

**MADHYA PRADESH URJA VIKAS NIGAM LIMITED,
(MP Government Undertaking)**

URJA BHAWAN, Main Road # 2,
SHIVAJI NAGAR, BHOPAL (MP) - 452016
Phone: 0755-2556566 / 2553595
E-mail: se.mpuvn1982@gmail.com



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Ref No: MPUVN / GCRT-114/ WO / 2018-19 / 1254

Bhopal, Dated- 21-6-18

SPEED POST/REGISTERD POST

To,

M/s Mundra Solar PV Ltd.
Adani house near meethakhali six road,
Novrangpura, Ahmadabad-380009

Sub: Work Order for components of work, consisting of Supply of Material, Erection, Installation, Completion and Commissioning (I &C) and Operation and Maintenance of 5 years (O &M) with warranty of Grid Connected Roof Top SPV Power Plant of capacity 100 kWp capacity (Without Battery Bank), with additional Electrical and other necessary works for grid synchronization and interfacing with selective electrical load points at M.P. Bhoj (Open) University, Bhopal.

- Ref:
1. RFP No. MPUVN/SPVPP-NM/1-500 KWp /2016-17/3135 Dated 11.11.2016.
 2. Minutes of Pre Bid meeting Dated: 05.12.2016.
 3. Corrigendum dated 18.11.2016 and 24.12.2016.
 4. Contract Agreement executed with you.

We are pleased to award you the work consisting of components of Supply of Material, Erection, Installation, Completion and Commissioning (I &C) and Operation and Maintenance of 5 years (O &M) with warranty of Grid Connected Roof Top SPV Power Plant of capacity 100 kWp capacity (Without Battery Bank), with additional electrical and other necessary works for grid synchronization and interfacing with selective electrical load points at M.P. Bhoj (Open) University, Bhopal as per details given below:-

1. General Details of Grid Interactive SPV Power Plant

System Capacity	Details of system		
	Solar photovoltaic modules capacity	System Electronics Grid Interactive PCU capacity	Balance of System
100 Kw	Aggregate name plate capacity equal to or more than the system capacity in kWp.	Single or multiple units with aggregate name plate capacity, in kVA equal to or more than the system capacity.	As per site requirement, scope of work, specifications of RFP document and in accordance with minimum technical standards specified by MNRE in its guidelines.

The SPV Panels, PCU, Battery, Balance of System components and works should be as per MNRE guidelines issued vide circular no. No. 30/11/2012-13/NSM dated 26th June, 2014, No. 41/06/2015-16/EVSE dated 02.01.2017 and all other relevant amendments/ above referred RFP.

कुलासचिव
म.प्र. भोज (मुक्त) विश्वविद्यालय
राजासोज नर्म (कोलार रोड)
भोपाल

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1. Scope of work
As per Annexure -I

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- a) Cost components of Grid Connected Roof Top (GCRT) SPV Power Plant Without Battery Bank.

S.N.	Capacity of GCRT (in kWp)	Total Sites	Cost of each system (in INR/kWp)	Total Cost of the Systems (in INR)
01.	100 kWp	1	55501.00	5550100.00

(Rupees Fifty Five Lakh, Fifty Thousand, One Hundred Only).

Note: The above cost is inclusive of all those taxes / duties which were applicable before the date of enforcement of GST (1-7-2017). All such pre GST taxes are be deductible from above cost and applicable GST shall be payable in on the arrived cost (i.e. the above cost minus the cost paid towards Pre GST taxes/duties) in accordance with the provision given in the RFP.

b) Additional electrical and civil works:-

- i. The Rates of Electrical work for interfacing of Solar Photovoltaic Power Plants with existing selective Electrical Loads shall be on the basis of at par rates of Schedule Of Rates (SOR), for Electrical works, Public Works Department (PIU), Bhopal, Govt. of M.P. in force from 1st August 2014 issued by Project Director, M.P.P.W.D Bhopal, which shall be part of this agreement. The rates of this SOR shall be binding for getting the related work executed at the allocated sites.
- ii. The rates of Civil work for construction of battery / control room or any other related work, as per site requirement for installation of Solar Photovoltaic Power Plants, shall be as per at par the rates of Schedule Of Rates (SOR) for building works, Public Works Department, (PIU), Bhopal, Govt. of M.P., in force from 1st August 2014 issued By Project Director.
- iii. The Rates of external electrical work, so required to be done for interfacing the system with the grid, shall be as per the relevant schedule of rates (SOR), at par, for electrical works of MP Madhya Kshetra Vidhyut Vitran Company Ltd. (MPMKVVCL).
- iv. All amendments made in the above said SOR's of MPPWD and MPMKVVCL shall also be a part of this work order and shall be considered for execution of all necessary additional works for completion of the projects awarded.

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भोपाल

3. Site(s) for Installation:

M.P. Bhoj (Open) University, Bhopal.

4. Contact Persons:

- a) Registrar, M.P. Bhoj Open University, Bhopal. (Phone.0755-2492093)
- b) Shri Sandip Saran , DREO, MP Urja Vikas Nigam Ltd. Bhopal, Urban (Mob:09893292928)

5. Performance Bank Guarantee ("PBG"):

Contractor shall be required to furnish Construction- Performance Bank Guarantee ("C-PBG"), subsequent to issuance of this work order and Operation- Performance Bank Guarantee ("O-PBG"), after completion of system(s) as specified in accordance with clause no. 3.19 of the RFP.

6. Date of Completion of Work:

The work shall have to be necessarily completed on or before 21.09.2018. Progress at various stages of work awarded shall be monitored, as stipulated in the RFP document.

7. Terms and Conditions of Payments:

As per terms and conditions mentioned in RFP document, (enclosed as per Annexure-II).

8. Documents required to be submitted for Payments:-

- a) Appropriate Bills along with Challan in Triplicate. Bill along with measurement book (MB) for all additional electrical and civil works executed (if any) duly certified by the concerned inspecting authority.
- b) Inspection Report cum Joint Commissioning Report duly signed by Contractor and concerned Inspecting Authority of the Nigam
- c) Coloured photograph of SPV Array, PCU and Signboard duly certified by the inspecting authority. (Four Nos.)
- d) Handing Over Certificate duly signed by beneficiary/ and concerned Inspecting Authority of the Nigam.
- e) A certificate from any license holder contractor / supervisor certifying that the electrical internal / external work carried out is in accordance with the norms of electrical safety standards.
- f) I-V curve for all solar modules used in the system.
- g) Details of project completion report as per MNRE requirement (Annexure-III).
9. Certified print out from the inspecting authority of remote monitoring system indicating various parameters

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Third Party Inspection:

Third party inspection of the components of the system shall be arranged by MPUVN at its own cost.

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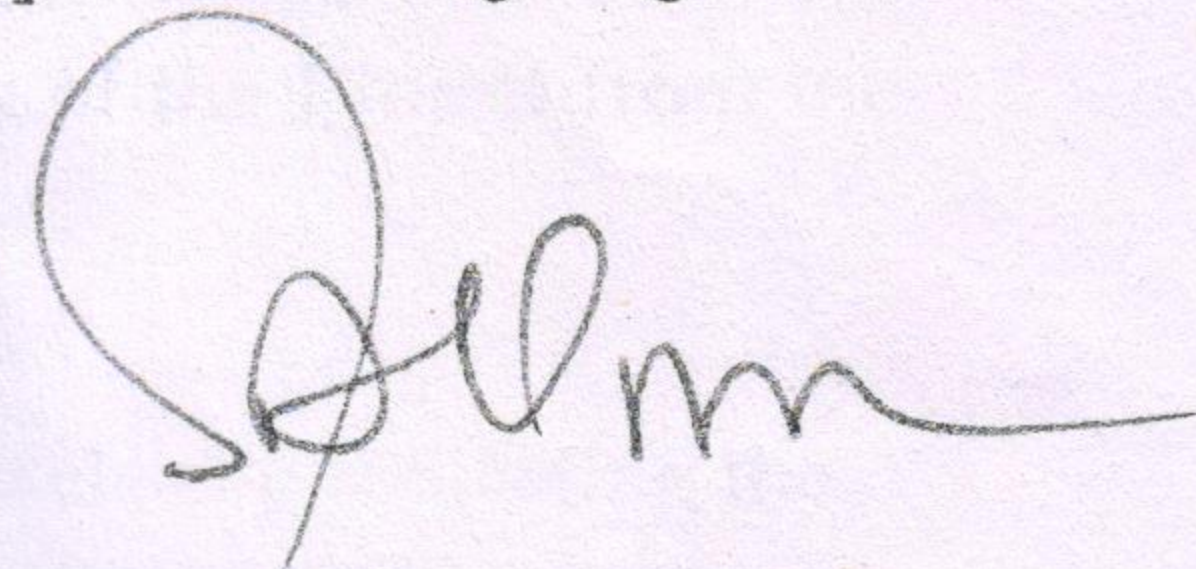
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Encl: a/a

(By Orders of Managing Director)

Yours sincerely

(Shrikant Deshmukh)
Superintending Engineer



Superintending Engineer

CC to:-

1. CFA, MPUVN, Head Office, Bhopal (MP)
- ✓ 2. Registrar, M.P. Bhoj (Open) University, Bhopal
3. DREO, MP Urja Vikas Nigam Ltd, Bhopal (Urban)

Shrikant Deshmukh
कुलसचिव
म.प्र. भोज (मूक्त) विश्वविद्यालय
राजमन्नेज बाग (कोला रोड)
भोपाल

SCOPE OF WORK

(As Extracted from clause no 6 section III of RFP No. 3135 dated 11.11.2016)

6. DETAILS OF WORKS:

6.1. Designing, engineering, supply, installation, testing and commissioning of various capacities of Project as per standard design and specifications and connecting up to existing Mains/ACDB and interfacing internal electrical loads of Project with licensee's network/electrical loads (for Project with / without energy storage) with insurance, warranty and Comprehensive O &M for period of five (5) years from date of Completion. Contractor would have to take approval for the interfacing the Project with Grid/Electrical Loads of every location from distribution licensee. Comprehensive O &M for five (5) year (for Project with / without energy storage) shall be required for each of the Project from the date of Completion.

6.2. THE SCOPE OF WORK SHALL ALSO INCLUDE THE FOLLOWING:

6.2.1. A layout plan of the site should be submitted to the Inspecting Authority clearly indicating the identified location for installation of SPV modules and control room, where batteries and control panels shall be installed. The Contractor shall also submit the mode in which the system will operate in accordance with the provisions of Clauses 5.1, 5.2, 5.3 and 5.4 of Madhya Pradesh Policy for Decentralised Renewable Energy Systems, 2016 as amended from time to time;

6.2.2. Detailed planning of time bound smooth execution of Project;

6.2.3. Performance testing of the complete Project;

6.2.4. Comprehensive O &M of the Project for five(5) year to assure faultless operation, and inventory maintenance;

6.2.5. After sales service through service centres;

6.2.6. Coverage of risk liability of all personnel associated with implementation and realization of the Project;

6.2.7. Training of at least two persons each to be nominated by user at every location, on the various aspects of design and maintenance of the Project after Commissioning of the Project and shall also submit the drawings and designs of the cabling and other components.

6.2.8. The Successful Bidder shall maintain sufficient inventory of the spare parts to ensure that the Project is functional during the period of warranty period.

6.2.9. The Contractor shall run the Project on trial basis and shall closely monitor the performance of the Project before handing over the same. Nodal Agency shall examine the data of energy generation.

6.2.10. Comprehensive O &M of the Project at every location, from the date of the completion of Project has to be carried out by the Contractor. Comprehensive O &M of the Project shall be for the five (5) years from the date of completion.

6.3. INTERNAL ELECTRIFICATION:

6.3.1. Inspection of the existing electrical network of each of the Project site;

6.3.2. Inspection of the Project in respect of its interfacing with licensee network/identified electrical load;

6.3.3. Preparation and submission of electrical drawing for the site with quantity of material required;

6.3.4. Obtaining prior approval of the work and drawing from Inspecting Authority;

6.3.5. Execution of the work in accordance with the norms and regulation directives for testing and completion of the Project to the satisfaction of the MPUVNL;

6.3.6. Any additional work, which is not covered above but is related and required to be done. These additional works shall have to be carried out as per relevant SOR's, on prior approval of MPUVNL.

4. GRID CONNECTION:

6.4.1. The Contractor shall be responsible for synchronization of the Project with licensee's network under Madhya Pradesh Policy for Decentralised Renewable Energy Systems, 2016 as amended from time to time. The Contractor shall also suggest the Category of operation of the system mentioned in above policy and intimate the Nodal Agency;

6.4.2. Assessment of the additional works required such as switch gear, transformation, isolator etc.;

6.4.3. Submission of bill of material with estimate in accordance with prevailing SOR of DISCOMs of MP, and obtaining approval of MPUVNL/DISCOMs whichever is applicable;

6.4.4. Connectivity of Project with the licensee's network.

6.4.5. Commissioning of the project as applicable.

6.5. METERING AND GRID CONNECTIVITY:

6.5.1. Metering and grid connectivity of the Projects except Category A and B would be the responsibility of the Contractor in accordance with the prevailing guidelines of the concerned distribution licensee and / or CEA and net metering provisions in the state of MP. Nodal Agency may facilitate in the process; however the entire responsibility lies only with the Contractor. (The required meters shall be provided and their costs shall be borne by User/ MPUVNL).

6.6. INSURANCE:

6.6.1. The Contractor shall also take insurance for third party liability covering loss of human life, engineers and workmen and also covering the risks of damage, theft to the third party/ material/ equipment/ properties after completion of the work(s). Before commencement of the work, the Contractor will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work. Liquidation, Death, Bankruptcy etc., shall be the responsibility of Contractor.

6.7. WARRANTY AND GUARANTEES:

6.7.1. The Bidder shall warrant that the goods supplied under this Agreement are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials as per standards specified in the technical specifications of this RFP. The Contractor shall provide warranty covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of five (5) years from the date of Completion.

6.7.2. The responsibility of operation of warranty and guarantee clauses and claims/ settlement of issues arising out of said clauses shall be responsibility of the Contractor and Nodal Agency will not be responsible in any way for any claims whatsoever on account of the above.

6.8. TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP:

6.8.1. The Bidder shall warrant that the goods supplied under this Agreement are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials as per standards specified in the technical specifications of this RFP. The Contractor shall provide warranty covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of five (5) years from the date of Completion.

6.8.2. The design, engineering, manufacture, supply, installation, testing, commissioning and performance of the equipment shall be in accordance with latest/ appropriate IEC/Indian Standards as detailed in the technical specifications of this RFP or its subsequent amendments. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE/ CEA/electricity regulators/ Nodal Agency shall be used. All the relevant test certifications must be kept valid up to the period of the contract (as applicable).

6.8.3. The specifications of the components should meet the technical specifications mentioned in this RFP or its subsequent amendments.

6.8.4. Any supplies which have not been specifically mentioned in this RFP but which are necessary during construction or Comprehensive O& M period of the Project shall be provided by the Contractor without any extra cost and within the time schedule for efficient and smooth construction and Comprehensive O& M of the Project.

8.5. Nodal Agency may at its option, replace or rectify such defective materials and / or work and recover the extra cost so involved from the Contractor plus fifteen percent service charges of the cost of such rectification, from the Contractor and / or terminate the Agreement for balance work/ supplies with enforcement of penalty as per Agreement.

35

6.9. CONSTRUCTION OF BATTERY BANK/CONTROL ROOM ETC. (AS PER SITE REQUIREMENT)

6.9.1. Assessment of requirement for construction of battery/control room or any other relative civil work essential for completion of Project;

6.9.2. Obtaining prior approval of the work, drawing and estimate from Inspecting Authority;

6.9.3. Taking up and completion of the required civil work as per specification and norms indicated in the respective items of Schedule of Rates (SOR);

6.10. PROVISION OF SIGN BOARD:

6.10.1. Contractor will have to provide sign board of dimension 8'x4' (M.S. sheet size 4'x3' of 16 gauge, M.S. angle 40x40x5 mm with essential bracing and adequate grouting with PCC 1:3:6 i/c painting and writing) at each site with complete specification and matter will be provided to the Contractor with Agreement.

6.11. REQUISITE CERTIFICATIONS:

6.11.1. **Completion Certificate:** When the Contractor fulfils his obligation under the Agreement, it shall obtain completion certificate from Nodal Agency. For the purpose of obtaining this certificate following documents shall be required:

- Inspection Report of the Work(s) as per prescribed format provided by Nodal Agency.
- Project completion/satisfaction certificate from User/Beneficiary.
- Document in support of performance of the system performance and achievement of CUF of 15% subject to seasonality as per provisions of Clause 3.21.1.

6.11.2. **Commissioning Certificate:** After completion of the Project, the Contractor, in coordination with the Discom, shall submit commissioning certificate of the system completed issued by the concerned Discom, in accordance with all applicable regulations/policies.

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म.प्र. भोज (मुक्त), विश्वविद्यालय
राजाभोज मार्ग (कोलार रोड)
भोपाल

TERMS AND CONDITION FOR PAYMENT

1. PAYMENT TERMS:

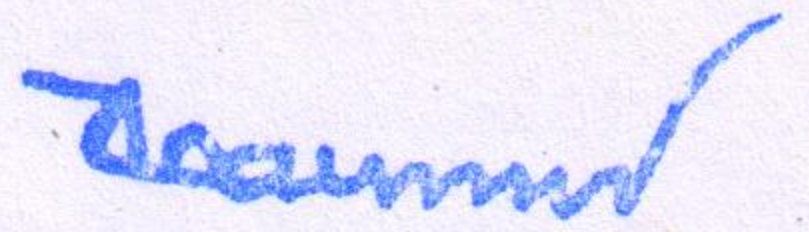
- 1.1. 1.1. The Contractor may opt for mobilization advance of twenty percent (20%) of the work order value upon submission of bank guarantee of equivalent amount valid till date of Completion as mentioned in work order, or extended date with additional claim period of six (6) months (Format 16). Such amount would be paid for purchase of the material required for execution.
- 1.2. 80% of Work Order value shall be paid to Contractor (after adjusting the mobilization advance, if applicable) on successful Completion of the Project and submission of O-PBG of twenty percent (20%) value of Work Order and submission of documents in support of systems performance criteria.
- 1.3. For release of eighty percent (80%) payment (after adjusting the mobilization advance, if applicable), the Contractor shall present the following:
- 1.3.1. Completion Certificate as per provisions of Clause 6.11.1 of this RFP;
- 1.3.2. Self - Certified copy of application submitted to power distribution company for connectivity of Project with grid.
- 1.3.3. Handing over certificate duly signed by user/end consumer and Inspecting Authority.
- 1.3.4. Appropriate Bills along with Challan in Triplicate
- 1.3.5. Inspection Report along with duly signed completion certificate by Contractor and Inspecting Authority.
- 1.3.6. Coloured photograph of SPV Array, Battery Bank, PCU and sign board duly certified by Inspecting Authority. Bill along with Measurement Book ("MB"), for all additional electrical and civil works executed (if any) duly certified by the concerned Inspecting Authority.
- 1.3.7. It is desirable for the Contractor to obtain registration from MP Commercial Tax Department (TIN) else VAT and any other taxes/duties, if applicable, shall be deducted at source.
- 1.3.8. Applicable Taxes shall be deducted at source.
- 1.3.9. A certificate from any licensee or contractor / supervisor certifying that the electrical internal/external electrical work carried out is in accordance with the norms of electrical safety standards.
- 1.3.10. Additionally, Contractor may be required to submit to the following, if required:
- a. All the documents related to purchase of Panel, System electronics, Battery (if applicable) components of the Project.
- b. All documents, premium receipts related to insurance of components of Projects.

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4. Remaining payment of twenty percent (20%) of Work Order value shall be paid to Contractor on successful Commissioning of the Project and submission of Commissioning Certificate as per provisions of Clause 6.11.2. The certificate for commissioning shall not be mandatory for Category A and B.
- 1.5. MPUVNL shall recover/ adjust LD/penalty from any payments due to the Contractor. If recovery/ adjustment is not possible from payments due, the same shall be done through C-PBG/O-PBG against the work order concerned. Lastly, if recovery/ adjustment of LD/ penalty is not possible against payment due or C-PBG/ O-PBG concerned, it shall be done against any C-PBG/O-PBG of the Contractor with MPUVNL with respect to any other work. If recovery/ adjustment of LD/ penalty is not possible from payments due and C-PBGs/O-PBGs, the same shall be done through Bid Security of the Contractor.
- 1.6. In case any PBG or Bid Security is utilized, partly or fully, towards recovery/ adjustment of LD/ penalty, the same shall be replenished to its original value and validity period within seven (7) days of written communication on this behalf from MPUVNL to Contractor, failing which the Contractor shall become ineligible for further work orders being given under this RFP.

10

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म.प्र. भोज (मुक्त) विश्वविद्यालय
राजमोज नगर (कोलार रोड)
भोपाल

COMMISSIONING REPORT (PROVISIONAL) FOR GRID CONNECTED SOLAR PHOTOVOLTAIC POWER PLANT (with Net-metering facility)

Certified that a Grid Connected SPV Power Plant of KWp capacity has been installed at the site
.....
district of
which has been installed by M/S
on The system is as per BIS/MNRE specifications. The system has been checked for its performance on without installation of bi-directional meter and it is working satisfactorily. The system is suitable for installation of bi-directional and gross energy meters.

Signature of the beneficiary

Signature of the rep. of supplier
With name, seal and date

Signature of the DREO
With name, date and seal

Documint
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राजाराज नगर (सुन्दरगढ़)
बोधोदर