

KSEPL/SBPU/6262

05/03/2018

To,
The Principal
RNC Arts JDB Commerce and
NSC Science College,
Nashik.

Dear Sir,

With reference to the circular issued by Dept of Planning & development, Savitribai Phule Pune University for Rooftop Solar power pack system , please find technical specifications (as per guidelines provided by SPPU) & quotation.

The system consists of :

Technical Specifications of components in Solar Roof-top PV system

Sr. No	DESCRIPTION OF ITEM	SUPPLIER MAKE
A-1	Modules-Poly Crystalline	
1	PV Modules-Polycrystalline, 250 Wp-320 Wp range, including module interconnection MC4 Connectors (Indian Make with RFID TAG)	Waaree / Renewsys Solar
A-2	Grid-tie Inverter	
1	Grid-tie On-line Solar String Inverters with SPD on both DC & AC Side	Delta
A-3	BOS Components	
1	Single Core, Multistrand, 4 Sq. MM TUV approved Solar Cable for DC side	Lapp
2	Multistrand Cable for AC Side	Polycab Cable
3	MC4 Connectors suitable for 4 Sq. mm Cable (Male & Female)	Multi-Contact
4	UV Protected Cable Ties for Solar Cables	Surelock or Equivalent
5	Solar LT panels with generation meter and MCCB for isolation	L&T
A-4	Module Mounting Structures	
1	Module Mounting AL Profiles, Rails etc. for Metal Sheet Roof	Jurchen or Equivalent
2	Module Mounting Structure on RCC rooftops – Hot Dip Galvanised (80 Micron)	Local
A-5	Grounding and Security System	
1	Treated Earth Pits 50mm dia *3 mt Cu Bonded Earth Rods with back fill compound	Reputed
2	Lightning Arrestor-ESE or conventional type with Earth pit	JMV or Equivalent
3	GI Strip (25 x 3 mm) for Plant Earthing	Reputed
A-6	Monitoring System, Cables and accessories	

1	Mandatory: Generation Data Monitoring System with web based server and access of user id and password to access the same to be shared with Savitribai Phule Pune University. Optional: Weather monitoring system including of Irradiance sensor, Air temperature, Module temperature sensor, Power supply and accessories and data logger.	Reputed
2	Wi-Fi /GPRS internet modem	Reputed
A-7	Cable Trays and Accessories	
1	Cable Tray of required sizes	Reputed
2	Cable glands, lugs, ferruls etc	Reputed
3	HDPE/ PVC pipes	Reputed
A-8	Fire Fighting system	
1	Danger Board	Reputed
2	Fire Extinguishers Equipments	Reputed
A-9	Net-meter	
1	MSEDCL approved Net-meter	Secure

PRICE : (LT meter connection only)

Supply of 10 KWp Grid-connected Solar Roof-top System : Rs. 5,90,000.00
 GST 5% : Rs. 29,500.00
 Installation charges: Rs. 30,000.00
 GST 18% : Rs. 5,400.00
 Total : Rs. 6,54,900.00

Final cost
 Rs. 6,25,000/-
 31/7/18

PI Note :

- 1) The above quoted price of 10 kw Solar rooftop system is **only for LT** meter connection .
- 2) In case of HT meter (both 11/22 KVA) it is difficult to predict MSEB's requirements at this stage . It is proposed that we along with the representative of the college jointly get the net metering done. All charges for the same will have to be borne by the college authorities.
- 3) If the system is required to be installed on raised structure , then it will be done @Rs.85/- kg

Payment:

70% advance along with order , 25% on Proforma before delivery , balance on installation

Delivery : Within 3 weeks

PI revert in case any clarification is required.

Thanking you,
 Yours Truly

Dilip Lale
 Kaushal Solar Equipments P Ltd
 767/7 , Deccan Gymkhana
 Pune 411004
 Ph : +91 20 2567 0472 / 7789
 Mob : 90754 92401
mktg@kaushalsolar.com

website : www.kaushalsolar.in

P.O. To be drawn
 as per sample order
 advance of Rs 3,75,000/-
 be paid along with P.O.
 + conditions thereof.

Prof
 31/7/18

Alc See
 Pl. do the needful
 All
 31/7/18
www.kaushalsolar.in

Application Form for installation of Roof-top Solar PV System under Net Metering arrangement

Name of Distribution Licensee: Maharashtra State Electricity Distribution Co.Ltd
(MSEDCL)

Name of Administrative Office:

Application No. : 12956885

Date of Receipt : 8/3/2018

(To be filled by the Applicant in Block Letters)

1.	Applicant's Full Name	THE PRINCIPAL
2.	Address of the premises at which : Roof-top Solar PV System is to be installed	RNC ARTS, JDB COMMERCE AND NSC SCIENCE COLLEGE< NASHIK ROAD NASHIK 422101
3.	Telephone/Mobile No	0253-2461548 / 9423961246
4.	E-mail ID (if available)	<u>cbcnashikroadcollege@gmail.com</u>
5.	Alternate address for communication (if any)	-----
6.	Category of existing electricity connection	PUB SER
7.	Consumer No.	049080039491
8.	Sanctioned Load / Contract Demand (in KW/KVA/HP)	10 KW
9.	Voltage at which existing supply has been given (in volts)	440VOLTS 3 PHASE
10.	Proposed AC capacity of Roof-top Solar PV System to be installed (in kW)	10 KW
11.	Voltage at the output of Solar Inverter (in volts)	440 VOLTS 3 PHASE
12.	Details of Registration Fee paid (For consumers with Sanctioned Load-upto 5 kW: Rs. 500; For consumers with Sanctioned Load/Contract Demand above 5 kW: Rs.1,000).	BU PC -4671 AMOUNT PAID -INR 1180 RECEIPT NO. 468998078 DATE : 05.03.2018 TRANSACTION NO. 468998078 SOLAR ROOF REG. FEE 1000 GST 0180
13.	Whether consumer availing solar RPO	NO
14.	If not authorized MSEDCL to avail Solar RPO	NA

Date : 8-3-2018

Nichal
Office of the
Addl Executive Engineer
Deolali S/Dn. M.S.E.D.C.L.
Behind BSNL Office
Dattamandir Road

R. M. M.
Signature of Applicant

[Signature]

PRINCIPAL
G.E. Society's RNC Arts, JDB Commerce &
NSC Science College, Nasik Road-422101

ACKNOWLEDGEMENT

Received an Application from The Principal , RNC Arts, JDB Commerce and NSC Science College, Nashik Road Nashik 422101 for connectivity/installation of Roof-top Solar PV System of capacity of 10 kW as per details below :-

Date of Receipt	Applicant's Name	Application Number	Existing Consumer No.	Capacity of Roof-top Solar PV System
(1)	(2)	(3)	(4)	(5)
5.3.2018	The Principal, RNC Arts, JDB Commerce and NSC Science College, Nashik Road Nashik 422101	12956885	049080039491	10 KW

Date : 8 MAR 2018

(Signature and Designation of Engineer in Charge)

Add. Executive Engineer
M.S.Elect.Dist.Co.Ltd.
Deolali Sub Division

Ph. No. 0253-2458663

Office of Addl. Ex. Engineer,
33/11 KV Muktidham Sub Station
Nr. B.S.N.L. Office, Dattmandir Rd
Nashik

Email-sdo4671@ho.mahadiscom.in
Website-www.mahadiscom.in

AEE/DLI-Sdn./T/R.T.Solar-Sanction/

00533

Date:

27 MAR 2018

To,

The Principal , G.E. Society's RNC Arts,
JDB Commerce & NSC Science Collage,
Nashik Road, Nashik. 422 101.

SUB : Approval to Connectivity to the Distribution network of MSEDCL for Solar PV systems of **3PH 10KW** on Rooftop in their premises of **The Principal , G.E. Society's RNC Arts, JDB Commerce & NSC Science Collage, Nashik Road, Nashik. Cons. No. 049080039491** under the MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015.

REF : 1. Application from **The Principal, RNC Collage** Date. 08/03/2018
2. Technical Feasibility Report From AE/D'gaon/T/2018/49 Date. 26/03/2018
3. Commercial Circular No. 258 Dt. 25.01.2016.

With reference to the above subject & letters under reference and as per delegation of powers vide letter no. Comm/CP/Solar-Net metering/3051 Dt. 25.01.2016 in respect of Connectivity to the Distribution network of MSEDCL for Consumers installing solar PV projects/systems on Rooftop or any mounting structure in their premises under the MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015, competent authority viz. Additional Executive Engineer, Deolali Sdn has accorded approval, installing solar PV systems of **10KW** on Rooftop in their premises of **The Principal , G.E. Society's RNC Arts, JDB Commerce & NSC Science Collage, Nashik Road, Nashik. Cons. No. 049080039491** The Details are stated in below table.

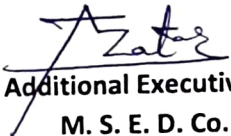
1	Name of Applicant	The Principal , G.E. Society's RNC Arts, JDB Commerce & NSC Science Collage, Nashik Road, Nashik. Cons. No. 049080039491
2	Scheme	Net Metering for Roof-top Solar Photo Voltaic Systems
3	Work Involved	PV Cell Solar Panels Installation – 10KW Inverter – 440 Volts, 10KW Surge Protection – 1 No. Lightening Protection – 1 No. Auto Changeover as well as Manual MSEDCL Isolation System- 1 No. Auto Earth Connectivity system of Supply Mains when MSEDCL Supply OFF- 1 No. Separate Earth Pits each for Inverter, LA, Surge Protection Proper Point of Supply for installation of Net Meter
4	Estimated Amount	Work to be carried out by applicant at his own cost
5	Registration Fees	Rs. 1180/- Paid vide Rec.No. 468998078 Date. 05/03/2018

6	Load Details	CL	10 KW		MD	40.1 KW		
		SL	10 KW		Recorded			
7	DTC No	4671172	Capacity	100 KVA	C.L.	10 KW	MD	40.1 KW
8	Previous Solar	Roof Top Approval on Above DTC – NIL						
9	Sanction No.	AEE/Deolali/SDN/R.T. Solar/2017-18/55 Date. 27-MAR-2018						

Approval is subject to following terms & conditions:

1. The validity of this sanctioned estimate is for next Six Months from the date of this sanction.
2. Confirming NO DUES of existing connection.
3. Connectivity will be released by following chronology of applications under this scheme.
4. All the expenditure in this connection will be borne by the applicant only, under 1.3% Supervision Charges.
5. Work shall be executed only through Licensed Electrical Contractor having valid license.
6. Before charging of installations, charging permission from Electrical Inspector Office and Testing Division MSEDCL, Nashik Urban Circle, Satapur shall be obtained.
7. Work shall be taken in hand after payment of requisite charges.
8. The work should be carried out strictly as per approved earmarked drawing & by observing MSEDCL's standard methods of constructions and Indian Electricity rules, under the supervision of concerned A.E. Section Office.
9. In the event of accident/damage to the Humans/Property etc. during execution of works, the same will be at risk & cost of the applicant.
10. The capacity of the Rooftop Solar PV system to be connected at the shall not exceed contract Demand (in KVA) or Sanctioned load (in KW) for above connection number.
11. 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.
12. 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.
13. The accounting of electricity exported and imported by the Consumer shall become effective from the date of connectivity of the Roof-top Solar PV System with the distribution Network.
14. If the quantum of electricity exported exceeds the quantum imported during the Billing Period, the excess quantum shall be carried forward to the next Billing Period as credited Units of electricity.
15. 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.
16. In case the Eligible 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.
17. The Solar energy generated by an Eligible Consumer in a Net Metering Arrangement under these Regulations shall not be eligible for REC.
18. The Solar generation data shall be monitored quarterly so as to ascertain whether the efficiency of Solar plant is commensurate with the capacity utilization factor(CUF) determined by MERC from time to time.

19. You 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
20. The Eligible 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.
21. The Eligible consumer shall be liable to pay the penalty charges which may be applicable as per MERCtariff order, amended from time to time, if the power factor is not maintained at required level as per State Grid Code.
22. 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, MSEDCL shall 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.
23. 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.
24. 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.
25. Conditions of approval are bounded to MSEDCL's Commercial Circular No. 258 and may amend time to time as per instructions from Head Office.
26. MSEDCL will not be held responsible for any delays or issues, if any, which may arise while carrying out the works by the applicant.


Additional Executive Engineer
M. S. E. D. Co. Ltd.,
Deolali Sub-division


Copy s.w.r.to :

1. The Executive Engineer, MSEDCL, Nashik Urban Division-II
..... It is requested to issue 1 Phase TOD NET Meter suitable for above load.
- ✓ 2. The Executive Engineer, MSEDCL, Testing Division, Nashik Urban Circle / *Satpav. pote #*
..... It is requested to carry out testing of above premises in view of Grid Standards and safety point of view as per the guidelines of Commercial Circular No. 258.

Copy to:

1. The Assistant Engineer, Deolaligaon Section.
..... For execution purpose.

MSEDCL - New Connection

 MAHAVITARAN Maharashtra State Electricity Distribution Co. Ltd.	Maharashtra State Electricity Distribution Co. Ltd.
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**Receipt for New Connection charges /
Solar PV Application charges**

Consumer Number : 049080039491

BU , PC : 4671

Amount Paid: Rs. 1180

Receipt Number : 468998078

Receipt Date : 5-3-2018

Transaction Number : 468998078

Receipt Details

Description	Amount (Rs.)
SOLAR ROOF-TOP REGISTRATION FEE	1000
GOODS AND SERVICE TAX	180
Total	.1180

MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.

URBAN TESTING DIVISION

Phone No- 02532352959

Fax No- 0253 2360120

Email-eetnashik@gmail.com



Office of the Executive Engineer,
Plot No-C -22/23, Near Victor Gasket,
Pole factory, MIDC, Satpur, Nashik.

(A Government of Maharashtra Undertaking)

CIN: U40109MH2005SGC153645

EE/UTD/ NSK/Tech/

Date:

1611

To,
The Addl. Executive Engineer,
M. S. E. D. Co. Ltd.,
Deolali Sub Division, Nasik.

Sub: Verification of Solar PV roof top system in r/o The Pricipal Gokhale Education Society, RNC Arts, JDC Commerce & NSC Science College, Nashik Road, Nashik (Cons. No.-049080039491), & NOC thereof.

Ref: 1. Addl. EE/Deolali S/d/Tech/1516 Dt. 24.10.2018.
2. MSEDCL commercial circular No. 258 Dt. 25.01.2016.

The testing engineers were deputed on Dt. 01.10.2018 to the site of above said Solar PV cell roof top system in r/o The Pricipal Gokhale Education Society. As per the clause no. 6, of commercial circular No. 258 Dt. 25.01.2016, the installation is verified and found ok for islanding from MSEDCL Network in the extent of Failure of MSEDCL supply. However as per

Clause no. 6.2-The consumer is responsible for safe operation, maintenance and rectification of any defect in the installed system up to the point of Net Metering.

Clause No. 6.3: Consumer should maintain the healthiness of isolation system in the event of supply failure. Further it is advised that

1. Consumer should maintain & up keep the earthing electrode provided for P. V. system.
2. No Battery Back-up Inverter supply should be extended to Grid Inverter.
3. Energy meter may be provided at Grid Inverter out-put if required for RPO credit etc.

The above verification done in the presence of

MSEDCL Representative -

Mr. Dinesh R Pawar, A.E., UTD, Nashik

Consumer Representative -

Mr. Gogad

It is also requested to observe the power flow (Import/Export) in the metering after commissioning of Net Meter at the consumer installation for the first month of billing.

Remark:

1. Net Meter not installed yet.
 2. Properly tested & approved Net meter should be provided.
- This is submitted for information & n. a. plz.

Executive Engineer,
Urban Testing Division,
MSEDCL, Nasik.

TRUE - COPY

PRINCIPAL

R. N. C. Arts, J. D. B. Commerce and
N. S. C. Science College, Nashik Road.

Checked by _____ Date _____

Date : 15/02/19

To,
The Principal R.N.Chandak
Arts,J.D.Bytco Commerce &
N.S Chandak Science College,
Nashik Road,Nashik-422101

Subject : Regarding given undertaking of 5 years CMC to Grid Connected Roof -top System.

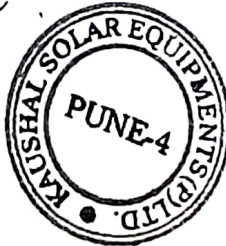
Dear Sir,

I the undersigned below M/s. Kaushal Solar Eq. Pvt Ltd is registered as a Channel Partner with MEDA. I have installed Grid Connected Roof-top System at given premises. I have given undertaking for 5 years Comprehensive Maintenance Contract (CMC) for this Grid Connected Roof-top System.

- **Name of the Beneficiary** :- The Principal
R.N.Chandak Arts,J.D.Bytco Commerce & N.S Chandak
Science College
- **Address of the Beneficiary** :- Nashik Road,Nashik - 422101
- **Capacity** :- 10 KW.

Yours faithfully,
For Kaushal Solar Eq. Pvt Ltd.


Authorized Signatory.



Date: 15/02/2019

TO WHOM SOEVER CONCERN

This is to certify that Kaushal Solar Equipments (P) Ltd has installed a grid tied Solar Photovoltaic system at your premises .

Name of Consumer - The Principal
R.N.Chandak Arts,J.D.Bytco Commerce & N.S Chandak
Science College
Address - Nashik Road,Nashik -422101
System Capacity - 10Kw

Each original manufacturer's product warranty is for 5 years.

PV module :

Make – Renewsys 325 wp x 31 nos .

Performance Warranty: The panels are guaranteed for a minimum 90% output after 10 years and a minimum output of 80% after 25 years.

(All out-put above is under STC i.e. 5.5KWh/sq. m. /day, 25 deg. C, 1.5 AM)

Inverter:

Make – Delata kw x 1 with 5 years warranty.


Surge Protection Units:

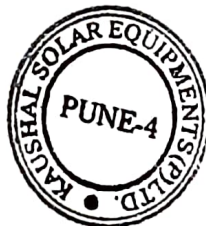
Locally procured high quality ACDB and DCDB boxes. 5 years warranty.

Earthing :

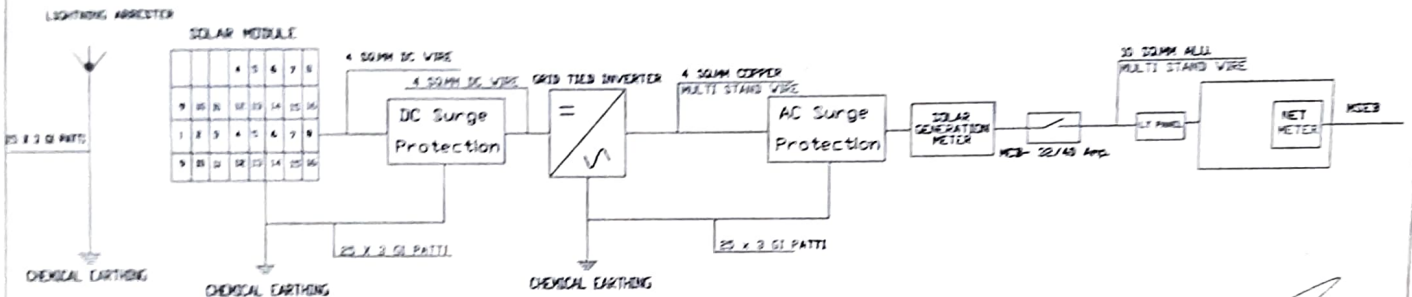
3 nos earthing done at site for AC Side & DC side. & LA.

For Kaushal Solar Equipments P Ltd.


Authorized Signatory



WIRING LINE DIAGRAM FOR GRID CONNECTED ROOFTOP PV SYSTEM
 SITE (R.N.Chandak Arts, J.D-Bytco Commerce & N.S.Chandak Science College, Nashik



DC BOX -
 FUSE - 15 Amp PER STRING
 SPD - 40 kVA PER STRING

AC BOX -
 MCB - 32 Amp 4 POLE
 SPD - 40 kVA
 INDICATOR - RYB

DELTA INVERTER
 DC MAX INPUT - 10.5kWp
 AC OUTPUT - 12.5 kVA
 VOLTAGE RANGE: 400 V +- 20% (320-480)

MAKE: Waree
 MODEL NO: 315WP X 38 NOS
 STRING : 15 x 2 NOS
 CURRENT : 08.55 Amp.
 VOLTAGE : 877 V PER STRING



DEVELOPER:
 Kaushal Solar Equipments Pvt. Ltd.
 767/7, Neel Kusum, Deccan Gymkhana
 Pune 411004
 Ph: 020 25670472 Email: kaushalsolar@gmail.com

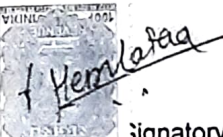
Kaushal Solar Equ. Pvt Ltd.
7677, Neel-Kusum,
Near PYC Gymkhana
Pune-411004
Ph.-020-25677789
State Name : Maharashtra, Code : 27
E-Mail : kaushalsolar@vsnl.com

Receipt Voucher

No. : 220

Dated : 2-Mar-2019

Particulars	Amount
Account : R N CHANDAK ARTS J D BYTCO COMM, & N S CHANDAK SCI.	2,50,000.00
Through : BANK OF INDIA(STOCK 9013) On Account of : BANK OF MAHARASHTRA CHE. NO. 029530 DT. 05. 02.19 Amount (in words) : Indian Rupees Two Lakh Fifty Thousand Only	₹ 2,50,000.00


signatory

