



BEJOY NARAYAN MAHAVIDYALAYA

(GOVT. SPONSORED)

NAAC ACCREDITED

P.O. ITACHUNA, DIST. HOOGHLY, PIN - 712147

website : www.bnmv.ac.in e.mail ID : bnmv2012@yahoo.in

Ref. No.

Date.

Date: 21.1.2019

The extracts from the proceedings of the meeting of the Governing Body held 27.10.2018 on in the College premises.

Hon'ble President Mr. Joydeep Mukherjee took the chair.

Members Present: -

1. Mr. Joydeep Mukherjee. President
2. Mr. Sanjit Banerjee. D.P.I Nominee
3. Mr. Asit Chatterjee, the Teachers' Representative
4. Dr. Samik Dasgupta, the Teachers' Representative
5. Dr. Debashis Mukhopadhyay, the Teachers' Representative
6. Mr. Depoman Neogi, G.S., The students' representative

Agenda No. 6a:

It is resolved that installation of Roof Top Solar PV Power Plant be approved.

It is resolved that execution of Energy Audit be approved.

Principal
Bejoy Narayan Mahavidyalaya
P.O.- Itachuna, Dt.- Hooghly.

Sd/-Mr.Joydeep Mukherjee

President of Governing Body

DETAILED PROJECT REPORT
FOR
ROOF TOP SOLAR PV POWER PLANT
Prepared BY
Bejoy Narayan Mahavidyalaya

JAN 2019

Bejoy Narayan Mahavidyalaya

- 1 -

Shashu

[Signature]
28.01.19

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Basu

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28.01.19

Executive Summary

Energy is a necessary driver of growth and its per capita consumption is growing all across the world. The world already realises the need to switch over Renewable energy source to augment the energy needs.

We can't make more fossil fuels. Eventually, it will run out. The conventional sources of energy are still available on this earth but will not take much time in its depletion from the earth. And in such cases non-conventional sources of energy are the future of the earth. Solar power is the key alternative because it is abundant and offers a solution to fossil fuel emissions and global climate change.

Government, with its initiatives in the field of renewable energy is trying hard to secure the future of its coming generation to fulfill its energy needs.

Keeping the following key benefits in mind College administration has decided to go for Green Renewable energy sources (solar Power Plant) as a part of their over all development.

- First of all it's a proven way of serving the society and saving our mother earth.
- Electricity bill from conventional sources of energy can be adjusted with the solar power up to 80-90% of the consumption value on an average.
- Key aspect for NAAC accreditation and gradation
- Solar energy is not only sustainable, it is renewable and this means that we will never run out of it. It is about as natural a source of power as it is possible to generate electricity.
- Solar electricity power plants produce zero emissions during operation and it is in no way hazardous for the environment. Also it is helping in reducing Global Warming to great extent

*BSW**[Signature]*
28.01.19

Introduction

Renewable Energy scenario in India

The Indian renewable energy sector is the fourth most attractive renewable energy market in the world as per the Renewable Energy Attractiveness Index 2018. India's installed renewable power (grid interactive) generation capacity (including hydropower) increased from 42.4 gigawatts (GW) in FY07 to 116.82 GW in July 2018, which is 33.72 per cent of the total installed capacity. Power generation from renewable energy sources in India reached 101.84 billion units in FY18 and 46.28 billion units in April-July 2018.

As of August 2018, India ranks fifth in terms of cumulative installed solar capacity and crossed 25 GW in installed solar capacity. India added record 11,788 MW of renewable energy capacity in 2017-18 and 1,832.26 MW (grid interactive and off-grid) in April-July 2018. Overall, India is expected to add up to 8.5 GW of renewable energy capacity in 2018-19. Large hydro projects form the largest source of renewable energy. Around 1,739.14 MW of wind power capacity was added in 2017-18.

The Ministry of New and Renewable Energy, Government of India, has formulated an action plan to achieve a total capacity of 60 GW from hydro power and 175 GW from other RES by March, 2022, which includes 100 GW of Solar power, 60 GW from wind power, 10 GW from biomass power and 5 GW from small hydro power.

Project Outcome

- First of all it's a proven way of serving the society and saving our mother earth.
- Electricity bill from conventional sources of energy can be adjusted with the solar power up to 80-90% of the consumption value on an average.
- Key aspect for NAAC accreditation and gradation

- Solar energy is not only sustainable, it is renewable and this means that we will never run out of it. It is about as natural a source of power as it is possible to generate electricity.
- Solar electricity power plants produce zero emissions during operation and it is in no way hazardous for the environment. Also it is helping in reducing Global Warming to great extent

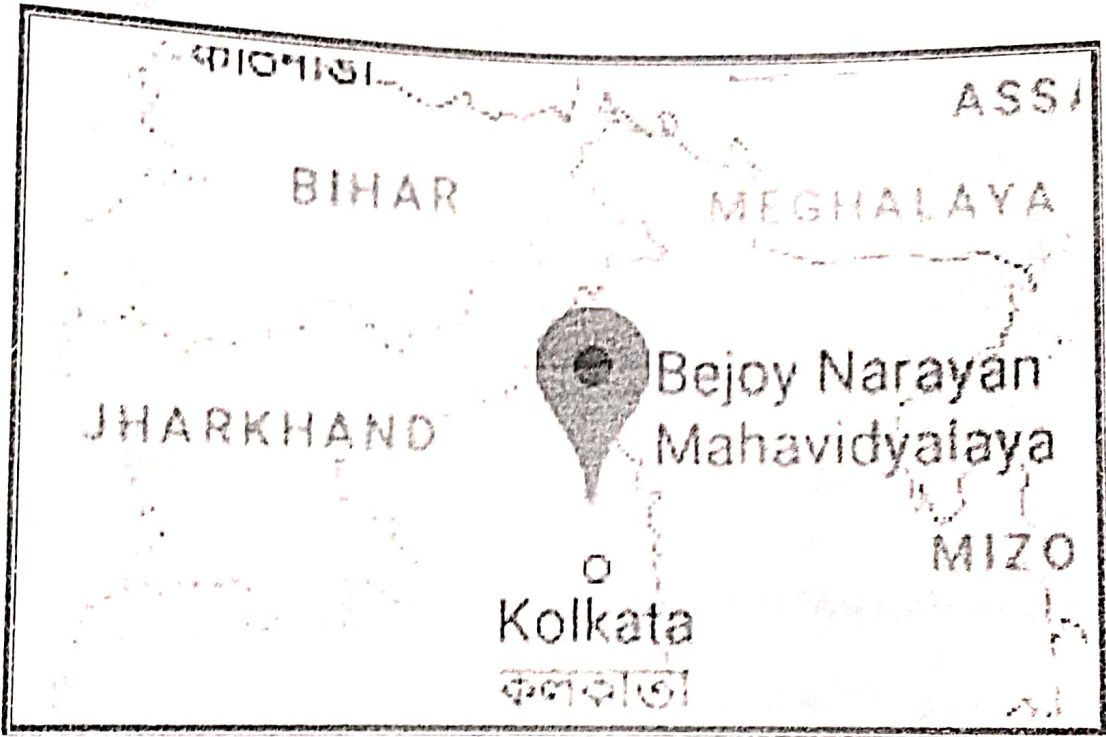
Project Features

Main Features of the Project

- ⇒ Project promoter:- Bejoy Narayan Mahavidyalaya
- ⇒ Project location:- Bejoy Narayan Mahavidyalaya
- ⇒ State:- West Bengal
- ⇒ Proposed technology:- Grid tied Solar Power Plant
- ⇒ Plant capacity:- 12-14 KVA
- ⇒ PV Module Type- Crystalline modules
- ⇒ PV Modules Required (area):- 800-1000 sq ft
- ⇒ Total Area Required: - 1300 sq ft (approximately)
- ⇒ Annual solar irradiance :- 4.6 kWh/m²/day
- ⇒ Annual average temperature :- 26.4° C
- ⇒ Annual Gross Output :- 14500 kWh approx
- ⇒ Miscellaneous PV array losses :- 1 %
- ⇒ Miscellaneous power conditioning losses :- 1 %
- ⇒ Expected CUF (Capacity Utilisation Factor) :- 18 %
- ⇒ Project implementation period:- 2.5-3 months
- ⇒ Estimated project cost :- Rs 10.50 lakhs
- ⇒ Site selection:- Site identified within college area and suitability confirmed

Project location and Site description

Bejoy Narayan Mahavidyala is located at Itachuna near Khanyan station in Hooghly district having four (4) big buildings and an area of..... Location of place on Earth 23.040° N, 88.309° E.



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28.01.19



Brief of important factors/considerations for the proposed project:

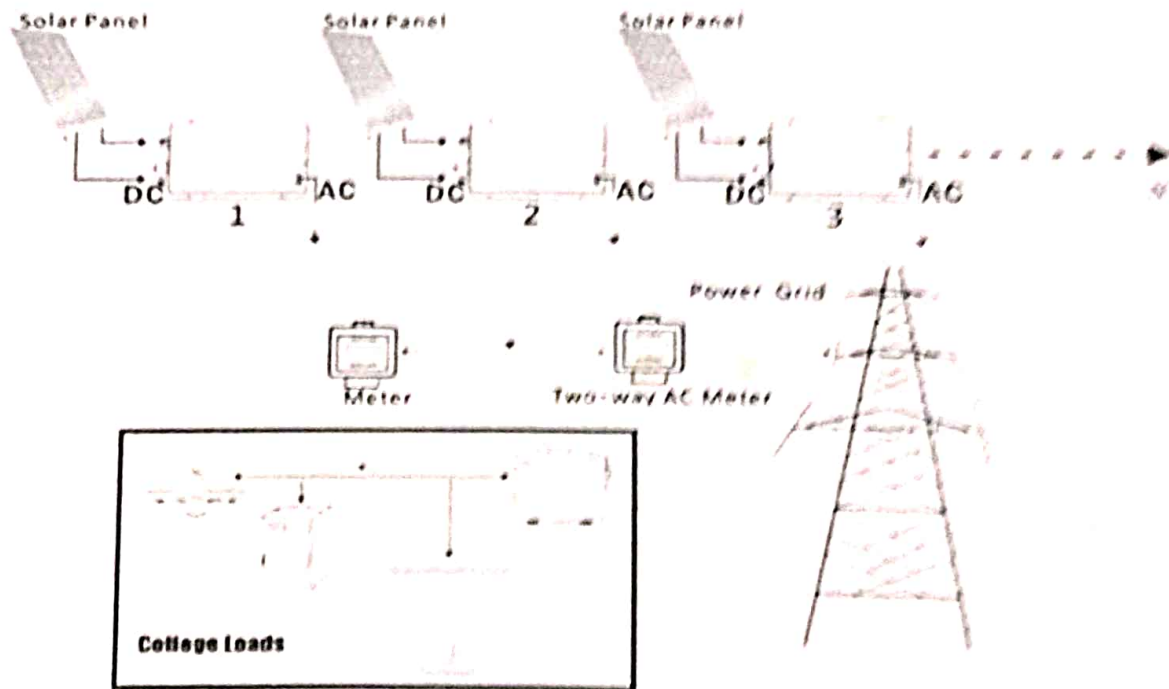
- ✓ Availability of adequate roof top space for Power Plant and green belt development
- ✓ Availability of water and power during construction
- ✓ Availability of labor force in the proximity
- ✓ Access to Grid connectivity
- ✓ Availability of in-house load centers (college and surrounding areas).
- ✓ Easy accessibility of the site of the plant

Ample opportunity is there to utilise their roof top area for setting up Solar Power Plant for power generation and protecting their roof tops.

Based on the following criterion proposed rooftop area is being selected.

- ✓ Sufficient area for the proposed capacity of the Power Plant
- ✓ Sufficient sunlight
- ✓ Condition of the rooftop area
- ✓ Accessibility of the proposed area

The technical authority of the college to consider the following philosophy for the proposed system. Solar panels mounted in the field generate DC electric power. The Power conditioning Units invert the direct current output from the solar array into grid compatible AC voltage, feeds it in to the utility grid system with proper protection and control. The grid connected Power conditioning Unit (GCI) range of Power conditioning Units should come with built-in transformer that ensures galvanic isolation of the DC side from the AC network. This is an important requirement that needs to be taken in to account for safety utilities to permit connection of solar panels on to the grid. The proposed system should automatically starts up in the morning and begins to export power to the grid provided there is sufficient solar energy and the grid voltage, frequency is within the range following the latest technology. If the grid goes out of range the Power conditioning Unit will be immediately disconnected and reconnected automatically at a pre determined time after the grid comes back within range. Idea is depicted below



Basu
22-01-19

Phone: (03213) 272275

BEJOY NARAYAN MAHAVIDYALAYA

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P.O. – ITACHUNA, (HOOGHLY), PIN- 712147

Telephone Office- KHANYAN (E. R.)

[NAAC ACCREDITED (2nd Cycle)]

E-mail ID: bnmv2012@yahoo.in

Website: WWW.bnmahavidyalaya.org



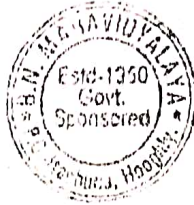
Date 12.06.2022

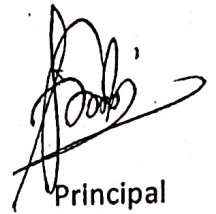
Ref. No. 36/1/AD(22-23)

To
The Eastern Construction,
12, Bhattacharjee Para,
Barrackpore,
700120 W.B

Sub: WORK ORDER FOR SOLAR POWER PLANT

We are hereby Issuing work order for procurement, design & installation of "Off-grid Solar Power Plant" of capacity 2.3 KVA as pilot project implementation at Bejoy Narayan Mahavidyalaya, Itachuna, Hooghly.




Principal

Principal
Bejoy Narayan Mahavidyalaya
P.O.- Itachuna, Dist.- Hooghly.

Received
on 12.06.2022.


12/06.

WORK COMPLETION CERTIFICATE

1. Name of Contractor/Consultant Address :	The Eastern construction, 12, Bhattacharjee Para, Barrackpore, 700120, WB
2. Name of The Work:	Project Implementation of 2.3 KVA SOLAR OFF GRID POWER PLANT WITH BEST QUALITY IMPLEMENTATION
3. Work Order Ref. Number:	36/1/AD (22-23)
4. Date of Work Order :	13.06.2022
5. Value of Work:	Rs . 2,97,000.00 (Two lakhs Ninety Seven thousand only)
6. Date of Completion	22.06.2022
7. Performance	Completed successfully and Satisfactorily

3 Civil Works:-----

- 3.1 Foundation for Module Mounting Structures
- 3.2 Civil Work Material & Local Labour

4. Mechanical Works:-----

- 4.1 Module Mounting Structure

5. Electrical Works:-----

- 5.1 Entire Electrical System Setup
- 5.3 Module Interconnection
- 5.4 Controller
- 5.5 Cable Routing
- 5.6 Earthing
- 5.7 Lighting Arrestor
- 5.8 Earthing

6. Commissioning:-----

COST:-----

Cost for above work: Rs.2,97,000.00 (Two lakhs Ninety Seven thousand only) including GST and other taxes as applicable.

Project Duration: 15 (Fifteen) days from the date of project work order placed

Payment: In installments

EASTERN CONSTRUCTION

CONTRACTOR & CIVIL ENGINEER

HEAD OFFICE
12, BHATTACHARJEE PARA
(Near Lal Kuthi)
BARRACKPORE 700120 W B
Phone : 2593-2827

Ref

Date

TAX INVOICE

No:PR-0302-22

Date:23.08.2022

To:
Bejoy Narayan Mahavidyalaya
Itachuna, Khanyan, Hooghly,
West Bengal, India

GSTIN:19ADRP8885F1ZS

From:
EASTERN CONSTRUCTION
GSTIN: 19ADRP8885F1ZS

Order No:

No	Description of Item	Unit	Qty	Amount (Rs)
1.	Extra Electrical works (with cabling) for two (2)days for the existing Off-grid Solar Power Plant of capacity 2.3 KVA as Pilot Project Implementation.	Job	01 Job	7,000.00
TOTAL (including GST @ 12% as per government norms) Rs.840 .00				7,840.00

In Words: Seven thousand eight hundred forty only inclusive taxes.

Work done
Semanti Basu

06.09.22

An amount of Rs. 7840/-
(Rs. Seven Thousand Eight Hundred
and Forty only) maybe paid.

06/9/22

EASTERN CONSTRUCTION

Convenor
Green Audit Committee
Bejoy Narayan Mahavidyalaya
P.O.-Itachuna, Dist.- Hooghly.
(Acknowledgement)

Date:

TERMS & CONDITIONS:

Payment : at the earliest after completion of work

(Signature)

Date:

(In charge- Project and Admipistration)



BEJOY NARAYAN MAHAVIDYALAYA

(GOVT. SPONSORED)

Naac Accredited (2nd Cycle)

Itachuna, Hooghly-712 147, West Bengal, India

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bnmv2012@yahoo.in

www.bnmv.ac.in

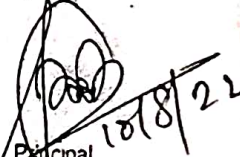
Ref. No.:

Date: 10/08/2022

To
The Eastern construction,
12, Bhattacharjee Para,
Barrackpore,
700120, WB

Sub: Work Order

We are hereby issuing work order for making necessary installation and electrical connection to illuminate the nature club room 'CANOPY' by solar power newly installed in our premises.


10/8/22

Principal
Bejoy Narayan Mahavidyalaya
P.O. - Itachuna, Dt. - Hooghly.

EASTERN CONSTRUCTION

CONTRACTOR & CIVIL ENGINEER

HEAD OFFICE .
12, BHATTACHARJEE PARA
(Near Lal Kuthi)
BARRACKPORE 700120 W B
Phone : 2593-2827

Ref

Date 29.06.2022

TAX INVOICE

GSTIN:19ADRP8885F1ZS

No:PR-0202-22

~~XXXXXXXXXX~~

To: Bejoy Narayan Mahavidyalaya Itachuna ,Khanyan, Hooghly, West Bengal, India	From: EASTERN CONSTRUCTION GSTIN: 19ADRP8885F1ZS	Order No:
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Item No.	Description of Items	Unit	Qty	Amount (Rs)
1.	Procurement, Design and Installation of off-grid Solar Power Plant of capacity 2.3 KVA as Pilot Project Implementation.	Job	01 Job	2,97,000.00
TOTAL (including GST @ 12% as per government norms)				2,97,000.00

In Words: Two lakh Ninety Seven thousand only inclusive taxes.

Advance amount = Rs. 1,50,000/- on 09/07/2022
Rest amount = Rs. 1,47,000/- (Rs. One Lakh
Forty Seven Thousand only) made *Rs. 1,47,000/-*

EASTERN CONSTRUCTION

Acknowledgement)

ate:

ERMS & CONDITIONS:

ayment : As per College payment terms

(Incharge- Project and Administration)

(Signature)

Date:

by *must on - 6/9/22*

ail

Goutam Bit <goutambit68@gmail.com>

Issue the work order for the first phase of "installation of solar cell" at our college as early as possible.

Reply-To: semanti basu <sbasu1002000@yahoo.co.in>
From: Goutam Bit <goutambit68@gmail.com>, Biswanath60banerjee <biswanath60banerjee@gmail.com>, Malay Ghosh <drmalayghoshbnmv@gmail.com>, Pinak Dutta <pimidu@yahoo.com>

Sat, Jun 11, 2022 at 7:41 PM

To
The Principal
BNMV, Itachuna, Hooghly

Respected Sir

Just before the completion of the Project of installation of the solar panel (first phase work) at our college, the whole installed system was badly crushed by the devastating Cyclone "Amphan" on 16th May 2020. Now we want to initiate this work again since it is a green initiative for our environment. For this purpose, we had a meeting with Mr. Raja Basu of Eastern Construction regarding the initiation of the installation of the solar power plant on 20.04.2022. He informed us that he wants to replace the 4 uninstalled old solar panels & he will give new solar panels from Sova (the company of solar panels). Also, he wants to increase the total solar panel capacity from 1.4 KVA to 2.3 KVA (1st phase). He wants to complete the work within 20 days from the date of the work order issued. The total cost for this complete work is Rs. 2.97,000/- including govt. taxes. He has given written details of this work through the e-mail on 27.05.2022. It has been attached with this mail.

Please Issue the work order for the first phase work of the "installation of solar cell" at our college as early as possible.

Thanking you

With regards,

Members of Solar Plant Committee
Bejoy Narayan Mahavidyalaya, Itachuna, Hooghly


Dr. Goutam Bit (Principal)
Mr. Biswanath Banerjee
Dr. Malay Ghosh
Dr. Pinak Dutta
Dr. Semanti Basu

 Project Scope Solar Power Plant (Green Initiatives) (1).pdf
270K

Goutam Bit <goutambit68@gmail.com>
From: Asit Chatterjee <asit58chatterjee@gmail.com>

Sat, Jun 11, 2022 at 9:11 PM

[Quoted text hidden]

 Project Scope Solar Power Plant (Green Initiatives) (1).pdf
270K



BEJOY NARAYAN MAHAVIDYALAYA

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Phone: +91-3213-272275, Fax: +91-3213-272237, E-mail:

bnmv2012@yahoo.in

www.bnmv.ac.in

Ref. No.: 36/1/AD (22-23)

Date: 13.06.2022


To
The Eastern construction,
12, Bhattacharjee Para,
Barrackpore,
700120, WB

Sub: Work Order for Solar Power Plant

We are here by issuing work order for procurement, design and installation of "Off Grid Solar power Plant at BejoyNarayan Mahavidyalaya, Itachuna, Hooghly as per following specifications, scope of work and cost of Rs.2,97,000.00 (Two lakhs Ninety Seven thousand only)

ITEM NO:	Details
1.	Pilot Project Implementation of 2.3 KVA SOLAR OFF GRID POWER PLANT WITH BEST QUALITY IMPLEMENTATION




13/06/22
Principal
Bejoy Narayan Mahavidyalaya
P.O. - Itachuna, Dt. - Hooghly.