1) M/S Yashoda Shikshan Prasarak Mandal, Satara At S. No. 242/1, Wadhe, Satara Tal & Dist-Satara HTC-190199026230.

2) The Dy. Executive Engineer, MSEDCL, Satara R S/dn.

3) The Manager (F&A), MSEDCL Satara Circle.



The Technical estimate sanction for Solar Roof Top Net Metering in respect of M/S Yashoda Shikshan Prasarak Mandal Satara at S. No. 242/1, Wadhe, Satara Tal & Dist- Satara HTC- 190199026230 for 67 KW Solar PV system on 22 KV Voltage level under 1.3 % Supervision Charges DDF scheme.

Existing Solar Capacity [ CL : 000 KW ]

Proposed Solar Capacity proposed [ 67 KW]

Toatal Solar Generation Capacity [ 67 KW]

| Sr.<br>No | Description  | Unit       | Qty.         | Rate/Unit<br>Rs. | 1.3% Normative charges Total Cost Rs |
|-----------|--|------------|--------------|------------------|--------------------------------------|
| 1         | 11KV/110V, -/5A, Class 9:2s, DLMS category 'B', Four Quadrant, TOD Tri vector meter with ABT features with latest MSEDCL specifications as per EE Testing report   | Nos.       | 1/           | 140000.QQ        | 140000.00                            |
| 2         | LTAC, Three phase, 4W, TOD Solar Generator meter having specifications as per as per EE Testing report (LTAC, three Phase, Four Wire, 40-200/5A, 3X440V, Class-0.5s CT opreated fully static & AMR compatable TOD Tri - Vector energy meter with optical & RS 232 port )Embedded meter | Nos.       | 1            | 22500.00         | 22500.00                             |
| 3         | Sundries such as Nut-Bolts Clamps etc.   | L.S.       | 1./          | 12680.00         | 12680.00                             |
|           |  |            |              |                  | 175180.00                            |
| 2.        | 15   | % Labour   | charges (I   | ine by party)    | 26277.00                             |
| 14        |  |            | 1. VII       | Grand Total      | 201457.00                            |
| 1         |  |            |              | Say Rs           | 201460.00                            |
| the l     | /1.3 % Sup   | ervision c | harges on    | esti. cost Rs.   | 2618.98                              |
| 10.1      |  |            | 10,110       | Say.Rs. (a)      | 2620.00                              |
|           | Testing charges of TOD Trivector Meter with ABT Features Meter (b)   | Nos.       | 1            | 1100.00          | 1100.00                              |
|           | Testing charges of Solar Gen. Meter (c)  | Nos.       | 1            | 1100,00          | 1100.00                              |
|           | Testing charges of Kiosk,.(d)  | Nos.       | 0            | 9000.00          | 0.00                                 |
|           | Testing charges of LT eTs & PTs(e)   | Nos.       | 0            | 1000.00          | 0.00                                 |
|           | (G.S.T   | on (a) , ( | b), ©, (d) & | (e) @ 18.0 %     | 867.60                               |
|           | Arthmeticax Checked As per cost pata 2019-20:  |            |              | ay Rs[d]         | 868.00                               |

Consumer has pand as 1,98/40/- dtd. 25.01.22 cegainst Dec 21 encogy bill Rates are as per the Cost Data CE Infra(19-20) hence no arrepose panding Shind \* as per market rates

03.02.22

Exe. Englisher (Admin.) Circle Office Satara.

Manager (F & A)

Dy. Exe. Engineer Circle Office Satara

w 02.02.22

Satara Circle

Superintending Engineer Satara Circle, Satara



PHONE NO: 02162-244640

FAX NO : 02162-245541

E-mail: sesatara@mahadiscom.in

Website: www.mahadiscom.in

Office of the Superintending Engineer

Administrative Building, Vidyut Bhavan, 1st floor

Krishnanagar , Satara - 415 003

No. SE/STRC/T/HTC-2623/RT/Net metering/Solar/(21-22)

7 3 Date: 8 FEB 2022

M/S Yashoda Shikshan Prasarak Mandal, Satara At S No. 242/1, Wadhe Tal & Dist- Satara HTC-190199026230.

Sub: - Permission for connectivity/ installation of roof-top solar PV system of 67 KW for net metering in r/o M/S Yashoda Shikshan Prasarak Mandal At S No. 242/1, Wadhe Tal & Dist- Satara HTC- 190199026230.

1) Application No. Nil dtd 28.10.2021

2) SE/STRC/T/HTC-2623/Solar net metering/07027 Dt. 08.11.2021.

3) EE/TD/STR/T/HTC/Net Meter/Solar/HTC--2623/02779 Dt. 31.12.2021 received (13.01.2022)

4) EE/STR/T/21-22/No. 05975 Dt. 25.11.2021

Dear Sir.

In view of the Government of Maharashtra notification for new Renewable Policy dated 20.07.2015 and methodology for its implementation on dated 09.09.2015, MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) regulations,2015 on 10th September, 2015 and circular 258 by MSEDCL for installation of Solar PV systems on Rooftop or any mounting structure by the existing/new consumers of MSEDCL in their premises for captive use so as to align the provisions as per the Regulations, 2014, the undersigned is pleased to permit for connectivity/ installation of roof-top solar PV system of 67 KW for net metering in r/o M/S Yashoda Shikshan Prasarak Mandal, Satara At S No. 242/1, Wadhe Tal & Dist- Satara HTC-190199026230. The address as mentioned above with the terms and conditions as below.

| Connected Load (KW) | Contract Demand (KVA) |
|---------------------|-----------------------|
| 111                 | 125                   |
| . 67                |                       |
|                     | 111 - 67              |

## Terms and Conditions:

VALIDITY: The validity of this sanction is for a period of 6 (Six) months from the date of issue of this letter and you will ensure to make the necessary payments within 1 (one) month and further ensure that you are ready o for connectivity/ installation of roof-top solar PV system within the period.

UTR No- 204032699691/9/2/22

## 2. PAYMENTS:

3.

- a. As you have given consent for executing the works involved for releasing the power supply by paying 1.3 % supervision charges on the estimated cost to MSEDCL, hence permission is hereby granted to execute the works by engaging the Licensed Electrical Contractor (LEC) subject to the terms and conditions which are enclosed with the load sanction order.
- b. In view of the above, you are requested to pay the following charges.

| Particulars                         | Amount in Rs.   |
|-------------------------------------|---|
|                                     | 5000.00   |
| Fixed Service connection charges    | 00.00   |
| 1 20% charges on estimated cost     | 2,620.00  |
|                                     | NIL   |
| Testing Charges of CTs. PTs & Meter | 2,200.00  |
|                                     | 1,768.00  |
|                                     | 11,588.00   |
|                                     | Particulars  Net Meter application charges  Fixed Service connection charges  1.3% charges on estimated cost  Security Deposit  Testing Charges of CTs, PTs & Meter  18 % GST Charges  TOTAL Rs.: |

a. The Xerox copy of payment made may be submitted to this office and the concerned division office under a covering letter and acknowledgement of which may be obtained if applicable.

d. Bank Details are as follows:-Account Name- MSEDCL Satara., Name Of Bank-Bank Of India, Powai Naka, Satara Bank A/C No. 130820100000199 IFSC Code - BKID0001308, A/C Type- CD & you must send RTGS/NEFT details through SMS on cell No. 7875768531.

4. Metering: At present your load is supplied on 22 kV Volts with HT Connection, Net meter will be installed on HT side of Transformer as per MSEDCL rules & regulation.

CT specifications

5/5A single core single ratio 0.5s class 10 VA Burden-No change

PT specifications

22 kV/110 V single core single ratio 0.5 class 10 VA burden-No change

Net meter specification

11KV/110V, -/5A, Class-0.2s, DLMS category 'B', Four Quadrant, TOD Tri vector meter with ABT features with latest MSEDCL specifications as pe EE Testing report under ref no.3

LT solar Generator meter 5. LTAC, Three Phase, 4W, TOD Solar Generator meter having specifications as per EE Testing (LT AC, three Phase, Four Wire, 40-200/5A, 3X440V, Class-0.5s CT operated fully static & AMR compatable TOD Tri - Vector energy meter with optical & RS 232 port ) Embedded meter.

Installation: Your installation arrangement/drawing should be as per letter at ref. no. 1 & is required to be get approved from EE Testing STRC office and the Electrical Inspector.

CLEARANCE:

a. As per MSEDCL Rules and IE Standards

8. Grid standards and safety:

a. You can install a Rooftop Solar PV System with or without battery. However, if an eligible consumer opts for connectivity with the battery Back-up, the inverter should have separate back-up wiring to prevent the battery/decentralized generation power from flowing into the Grid. b. The consumer shall be responsible for the safe operation, maintenance and rectification of any defect

in the Rooftop Solar PV system up to the point of Net-meter.

- c. The consumer shall provide appropriate protection for islanding of the Roof-top Solar PV System from the Network of Distribution Licensee in the event of Grid or supply failure of supply and the same shall be verified/ certified by Testing Division in consultation with concerned Subdivision/circle.
- 9. The Net Meter and the Solar Generation Meter shall be installed at such locations in the premises that MSEDCL should have easy access to the Meter for meter reading.

10. The unadjusted net credited Units of electricity as at the end of each financial year shall be purchased by MSEDCL at its Average Cost of Power Purchase as approved by the Commission for that year, within the first month of the following year, At the beginning of each Settlement Period, the cumulative quantum of injected electricity Carried forward will be re-set to zero.

11. In case the Consumer is within the ambit of TOD tariff, the electricity consumption in any time block, i.e. peak hours, off-peak hours, etc., shall be first compensated with the quantum of electricity injected in the same time block. Any excess injection over and above the consumption in any other time block in a Billing Cycle shall be accounted as if the excess injection had occurred during off-peak hours.9.7 MSEDCL shall compute the amount payable to the Eligible Consumer for the excess solar energy purchased by it as specified in Regulation 9.5, and shall provide credit equivalent to the amount payable in the immediately succeeding Billing Cycle

12. The Consumer shall have recourse, in case of any dispute with MSEDCL regarding billing, to the mechanism specified by the Commission under Sections (5) to (7) of the Act for the re-dressal of

grievances.

13. The Solar energy generated by Consumer in a Net Metering Arrangement under these Regulations shall not be eligible for REC.

14. The Solar generation data shall be monitored quarterly so as to ascertain whether the effluence of Solar plant is commensurate with the capacity utilization factor (CUF) determined by MERC from time to time.

15. Net metering Connection Agreement:

The consumer shall execute a Net metering Connection Agreement on Stamp Paper of Rs.200/- with MSEDCL as per Regulation No. 9 of MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015. A Copy of Net metering Connection Agreement is enclosed as Annexure-I.

#### 16. Incentives &. Penalties:

i. The consumer opts for Net metering by installation of Rooftop Solar PV system for his partial requirement of load, such consumer shall be eligible for incentives, which may be applicable as per MERC Tariff Order for MSEDCL consumer; only to the extent it uses MSEDCL supply.

ii. The Eligible consumer shall be liable to pay the penalty charges which may be applicable as per MERC tariff order, amended from time to time, if the power factor is not maintained at required

level as per State Grid Code.

iii. In case of default in payment of any of the charges otherwise payable by a eligible consumer /person, MSEDCL shall have the right to dislocate the arrangement of net metering after giving an intimation of 24 hours to such consumer/ person and in such circumstances, MSEDCLs hall not be liable to pay any compensation to such consumer or person for the loss that such consumer or person may sustain on any account.

17. The connectivity of Rooftop solar PV installation net metering systems shall be governed by CEA(Technical Standard for Connectivity of the Distributed Generation Resources) Regulations, 2013, CEA (Measures relating to Safety and Electricity Supply), Regulations, 2010 and MERC state

Grid code 2006 or as may be specified in future.

18. MSEDCL shall have the right to disconnect the Roof top Solar PV System from its Network at any time in the event of any threat of accident or damage from such System to its distribution system so as to avoid any accident or damage to it. However, the Eligible Consumer may use his Roof-top Solar PV System in islanding mode for his own consumption.

19. The Roof-top Solar PV System meets the applicable norms for being integrated into the Distribution Network, and that the Eligible Consumer shall maintain the System accordingly for the duration of

this Agreement.

#### · 20. Technical and Inter-connection Requirements:

i. The metering arrangement and the inter-connection of the Roof-top Solar PV System with the Network of the Licensee shall be as per the provisions of the Net Metering Regulations and the technical standards and norms specified by the Central Electricity Authority for connectivity of distributed generation resources and for the installation and operation of meters.

ii. The Eligible Consumer agrees, that he shall install, prior to connection of the Roof-top Solar PV System to the Network of the Licensee, an isolation device (both automatic and in built within inverter and external manual relays); and the Licensee shall have access to it if required for the

repair and maintenance of the Distribution Network.

iii. The Eligible Consumer shall furnish all relevant data, such as voltage, frequency, circuit breaker, isolator position in his System, as and when required by the Licensee.

21. Safety:

i. The equipment connected to the Licensee's Distribution System shall be compliant with relevant International (IEEE/IEC) or Indian Standards (BIS), as the case may be, and the installation of electrical equipment shall comply with the requirements specified by the Central Electricity Authority regarding safety and electricity supply.

ii. The design, installation, maintenance and operation of the Roof-top Solar PV System shall be undertaken in a manner conducive to the safety of the Roof-top Solar PV System as well as the

Licensee's Network.

iii. If, at any time, the Licensee determines that the Eligible Consumer's Roof-top Solar PV System is causing or may cause damage to and/or results in the Licensee's other consumers or its assets, the Eligible Consumer shall disconnect the Roof-top Solar PV System from the distribution Network upon direction from the Licensee, and shall undertake corrective measures at his own expense prior to re-connection.

iv. The Licensee shall not be responsible for any accident resulting in injury to human beings or animals or damage to property that may occur due to back-feeding from the Roof-top Solar PV System when the grid supply is off. The Licensee may disconnect the installation at any time in the event of

such exigencies to prevent such accident.

22. Other Clearances and Approvals:

i. The Eligible Consumer shall obtain any statutory approvals and clearances that may be required, such as from the Electrical Inspector or the municipal or other authorities, before connecting the Roof-top Solar PV System to the distribution Network.

23. Period of Agreement, and Termination:

This Agreement shall be for a period for 20 years, but may be terminated prematurely by

1. By mutual consent; or

2. By the Eligible Consumer, by giving 30 days' notice to the Licensee;

3. By the Licensee, by giving 30 days' notice, if the Eligible Consumer breaches any terms of this Agreement or the provisions of the Net Metering Regulations and does not remedy such breach within 30 days, or such other reasonable period as may be provided, of receiving notice of such breach, or for any other valid reason communicated by the Licensee in writing.

## 24. Access and Disconnection:

i) The Eligible Consumer shall provide access to the Licensee to the metering equipment and disconnecting devices of Roof-top Solar PV System, both automatic and manual, by the Eligible Consumer

ii) If, in an emergent or outage situation, the Licensee cannot access the disconnecting devices of the Roof-top Solar PV System, both automatic and manual, it may disconnect power supply to the

iii)Upon termination of this Agreement under Clause 5, the Eligible Consumer shall disconnect the Roof-top Solar PV System forthwith from the Network of the Licensee.

25 'Liabilities:

i. The Parties shall indemnify each other for damages or adverse effects of either Party's negligence or misconduct during the installation of the Roof-top Solar PV System, connectivity with the

distribution Network and operation of the System.

ii. The Parties shall not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or goodwill, or for indirect, consequential, incidental or special damages including, but not limited to, punitive or exemplary damages, whether any of these liabilities, losses or damages arise in contract, or otherwise.

# 26. Commercial Settlement:

The commercial settlements under this Agreement shall be in accordance with the Net Metering Regulations. The Licensee shall not be liable to compensate the Eligible Consumer if his Rooftop Solar PV System is unable to inject surplus power generated into the Licensee's Network on account of failure of power supply in the grid/Network.

27. The existing metering System, if not in accordance with the Net Metering Regulations, shall be replaced by a bi-directional meter (whole current/CT operated) or a pair of meters (as per the definition of Net Meter' in the Regulations), and a separate generation meter may be provided to measure Solar power generation. The bi-directional meter (whole current/CT operated) or pair of meters shall be installed at the inter-connection point to the Licensee's Network for recording export and import of energy. The uni-directional and bi-directional or pair of meters shall be fixed in separate meter boxes in the same proximity.

28. The Licensee shall issue monthly electricity bill for the net metered energy on the scheduled date of meter reading. If the exported energy exceeds the imported energy, the Licensee shall show the net energy exported as credited Units of electricity as specified in the Net Metering Regulations, 2015. If the exported energy is less than the imported energy, the Eligible Consumer shall pay the Distribution Licensee for the net energy imported at the prevailing tariff approved by the Commission for the

consumer category to which he belongs.

#### 29. Connection Costs:

- a. The Eligible Consumer shall bear all costs related to the setting up of the
- b. Roof-top Solar PV System, excluding the Net Metering Arrangement costs.

#### 30. Dispute Resolution:

i. Any dispute arising under this Agreement shall be resolved promptly, in good faith and in an equitable manner by both the Parties. The Eligible Consumer shall have recourse to the concerned Consumer Grievance Redressal Forum constituted under the relevant Regulations in respect of any grievance regarding billing which has not been redressed by the Licensee.

All conditions as per MSEDCL 258 & MERC regulation regarding Roof Top solar net metering is binding on this sanction.

This is only Permission for installation of roof-top solar PV system for net metering, after the payment of all the arrears/recovery of the connection & completion of all formalities as above & MSEDCL rules & regulation commercial circular no. 258 Dt. 25.01.2016, release for the connectivity (synchronization) of Roof top system with MSEDCL gird will be given.

31. Load Sanction Estimate No.: Sanction No. SE/STRC/T/RT/Solar/ (21-22)/11 Dt.02.02.2022.

Estimate is technically sanctioned for Rs. 2,01,460/- under DDF.

Thanking you

Yours faithfully

Superintending Engineer Satara Circle

## Copy to:

- 1. The Executive Engineer, MSEDCL, O & M Division, Satara ......Submit WCR report after finalization of accounting of the material installed & the kiosk should be installed near Main gate.
- 2. The Executive Engineer (STRC-Testing), MSEDCL, Testing Division, Satara..... submit the pre-release report & test the meter as per MSEDCL Rules & regulation.
- 3. The Dy. Executive Engineer, MSEDCL, O&M Sub-Division, Satara R S/Dn.
- 4. Manager (STRC -F&A), MSEDCL, circle office Satara:.....for information & needful please.

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Consideration of Accounts

रवानाधारक मुणक विकेत्याची गडी वीप्रयास अवस्था १००० ।

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श्रीमती आशा सुनिल पांडेकर परवाना क्र २३०१०२९

त्या कारणासाही उद्यांनी मुद्धांक खरही कला त्यांनी त्याच कारणासाठी मुद्राक अर्था करणा धासून ६ महिन्याच वावरण वधनकारक आहे

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#### ANNEXURE - 3

## **Net Metering Connection**

#### Agreement

This Agreement is made and entered into at (location) - Satara on this (date)-17
---- day of (month) March (year) - 2022 between the Eligible Consumer

(Name)

M/S Yachoda Chikshan Prasarak Mandal, Satara
having premises at (address) - S.No. 242/1, Mathe, Tal & Dis. Satara
and Consumer No - 196199-026230 asthe first Party,

#### AND

----as second Party of this Agreement;

Whereas, the Eligible Consumer has applied to the Licensee for approval of a Net Metering Arrangement under the provisions of the Maharashtra Electricity Regulatory Commission (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 ('the Net Metering Regulations') and subsequent amendments and sought its connectivity to the Licensee's Distribution Network;

# Eligibility:

Maharashtra

13056 Satara

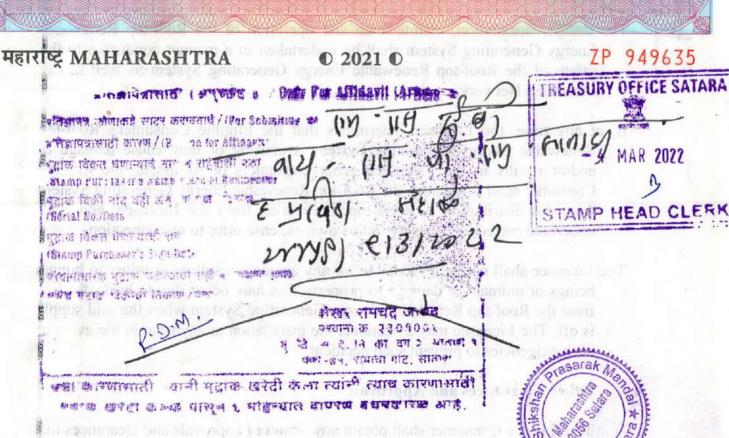
The Roof-top Renewable Energy Generating System meets the applicable forms for being integrated into the Distribution Network, and that the Eligible Consumer shall maintain the System accordingly for the duration of this agreement.

# Technical and Inter-connection Requirements:

The metering arrangement and the inter-connection of the Roof-top Renewable Energy Generating System with the Network of the Licensee shall be as per the provisions of the Net Metering Regulations and the technical standards and forms specified by the Central Electricity Authority for connectivity of distributed generation resources and for the installation and operation of meters.

The Eligible Consumer agrees, that he shall install, prior to connection of the Rooftop Renewable Energy Generating System to the Network of the Licensee, an isolation device (both automatic and in built within inverter and external manual





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relays); and the Licensee shall have access to it if required for the repair and maintenance of the Distribution Network.

The Licensee shall specify the interface/inter-connection point and metering point.

The Eligible Consumer shall furnish all relevant data, such as voltage, frequency, circuit breaker, isolator position in his System, as and when required by the Licensee.

## 3. Safety:

Maharashtra 13056 Satara

Maharashtra

13058 Satara

with relevant International (IEEE/IEC) or Indian Standards (BIS), as the case may be, and the installation of electrical equipment shall comply with the requirements specified by the Central Electricity Authority regarding safety and electricity supply.

The design, installation, maintenance and operation of the Roof-top Renewable Energy Generating System shall be undertaken in a manner conducive to the safety of the Roof-top Renewable Energy Generating System as well as the Licensee's Network.

If, at any time, the Licensee determines that the Eligible Consumer's Roof-top Renewable Energy Generating System is causing or may cause damage to and/or results in the Licensee's other consumers or its assets, the Eligible Consumer shall disconnect the Roof-top Renewable Energy Generating System from the distribution Network upon direction from the Licensee, and shall undertake corrective measures at his own expense prior to re-connection.

The Licensee shall not be responsible for any accident resulting in injury to human beings or animals or damage to property that may occur due to back-feeding from the Roof-top Renewable Energy Generating System when the grid supply is off. The Licensee may disconnect the installation at any time in the event of such exigencies to prevent such accident.

# Other Clearances and Approvals:

The Eligible Consumer shall obtain any statutory approvals and clearances that may be required, such as from the Electrical Inspector or the municipal or other authorities, before connecting the Roof-top Renewable Energy Generating System to the distribution Network.

## Period of Agreement, and Termination:

This Agreement shall be for a period for 20 years, but may be terminated prematurely

(a) By mutual consent; or

(b) By the Eligible Consumer, by giving 30 days' notice to the Licensee;

(c) By the Licensee, by giving 30 days' notice, if the Eligible Consumer breaches any terms of this Agreement or the provisions of the Net Metering Regulations and does not remedy such breach within 30 days, or such other reasonable period as may be provided, of receiving notice of such breach, or for any other valid reason communicated by the Licensee in writing.

#### Access and Disconnection:

Ehe Eligible Consumer shall provide access to the Licensee to the metering equipment and disconnecting devices of Roof-top Renewable Energy Generating System, both automatic and manual, by the Eligible Consumer.

devices of the Roof-top Renewable Energy Generating System, both automatic and manual, it may disconnect power supply to the premises.

6.3 Upon termination of this Agreement under Clause 5, the Eligible Consumer shall disconnect the Roof-top Renewable Energy Generating System forthwith from the Network of the Licensee.

#### Liabilities:

Parties shall indemnify each other for damages or adverse effects of either Party's negligence or misconduct during the installation of the Roof-top Renewable Energy Generating System, connectivity with the distribution betwork and operation of the System.

The Parties shall not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or goodwill, or for indirect, consequential, incidental or special damages including, but not limited to, punitive or exemplary damages, whether any of these liabilities, losses or damages arise in contract, or otherwise.

#### Commercial Settlement:

The commercial settlements under this Agreement shall be in accordance with the Net Metering Regulations.

Licensee shall not be liable to compensate the Eligible Consumer if his Roof-top Renewable Energy Generating System is unable to inject surplus power generated into the Licensee's Network on account of failure of power supply in the grid/Network.

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13056 Satara

The existing metering System, if not in accordance with the Net Metering Regulations, shall be replaced by a bi-directional meter (whole current/CT operated) or a pair of meters (as per the definition of 'Net Meter' in the Regulations), and a separate generation meter may be provided to measure Solar power generation. The bi-directional meter (whole current/CT operated) or pair of meters shall be installed at the inter-connection point to the Licensee's Network for recording export and import of energy.

The uni-directional and bi-directional or pair of meters shall be fixed in separate meter boxes in the same proximity.

The Licensee shall issue monthly electricity bill for the net metered energy on the scheduled date of meter reading. If the exported energy exceeds the imported energy, the Licensee shall show the net energy exported as credited Units of electricity as specified in the Net Metering Regulations, 2015. If the exported energy is less than the imported energy, the Eligible Consumer shall pay the Distribution Licensee for the net energy imported at the prevailing tariff approved by the Commission for the consumer category to which he belongs.

#### **Connection Costs:**

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The Eligible Consumer shall bear all costs related to the setting up of the Rooftop Renewable Energy Generating System, excluding the Net Metering Arrangement costs.

Dispute Resolution:

Thy dispute arising under this Agreement shall be resolved promptly, in good faith and in an equitable manner by both the Parties.

Redressal Forum constituted under the relevant Regulations in respect of any grievance regarding billing which has not been redressed by the Licensee.

In the witness where of Ajinkya D. Sagare (name) for and on behalf of Eligible Consumer and Shri. Gaudan N. Gaikust (name) for and on behalf of MSEDCL agree to this agreement.

VICE-PRESIDENT
Ajin Lya Yashoda Shikshan Prasarak Mandal

d on behalf of Eligible Consumer

CL Witness 1:

Shri. Gautam N. Craikwad for and on behalf of MSEDCL

Witness 1:

Witness 2:

Gautam N. Gaikwad Superintending Engineer M.S.E.D.C.L. Satara Circle

Executive Engineer

Maharashtra State Electricity Distribution Co. Ltd.

Satara Circle

# MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY LTD. TESTING DIVISION SATARA.

(A Government of Maharashtra Undertaking). CIN: U40109MH2005SGC153645.



"Vidyut Bhavan", MSEDCL, Krishnanagar, SATARA -415003. E-mail: eetsatara@gmail.com



EE/TD/STR/T/HTC/Net-Meter/Solar/HTC-2623/

002779

Date: 3 1 DEC 202

To, The Superintending Engineer, O&M Circle, MSEDCL, Satara.

Sub: Roof top-Solar system of 67 Kw under net metering Arrangement specifications in r/o Existing HT Connection of M/s. Yashoda Shikshan Prasarak Mandal at S.No. 242/1, Wadhe, Satara, Tal Satara, Dist.- Satara HTC No.- 190199026230 CL/CD: 111 KW/ 125 kVA.

Ref: 1) SE/STRC/T/HTC-2623/Solar net Meter/21-22/7027 Dated 08.11.2021.

2) Commercial Circular No. 322 Dt. 21.01.2020

3) Commercial Circular No. 291 Dt. 29.06.2017.

4) CE/Testing/HT-EHV/Metering /Circular/CM-CF/8378 dtd.16/4/2018.

5) CE/Testing/HT Solar rooftop/ABT/07/6413 Dtd. 25/02/2020

M/s. Yashoda Shikshan Prasarak Mandal at S.No. 242/1, Wadhe, Satara, Tal Satara, Dist.- Satara HTC No.- 190199026230 has applied for 67 kW Roof-top Solar PV system under Net Metering arrangement. (As per Ref. No (1)).

The existing HT consumer is connected on 22 kV feeder. The contract demand and connected load of existing HT connection is CL: 111 kW and CD: 125 kVA respectively for Hotel activity. The Existing and Proposed Consumer metering details for Solar Roof top Net metering is as under:-

|                |  | Existing Main Metering<br>Cubicle Details. | Proposed Metering Main Cubical at substation Details for Net Metering.  |  |
|----------------|--|--|---|--|
|                | CTs  | 22kV, 5/5 A, CL: 0.5s, 10 VA.              | No Need to Change   |  |
| A THE PARTY OF | PTs  | 22kV/110 V, 50VA, 0.5.                     | No Need to Change   |  |
| Main<br>Meter  | HT TOD  Meter Secure make, 11 kV/110 V, - /5 A, Class - 0.5s, category C HT TOD Meter Sr. No- X1084015 |  | 11kV/110V,-/5A, Class-0.2s, DLMS category 'B', Four Quadrant, TOD Tri Vector meter with ABT features with latest MSEDCL specifications. (one No.) |  |

Proposed Solar Generation Metering System

| Meter Details  | Meter Specification  | CT<br>Specifications | Quantity |
|----------------|--|----------------------|----------|
| LT-CT operated | LT AC, Three Phase, Four Wire, 40-200 / 5 Amps, Class-0 5s CT operated fully Static & AMR compatible TOD Tri - Vector energy Meters with Optical & RS 232 Port | Embedded meter       | One      |

Meter and CTs should be as per latest specifications of MSEDCL.

P.T.O.

Sub- Roof top-Solar system of 67 Kw under net metering Arrangement specifications in r/o Existing HT Connection of M/s. Yashoda Shikshan Prasarak Mandal at S.No. 242/1, Wadhe, Satara, Tal Satara, Dist.- Satara HTC No.- 190199026230 CL/CD: 111 KW/125 kVA.

The following discrepancies / suggestions which are needs to be attended (if not proper) before installation of Net Metering for rooftop solar PV System:

1. Details in respect of the existing Solar panel & their utilization. Also furnish the detail regarding any permission taken from concerned & Grid connectivity, if any.

2. In the existing shed of **HTMK** should be with provision of electric plug point, fan and tube light fitting, shall be provided for metering to facilitate & routine testing work.

- 3. Total 9 Nos. of earth pits are required for HT metering cubical which needs to be meshed i.e. interconnected at bottom of each pit to get effective earth resistance. Same earth pits be connected separately by using copper strip of size 20 mm x 4 mm to following equipment.
  - a. CT body and PT body four pits (Two earth pits each for PT and CT separately).
  - b. CT Secondary Earthing One pit,
  - c. PT Secondary Earthing One pit.
  - d. Incoming HT Cable Earthing One pit.
  - e. Outgoing HT Cable Earthing One pit.
  - f. Cubical Body Earthing One pit.

Earthing strips should be visible and not be concealed in foundation and should have tap arrangement for watering the pits.

4. All holes including opening near Inlet/Outlet of HT cable must be closed properly by using M-Seal/Epoxy compound or any other filling material.

5. Lightening arrester should be provided at the incoming/ tapping DP stature for protecting of HT metering cubicle. Separate two no's of earthing pit should be provided; these pits should be isolated from the earthing grid.

6. Except metering all other HT/LT line, MSEDCL installations if available in consumer's premises

be shifted/removed before release of HT supply.

- The consumer may be asked to install good quality static ammeter and voltmeter on LT side Incomer panel to record all three phase currents and voltage during annual testing and load test.
- 8. Isolation and proper protection arrangement matching with the load demand shall be provided immediately after the metering.
- Neutral wires should not be connected commonly on LT side of consumer distribution box/panel where MSEDCL (grid) supply and solar supply is proposed to be synchronized. The neutral should be isolated for solar side and MSEDCL (grid) side with separate earthing pits for MSEDCL supply and solar supply.
- 10. The consumer should provide physical isolation in n addition to electronic/electrical isolation is to be provided between Solar supply and grid supply with lockable switch arrangement, which is manually operated isolating switch before the interconnection point on solar side, shall meet the following requirements:
  - i) Allow visible verification that separation has been accomplished;
  - ii) Include indicators to clearly show open and closed positions;
  - iii) Be capable of being reached quickly and conveniently twenty four hours a day by MSEDCL personnel without requiring clearance from the applicant;
  - iv) Be capable of being locked in the open position;
  - v) May not be rated for load break nor may have feature of over-current protection;
  - vi) Be located at a height of at least 2.44 m above the ground level.
- 11. The consumer should provide appropriate protection for islanding of roof top solar PV system, from MSEDCL network in the event of failure of grid or MSEDCL supply.
- 12. No voltage relay, Under Voltage, Over Voltage, Single Phase preventer protection should be provided to the grid side LT (4-pole) breaker, in the case of MSEDCL supply failure this breaker will operate and isolate the Solar PV system from the grid.
- 13. The consumer should comply with the provisions of Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 notified dt 30th September, 2013.

P.T.O.

Sub: Roof top-Solar system of 67 Kw under net metering Arrangement specifications in r/o Existing HT Connection of M/s. Yashoda Shikshan Prasarak Mandal at S.No. 242/1. Wadhe, Satara, Tal Satara, Dist. - Satara HTC No. - 190199026230 CL/CD: 111 KW/ 125 kVA.

14. Consumer has to submit the certificate regarding proper working of islanding system and electrical safety of the same duly signed and certified by the licensed electrical contractor and any other agency executing work.

15. The electrical network with appropriate protection scheme (i.e. proposed SLD) should be approved from the Electrical Inspector and the charging permission from electrical inspectorate needs to be obtained before commissioning of Net metering arrangement.

16. The solar generation meter, LT CT operated as per MSEDCL specifications, as per clause No.8.7 & 8.8 of Comm Circular 322 to be installed for RPO mechanism and also to ascertain whether the efficiency of Solar plant is commensurate with the capacity utilization factor(CUF) determined by MERC from time to time. This meter will be of appropriate capacity as per declared generation capacity of Roof Top Solar Unit.

17. Solar Generation Meter should be installed at easy accessible locations near to the Net meter. The Generation metering system specifications shall be incorporated for

measurement of cumulative solar generation parameters.

18. The consumer should submit the approved SLD of solar PV system with arrangement of islanding scheme with Net metering arrangement, solar generation metering etc.

19. Separate lightning arrestor with separate earthing should be provided before solar panel as per IS 3043-1987.

20. The provisions and other terms & conditions as per Commercial Circular No.322 dtd.21.01.20 may please be verify/observed.

21. Provide AB Switch/Isolator/RMU (as the case may be) on electrical structure of the consumer switchyard before metering installation.

22. As per Guidelines issued vide Commercial Circular no 291, all non SOP cases, viz new load request, startup power, Single point Connectivity shall be approved by competent authority at HO. The CT Ratio of such exceptional cases and cases not covered in circular under ref. no 5 such as non-commensurate CT which may attract CT error compensation factor (If required) etc., will be decide by CE Testing.

This is submitted for your kind information and needful action, please.

(S B Marulkar)

Executive Engineer, Testing Division, Satara.

Copy f.w.c.s to: The Executive Engineer, O&M Division, Satara. Copy to: 1) The Dy. Executive Engineer, O&M Sub-division, Satara Rural

2) M/s. Yashoda Shikshan Prasarak Mandal at S.No. 242/1, Wadhe, Satara, Tal Satara, Dist.- Satara

3) M.F.

Sub Roof log-Solar system of 67 Kw united returnstering Arrangement specifications in n/o Existing RT Connection of II/s, Yeshoda Shiloshan Presental Handal at 5.No. 242/1, Waddie, Salara, Tal Salara, Urst., Salara HTC No. - 190199026230 CL/CD: 111 KW/ show nathingers window vadda yes the telescopies and a large secondary of the commentation per literal approximation and approximate the commentation of the co islanding priorite soft flat mereding with mention with receiving selection measure etc.
Separate lightning engalar with piperale softing a multi be provided before as paper pa and a substant police from one of the property of the substantial of t As per Carbulates lessed the edition of the conduct the 25% all and 500 cases. We new land And the second state of the second se arisis divisionil dell'ide



# MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.

(A Govt of Maharashtra Undertaking) CIN: U40109MH20055GC153645

PHONE NO: 02162-244640

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Office of Superintending Engineer

Administrative Building, Vidyut Bhavan, 1st floor,

Krishnanagar, Satara - 415 003

No. SE/STRC/T/HTC-2623/Solar Net Meter/ (20-21)/

Date: '2 5 MAR 2022

The Executive Engineer

MSEDCL, O & M Division Satara.

Sub: Release for installation of solar net metering for connectivity/ installation of Roof-top Solar PV system of 67 KW for net metering in r/o M/S Yashoda Shikshan Prasarak Mandal Satara at S No. 242/1, A/p- Wadhe

Ref: - 1) Commercial Circular no 258 dt.25.01.16 & Commercial circular No 322 dated 21 Jan 2020.

2) Application No. Nil on Dt. 28.10.2021.

3) SE/STRC/T/HTC-2623/Solar net metering/07027 Dt. 08.11.2021.

4) EE/TD/STR/T/HTC-2623/ Solar net metering /02779 Dt.31.12.2021.

5) EE/STR/T/21-22/No. 05975 Dt. 25.11. 2021.

6) SE/STRC/T/HTC-2623/Solar net metering/0973 & 0974 Dt. 08.02.2022

7) EE/STR/Tech/21-22/01391 dated 15.03.2022.

8) Email from The EE Testing Division, Satara dated 22.03.2022

In connection with above cited subject, Permission for connectivity/ installation of roof-top solar PV system of 67 KW was issued for solar net metering vide letter under ref. no.6. Now the consumer has completed the necessary conditions for installation of solar net metering for connectivity/ installation of rooftop solar PV system of 67 KW for net metering in r/o M/S Yashoda Shikshan Prasarak Mandal, Satara at S No. 242/1, A/p- Wadhe Tal & Dist- Satara, (HTC- 190199026230) for self use for company purpose as

| Particulars             | Conn. Load (KW) |                       |  |
|-------------------------|-----------------|-----------------------|--|
| Existing Load of HTC    |                 | Contract Demand (KVA) |  |
|                         | · 111 KW        |                       |  |
| Roof top Solar System . | (TVI)           | 125 KVA               |  |
|                         | 67 KW           | 0                     |  |

The Consumer has completed the following formalities: -

#### 1] PAYMENT:

| Sr.<br>No. | Particulars                         | Amount in Rs. | Amount  |  |
|------------|-------------------------------------|---------------|---|--|
| a          | Net meter Application Charges       | 5000/-        | Amount in Rs. / R. No. 129408591114 Dt.21.10.2021 |  |
| Ь          | 1.3% Sup. charges on estimated cost | 2,620/-       | R. No. 02431141 Dt.09.02.2022                     |  |
| С          | Security Deposit                    | Nil           |   |  |
| d          | Testing fees<br>GST charges @ 18%   | 2200/-        | NIL<br>R. No. 02431142 Dt.09.02.2022              |  |
|            | TOTAL Rs.:                          | 11,558/-      |   |  |

Hence the permission for release the Solar PV system of 67 KW for net metering in r/o M/S Yashoda Shikshan Prasarak Mandal, Satara at S No. 242/1, A/p- Wadhe Tal & Dist- Satara, (HTC- 190199026230) is hereby granted subject to following conditions:

2. Metering: At present your load is supplied on 22 kV Volts with HT Connection, Net meter will be installed on HT side of Transformer as per MSEDCL rules & regulation.

CT specifications

5/5A single core single ratio 0.5s class 10 VA Burden-No change

PT specifications

22 kV/110 V single core single ratio 0.5 class 50 VA burden-No change

Net meter specification

New 11KV/110V, -/5A, Class-0.2s, DLMS category 'B', Four Quadrant, TOD Tri vector meter with ABT features with latest specifications as per EE Testing report

LT solar Generator meter

As per EE Testing report (LT AC, three Phase, Four Wire, 40-200/5A, 3X440V, Class-0.5s CT operated fully static & AMR compatable TOD Tri - Vector energy meter with optical & RS 232 port

3| PERMISSION FROM ELECTRICAL INSPECTOR

Received permission from vide Electric Inspector, Satara Vide letter No. Nil .

4| TEST REPORT:

Received Test Report dated 22.03.2022 prior to charging of connection.

5] AGREEMENT: The Agreement for contract demand solar net metering for 67 kW has been executed on 17th March 2022.

6] Submit NSC Report to HT Billing section of Satara Circle.

a. If there is an existing LT connection, the energy bill should be prepared on the same day and issued to the consumer. This new HT connection should be released only after disconnection of any other LT supply and recovery of the energy bill / arrears.

b. You are requested to observe the remaining formalities as per the letter from Executive Engineer (Testing-STRC) and installed solar Net meter to HT supply side & Solar Generator Meter at LT side,

under intimation to this office.

c. Please note that, metering is made strictly as per the provision indicate in Circular No. 104 dt. 3.2.88 from Technical Member, MSEDCL, Mumbai and Department / H. O. Circular (Com.) 484 from T.D. (Dist.) Mumbai & commercial circular No 258 dated 25 Jan 2016 & commercial circular No 322 dated 21 Jan 2020..

7] Any previous connection / sub meter in the same premises should be permanently disconnected and arrears in this premise should be recovered before releasing the connection.

8] All points raised by E.E. Testing are to be complied before the installation of net meter.

9] Any type of recovery i.e. under sect. 126, 135 should be recovered prior to release.

10] This release for installation of Solar Net Metering & Solar Generator Meter only.

11] Recovery of the Construction activity bill / bill must be checked before release.

(Gautam N Gaikwad) Superintending Engineer MSEDCL, Satara Circle

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|----|----|----|----|
| Co | 20 |    | J. |

[1] M/S Yashoda Shikshan Prasarak Mandal, Satara at S No. 242/1, A/p- Wadhe Tal & Dist- Satara, (HTC-190199026230) It is requested to depute your representative & Electrical Contractor at the time of replacement of net meter & solar generator meter charging.

2] The Executive Engineer (STRC-Testing), MSEDCL, Testing Division, Satara

.......Please arrange for replacement of existing meter by net meter & installation of TOD Generator Meter after satisfactory test results of the 'Inverter' provided for Roof-top Solar PV system, as per Commercial Circular No. 258, dated 25 Jan 2016 & commercial circular No 322 dated 21 Jan 2020.

3] The Dy. Executive Engineer, MSEDCL, O & M Sub-Division, Satara R S/Dn.

It is requested to personally present during charging. Reset the

4] The Manager (STRC -F&A), MSEDCL, Satara..... for information.